

KD Tripathi

Multiple Choice Questions in PHARMACOLOGY

3rd Edition

based on
Tripathi's
Essentials of
Medical Pharmacology
(Fifth Edition)

JAYPEE

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Dr. Prodigious

MCQs in PHARMACOLOGY

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3rd Edition

Based on

Tripathi's Essentials of Medical Pharmacology

Fifth Edition

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MCQs in Pharmacology

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Preface

Because of their reliability and objective nature the Multiple Choice Questions (MCQs) are widely used in entrance tests, competitive examinations and at some places in certifying examinations. However, MCQ items have been criticized mostly for their lack of relevance to the core or essential learning objectives, because they mostly tend to emphasize on the rare or the unusual. It is therefore of utmost importance to induct MCQ items which test knowledge, understanding and application ability of the student in relevant areas. This book attempts to introduce a series of MCQs in Pharmacology and Therapeutics in topics which cover important learning objectives.

MCQs are also an important method of self study and self assessment. An overwhelming amount of detailed information about an ever increasing number of drugs is now available. A mental exercise in the considerations that underlie choice of one drug over the other in specific situations has to be practised. Solving MCQs could help crystallization and assimilation of the fundamental Pharmacological principles as well as factual information about drugs needed for their safe and effective use. This purpose is best served if the MCQs relate to the text that the student has been using for study.

With the above objectives, a MCQs book based on the 3rd edition of the textbook 'Essentials of Medical Pharmacology' written by me was published in 1996. This was enlarged and improved in the year 2000 based on the 4th edition of the textbook. The success

of the earlier two editions of the MCQs book in achieving its objectives has encouraged undertaking a similar endeavour based on the revised and updated 5th edition (2003) of the textbook. In preparing this edition, all earlier MCQ items were reconsidered in the light of new knowledge as well as changed therapeutic scenario, and suitably modified / improved or deleted. About 300 new MCQ items have been added. However, all items are of the most popular 'one best response' type and the format has not been changed. The MCQs are numbered chapterwise and the page number of the book which provides answer to the subject matter of the MCQ item is given after each item for quick reference. It is advised that after studying a chapter, the student answers the MCQs and then finds out for himself what all he has learnt correctly, what he missed, and what has been understood incorrectly. Used in this manner the present book will facilitate acquisition of relevant and clear-cut knowledge about drugs.

I am thankful to my colleagues and many users of the previous MCQs book for constructive criticism and useful suggestions. The motivating influence of Mr. Jitendar P Vij and the meticulous preparation of the manuscript by the editorial staff of Jaypee Brothers is gratefully appreciated.

1st May 2004 **KD Tripathi**

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1

General Pharmacological Principles

CHOOSE THE MOST APPROPRIATE RESPONSE

1.1 *`Essential drugs' are:*

A. Life saving drugs
B. Drugs that meet the priority health care needs of the population
C. Drugs that must be present in the emergency bag of a doctor
D. Drugs that are listed in the pharmacopoia of a country *(p. 5)*

1.2 *An 'orphan drug' is:*

A. A very cheap drug
B. A drug which has no therapeutic use
C. A drug needed for treatment or prevention of a rare disease
D. A drug which acts on Orphanin receptors *(p. 5, 6)*

1.3 *Drug administered through the following route is most likely to be subjected to first-pass metabolism:*

A. Oral
B. Sublingual
C. Subcutaneous
D. Rectal *(p. 7, 8, 25)*

1.1 B 1.2 C 1.3 A

1.4 *Transdermal drug delivery systems offer the following advantages* ***except:***

A. They produce high peak plasma concentration of the drug
B. They produce smooth and nonfluctuating plasma concentration of the drug
C. They minimise interindividual variations in the achieved plasma drug concentration
D. They avoid hepatic first-pass metabolism of the drug *(p. 8, 9)*

1.5 *In addition to slow intravenous infusion, which of the following routes of administration allows for titration of the dose of a drug with the response:*

A. Sublingual
B. Transdermal
C. Inhalational
D. Nasal insufflation *(p. 9)*

1.6 *Which of the following drugs is administered by intranasal spray/application for systemic action:*

A. Phenylephrine
B. Desmopressin
C. Azelastine
D. Beclomethasone dipropionate *(p. 9, 540)*

1.7 *Compared to subcutaneous injection, the intramuscular injection of drugs:*

A. Is more painful
B. Produces faster response
C. Is unsuitable for depot preparations
D. Carries greater risk of anaphylactic reaction *(p. 9, 10)*

1.4 A 1.5 C 1.6 B 1.7 B

1.8 *Select the route of administration which carries the highest risk of adversely affecting vital functions:*
A. Intra arterial injection
B. Intrathecal injection
C. Intravenous injection
D. Intramuscular injection *(p. 10)*

2.1 *Alkalinization of urine hastens the excretion of:*
A. Weakly basic drugs
B. Weakly acidic drugs
C. Strong electrolytes
D. Nonpolar drugs *(p. 13, 26)*

2.2 *Majority of drugs cross biological membranes primarily by:*
A. Passive diffusion
B. Facilitated diffusion
C. Active transport
D. Pinocytosis *(p. 12)*

2.3 *Diffusion of drugs across cell membrane:*
A. Is dependent upon metabolic activity of the cell
B. Is competitively inhibited by chemically related drugs
C. Is affected by extent of ionization of drug molecules
D. Exhibits saturation kinetics *(p. 12)*

2.4 *Which of the following drugs is most likely to be absorbed from the stomach:*
A. Morphine sulfate
B. Diclofenac sodium
C. Hyoscine hydrobromide
D. Quinine dihydrochloride *(p. 12)*

1.8 C 2.1 B 2.2 A 2.3 C 2.4 B

2.5 *Which of the following is a weakly acidic drug:*
A. Atropine sulfate
B. Chloroquine phosphate
C. Ephedrine hydrochloride
D. Phenytoin sodium *(p. 12)*

2.6 *The most important factor which governs diffusion of drugs across capillaries other than those in the brain is:*
A. Blood flow through the capillary
B. Lipid solubility of the drug
C. pKa value of the drug
D. pH of the medium *(p. 13)*

2.7 *Active transport of a substance across biological membranes has the following characteristics* ***except:***
A. It is specific
B. It is pH dependent
C. It is saturable
D. It requires metabolic energy *(p. 13)*

2.8 *Tricyclic antidepressants can alter the oral absorption of many drugs by:*
A. Complexing with the other drug in the intestinal lumen
B. Altering gut motility
C. Altering gut flora
D. Damaging gut mucosa *(p. 14, 411)*

2.9 *Bioavailability of drug refers to:*
A. Percentage of administered dose that reaches systemic circulation in the unchanged form
B. Ratio of oral to parenteral dose
C. Ratio of orally administered drug to that excreted in the faeces
D. Ratio of drug excreted unchanged in urine to that excreted as metabolites *(p. 15)*

2.5 D 2.6 A 2.7 B 2.8 B 2.9 A

2.10 *Bioavailability differences among oral formulations of a drug are most likely to occur if the drug:*
A. Is freely water soluble
B. Is completely absorbed
C. Is incompletely absorbed
D. Undergoes little first-pass metabolism *(p. 16)*

2.11 *The most important factor governing absorption of a drug from intact skin is:*
A. Molecular weight of the drug
B. Site of application
C. Lipid solubility of the drug
D. Nature of the base used in the formulation *(p. 15)*

2.12 *If the total amount of a drug present in the body at a given moment is 2.0 g and its plasma concentration is 25 μg/ml, its volume of distribution is:*
A. 100 L
B. 80 L
C. 60 L
D. 50 L *(p. 17)*

2.13 *The following attribute of a drug tends to reduce its volume of distribution:*
A. High lipid solubility
B. Low ionisation at physiological pH values
C. High plasma protein binding
D. High tissue binding *(p. 17, 18)*

2.14 *Marked redistribution is a feature of:*
A. Highly lipid soluble drugs
B. Poorly lipid soluble drugs
C. Depot preparations
D. Highly plasma protein bound drugs *(p. 17)*

2.10 C 2.11 C 2.12 B 2.13 C 2.14 A

2.15 *A nonvolatile, highly lipid soluble drug is metabolized at a rate of 15% per hour. On intravenous injection it produces general anaesthesia for 10 min. Which process is responsible for termination of its action:*

A. Metabolism in liver
B. Plasma protein binding
C. Excretion by kidney
D. Redistribution *(p. 17, 342)*

2.16 *The blood-brain barrier, which restricts entry of many drugs into brain, is constituted by:*

A. P-glycoprotein efflux carriers in brain capillary cells
B. Tight junctions between endothelial cells of brain capillaries
C. Enzymes present in brain capillary walls
D. All of the above *(p. 17, 18)*

2.17 *Which of the following is **not** true of the blood-brain barrier:*

A. It is constituted by tight junctions between the endothelial cells of brain capillaries and the glial tissue
B. It allows passage of lipid soluble drugs into the brain
C. It limits entry of highly ionized drugs into the brain
D. It regulates passage of substances from brain into blood *(p. 17, 18)*

2.18 *Weakly acidic drugs:*

A. Are bound primarily to α_1 acid glycoprotein in plasma
B. Are excreted faster in alkaline urine
C. Are highly ionized in the gastric juice
D. Do not cross blood-brain barrier *(p. 18, 26)*

2.15 D 2.16 D 2.17 D 2.18 B

2.19 *High plasma protein binding:*
A. Increases volume of distribution of the drug
B. Facilitates glomerular filtration of the drug
C. Minimises drug interactions
D. Generally makes the drug long acting *(p. 18)*

2.20 *The plasma protein bound fraction of a drug:*
A. Contributes to the response at the given moment
B. Remains constant irrespective of the total drug concentration
C. Remains constant irrespective of the disease state
D. Is not available for metabolism unless actively extracted by the liver *(p. 18, 19)*

2.21 *Biotransformation of drugs is primarily directed to:*
A. Activate the drug
B. Inactivate the drug
C. Convert lipid soluble drugs into nonlipid soluble metabolites
D. Convert nonlipid soluble drugs into lipid soluble metabolites *(p. 20)*

2.22 *Which of the following is a prodrug:*
A. Hydralazine
B. Clonidine
C. Captopril
D. Enalapril *(p. 20)*

2.23 *A prodrug is:*
A. The prototype member of a class of drugs
B. The oldest member of a class of drugs
C. An inactive drug that is transformed in the body to an active metabolite
D. A drug that is stored in body tissues and is then gradually released in the circulation *(p. 20)*

2.19 D 2.20 D 2.21 C 2.22 D 2.23 C

2.24 *Which of the following cytochrome P450 isoenzymes is involved in the metabolism of largest number of drugs in human beings and has been implicated in some dangerous drug interactions:*

A. CYP 3A4
B. CYP 2C9
C. CYP 2E1
D. CYP 1A2 *(p. 21, 142)*

2.25 *The following is **not** true of the cytochrome P450 isoenzyme CYP2D6:*

A. It generates the hepatotoxic metabolite N-acetyl benzoquinone immine from paracetamol
B. It is involved in demethylation of codeine into morphine
C. Its altered form is responsible for poor capacity to hydroxylate many drugs including metoprolol
D. It is inhibited by quinidine *(p. 21, 23)*

2.26 *The most commonly occurring conjugation reaction for drugs and their metabolites is:*

A. Glucuronidation
B. Acetylation
C. Methylation
D. Glutathione conjugation *(p. 22)*

2.27 *Microsomal enzyme induction can be a cause of:*

A. Tolerance
B. Physical dependence
C. Psychological dependence
D. Idiosyncrasy *(p. 24)*

2.28 *The following drug metabolizing reaction is entirely nonmicrosomal:*

A. Glucuronide conjugation
B. Acetylation
C. Oxidation
D. Reduction *(p. 23)*

2.24 A 2.25 A 2.26 A 2.27 A 2.28 B

2.29 *Which of the following types of drug metabolizing enzymes are inducible:*
A. Microsomal enzymes
B. Nonmicrosomal enzymes
C. Both microsomal and nonmicrosomal enzymes
D. Mitochondrial enzymes *(p. 23, 24)*

2.30 *Induction of drug metabolizing enzymes involves:*
A. A conformational change in the enzyme protein to favour binding of substrate molecules
B. Expression of enzyme molecules on the surface of hepatocytes
C. Enhanced transport of substrate molecules into hepatocytes
D. Increased synthesis of enzyme protein *(p. 24)*

2.31 *Select the drug that undergoes extensive first-pass metabolism in the liver:*
A. Phenobarbitone
B. Propranolol
C. Phenylbutazone
D. Theophylline *(p. 25)*

2.32 *Drugs which undergo high degree of first-pass metabolism in liver:*
A. Have low oral bioavailability
B. Are excreted primarily in bile
C. Are contraindicated in liver disease
D. Exhibit zero order kinetics of elimination *(p. 25)*

2.33 *Glomerular filtration of a drug is affected by its:*
A. Lipid solubility
B. Plasma protein binding
C. Degree of ionization
D. Rate of tubular secretion *(p. 26)*

2.29 A 2.30 D 2.31 B 2.32 A 2.33 B

2.34 *If a drug undergoes net tubular secretion, its renal clearance will be:*
A. More than the glomerular filtration rate
B. Equal to the glomerular filtration rate
C. Less than the glomerular filtration rate
D. Equal to the rate of urine formation *(p. 27)*

2.35 *The plasma half life of penicillin-G is longer in the new born because their:*
A. Plasma protein level is low
B. Drug metabolizing enzymes are immature
C. Glomerular filtration rate is low
D. Tubular transport mechanisms are not well developed *(p. 27)*

2.36 *If a drug is excreted in urine at the rate of 10 mg/hr at a steady-state plasma concentration of 5 mg/L, then its renal clearance is:*
A. 0.5 L/hr
B. 2.0 L/hr
C. 5.0 L/hr
D. 20 L/hr *(p. 27)*

2.37 *Which of the following is* ***not*** *a primary/fundamental, but a derived pharmacokinetic parameter:*
A. Bioavailability
B. Volume of distribution
C. Clearance
D. Plasma half life *(p. 29)*

2.38 *If a drug is eliminated by first order kinetics:*
A. A constant amount of the drug will be eliminated per unit time
B. Its clearance value will remain constant
C. Its elimination half life will increase with dose
D. It will be completely eliminated from the body in 2 x half life period *(p. 27-28)*

2.34 A 2.35 D 2.36 B 2.37 D 2.38 B

2.39 *If a drug has a constant bioavailability and first order elimination, its maintenance dose rate will be directly proportional to its:*

A. Volume of distribution
B. Plasma protein binding
C. Lipid solubility
D. Total body clearance *(p. 29)*

2.40 *If the clearance of a drug remains constant, doubling the dose rate will increase the steady-state plasma drug concentration by a factor of:*

A. × 3
B. × 2
C. × 1.5
D. × 1.3 *(p. 29)*

2.41 *When the same dose of a drug is repeated at half life intervals, the steady-state (plateau) plasma drug concentration is reached after:*

A. 2–3 half lives
B. 4–5 half lives
C. 6–7 half lives
D. 8–10 half lives *(p. 30)*

2.42 *The loading dose of a drug is governed by its:*

A. Renal clearance
B. Plasma half life
C. Volume of distribution
D. Elimination rate constant *(p. 30)*

2.43 *Monitoring of blood levels of diuretic drugs is* ***not*** *practised because:*

A. No sensitive methods for measuring blood levels of diuretics are available
B. It is easier to measure the effect of these drugs
C. Response to diuretics is not related to their blood levels
D. Diuretics need activation in the body *(p. 31)*

2.39 D 2.40 B 2.41 B 2.42 C 2.43 B

2.44 *Monitoring plasma drug concentration is useful while using:*
A. Antihypertensive drugs
B. Levodopa
C. Lithium carbonate
D. MAO inhibitors *(p. 31)*

2.45 *Sustained/controlled release oral dosage form is appropriate for the following type of drug:*
A. An antiarthritic with a plasma half life of 24 hr
B. A sleep inducing hypnotic with a plasma half life of 2 hours
C. An antihypertensive with a plasma half life of 3 hours
D. An analgesic with a plasma half life of 6 hours used for relief of casual headache *(p. 31)*

2.46 *Microsomal enzyme induction has one of the following features:*
A. Takes about one week to develop
B. Results in increased affinity of the enzyme for the substrate
C. It is irreversible
D. Can be used to treat acute drug poisonings *(p. 24, 34, 35)*

3.1 *Which of the following drugs acts by inhibiting an enzyme in the body:*
A. Atropine
B. Allopurinol
C. Levodopa
D. Metoclopramide *(p. 34)*

3.2 *The following is a competitive type of enzyme inhibitor:*
A. Acetazolamide
B. Disulfiram
C. Physostigmine
D. Theophylline *(p. 34, 35)*

2.44 C 2.45 C 2.46 A 3.1 B 3.2 C

3.3 *What is **true** in relation to drug receptors:*
A. All drugs act through specific receptors
B. All drug receptors are located on the surface of the target cells
C. Agonists induce a conformational change in the receptor
D. Partial agonists have low affinity for the receptor *(p. 35-37)*

3.4 *Drugs acting through receptors exhibit the following features **except**:*
A. Structural specificity
B. High potency
C. Competitive antagonism
D. Dependence of action on lipophilicity *(p. 45)*

3.5 *Study of drug-receptor interaction has now shown that:*
A. Maximal response occurs only when all receptors are occupied by the drug
B. Drugs exert an 'all or none' action on a receptor
C. Receptor and drugs acting on it have rigid complementary 'lock and key' structural features
D. Properties of 'affinity' and 'intrinsic activity' are independently variable *(p. 36-37)*

3.6 *A partial agonist can antagonise the effects of a full agonist because it has:*
A. High affinity but low intrinsic activity
B. Low affinity but high intrinsic activity
C. No affinity and low intrinsic activity
D. High affinity but no intrinsic activity *(p. 37)*

3.7 *Receptor agonists possess:*
A. Affinity but no intrinsic activity
B. Intrinsic activity but no affinity
C. Affinity and intrinsic activity with a + sign
D. Affinity and intrinsic activity with a – sign
(p. 37)

3.3 C 3.4 D 3.5 D 3.6 A 3.7 C

3.8 *Agonists affect the receptor molecule in the following manner:*
A. Alter its amino acid sequence
B. Denature the receptor protein
C. Alter its folding or alignment of subunits
D. Induce covalent bond formation *(p. 38)*

3.9 *Receptors perform the following function/functions:*
A. Ligand recognition
B. Signal transduction
C. Both ligand recognition and signal transduction
D. Disposal of agonists and antagonists *(p. 45)*

3.10 *The following receptor type has 7 helical membrane spanning amino acid segments with 3 extracellular and 3 intracellular loops:*
A. Tyrosine protein kinase receptor
B. Gene expression regulating receptor
C. Intrinsic ion channel containing receptor
D. G protein coupled receptor *(p. 39-40)*

3.11 *Which of the following is a G protein coupled receptor:*
A. Muscarinic cholinergic receptor
B. Nicotinic cholinergic receptor
C. Glucocorticoid receptor
D. Insulin receptor *(p. 40, 42)*

3.12 *The following receptor has an intrinsic ion channel:*
A. Histamine H_1 receptor
B. Histamine H_2 receptor
C. Adrenergic alfa receptor
D. GABA-benzodiazepine receptor *(p. 42)*

3.8 C 3.9 C 3.10 D 3.11 A 3.12 D

3.13 *Select the receptor that is located intracellularly:*
A. Opioid μ receptor
B. Steroid receptor
C. Prostaglandin receptor
D. Angiotensin receptor *(p. 42, 43)*

3.14 *Agonist induced autophosphorylation, internalization and down regulation is a distinctive feature of:*
A. G-protein coupled receptors
B. Intrinsic ion channel containing receptors
C. Tyrosine protein kinase receptors
D. Receptors regulating gene expression *(p. 43)*

3.15 *All of the following subserve as intracellular second messengers in receptor mediated signal transduction* ***except:***
A. Cyclic AMP
B. Inositol trisphosphate
C. Diacyl glycerols
D. G proteins *(p. 39-42)*

3.16 *The receptor transduction mechanism with the fastest time-course of response effectuation is:*
A. Adenylyl cyclase-cyclic AMP pathway
B. Phospholipase C-IP_3: DAG pathway
C. Intrinsic ion channel operation
D. Protein synthesis modulation *(p. 43)*

3.17 *A receptor which itself has enzymatic property is:*
A. Insulin receptor
B. Progesterone receptor
C. Thyroxine receptor
D. Glucagon receptor *(p. 43, 239)*

3.13 B 3.14 C 3.15 D 3.16 C 3.17 A

3.18 *Down regulation of receptors can occur as a consequence of:*

A. Continuous use of agonists
B. Continuous use of antagonists
C. Chronic use of CNS depressants
D. Denervation *(p. 43, 45)*

3.19 *The following statement is **not** true of log dose-response curve:*

A. It is almost linear except at the ends
B. It is a rectangular hyperbola
C. It facilitates comparison of different agonists
D. It can help in discriminating between competitive and noncompetitive antagonists *(p. 46)*

3.20 *When therapeutic effects decline both below and above a narrow range of doses, a drug is said to exhibit:*

A. Ceiling effect
B. Desensitization
C. Therapeutic window phenomenon
D. Nonreceptor mediated action *(p. 46)*

3.21 *Which of the following drugs exhibits 'therapeutic window' phenomenon:*

A. Captopril
B. Furosemide
C. Diazepam
D. Imipramine *(p. 46, 410)*

3.18 A 3.19 B 3.20 C 3.21 D

3.22 *The following statement is* ***not*** *true of 'potency' of a drug:*

A. Refers to the dose of the drug needed to produce a certain degree of response
B. Can be related to that of its congeners by the relative position of its dose-response curve on the dose axis
C. It is often not a major consideration in the choice of a drug
D. It reflects the capacity of the drug to produce a drastic response *(p. 47)*

3.23 *'Drug efficacy' refers to:*

A. The range of diseases in which the drug is beneficial
B. The maximal intensity of response that can be produced by the drug
C. The dose of the drug needed to produce half maximal effect
D. The dose of the drug needed to produce therapeutic effect *(p. 47)*

3.24 *Which of the following is always* ***true:***

A. A more potent drug is more efficacious
B. A more potent drug is safer
C. A more potent drug is clinically superior
D. A more potent drug can produce the same response at lower doses *(p. 47)*

3.25 *Higher efficacy of a drug necessarily confers:*

A. Greater safety
B. Therapeutic superiority
C. Capacity to produce more intense response
D. Cost saving *(p. 47)*

3.22 D 3.23 B 3.24 D 3.25 C

3.26 *If the dose-response curves of a drug for producing different actions are widely separated on the dose axis, the drug is:*
A. Highly potent
B. Highly efficacious
C. Highly toxic
D. Highly selective *(p. 47-48)*

3.27 *The therapeutic index of a drug is a measure of its:*
A. Safety
B. Potency
C. Efficacy
D. Dose variability *(p. 48)*

3.28 *Compared to the drug named within parenthesis, which of the following drugs has a higher potency but lower efficacy:*
A. Pethidine (morphine)
B. Furosemide (hydrochlorothiazide)
C. Diazepam (pentobarbitone)
D. Enalapril (captopril) *(p. 47)*

3.29 *If the effect of combination of two drugs is equal to the sum of their individual effects, the two drugs are exhibiting:*
A. Potentiation
B. Synergism
C. Cross tolerance
D. Antagonism *(p. 49)*

3.30 *The antagonism between adrenaline and histamine is called 'physiological antagonism' because:*
A. Both are physiologically present in the body
B. They act on physiological receptors
C. Both affect many physiological processes
D. They have opposite physiological effects *(p. 49)*

3.26 D 3.27 A 3.28 C 3.29 B 3.30 D

3.31 *The antidotal action of sodium nitrite in cyanide poisoning is based on:*
A. Physical antagonism
B. Chemical antagonism
C. Physiological antagonism
D. Noncompetitive antagonism *(p. 49, 492)*

3.32 *A drug 'R' producing no response by itself causes the log dose-response curve of another drug 'S' to shift to the right in a parallel manner without decreasing the maximal response: Drug 'R' is a:*
A. Partial agonist
B. Inverse agonist
C. Competitive antagonist
D. Noncompetitive antagonist *(p. 50)*

3.33 *A drug which does not produce any action by itself but decreases the slope of the log dose-response curve and suppresses the maximal response to another drug is a:*
A. Physiological antagonist
B. Competitive antagonist
C. Noncompetitive antagonist
D. Partial agonist *(p. 50)*

3.34 *The following is **not** a feature of competitive antagonists:*
A. Chemical resemblance with the agonist
B. Parallel rightward shift of the agonist log dose-response curve
C. Suppression of maximal agonist response
D. Apparent reduction in agonist affinity for the receptor *(p. 50)*

3.35 *The following is a competitive antagonist of GABA but a noncompetitive antagonist of diazepam:*
A. Picrotoxin
B. Muscimol
C. Flumazenil
D. Bicuculline *(p. 50, 364, 435)*

3.31 B 3.32 C 3.33 C 3.34 C 3.35 D

3.36 *The dose of the following class of drugs has to be adjusted by repeated measurement of the affected physiological parameter:*
A. Oral contraceptives
B. Antiepileptics
C. Antidepressants
D. Oral anticoagulants *(p. 51)*

3.37 *A drug which is generally administered in standard doses without the need for dose individualization is:*
A. Insulin
B. Mebendazole
C. Prednisolone
D. Digoxin *(p. 51)*

3.38 *Which of the following statements is **not** true of fixed dose combination formulations:*
A. They are more convenient
B. Contraindication to one of the components does not contraindicate the formulation
C. The dose of any one component cannot be independently adjusted
D. The time course of action of the different components may not be identical *(p. 51-52)*

3.39 *Fixed dose combination formulations are not necessarily appropriate for:*
A. Drugs administered in standard doses
B. Drugs acting by the same mechanism
C. Antitubercular drugs
D. Antihypertensive drugs *(p. 51, 515-17, 704)*

3.40 *A fixed dose combination preparation meant for internal use must **not** contain the following class of drug:*
A. Thiazide diuretic
B. Fluoroquinolone antimicrobial
C. Corticosteroid
D. H_2 blocker *(p. 52)*

3.36 D	**3.37 B**	**3.38 B**	**3.39 B**	**3.40 C**

3.41 *Interindividual variations in equieffective doses of a drug are most marked if it is disposed by:*
A. Glomerular filtration
B. Tubular secretion
C. Both glomerular filtration and tubular secretion
D. Hepatic metabolism *(p. 52)*

3.42 *The pharmacokinetics of drugs in the neonate differs from that in adults, because their:*
A. Intestinal transit is fast
B. Drug metabolizing enzymes are overactive
C. Tubular transport mechanisms are not well developed
D. Glomerular filtration rate is high *(p. 53)*

3.43 *Which adverse drug effect is more common in children than in adults:*
A. Isoniazid induced neuropathy
B. Chlorpromazine induced muscle dystonia
C. Digoxin induced cardiac arrhythmia
D. Penicillin hypersensitivity *(p. 53, 397)*

3.44 *The elderly patients are relatively intolerant to:*
A. Digoxin
B. Salbutamol
C. Propranolol
D. Nifedipine *(p. 54, 463)*

3.45 *The following drug adverse effect is specially noted in men compared to women:*
A. Tardive dyskinesia due to neuroleptics
B. Levodopa induced abnormal movements
C. Ampicillin induced loose motions
D. Ketoconazole induced loss of libido
(p. 54, 720)

3.41 D 3.42 C 3.43 B 3.44 A 3.45 D

3.46 *Which racial difference in response to drugs has been mentioned incorrectly below:*
A. Africans require higher concentration of atropine to dilate pupils
B. Black races are more responsive to antihypertensive action of beta blockers
C. Japanese are more prone to develop SMON due to halogenated hydroxyquinolines
D. Chloramphenicol induced aplastic anaemia is rare among Indians *(p. 54)*

3.47 *Which of the following adverse drug reactions is due to a specific genetic abnormality:*
A. Tetracycline induced sunburn like skin lesions
B. Quinidine induced thrombocytopenia
C. Metoclopramide induced muscle dystonia
D. Primaquine induced massive haemolysis *(p. 54)*

3.48 *Drug metabolism can be induced by the following factors* ***except:***
A. Cigarette smoking
B. Acute alcohol ingestion
C. Exposure to insecticides
D. Consumption charcoal broiled meat *(p. 55, 351)*

3.49 *A drug which produces qualitatively different actions when administered through different routes is:*
A. Phenytoin sodium
B. Hydralazine
C. Magnesium sulfate
D. Nitroglycerine *(p. 55)*

3.50 *Which of the following is* ***true*** *of 'placebos':*
A. Placebo is a dummy medication
B. Placebo is the inert material added to the drug for making tablets
C. Placebos do not produce any effect
D. All patients respond to placebos *(p. 55)*

3.46 B 3.47 D 3.48 B 3.49 C 3.50 A

3.51 *In patients of hepatic cirrhosis:*

A. The extent of change in pharmacokinetics of drugs can be predicted from the values of liver function tests
B. High doses of furosemide can be safely used
C. Metformin is the preferred oral hypoglycaemic
D. Disposition of atenolol is not significantly affected

(p. 56)

3.52 *In patients with renal insufficiency the clearance of the following drug is reduced parallel to the reduction in creatinine clearance:*

A. Propranolol
B. Digoxin
C. Lignocaine
D. Verapamil *(p. 56)*

3.53 *The following statement is* ***not*** *correct for uremic patients:*

A. Attainment of steady-state plasma concentration of drugs eliminated through the kidney is hastened
B. Pethidine can cause seizures
C. Diazepam produces exaggerated CNS depression
D. Tetracyclines further raise blood urea level

(p. 56)

3.54 *In congestive heart failure patients:*

A. Volume of distribution of all drugs is increased
B. Hepatic clearance of drugs is unaffected
C. Orally administered diuretics may not be effective, but the same may work parenterally
D. Inotropic action of digoxin is attenuated

(p. 56-57)

3.51 D 3.52 B 3.53 A 3.54 C

3.55 *Interaction between the following pair of drugs can be avoided by making suitable adjustments:*
A. Levodopa and metoclopramide
B. Furosemide and indomethacin
C. Tetracyclines and ferrous sulfate
D. Clonidine and chlorpromazine *(p. 57, 670)*

3.56 *Drug cumulation is the basis of organ toxicity of the following drug when used for prolonged periods:*
A. Prednisolone
B. Chloroquine
C. Aspirin
D. Hydralazine *(p. 58, 740)*

3.57 *Tolerance is generally **not** acquired to:*
A. Antisecretory action of atropine
B. Sedative action of chlorpromazine
C. Emetic action of levodopa
D. Vasodilator action of nitrates *(p. 58, 384, 490)*

3.58 *Significant tolerance **does not** develop to the following action of morphine:*
A. Analgesia
B. Euphoria
C. Sedation
D. Miosis *(p. 58, 423)*

3.59 *In an anaesthetized dog, repeated intravenous injection of ephedrine shows the phenomenon of:*
A. Anaphylaxis
B. Tachyphylaxis
C. Idiosyncrasy
D. Drug resistance *(p. 59)*

3.55 C 3.56 B 3.57 A 3.58 D 3.59 B

4.1 *An undesirable effect of a drug that occurs at therapeutic doses and can be predicted from its pharmacological actions is called:*
A. Side effect
B. Toxic effect
C. Allergic reaction
D. Idiosyncrasy *(p. 61)*

4.2 *Which of the following is a type B (unpredictable) adverse drug reaction:*
A. Side effect
B. Toxic effect
C. Idiosyncrasy
D. Physical dependence *(p. 60, 62)*

4.3 *The side effect of a drug which has been used as a therapeutic effect in another condition is:*
A. Constipation caused by codeine
B. Cough caused by captopril
C. Uterine stimulation caused by quinine
D. Diarrhoea caused by ampicillin *(p. 61)*

4.4 *A 'toxic effect' differs from a 'side effect' in that:*
A. It is not a pharmacological effect of the drug
B. It is a more intense pharmacological effect that occurs at high dose or after prolonged medication
C. It must involve drug induced cellular injury
D. It involves host defence mechanisms *(p. 61)*

4.5 *The following statement is* ***true*** *in relation to 'drug toxicity' and 'poisoning':*
A. The two terms are synonymous
B. When a toxic effect requires specific treatment, it is called poisoning
C. A toxic effect which endangers life by markedly affecting vital functions is called poisoning
D. Toxicity is caused by drugs while poisoning is caused by other harmful chemicals *(p. 61, 62)*

4.1 A 4.2 C 4.3 A 4.4 B 4.5 C

4.6 *Use of an emetic to remove the ingested poison is contraindicated in following poisonings* ***except*** *that by:*

A. Strychnine
B. Caustic soda
C. Ferrous sulfate
D. Kerosene *(p. 62, 600)*

4.7 *Which of the following is an idiosyncratic adverse drug reaction:*

A. Muscle dystonia caused by triflupromazine
B. Insomnia after taking pentobarbitone
C. Precipitation of asthma by morphine
D. Gum hyperplasia caused by phenytoin *(p. 62)*

4.8 *An immunologically mediated reaction to a drug producing stereotyped symptoms unrelated to its pharmacodynamic actions is:*

A. Hypersensitivity
B. Supersensitivity
C. Intolerance
D. Idiosyncrasy *(p. 62, 63)*

4.9 *Drugs producing allergic reactions generally act as:*

A. Complete antigens
B. Haptenes
C. Antibodies
D. Mediators *(p. 63)*

4.10 *The following allergic drug reaction is caused by circulating antibodies:*

A. Serum sickness
B. Anaphylactic shock
C. Systemic lupus erythematosus
D. Angioedema *(p. 63)*

4.6 C 4.7 B 4.8 A 4.9 B 4.10 A

4.11 *Which of the following is the only life saving measure in case of anaphylactic shock:*
A. Intravenous hydrocortisone hemisuccinate
B. Intravenous chlorpheniramine maleate
C. Intramuscular adrenaline hydrochloride
D. Intravenous glucose-saline *(p. 63, 64)*

4.12 *The type II, type III and type IV hypersensitivity reactions can be suppressed by:*
A. Adrenaline
B. Antihistaminics
C. Corticosteroids
D. Sod. cromoglycate *(p. 64)*

4.13 *The most appropriate route of administration for adrenaline in a case of anaphylactic shock is:*
A. Intracardiac
B. Intravenous
C. Intramuscular
D. Subcutaneous *(p. 63)*

4.14 *Intradermal drug sensitivity tests can detect the presence of following type of hypersensitivity:*
A. Type I (anaphylactic)
B. Type II (cytolytic)
C. Type III (retarded)
D. All of the above *(p. 64)*

4.15 *An addicting drug which produces little or no physical dependence is:*
A. Diazepam
B. Phenobarbitone
C. Amphetamine
D. Methadone *(p. 65, 113)*

4.11 C 4.12 C 4.13 C 4.14 A 4.15 C

4.16 *The essential feature in drug addiction is:*
A. Physical dependence
B. Psychological dependence
C. Both physical and psychological dependence
D. Psychiatric abnormality *(p. 65)*

4.17 *Adaptive neurophysiological changes produced by repeated administration of a drug, which result in the appearance of characteristic withdrawal syndrome on discontinuation of the drug is called:*
A. Drug addiction
B. Drug abuse
C. Psychological dependence
D. Physical dependence *(p. 65)*

4.18 *Which of the following constitutes 'drug abuse':*
A. Physician prescribed use of penicillin G for the cure of viral fever
B. Self administration of aspirin to relieve headache
C. Repeated self administration of morphine to derive euphoria
D. All of the above *(p. 65)*

4.19 *'Addiction' and 'habituation':*
A. Are fundamentally different phenomena
B. Are produced by different set of drugs / substances
C. Differ from one another by the presence or absence of physical dependence
D. Differ from each other in the degree of attendant psychological dependence *(p. 65)*

4.16 B 4.17 D 4.18 C 4.19 D

4.20 *Adverse consequences may follow sudden discontinuation of the following drug after chronic intake:*
A. Cocaine
B. Cannabis
C. Clonidine
D. All of the above *(p. 65, 510)*

4.21 *The most vulnerable period of pregnancy for the causation of foetal malformations due to drugs is:*
A. 18-55 days of gestation
B. 56-84 days of gestation
C. Second trimester
D. 36 weeks onwards *(p. 65)*

4.22 *The following is a proven human teratogen:*
A. Chloroquine
B. Warfarin sodium
C. Dicyclomine
D. Methyldopa *(p. 66, 517, 601, 740)*

4.23 *Select the drug which has been found to be a strong human teratogen:*
A. Isoniazid
B. Isotretinoin
C. Hydralazine
D. Propylthiouracil *(p. 66, 232, 512, 707, 801)*

4.20 C 4.21 A 4.22 B 4.23 B



Drugs Acting on Autonomic Nervous System

CHOOSE THE MOST APPROPRIATE RESPONSE

5.1 *Which of the following organs is innervated only by parasympathetic nerves:*

A. Iris muscles
B. Ciliary muscle
C. Sweat glands
D. Splenic capsule *(p. 72)*

5.2 *The sympathetic and parasympathetic systems exert functionally opposite influences on the following parameters* ***except****:*

A. Heart rate
B. Atrial refractory period
C. Pupil diameter
D. Intestinal motility *(p. 72)*

5.3 *Tetrodotoxin blocks nerve impulse/junctional transmission by:*

A. Anticholinergic action
B. Depleting acetylcholine
C. Blocking Na^+ channels
D. Blocking Ca^{2+} channels *(p. 74)*

5.1 B	**5.2 B**	**5.3 C**

5.4 *The cotransmitter may serve the following function/ functions:*
A. Regulate the release of the primary transmitter from the nerve ending
B. Alter postjunctional action of the primary transmitter
C. Itself act as an alternative transmitter
D. All of the above *(p. 75)*

5.5 *The following cotransmitter is most probably involved in mediating nonadrenergic noncholinergic (NANC) relaxation of the gut:*
A. Neuropeptide Y (NPY)
B. Adenosine
C. Nitric oxide (NO)
D. Kallidin *(p. 75, 603)*

6.1 *The major postjunctional cholinergic receptor is of the muscarinic type at the following site:*
A. Postganglionic parasympathetic
B. Adrenal medulla
C. Autonomic ganglia
D. Neuromuscular junction *(p. 77)*

6.2 *Pseudocholinesterase differs from true cholinesterase in that:*
A. It does not hydrolyse acetylcholine
B. It hydrolyses acetylcholine at a slower rate
C. It is more susceptible to inhibition by physostigmine
D. It is the only form of circulating cholinesterase *(p. 78)*

6.3 *The choline ester resistant to both true and pseudocholinesterase is:*
A. Methacholine
B. Bethanechol
C. Benzoylcholine
D. Butyrylcholine *(p. 78, 80)*

5.4D	5.5C	6.1A	6.2B	6.3B

6.4 *Muscarinic cholinergic receptors:*
A. Are located only on parasympathetically innervated effector cells
B. Mediate responses by opening an intrinsic Na^+ ion channel
C. Are present on vascular endothelium which has no cholinergic nerve supply
D. Predominate in the autonomic ganglia
(p. 77, 78)

6.5 *The cardiac muscarinic receptors:*
A. Are of the M_1 subtype
B. Are of the M_2 subtype
C. Are selectively blocked by pirenzepine
D. Function through the $PIP_2 \rightarrow IP_3$ / DAG pathway *(p. 78)*

6.6 *Cholinergic muscarinic receptor stimulation produces the following effects* ***except****:*
A. Sweating
B. Rise in blood pressure
C. Bradycardia
D. Urination *(p. 80)*

6.7 *The smooth muscle structure that is relaxed by cholinergic drugs is:*
A. Colon
B. Gastric fundus
C. Major bronchi
D. Bladder trigone *(p. 80)*

6.8 *Which of the following secretions is* ***not*** *stimulated by acetylcholine:*
A. Tear
B. Bile
C. Pancreatic juice
D. Sweat *(p. 80)*

6.4 C	**6.5 B**	**6.6 B**	**6.7 D**	**6.8 B**

6.9 *Acetylcholine has no therapeutic application because:*
A. None of its actions are beneficial in any condition
B. Its effects are transient
C. It produces wide spread actions affecting many organs
D. Both 'B' and 'C' are correct *(p. 80)*

6.10 *Pilocarpine is used for:*
A. Glaucoma
B. Paralytic ileus
C. Urinary retention
D. All of the above *(p. 81)*

6.11 *Actions of pilocarpine include the following* ***except:***
A. Sweating
B. Salivation
C. Miosis
D. Cycloplegia *(p. 81)*

6.12 *The following inhibitor binds only to the ani-onic site of the cholinesterase enzyme:*
A. Neostigmine
B. Physostigmine
C. Edrophonium
D. Dyflos *(p. 83)*

6.13 *Reactivation of cholinesterase enzyme occurs on hydrolysis of the inhibitor by the same enzyme molecule in case of the following anticholinesterase:*
A. Edrophonium
B. Neostigmine
C. Dyflos
D. Tacrine *(p. 83)*

6.9 D	**6.10 A**	**6.11 D**	**6.12 C**	**6.13 B**

6.14 *The anticholinesterase action of edrophonium is short lasting because termination of its action depends on:*

A. Dissociation and diffusion of the drug from the enzyme
B. Hydrolysis of the drug by the enzyme
C. Synthesis of fresh enzyme molecules
D. A combination of the above three processes

(p. 83)

6.15 *The organophosphates produce irreversible inhibition of cholinesterase because:*

A. They bind to an allosteric site of the enzyme resulting in unfavourable conformation of esteratic site to bind acetylcholine
B. Regeneration time of the phosphorylated enzyme is longer than the turnover time of the enzyme molecules
C. Phosphorylation results in rapid degradation of enzyme molecules
D. They are neither metabolized nor excreted from the body *(p. 83)*

6.16 *Out of two anticholinesterases, drug 'X' is a tertiary amine while drug 'Y' is a quarternary ammonium compound. Then:*

A. Drug 'X' is likely to be more potent than 'Y'
B. Drug 'X' will be more suitable to be used as a miotic
C. Drug 'Y' will be completely metabolized in the body
D. Drug 'Y' will produce CNS effects *(p. 84)*

6.14 A 6.15 B 6.16 B

6.17 *Neostigmine is preferred over physostigmine for treating myasthenia gravis because:*

A. It is better absorbed orally
B. It has longer duration of action
C. It has additional direct agonistic action on nicotinic receptors at the muscle end plate
D. It penetrates blood-brain barrier *(p. 84, 89)*

6.18 *The mechanism by which neostigmine improves contraction of myasthenic muscle involves:*

A. Repetitive binding of the acetylcholine molecules to the same receptors at the muscle end-plate
B. Diffusion of acetylcholine released from motor nerve endings to a wider area activating neighbouring receptors
C. Activation of motor end-plate receptors by neostigmine molecules themselves
D. All of the above *(p. 89)*

6.19 *Pyridostigmine differs from neostigmine in that:*

A. It is more potent orally
B. It is longer acting
C. It produces less muscarinic side effects
D. It does not have any direct action on N_M receptors *(p. 84)*

6.20 *Edrophonium is more suitable for differentiating myasthenic crisis from cholinergic crisis because of its:*

A. Shorter duration of action
B. Longer duration of action
C. Direct action on muscle end-plate
D. Selective inhibition of true cholinesterase *(p. 84, 90)*

6.17 C	**6.18 D**	**6.19 B**	**6.20 A**

6.21 *Which of the following is a relatively cerebroselective anticholinesterase found to afford symptomatic improvement in Alzheimer's disease:*

A. Donepezil
B. Gemfibrozil
C. Pyridostigmine
D. Pyritinol *(p. 84-85, 439)*

6.22 *Pilocarpine reduces intraocular tension in open angle glaucoma by:*

A. Contracting sphincter pupillae
B. Increasing tone of ciliary muscle
C. Reducing aqueous formation
D. Enhancing uveo-scleral outflow *(p. 87)*

6.23 *The site of action of miotics for therapeutic effect in angle closure glaucoma is:*

A. Canal of Schlemm
B. Ciliary body
C. Ciliary muscle
D. Sphincter pupillae muscle *(p. 89)*

6.24 *Currently, the first choice drug for open angle glaucoma is:*

A. Miotic eye drops
B. Ocular α_2 adrenergic agonists
C. Ocular prostaglandin analogues
D. Ocular β adrenergic blockers *(p. 85, 88)*

6.25 *Timolol eye drops are preferred over pilocarpine eye drops by glaucoma patients because:*

A. Timolol is more effective than pilocarpine
B. Timolol acts by enhancing uveo-scleral outflow
C. Timolol produces less ocular side effects
D. There are no contraindications to timolol *(p. 85, 86)*

6.21 A	**6.22 B**	**6.23 D**	**6.24 D**	**6.25 C**

6.26 *Beta adrenergic blockers lower intraocular tension by:*
A. Down regulating adenylyl cyclase in ciliary body through reduced activation of β_2 adrenoceptors
B. Constricting ciliary blood vessels
C. Blocking adrenergic action on trabecular meshwork
D. Reducing aqueous formation unrelated to beta adrenoceptor mediation *(p. 85)*

6.27 *Agonistic action on which of the following adrenergic receptors located on ciliary epithelial cells reduces aqueous secretion:*
A. β_1 receptor
B. β_2 receptor
C. α_1 receptor
D. α_2 receptor *(p. 87, 88)*

6.28 *To be used as a topically applied ocular beta blocker a drug should have the following properties* ***except:***
A. Strong local anaesthetic activity
B. High lipophilicity
C. High ocular capture
D. Low systemic activity *(p. 85)*

6.29 *Betaxolol differs from timolol in that it:*
A. Is a β_1 selective blocker
B. Is more efficacious in glaucoma
C. Produces less ocular side effects
D. Is longer acting *(p. 87)*

6.30 *Select the longer acting ocular beta blocker:*
A. Timolol
B. Betaxolol
C. Cartiolol
D. Levobunolol *(p. 87)*

6.26 A	**6.27 D**	**6.28 A**	**6.29 A**	**6.30 D**

6.31 *The following is an α_2 adrenergic agonist used as eyedrops to lower intraocular pressure:*
A. Brinzolamide
B. Bambuterol
C. Brimonidine
D. Latanoprost *(p. 88)*

6.32 *Which of the following is a prodrug of adrenaline used topically in glaucoma:*
A. Brimonidine
B. Dipivefrine
C. Phenylpropanolamine
D. Dorzolamide *(p. 88)*

6.33 *Apraclonidine is a clonidine congener which is used:*
A. To suppress opioid withdrawal syndrome
B. To suppress menopausal syndrome
C. As Analgesic
D. To reduce intraocular tension *(p. 88)*

6.34 *Dorzolamide is a:*
A. Topically applied ocular carbonic anhydrase inhibitor
B. Second generation sulfonylurea hypoglycaemic
C. Topical sulfonamide antibacterial
D. Luminal amoebicide *(p. 88)*

6.35 *Choose the correct statement about latanoprost:*
A. It is a $PGF_{2\alpha}$ derivative used in glaucoma
B. It is a selective α_1 blocker used in benign hypertrophy of prostate
C. It is a 5-α-reductase inhibitor used to reduce the size of enlarged prostate gland
D. It is a PGE_2 analogue used intravaginally for cervical priming *(p. 88)*

6.31 C	6.32 B	6.33 D	6.34 A	6.35 A

6.36 *Select the diuretic that is most effective in acute congestive glaucoma:*
A. Indapamide
B. Amiloride
C. Mannitol
D. Furosemide *(p. 89)*

6.37 *Neostigmine is beneficial in cobra envenomation because:*
A. It binds to and inactivates cobra toxin
B. It reverses coma due to cobra toxin
C. It counteracts the cardio-depressant action of cobra toxin
D. It antagonizes the paralysing action of cobra toxin *(p. 91)*

6.38 *A suspected case of poisoning has been brought to the casualty with weakness, fainting, involuntary passage of urine and stools, profuse sweating, salivation, watering from nose and eyes. His pulse is 120/min, low volume, BP 90/60 mm Hg, respiration shallow, pupil constricted, muscles flabby with occasional fasciculations. Which is the most likely type of poisoning:*
A. Belladonna
B. Barbiturate
C. Anticholinesterase
D. Dicophane (DDT) *(p. 91)*

6.39 *Which is the most important drug in the treatment of organophosphate poisoning:*
A. Atropine sulfate
B. Pralidoxime
C. Diazepam
D. Adrenaline *(p. 91)*

6.36 C	**6.37 D**	**6.38 C**	**6.39 A**

6.40 *Atropine does not antagonise the following feature of anticholinesterase poisoning:*
A. Hypotension
B. Central excitation
C. Muscle paralysis
D. Bronchoconstriction *(p. 91)*

6.41 *Pralidoxime can reactivate cholinesterase enzyme that has been inactivated by:*
A. Carbamate anticholinesterases
B. Organophosphate anticholinesterases
C. Both carbamate and organophosphate anticholinesterases
D. Reversible anticholinesterases *(p. 91-92)*

7.1 *Initial bradycardia caused by intramuscular injection of atropine is believed to be caused by:*
A. Stimulation of medullary vagal centre
B. Stimulation of vagal ganglia
C. Blockade of M_2 receptors on SA nodal cells
D. Blockade of muscarinic autoreceptors on vagal nerve endings *(p. 94)*

7.2 *Atropine does not exert relaxant/antispasmodic effect on the following muscle:*
A. Intestinal
B. Ureteric
C. Bronchial
D. Laryngeal *(p. 94, 98-99)*

7.3 *Atropine produces the following actions* ***except****:*
A. Tachycardia
B. Mydriasis
C. Dryness of mouth
D. Urinary incontinence *(p. 94, 95)*

6.40 C	**6.41 B**	**7.1 D**	**7.2 D**	**7.3 D**

7.4 *The organ most sensitive to actions of atropine is:*
A. Gastric glands
B. Salivary glands
C. Urinary bladder muscle
D. Heart *(p. 95)*

7.5 *Hyoscine differs from atropine in that it:*
A. Exerts depressant effects on the CNS at relatively low doses
B. Exerts more potent effects on the heart than on the eye
C. Is longer acting
D. Has weaker antimotion sickness activity
(p. 96)

7.6 *The quarternary analogues of belladonna alkaloids are preferred over the natural alkaloids for antisecretory/antispasmodic indications because:*
A. They have additional nicotinic receptor blocking activity
B. They are incompletely absorbed after oral administration
C. They are devoid of CNS and ocular effects
D. Dose to dose they are more potent than atropine
(p. 107)

(Note: Many quarternary anticholinergics do have additional nicotinic blocking activity and because of high ionization they are incompletely absorbed. But the reason for preferring them is lack of central and ocular effects. Most compounds are dose to dose less potent than atropine.)

7.4 B 7.5 A 7.6 C

7.7 *Inhaled ipratropium bromide has the following advantages* ***except****:*

A. It does not alter respiratory secretions
B. It does not depress airway mucociliary clearance
C. It has faster onset of bronchodilator action than inhaled salbutamol
D. It only rarely produces systemic side effects

(p. 97)

7.8 *Which of the following anticholinergic drugs is primarily used in preanaesthetic medication and during surgery:*

A. Glycopyrrolate
B. Pipenzolate methyl bromide
C. Isopropamide
D. Dicyclomine *(p. 97)*

7.9 *Children are more susceptible than adults to the following action of atropine:*

A. Tachycardia producing
B. Cycloplegic
C. Gastric antisecretory
D. Central excitant and hyperthermic

(p. 94, 95, 99)

7.10 *Glycopyrrolate is the preferred antimuscarinic drug for use before and during surgery because:*

A. It is potent and fast acting
B. It has no central action
C. It has antisecretory and vagolytic actions
D. All of the above *(p. 97, 98)*

7.11 *Choose the relatively vasicoselective anticholinergic drug used for urinary frequency and urge incontinence due to detrusor instability:*

A. Pirenzepine
B. Oxybutynin
C. Oxyphenonium
D. Glycopyrolate *(p. 97, 98)*

7.7 C	7.8 A	7.9 D	7.10 D	7.11 B

7.12 *Which of the following mydriatics has the fastest and briefest action:*
A. Atropine
B. Homatropine
C. Tropicamide
D. Cyclopentolate *(p. 98)*

7.13 *The following mydriatic does not produce cycloplegia:*
A. Phenylephrine
B. Tropicamide
C. Cyclopentolate
D. Homatropine *(p. 99, 113)*

7.14 *The most suitable mydriatic for a patient of corneal ulcer is:*
A. Atropine sulfate
B. Homatropine
C. Cyclopentolate
D. Tropicamide *(p. 99)*

7.15 *The mydriatic incapable of producing cycloplegia sufficient for refraction testing in children is:*
A. Atropine
B. Hyoscine
C. Homatropine
D. Cyclopentolate *(p. 98, 99)*

7.16 *Choose the correct statement about drotaverine:*
A. It is a smooth muscle antispasmodic acting by non-anticholinergic mechanisms
B. It is a papaverine congener used in peripheral vascular diseases
C. It is a synthetic atropine substitute used to control diarrhoea
D. It is a M_1/M_3 selective antagonist used for spastic constipation *(p. 98)*

7.12 C	**7.13 A**	**7.14 A**	**7.15 C**	**7.16 A**

7.17 *The most effective antidote for belladonna poisoning is:*
A. Neostigmine
B. Physostigmine
C. Pilocarpine
D. Methacholine *(p. 100)*

7.18 *Atropine is contraindicated in:*
A. Pulmonary embolism
B. Digitalis toxicity
C. Iridocyclitis
D. Raised intraocular tension *(p. 100)*

7.19 *Choose the correct statement about nicotine:*
A. It selectively stimulates parasympathetic ganglia
B. It has no clinical application
C. It is used as an aid during smoking cessation
D. It is used in Alzheimer's disease *(p. 101)*

7.20 *Ganglion blocking drugs are no longer used in therapeutics because:*
A. They have few and weak pharmacological actions
B. They produce many side effects
C. They are inactive by oral route
D. They have short duration of action *(p. 102)*

8.1 *Which of the following is a noncatecholamine sympathomimetic:*
A. Adrenaline
B. Ephedrine
C. Dopamine
D. Isoprenaline *(p. 103, 113)*

(Note: Ephedrine has no-OH group on the benzene ring; hence it is a phenylamine.)

7.17 B	**7.18 D**	**7.19 C**	**7.20 B**	**8.1 B**

8.2 *The rate limiting enzyme in the synthesis of catecholamines is:*
A. Tyrosine hydroxylase
B. Dopa decarboxylase
C. Dopamine β-hydroxylase
D. Noradrenaline N-methyl transferase
(p. 103)

8.3 *The most efficacious inhibitor of catecholamine synthesis in the body is:*
A. α-methyl-p-tyrosine
B. α-methyldopa
C. α-methyl-norepinephrine
D. Entacapone *(p. 103, 107)*

8.4 *Tyramine induces release of noradrenaline from adrenergic nerve endings:*
A. By depolarizing the axonal membrane
B. By mobilizing Ca^{2+}
C. By a nonexocytotic process
D. Only in the presence of MAO inhibitors *(p. 104)*

8.5 *The following type/types of noradrenaline uptake is blocked by reserpine:*
A. Axonal uptake
B. Granular uptake
C. Extraneuronal uptake
D. All of the above *(p. 104)*

8.6 *The principal process which terminates the action of noradrenaline released from adrenergic nerve ending is:*
A. Degradation by MAO
B. Methylation by COMT
C. Axonal uptake
D. Extraneuronal uptake *(p. 104)*

8.2 A 8.3 A 8.4 C 8.5 B 8.6 C

8.7 *Which of the following is* ***not*** *the basis for subclassifying β adrenergic receptors into β_1 and β_2:*

A. Selectivity of agonists
B. Selectivity of antagonists
C. Transducer pathway of response effectuation
D. Organ selective location *(p. 105, 106)*

(Note: Both β_1 and β_2 adrenoceptors utilize the adenylyl cyclase-cyclic AMP pathway.)

8.8 *The β_3 adrenoceptor differs from the other subtypes of β receptor in that it:*

A. Is not blocked by the conventional doses of propranolol
B. Is located primarily in the heart
C. Regulates blood sugar level
D. Is not coupled to G proteins *(p. 106)*

8.9 *The α_2 adrenoceptors are:*

A. Located exclusively on the adrenergic nerve endings
B. Prejunctional, postjunctional as well as extrajunctional in location
C. Selectively activated by phenylephrine
D. Selectively blocked by clonidine *(p. 106)*

8.10 *The following is a selective α_2 adrenoceptor antagonist:*

A. Prazosin
B. Phentolamine
C. Yohimbine
D. Clonidine *(p. 106, 122)*

8.7 C 8.8 A 8.9 B 8.10 C

8.11 *A sympathomimetic amine that acts almost exclusively by releasing noradrenaline from the nerve endings is:*

A. Ephedrine
B. Dopamine
C. Isoprenaline
D. Tyramine *(p. 106, 107)*

8.12 *The following sympathomimetic amine has agonistic action on α_1 + α_2 + β_1 + β_3 adrenoceptors, but not on β_2 receptors:*

A. Adrenaline
B. Noradrenaline
C. Isoprenaline
D. Phenylephrine *(p. 107)*

8.13 *The following action of adrenaline is mediated by both α and β receptors producing the same directional effect:*

A. Cardiac stimulation
B. Intestinal relaxation
C. Dilatation of pupil
D. Bronchodilatation *(p. 109)*

8.14 *The following action of adrenaline is **not** mediated by β receptors:*

A. Dilatation of blood vessels
B. Dilatation of pupil
C. Bronchodilation
D. Renin release from kidney *(p. 109, 110)*

8.15 *Low doses of adrenaline dilate the following vascular bed:*

A. Cutaneous
B. Mucosal
C. Renal
D. Skeletal muscle *(p. 109, 111)*

8.11 D	**8.12 B**	**8.13 B**	**8.14 B**	**8.15 D**

8.16 *Vasomotor reversal phenomenon after administration of an α adrenergic blocker is seen with:*
A. Adrenaline
B. Noradrenaline
C. Isoprenaline
D. All of the above drugs *(p. 110, 119)*

8.17 *Adrenergic β_2 agonists produce muscle tremor by:*
A. Facilitating neuromuscular transmission
B. Incomplete fusion of contractile response of individual fibres
C. Enhanced firing of muscle spindles
D. Both (b) and (c) are correct *(p. 110)*

8.18 *Adrenaline is inactive orally because it is:*
A. Not absorbed from the gastrointestinal tract
B. Destroyed by gastric acid
C. Completely metabolized in the intestinal mucosa and liver before reaching systemic circulation
D. Taken up by adrenergic nerve endings of the intestinal wall, liver and lungs *(p. 111)*

8.19 *Adrenaline raises blood glucose level by the following actions* ***except:***
A. Inducing hepatic glycogenolysis
B. Inhibiting insulin secretion from pancreatic β cells
C. Augmenting glucagon secretion from pancreatic α cells
D. Inhibiting peripheral glucose utilization *(p. 110-111)*

8.20 *The metabolic actions of adrenaline include the following* ***except****:*
A. Glycogenolysis in liver and muscle
B. Inhibition of neoglucogenesis in liver
C. Lipolysis in adipose tissue
D. Release of potassium from liver followed by its uptake *(p. 111)*

8.16 A	**8.17 D**	**8.18 C**	**8.19 D**	**8.20 B**

8.21 *Noradrenaline is administered by:*
A. Subcutaneous injection
B. Intramuscular injection
C. Slow intravenous infusion
D. All of the above routes *(p. 111)*

8.22 *Dopaminergic D1 and D2 as well as adrenergic α and β_1, but not β_2 receptors are activated by:*
A. Dopamine
B. Dobutamine
C. Methoxamine
D. Phenylephrine *(p. 112)*

8.23 *Dobutamine differs from dopamine in that:*
A. It does not activate peripheral dopaminergic receptors
B. It does not activate adrenergic β receptors
C. It causes pronounced tachycardia
D. It has good blood-brain barrier penetrability *(p. 112)*

8.24 *Choose the drug which is used as a short-term inotropic in severe congestive heart failure and has selective adrenergic β_1 agonistic activity but no dopaminergic agonistic activity:*
A. Dopamine
B. Dobutamine
C. Amrinone
D. Salmeterol *(p. 112)*

8.25 *Ephedrine is similar to adrenaline in the following feature:*
A. Potency
B. Inability to penetrate blood-brain barrier
C. Duration of action
D. Producing both α and β adrenergic effects *(p. 113)*

8.21 C	**8.22 A**	**8.23 A**	**8.24 B**	**8.25 D**

8.26 *At therapeutic doses, actions of amphetamine include the following* ***except****:*

A. Prolongation of attention span
B. Wakefulness
C. Lowering of seizure threshold
D. Delaying fatigue *(p. 113)*

8.27 *Amphetamine potentiates the following class of drugs:*

A. Diuretics
B. Analgesics
C. Neuroleptics
D. Antihypertensives *(p. 113)*

8.28 *Which pressor agent acts directly as well as indirectly and produces both vasoconstriction and cardiac stimulation:*

A. Phenylephrine
B. Methoxamine
C. Noradrenaline
D. Mephentermine *(p. 114)*

8.29 *Phenylephrine instilled in the eye produces:*

A. Mydriasis but no cycloplegia
B. Cycloplegia but no mydriasis
C. Both mydriasis and cycloplegia
D. Neither mydriasis nor cycloplegia

(p. 113, 117)

8.30 *While undergoing a surgical procedure a patient develops hypotension. Which drug can be injected intramuscularly to raise his BP:*

A. Noradrenaline
B. Isoprenaline
C. Mephentermine
D. Isoxsuprine *(p. 114)*

8.26 C	**8.27 B**	**8.28 D**	**8.29 A**	**8.30 C**

8.31 *Which of the following drugs has been used both as orally active nasal decongestant as well as appetite suppressant, and has been implicated in precipitating haemorrhagic stroke:*
A. Dexfenfluramine
B. Phenylpropanolamine
C. Isoxsuprine
D. Oxymetazoline *(p. 115)*

8.32 *The following is true of fenfluramine* ***except:***
A. It lacks CNS stimulant action
B. Its use has been associated with cardiac abnormalities and pulmonary hypertension
C. It causes weight loss independent of reduced food intake
D. It enhances serotonergic transmission in the brain *(p. 115, 117)*

8.33 *Choose the correct statement about sibutramine:*
A. It is an anorectic drug used to assist weight reduction
B. It is an atypical antidepressant
C. It is a 5-HT_{1D} receptor antagonist
D. Both A and C are correct *(p. 116)*

8.34 *Vasoconstrictors should* ***not*** *be used in:*
A. Neurogenic shock
B. Haemorrhagic shock
C. Secondary shock
D. Hypotension due to spinal anaesthesia *(p. 116)*

8.35 *Adrenaline injected with a local anaesthetic:*
A. Reduces local toxicity of the local anaesthetic
B. Reduces systemic toxicity of the local anaesthetic
C. Shortens duration of local anaesthesia
D. Makes the injection less painful *(p. 116, 323)*

8.31 B	8.32 C	8.33 A	8.34 C	8.35 B

8.36 *The most likely complication of prolonged use of nasal decongestant drops is:*

A. Atrophic rhinitis
B. Hypertrophy of nasal mucosa
C. Naso-pharyngeal moniliasis
D. Blockage of eustachian tubes *(p. 116)*

8.37 *Isoxsuprine increases limb blood flow in normal individuals, but is of limited efficacy in Buerger's disease, because in this disease:*

A. Vasodilator β adrenoceptors are deficient
B. There is loss of sympathetic innervation
C. Blood flow to the affected limb is reduced by organic obstruction
D. The drug is not delivered to the affected site *(p. 116, 501)*

8.38 *Dexamphetamine produces an apparently paradoxical effect in:*

A. Addicts
B. Athletes
C. Parkinsonian patients
D. Hyperkinetic children *(p. 117)*

9.1 *Adrenergic neurone blocking drugs:*

A. Block the action of adrenaline on neuronal α_2 adrenoceptors
B. Block both α and β adrenoceptor mediated effects of injected adrenaline
C. Do not block any effect of injected adrenaline
D. Do not block the effects of sympathetic nerve stimulation *(p. 119, 120)*

8.36 A 8.37 C 8.38 D 9.1 C

9.2 *The nonselective α adrenergic blockers produce the following actions* ***except****:*

A. Postural hypotension
B. Bradycardia
C. Miosis
D. Inhibition of ejaculation *(p. 119, 120)*

9.3 *The drug which produces vasoconstriction despite being an α adrenergic blocker is:*

A. Phenoxybenzamine
B. Ergotamine
C. Dihydroergotoxine
D. Tolazoline *(p. 121)*

9.4 *The bladder trigone and prostatic muscles are relaxed by:*

A. Adrenergic α_1 agonists
B. Adrenergic α_1 antagonists
C. Adrenergic α_2 agonists
D. Adrenergic α_2 antagonists *(p. 120)*

9.5 *The primary reason for preferring phentolamine as the α adrenergic blocker for performing diagnostic test for pheochromocytoma is:*

A. It produces rapid and short lasting α-adrenergic blockade
B. It equally blocks α_1 and α_2 adrenoceptors
C. It is the most potent α blocker
D. It has no additional β adrenergic blocking property *(p. 121)*

9.2 B 9.3 B 9.4 B 9.5 A

9.6 *Prazosin is an effective antihypertensive while non-selective α adrenergic blockers are not because:*
A. It is the only orally active α blocker
B. It improves plasma lipid profile
C. It does not concurrently enhance noradrenaline release
D. It improves urine flow in males with prostatic hypertrophy *(p. 121, 123)*

9.7 *Phentolamine test is considered positive for pheochromocytoma if there is a:*
A. Rise in BP by more than 35 mm Hg systolic and 25 mm Hg diastolic
B. Rise in systolic but fall in diastolic BP
C. Fall in both systolic and diastolic BP by less than 20 mm Hg
D. Fall in BP by more than 35 mm Hg systolic and more than 25 mm Hg diastolic *(p. 122)*

9.8 *Select the drug which affords faster and greater symptomatic relief in benign hypertrophy of prostate:*
A. Terazosin
B. Desmopressin
C. Finasteride
D. Sildenafil *(p. 123)*

9.9 *Select the drug which can improve urinary flow rate in benign prostatic hypertrophy without affecting prostate size:*
A. Amphetamine
B. Prazosin
C. Finasteride
D. Goserelin *(p. 123)*

9.6 C 9.7 D 9.8 A 9.9 B

9.10 *Which of the following is a selective α_{1A} receptor blocker that affords symptomatic relief in benign prostatic hypertrophy without producing significant fall in blood pressure:*
A. Terazosin
B. Doxazosin
C. Trimazosin
D. Tamsulosin *(p. 122, 124)*

9.11 *Sildenafil is contraindicated in patients taking the following class of drugs:*
A. α-adrenergic blockers
B. β-adrenergic blockers
C. Organic nitrates
D. Angiotensin converting enzyme inhibitors *(p. 124)*

9.12 *What is true of sildenafil:*
A. It enhances sexual enjoyment in normal men
B. It delays ejaculation
C. It improves penile tumescence in men with erectile dysfunction
D. It blocks cavernosal α_2 adrenoceptors *(p. 124)*

9.13 *Select the drug which is administered orally for erectile dysfunction in men:*
A. Yohimbine
B. Papaverine
C. Alprostadil
D. Sildenafil *(p. 124)*

9.14 *The β adrenergic blocker having β_1 selectivity, intrinsic sympathomimetic activity and membrane stabilizing property is:*
A. Carvedilol
B. Atenolol
C. Acebutolol
D. Metoprolol *(p. 128, 129)*

9.10 D	**9.11 C**	**9.12 C**	**9.13 D**	**9.14 C**

9.15 *All of the following contribute to the antihypertensive action of propranolol* ***except****:*

A. Direct vasodilatation
B. Decreased renin release from kidney
C. Adaptation of blood vessels to reduced cardiac output
D. Less noradrenaline release from sympathetic nerve endings *(p. 125, 126)*

9.16 *The effect of propranolol on heart rate is least marked under the following condition:*

A. Physical exercise
B. Rest
C. Anxiety
D. Sick sinus syndrome *(p. 125)*

9.17 *Propranolol can be used to allay anxiety associated with:*

A. Chronic neurotic disorder
B. Schizophrenia
C. Short-term stressful situations
D. Endogenous depression *(p. 130, 402)*

9.18 *Propranolol does not block the following action of adrenaline:*

A. Bronchodilatation
B. Lipolysis
C. Muscle tremor
D. Mydriasis *(p. 126)*

9.19 *Which of the following drugs attenuates the antihypertensive action of β-blockers:*

A. Cimetidine
B. Indomethacin
C. Chlorpromazine
D. Imipramine *(p. 127)*

9.15 A	**9.16 B**	**9.17 C**	**9.18 D**	**9.19 B**

9.20 *Select the drug which can impair carbohydrate tolerance in prediabetics but prolongs insulin hypoglycaemia:*
A. Salbutamol
B. Propranolol
C. Prazosin
D. Nifedipine *(p. 127, 242)*

9.21 *The following disease is worsened by propranolol:*
A. Glaucoma
B. Raynaud's disease
C. Benign prostatic hypertrophy
D. Parkinsonism *(p. 127)*

9.22 *β-adrenergic blockers are indicated in the following conditions* ***except:***
A. Hypertrophic cardiomyopathy
B. Congestive heart failure
C. Vasospastic angina pectoris
D. Dissecting aortic aneurysm *(p. 127, 130)*

9.23 *Select the ultrashort acting cardioselective* β *adrenergic blocker:*
A. Bisoprolol
B. Timolol
C. Sotalol
D. Esmolol *(p. 129)*

9.24 *Esmolol has the following features* ***except:***
A. Rapidly developing, shortlasting β adrenergic blockade
B. Cardioselectivity of action
C. Intrinsic sympathomimetic activity
D. Suitability for intraoperative use *(p. 129)*

9.20 B	**9.21 B**	**9.22 C**	**9.23 D**	**9.24 C**

9.25 *In a patient of hypertension, the dose of propranolol that normalized blood pressure, reduced resting heart rate to 50/min. Which of the following β blockers will be most suitable for him as an alternative so that heart rate is not markedly reduced:*

A. Pindolol
B. Celiprolol
C. Bisoprolol
D. Atenolol *(p. 129)*

9.26 *In patients of congestive heart failure, β-adrenergic blockers:*

A. Are absolutely contraindicated
B. Can prolong survival
C. Can improve haemodynamics after compensation has been restored
D. Both B and C are correct *(p. 130, 469)*

9.27 *The basis for use of β-adrenergic blockers in congestive heart failure (CHF) is:*

A. They exert positive inotropic effect in CHF
B. They counteract deleterious effect of sympathetic overactivity on the myocardium
C. They exert antiischaemic effect on the heart
D. They prevent cardiac arrhythmias *(p. 130, 469)*

9.28 *Adrenergic β_1 selective blockers offer the following advantages* ***except****:*

A. Lower propensity to cause bronchospasm
B. Less prone to produce cold hands and feet as side effect
C. Withdrawal is less likely to exacerbate angina pectoris
D. Less liable to impair exercise capacity *(p. 127-128)*

9.25 A	**9.26 D**	**9.27 B**	**9.28 C**

9.29 *The following is* ***not*** *a feature of cardioselective beta blockers, when compared to propranolol:*
A. They are ineffective in suppressing muscle tremor
B. They are safer in diabetics
C. They are less likely to cause bradycardia
D. They are less likely to worsen Raynaud's disease *(p. 128)*

9.30 *Select the* β *adrenergic blocker that is primarily eliminated unchanged by renal excretion:*
A. Propranolol
B. Metoprolol
C. Esmolol
D. Atenolol *(p. 128, 129)*

9.31 *In a patient of myocardial infarction,* β *adrenergic blockers are used with the following aim/aims:*
A. To reduce the incidence of reinfarction
B. To prevent cardiac arrhythmias
C. To limit size of the infarct
D. All of the above *(p. 130)*

9.32 *Select the* β*-adrenergic blocker that has additional* α_1 *blocking, vasodilator and antioxidant properties:*
A. Carvedilol
B. Celiprolol
C. Acebutolol
D. Metoprolol *(p. 131)*

9.33 *In hyperthyroidism,* β *adrenergic blockers are used:*
A. To induce euthyroid state
B. As definitive therapy
C. For rapid control of certain symptoms while awaiting response to carbimazole
D. To reduce basal metabolic rate *(p. 130, 234)*

9.29 C	**9.30 D**	**9.31 D**	**9.32 A**	**9.33 C**

9.34 *Select the drug that suppresses essential tremor, but not parkinsonian tremor:*

A. Procyclidine
B. Propranolol
C. Promethazine
D. Prochlorperazine *(p. 131)*

9.35 *Labetalol has:*

A. More potent β adrenergic blocking than α blocking activity
B. More potent α adrenergic blocking than β blocking activity
C. Equal α and β adrenergic blocking activity
D. β_1 agonistic activity in addition to α and β adrenergic blockade *(p. 131)*

9.36 *Labetalol differs from propranolol in that:*

A. It has additional α_1 blocking property
B. It is a selective β_1 blocker
C. It does not undergo first pass metabolism
D. All of the above *(p. 131)*

9.34 B 9.35 A 9.36 A



Autacoids and Related Drugs

CHOOSE THE MOST APPROPRIATE RESPONSE

10.1 *Autacoids differ from hormones in that:*

A. Autacoids are involved only in the causation of pathological states
B. Autacoids do not have a specific cell / tissue of origin
C. Autacoids generally act locally at the site of generation and release
D. Both 'B' and 'C' are correct *(p. 134)*

10.2 *Which of the following is a selective H_1 receptor agonist:*

A. 4-methyl histamine
B. Impromidine
C. 2-Thiazolyl ethylamine
D. Chlorpheniramine *(p. 137)*

10.3 *The action of histamine that is **not** mediated through H_1 receptors is:*

A. Release of EDRF from vascular endothelium resulting in vasodilatation
B. Direct action on vascular smooth muscle causing vasodilatation
C. Bronchoconstriction
D. Release of catecholamines from adrenal medulla *(p. 136, 137)*

10.1 D 10.2 C 10.3 B

10.4 *Histamine exerts the following actions* ***except****:*

A. Dilatation of large blood vessels
B. Dilatation of small blood vessels
C. Stimulation of isolated guineapig heart
D. Itching *(p. 136)*

10.5 *Fall in blood pressure caused by larger doses of histamine is blocked by:*

A. H_1 antihistaminics alone
B. H_2 antagonists alone
C. Combination of H_1 and H_2 antagonists
D. None of the above *(p. 136)*

10.6 *The following statement about histamine is* ***not*** *correct:*

A. It is the sole mediator of immediate hypersensitivity reaction
B. It plays no role in delayed hypersensitivity reaction
C. It serves as a neurotransmitter in the brain
D. All types of histamine receptors are G protein coupled receptors *(p. 137, 138)*

10.7 *Histamine is involved as a mediator in the following pathological condition:*

A. Delayed hypersensitivity reaction
B. Inflammation
C. Carcinoid syndrome
D. Variant angina *(p. 138)*

10.8 *The drug that can directly release histamine from mast cells without involving antigen-antibody reaction is:*

A. Aspirin
B. Procaine
C. Morphine
D. Sulfadiazine *(p. 138)*

10.4 A	10.5 C	10.6 A	10.7 B	10.8 C

10.9 *High anticholinergic property is present in the following antihistaminic:*
A. Diphenhydramine
B. Astemizole
C. Cetirizine
D. Terfenadine *(p. 139)*

10.10 *The following H_1 antihistaminic has additional anti 5-HT, anticholinergic, sedative and appetite stimulating properties:*
A. Promethazine
B. Terfenadine
C. Cyproheptadine
D. Hydroxyzine *(p. 139, 149)*

10.11 *The conventional H_1 antihistaminics possess the following additional properties* ***except****:*
A. Local anaesthetic
B. Vasopressor
C. Antiarrhythmic
D. Catecholamine potentiating *(p. 139, 141)*

10.12 *The capacity of an antihistaminic to produce sedation depends on the following* ***except:***
A. Relative affinity for central *versus* peripheral H_1 receptors
B. Ability to penetrate blood-brain barrier
C. Individual susceptibility
D. Ratio of H_1:H_2 blockade produced by the drug *(p. 139)*

10.13 *While prescribing a first generation H_1 antihistaminic the patient should be advised to avoid:*
A. Driving motor vehicles
B. Consuming processed cheese
C. Strenuous physical exertion
D. All of the above *(p. 139)*

10.9 A 10.10 C 10.11 B 10.12 D 10.13 A

10.14 *The following is **not** a feature of second generation antihistaminics:*

A. Nonimpairment of psychomotor performance
B. High antimotion sickness activity
C. Absence of anticholinergic / anti5-HTactions
D. Additional mechanisms of antiallergic action

(p. 141, 144)

10.15 *The second generation H_1 antihistaminics have the following advantages **except**:*

A. Lack of anticholinergic side effects
B. Lack of alcohol potentiating potential
C. Recipient can drive motor vehicles
D. Good antipruritic action *(p. 141, 142)*

10.16 *The following second generation anti-histaminic is **not** likely to produce ventricular arrhythmias when administered along with ketoconazole:*

A. Mizolastine
B. Ebastine
C. Terfenadine
D. Astemizole *(p. 142, 143)*

10.17 *Select the antihistaminic which blocks cardiac K^+ channels when given in high doses or along with drugs that inhibit CYP3A4 isoenzyme:*

A. Chlorpheniramine
B. Promethazine
C. Astemizole
D. Loratadine *(p. 142)*

10.18 *Select the antihistaminic which modulates calcium channels and has prominant labyrinthine suppressant property:*

A. Cyproheptadine
B. Cinnarizine
C. Clemastine
D. Cetirizine *(p. 144)*

10.14 B 10.15 D 10.16 A 10.17 C 10.18 B

10.19 *Erythromycin should not be given to a patient being treated with terfenadine because:*

A. Erythromycin induces the metabolism of terfenadine
B. Dangerous ventricular arrhythmias can occur
C. Terfenadine inhibitis metabolism of erythromycin
D. Terfenadine antagonizes the antimicrobial action of erythromycin *(p. 142)*

10.20 *Fexofenadine differs from terfenadine in that:*

A. It undergoes high first pass metabolism in liver
B. It is a prodrug
C. It does not block cardiac delayed rectifier K^+ channels
D. It has high affinity for central H_1 receptors *(p. 142)*

10.21 *Select the H_1 antihistaminic which is used topically in the nose for allergic rhinitis:*

A. Loratadine
B. Cetirizine
C. Fexofenadine
D. Azelastine *(p. 140, 143)*

10.22 *H_1 antihistaminics are beneficial in:*

A. All types of allergic disorders
B. Certain type I allergic reactions only
C. Certain type IV allergic reactions only
D. Bronchial asthma *(p. 63, 143)*

10.23 *Benefit afforded by certain H_1 antihistaminics in the following condition is **not** based on antagonism of histamine:*

A. Dermographism
B. Insect bite
C. Common cold
D. Seasonal hay fever *(p. 143, 144)*

10.19B 10.20C 10.21D 10.22B 10.23C

11.1 *The following biogenic amine is* ***not*** *actively taken up into its storage site by an active amine pump:*

A. Histamine
B. 5-Hydroxy tryptamine
C. Dopamine
D. Noradrenaline *(p. 145)*

(Note: Active uptake of 5-HT, noradrenaline and dopamine occurs into neurones, platelets and other storage cells, but no uptake mechanism exists for histamine.)

11.2 *The following action of 5-Hydroxy tryptamine is mediated by the 5-HT_3 receptor:*

A. Vasoconstriction
B. Bradycardia
C. EDRF release
D. Platelet aggregation *(p. 146, 147)*

11.3 *The typical response to intravenous injection of 5-HT in an anaesthetised animal is:*

A. Rise in BP
B. Fall in BP
C. Rise followed by brief fall in BP
D. Transient fall, followed by brief rise, followed by prolonged fall in BP *(p. 147)*

11.4 *The following 5-HT receptor is* ***not*** *a G protein coupled receptor:*

A. 5-HT_1
B. 5-HT_2
C. 5-HT_3
D. 5-HT_4 *(p. 146)*

11.1A 11.2B 11.3D 11.4C

11.5 *Tachyphylaxis to many actions on repeated injection is a feature of the following autacoid:*
A. Histamine
B. 5-Hydroxytryptamine
C. Bradykinin
D. Prostaglandin E_2 *(p. 146)*

11.6 *The following is a selective 5-HT_{1D} receptor agonist:*
A. Buspirone
B. Ondansetron
C. Sumatriptan
D. α-methyl 5-HT *(p. 146, 153)*

11.7 *Actions of 5-HT_2 receptor activation are primarily mediated by:*
A. Increased membrane permeability to Na^+ ions
B. Increased formation of cAMP
C. Activation of guanylyl cyclase
D. Generation of inositol trisphosphate and diacyl glycerols *(p. 146)*

11.8 *The following serotonergic receptor functions primarily as an autoreceptor on neurones:*
A. 5-HT_{1A}
B. 5-HT_{2A}
C. 5-HT_3
D. 5-HT_4 *(p. 146)*

11.9 *The smooth muscle stimulating action of 5-HT is most marked in the:*
A. Bronchi
B. Intestines
C. Ureter
D. Biliary tract *(p. 147)*

11.5 B	**11.6 C**	**11.7 D**	**11.8 A**	**11.9 B**

11.10 *5-HT appears to play a role in the following* ***except****:*

A. Regulation of normal BP
B. Regulation of intestinal peristalsis
C. Haemostasis
D. Causation of migraine *(p. 148)*

11.11 *The most important receptor involved in cytotoxic drug induced vomiting is:*

A. Histamine H_1 receptor
B. Serotonin 5-HT_3 receptor
C. Dopamine D2 receptor
D. Opioid μ receptor *(p. 146, 600, 606)*

11.12 *The following is a selective 5-HT_4 agonist:*

A. Buspirone
B. Sumatriptan
C. Cisapride
D. Clozapine *(p. 146, 604)*

11.13 *Methysergide has lost popularity as a prophylactic drug for migraine because of its:*

A. Poor efficacy
B. Potential to cause visceral fibrosis
C. Oxytocic action
D. Potential to aggravate ischaemic heart disease *(p. 149)*

11.14 *Blockade of both dopamine D2 and serotonin 5-$HT_{2A/2C}$ receptors is a distinctive feature of:*

A. Pimozide
B. Haloperidol
C. Ketanserin
D. Clozapine *(p. 150)*

11.10 A	**11.11 B**	**11.12 C**	**11.13 B**	**11.14 D**

11.15 *Dihydroergotamine (DHE) differs from ergotamine in the following respect:*

A. It is a more potent oxytocic
B. It has antiemetic property
C. It has high oral bioavailability
D. It is a more potent α adrenergic blocker and less potent vasoconstrictor *(p. 151)*

11.16 *Choose the ergot alkaloid that is well absorbed orally, has weak vascular but prominent uterine stimulant action:*

A. Ergometrine
B. Ergotamine
C. Dihydroergotamine
D. Dihydroergotoxine *(p. 151, 294)*

11.17 *Select the ergot compound which is primarily used for dementia:*

A. Bromocriptine
B. Ergotamine
C. Codergocrine
D. Methysergide *(p. 151, 438)*

11.18 *The 'amine' ergot alkaloid differs from 'amino acid' ergot alkaloid in that it has:*

A. High oral bioavailability
B. Better CNS penetrability
C. Weaker oxytocic action
D. Strong anti-5-HT action *(p. 151)*

11.15 D 11.16 A 11.17 C 11.18 A

11.19 *Select the correct statement in relation to drug therapy of migraine:*

A. Simple analgesics like paracetamol are ineffective in migraine
B. Ergot alkaloids are used for prophylaxis as well as treatment of migraine attacks
C. Use of ergot alkaloids is restricted to severe or resistant cases
D. Ergot alkaloids should be given till 24 hours after an attack has subsided *(p. 152-153)*

11.20 *The nonsteroidal antiinflammatory drugs are more effective in migraine:*

A. Without aura
B. With aura
C. Than ergotamine
D. When combined with propranolol *(p. 152)*

11.21 *Ergotamine relieves migraine by:*

A. Blocking vascular α adrenergic receptors
B. Blocking vascular 5-HT_2 receptors
C. Dilating cranial arterio-venous shunt channels
D. Constricting cranial vessels and reducing perivascular neurogenic inflammation

(p. 153)

11.22 *The most important risk in the use of sumatriptan for treatment of migraine is:*

A. Precipitation of seizures
B. Precipitation of psychosis
C. Development of hypertension
D. Coronary vasospasm *(p. 154)*

11.19 C	**11.20 A**	**11.21 D**	**11.22 D**

11.23 *Choose the correct statement about sumatriptan:*
A. It activates serotonergic neurones in raphe nuclei
B. It tends to suppress both pain and vomiting in migraine
C. It does not carry risk of precipitating coronary vasospasm
D. It is combined with ergotamine for treatment of severe migraine *(p. 153)*

11.24 *Which of the following drugs is most commonly used for prophylaxis of migraine:*
A. Ergotamine
B. Propranolol
C. Methysergide
D. Sumatriptan *(p. 154)*

11.25 *Select the β blocker which does* ***not*** *afford prophylaxis in migraine:*
A. Propranolol
B. Timolol
C. Atenolol
D. Pindolol *(p. 154)*

11.26 *Prophylactic therapy of migraine:*
A. Is recommended in all cases
B. Benefits upto 70% patients of moderate to severe migraine
C. Needs to be continued lifelong without interruption
D. Reduces the severity but increases the frequency of migraine attacks *(p. 154)*

11.23 B	**11.24 B**	**11.25 D**	**11.26 B**

11.27 *The calcium channel blocker used for prophylaxis of migraine but not for angina pectoris is:*

A. Verapamil
B. Diltiazem
C. Flunarizine
D. Amlodipine *(p. 154)*

12.1 *The following eicosanoid is generated through the lipoxygenase pathway:*

A. Prostaglandin E_2
B. Thromboxane A_2
C. Leukotriene C_4
D. Prostacyclin *(p. 157)*

12.2 *There are no preformed stores of the following autacoid/autacoids:*

A. Prostaglandins
B. Leukotrienes
C. Angiotensin II
D. All of the above *(p. 157, 445)*

12.3 *The cyclooxygenase isoenzymes COX-1 and COX-2 differ from each other in that:*

A. They catalyse different pathways in prostanoid biosynthesis
B. COX-1 is inhibited by aspirin but not COX-2
C. COX-2 is inhibited by ibuprofen but not COX-1
D. COX-1 is constitutive while COX-2 is largely inducible *(p. 157-158)*

12.4 *Which of the following is an irreversible inhibitor of cyclooxygenase:*

A. Aspirin
B. Phenylbutazone
C. Indomethacin
D. Piroxicam *(p. 158)*

11.27 C	12.1 C	12.2 D	12.3 D	12.4 A

12.5 *The prostanoid that consistently constricts blood vessels is:*
A. Prostaglandin E_2
B. Prostaglandin $F_{2\alpha}$
C. Thromboxane A_2
D. Prostacyclin *(p. 159, 160)*

12.6 *Dysmenorrhoea is often associated with excess production of the following autacoid by the endometrium:*
A. Bradykinin
B. Prostaglandin
C. Platelet activating factor
D. 5-Hydroxytryptamine *(p. 159, 169)*

12.7 *Actions of prostaglandin E_2 include the following* ***except****:*
A. Fall in blood pressure
B. Bronchoconstriction
C. Uterine contraction
D. Inhibition of gastric acid secretion
(p. 159, 160)

12.8 *The following prostanoid is a potent inducer of platelet aggregation:*
A. Prostacyclin
B. Prostaglandin E_2
C. Prostaglandin D_2
D. Thromboxane A_2 *(p. 159, 160)*

12.9 *Prostaglandins play pathophysiological role in the following* ***except:***
A. Patency of ductus arteriosus
B. Regulation of renal tubular salt absorption
C. Ventricular remodeling after myocardial infarction
D. Initiation of labour *(p. 159-161, 446)*

12.5 C	**12.6 B**	**12.7 B**	**12.8 D**	**12.9 C**

12.10 *Low doses of aspirin prolong bleeding time by selectively inhibiting synthesis of the following mediator in the platelets:*

A. Thromboxane A_2
B. 5-Hydroxytryptamine
C. Platelet activating factor
D. Prostacyclin *(p. 159)*

12.11 *Aspirin in low doses produces longlasting inhibition of platelet cyclooxygenase (COX) because:*

A. Platelets contain low quantity of COX
B. Platelets cannot synthesize fresh COX molecules
C. Platelets bind aspirin with high affinity
D. Platelet COX is inducible *(p. 159)*

12.12 *The early pregnancy uterus is sensitive to the following oxytocic:*

A. Oxytocin
B. Methylergometrine
C. Prostaglandin $F_{2\alpha}$
D. Both 'A' and 'B' are correct *(p. 159)*

12.13 *Choose the correct statement about cysteinyl leukotrienes (LT-C_4/D_4):*

A. They produce long lasting bronchoconstriction
B. They produce sustained rise in blood pressure
C. They are responsible for attracting and sequestrating neutrophils at the site of inflammation
D. Their production is inhibited by rofecoxib *(p. 158, 162-163)*

12.10 A	12.11 B	12.12 C	12.13 A

12.14 *The most prominent action of leukotriene B_4 is:*
A. Vasodilatation
B. Uterine contraction
C. Platelet aggregation
D. Chemotaxis of neutrophils and monocytes
(p. 162)

12.15 *Montelukast blocks the action of the following autacoid:*
A. Prostacyclin
B. Platelet activating factor
C. Leukotriene B_4
D. Leukotriene C_4 / D_4 *(p. 163, 205)*

12.16 *Cervical priming with prostaglandin results in:*
A. Facilitation of sperm movement through cervical canal
B. Increased cervical tone
C. Softening of cervix
D. Increased cervical secretions *(p. 164)*

12.17 *The following drug is used for cervical priming to facilitate labour:*
A. Oxytocin
B. Clomiphene
C. Progesterone
D. Prostaglandin E_2 *(p. 164)*

12.18 *Prolonged airway hyperreactivity is characteristically caused by:*
A. Histamine
B. Prostaglandin E_2
C. Platelet activating factor
D. Bradykinin *(p. 165)*

12.14 D	**12.15 D**	**12.16 C**	**12.17 D**	**12.18 C**

12.19 *The actions of platelet activating factor include the following* ***except:***

A. Increased capillary permeability
B. Bronchodilatation
C. Vasodilatation
D. Erosion of gastric mucosa *(p. 165)*

13.1 *The following analgesic lacks antiinflammatory action:*

A. Paracetamol
B. Ibuprofen
C. Diclofenac sodium
D. Piroxicam *(p. 167, 181)*

13.2 *Choose the correct statement about nonopioid analgesics:*

A. All have antiinflammatory property
B. All lack dependence producing liability
C. All act exclusively at peripheral pain mechanisms
D. All inhibit prostaglandin synthesis *(p. 167)*

Note: Paracetamol and nefopam are nonopioid analgesics that do not inhibit PG synthesis and have no/weak antiinflammtory property. Metamizol and propiphenazone also have poor antiinflammatory activity.

13.3 *The distinctive feature of the isoenzyme cyclooxygenase-2 is:*

A. It is not inhibited by indomethacin
B. It is inducible
C. It generates cytoprotective prostagladins in gastric mucosa
D. It is found only in foetal tissues *(p. 158, 168)*

12.19 B 13.1 A 13.2 B 13.3 B

13.4 *Aspirin produces analgesia by:*
A. Preventing sensitization of peripheral pain receptors
B. Affecting gating of pain impulses at spinal level
C. Raising pain threshold at subcortical level
D. Both 'A' and 'C' are correct *(p. 170)*

13.5 *Select the drug which inhibits cyclooxygenase irreversibly:*
A. Aspirin
B. Mephenamic acid
C. Naproxen
D. Diclofenac *(p. 168)*

13.6 *Inhibitors of prostaglandin synthesis share the following features* ***except:***
A. Prolongation of bleeding time
B. Prolongation of prothrombin time
C. Prolongation of labour
D. Gastric mucosal damage *(p. 168, 169)*

13.7 *Selective COX-2 inhibitors differ from nonselective COX-1/COX-2 inhibitors in that they:*
A. Are antiinflammatory but not analgesic
B. Donot bring down fever
C. Have no renal effects
D. Do not inhibit platelet aggregation
(p. 169, 180)

13.8 *Inhibition of prostaglandin synthesis does not underlie the following action of aspirin:*
A. Analgesia
B. Closure of patent ductus arteriosus
C. Hyperventilation
D. Bleeding tendency *(p. 171)*

13.4 D 13.5 A 13.6 B 13.7 D 13.8 C

13.9 *Metabolic effects that generally attend antiinflammatory doses of aspirin include the following* ***except:***

A. Increased CO_2 production
B. Hepatic glycogen depletion
C. Metabolic acidosis
D. Compensated respiratory alkalosis (*p. 171)*

13.10 *Which of the following is seen at low (analgesic) doses of aspirin:*

A. Respiratory stimulation
B. Increased occult blood loss in stools
C. Increased cardiac output
D. Hyperglycaemia *(p. 171)*

13.11 *Aspirin reduces fever by:*

A. Decreasing heat production in the body
B. Enhancing cutaneous blood flow
C. Inducing sweating
D. Both 'B' and 'C' are correct *(p. 170-171)*

13.12 *The isoenzyme cyclooxygenase-2 (COX-2) is expressed constitutively at the following site:*

A. Gastric mucosa
B. Neutrophils
C. Blood platelets
D. Juxtaglomerular apparatus

(p. 168, 169, 181)

13.13 *Antiinflammatory dose of aspirin given to diabetics is prone to cause:*

A. Hyperglycaemia
B. Hypoglycaemia
C. Ketoacidosis
D. Alkalosis *(p. 171)*

13.9 C	**13.10 B**	**13.11 D**	**13.12 D**	**13.13 B**

13.14 *The plasma half life of aspirin (along with salicylic acid released from it):*
A. Remains constant irrespective of dose
B. Is longer for antiinflammatory doses compared to that for analgesic dose
C. Is shorter for antiinflammatory doses compared to that for analgesic dose
D. Can be shortened by acidifying urine *(p. 172)*

13.15 *In the treatment of chronic inflammatory diseases, the most important limitation of aspirin is:*
A. Acid-base and electrolyte disturbances
B. Hypersensitivity and idiosyncratic reactions
C. Gastric mucosal damage
D. Salicylism *(p. 172)*

13.16 *Generally the earliest manifestation of salicylism is:*
A. Visual disturbance
B. Excitement
C. Hyperventillation
D. Tinnitus *(p. 172)*

13.17 *Aspirin is contraindicated in children suffering from influenza or similar viral infection because of increased risk of:*
A. Gastric bleeding
B. Thrombocytopenia
C. Fancony syndrome
D. Reye's syndrome *(p. 173)*

13.18 *Aspirin is contraindicated in pregnant women near term because:*
A. Labour may be delayed and prolonged
B. Blood loss during delivery may be more
C. Foetus may suffer premature closure of ductus arteriosus
D. All of the above risks *(p. 173)*

13.14 B	**13.15 C**	**13.16 D**	**13.17 D**	**13.18 D**

13.19 *Concurrent administration of aspirin interacts unfavourably with the following drugs* ***except:***

A. Furosemide
B. Spironolactone
C. Codeine
D. Methotrexate *(p. 173, 427)*

13.20 *Choose the correct statement about aspirin:*

A. In an afebrile patient acute overdose of aspirin produces hypothermia
B. Aspirin suppresses flushing attending large dose of nicotinic acid
C. Aspirin therapy prevents granulomatous lesions and cardiac complications of acute rheumatic fever
D. Long term aspirin therapy increases the risk of developing colon cancer *(p. 173, 174)*

13.21 *Choose the action for which the dose of aspirin required is the lowest:*

A. Analgesic
B. Antipyretic
C. Antiinflammatory
D. Antiplatelet aggregatory *(p. 173-174)*

13.22 *Selective inhibition of thromboxane A_2 synthesis by low dose aspirin therapy might retard the progression of:*

A. Pregnancy induced hypertension
B. Steroid induced hypertension
C. Renal hypertension
D. Malignant hypertension *(p. 174)*

13.19 C 13.20 B 13.21 D 13.22 A

13.23 *Phenylbutazone should be used only in patients not responding to other nonsteroidal antiinflammatory drugs (NSAIDs) because:*

A. It has lower antiinflammatory efficacy than other NSAIDs
B. It has potential to cause agranulocytosis
C. It has weak analgesic action
D. It alters the protein binding and metabolism of many drugs *(p. 175)*

13.24 *The NSAIDs aggravate the following diseases* ***except:***

A. Hypertension
B. Congestive heart failure
C. Peptic ulcer
D. Chronic gout *(p. 176)*

13.25 *Which of the following analgesics itself frequently causes headache as a side effect:*

A. Indomethacin
B. Mephenamic acid
C. Piroxicam
D. Metamizol *(p. 176)*

13.26 *The patient taking the following non-steroidal antiinflammatory drug should be cautioned not to drive motor vehicle:*

A. Celecoxib
B. Indomethacin
C. Naproxen
D. Diclofenac sodium *(p. 176)*

13.23 B 13.24 D 13.25 A 13.26 B

13.27 *Choose the correct statement about nonsteroidal antiinflammatory drugs (NSAIDs):*

A. NSAIDs attenuate hypoglycaemic action of sulfonylureas
B. NSAIDs potentiate antihypertensive action of ACE inhibitors
C. Serum lithium levels are lowered by concurrent administration of NSAIDs
D. Combined therapy with prednisolone and NSAIDs carries higher risk of gastric bleeding

(p. 175)

13.28 *The constellation of adverse effects associated with nonsteroidal antiinflammatory drugs include the following* ***except****:*

A. Sedation
B. Gastric irritation
C. Fluid retention
D. Rashes *(p. 170)*

13.29 *Which analgesic-antiinflammatory drug is more appropriate in musculo-skeletal disorder where pain is more prominent than inflammation:*

A. Ibuprofen
B. Piroxicam
C. Indomethacin
D. Nimesulide *(p. 183)*

13.30 *The following nonsteroidal antiinflammatory drug is a preferential cyclooxygenase-2 (COX-2) inhibitor:*

A. Tenoxicam
B. Meloxicam
C. Diclofenac sod.
D. Ketoprofen *(p. 179-180)*

13.27	**D**	**13.28**	**A**	**13.29**	**A**	**13.30**	**B**

13.31 *Which of the following is an efficacious antiinflammatory drug but a relatively weak inhibitor of cyclooxygenase:*

A. Nimesulide
B. Paracetamol
C. Ketoprofen
D. Indomethacin *(p. 179)*

13.32 *What is true of nimesulide:*

A. It exerts antiinflammatory action by several mechanisms in addition to cyclooxygenase inhibition
B. It is preferred for long-term use in rheumatoid arthritis
C. It is contraindicated in aspirin intolerant asthma patients
D. All of the above *(p. 179)*

13.33 *The distinctive feature of nimesulide is:*

A. It does not inhibit prostaglandin synthesis
B. It does not cause gastric irritation
C. It is usually well tolerated by aspirin intolerant asthma patients
D. It is not bound to plasma proteins *(p. 179)*

13.34 *Among the following, choose the NSAID with the highest COX-2 selectivity:*

A. Nimesulide
B. Nabumetone
C. Rofecoxib
D. Celecoxib *(p. 180)*

13.31 A 13.32 A 13.33 C 13.34 C

13.35 *The selective COX-2 inhibitors have the following advantage(s) over the nonselective NSAIDs:*

A. They are less likely to cause gastric ulcers and their complications
B. They are likely to be more effective in rheumatoid arthritis
C. They are not likely to produce renal complications
D. All of the above *(p. 180-181)*

13.36 *Choose the correct statement about paracetamol:*

A. It increases uric acid excretion
B. It is the most common drug implicated in causing analgesic nephropathy
C. In equianalgesic doses it is safer than aspirin
D. It stimulates cellular metabolism *(p. 181)*

13.37 *Select the drug which inhibits cyclooxygenase in the brain but not at peripheral sites of inflammation:*

A. Nimesulide
B. Paracetamol
C. Ketorolac
D. Mephenamic acid *(p. 181)*

13.38 *N-acetyl cysteine is beneficial in acute paracetamol poisoning because:*

A. It reacts with paracetamol to form a nontoxic complex
B. It inhibits generation of the toxic metabolite of paracetamol
C. It is a free radical scavenger
D. It replenishes hepatic glutathione which in turn binds the toxic metabolite of paracetamol *(p. 182)*

13.35 A 13.36 C 13.37 B 13.38 D

13.39 *Paracetamol has the following advantage(s) over NSAIDs:*

A. It is the first choice analgesic for majority of osteoarthritis patients
B. It can be given safely to all age groups from infants to elderly
C. It is not contraindicated in pregnant or breast feeding women
D. All of the above *(p. 182)*

13.40 *For a patient of peptic ulcer, the safest nonopioid analgesic is:*

A. Celecoxib
B. Diclofenac sodium
C. Paracetamol
D. Ibuprofen *(p. 181)*

13.41 *Choose the correct statement about nefopam:*

A. It is a nonopioid analgesic which does not inhibit prostaglandin synthesis
B. It is an orally active opioid analgesic
C. It is an analgesic with potent antiinflammatory activity
D. It is a preferential COX-2 inhibitor *(p. 182)*

13.42 *Choose the correct statement about topical NSAID preparations:*

A. They produce high drug levels in the blood by avoiding hepatic first pass metabolism
B. They produce high drug levels in the subjacent muscle and joint tissues upto a depth/distance of 10 cm from the site of application
C. They elicit symptomatic relief in soft tissue rheumatism mainly by a strong placebo effect
D. Interindividual variability in clinical response to these preparations is minimal *(p. 183)*

13.39 D	**13.40 C**	**13.41 A**	**13.42 C**

13.43 *The following antiinflammatory analgesic has been cleared for pediatric use:*

A. Indomethacin
B. Ibuprofen
C. Ketorolac
D. Piroxicam *(p. 184)*

14.1 *Which of the following is a reserve drug but* ***not*** *a disease modifying drug in rheumatoid arthritis:*

A. Chloroquine
B. Sulfasalazine
C. Prednisolone
D. Methotrexate *(p. 184, 187)*

14.2 *Choose the correct statement about use of gold sod. thiomalate in rheumatoid arthritis:*

A. It affords more rapid symptomatic relief than NSAIDs
B. The NSAIDs therapy is discontinued when it is started
C. It is used as an alternative to corticosteroids
D. It is used only in severe cases when other diseases modifying antirheumatic drugs have failed *(p. 185-186)*

14.3 *Choose the correct statement(s) about auranofin:*

A. It is an orally active gold compound
B. It is equally effective but less toxic than injected gold-sodium-thiomalate
C. Its major adverse effect is dermatitis
D. All of the above are correct *(p. 186)*

13.43 B 14.1 C 14.2 D 14.3 A

14.4 *Used as a remission inducing agent in rheumatoid arthritis, hydroxychloroquine:*
A. Is more effective than chloroquine
B. Produces a lower incidence of retinal damage than chloroquine
C. Is more effective and more toxic than gold
D. Both 'A' and 'B' are correct *(p. 186)*

14.5 *Sulfasalazine is used in the following disease(s):*
A. Bacillary dysentery
B. Ulcerative colitis
C. Rheumatoid arthritis
D. Both 'B' and 'C' are correct *(p. 186-187, 620)*

14.6 *Disease modifying antirheumatic drugs are indicated in rheumatoid arthritis:*
A. In place of NSAIDs in patients who donot tolerate the latter
B. Along with NSAIDs in patients with progressive disease
C. Only when NSAIDs fail to afford symptomatic relief
D. In all patients irrespective of disease status / concurrent medication *(p. 185-187)*

14.7 *What is true of disease modifying antirheumatic drugs:*
A. Their beneficial effect is manifest only after 1-3 months of therapy
B. The disease does not recurr once they induce remission
C. They are to be used life long
D. Concurrent use of more than one disease modifying drug is not recommended
(p. 185-187)

14.4 B 14.5 D 14.6 B 14.7 A

14.8 *The following antirheumatic drug affords symptomatic relief but does* ***not*** *bring about remission in rheumatoid arthritis:*

A. Gold sodium thiomalate
B. Prednisolone
C. Hydroxychloroquine
D. Leflunomide *(p. 187-188)*

14.9 *Which of the following is a disease modifying antirheumatic drug whose active metabolite inhibits the enzyme dihydro-orotate dehydrogenase:*

A. Leflunomide
B. Nimesulide
C. Sulfasalazine
D. Colchicine *(p. 187)*

14.10 *Which component of sulfasalazine is responsible for the therapeutic effect in rheumatoid arthritis:*

A. Intact sulfasalazine molecule
B. Sulfapyridine
C. 5–aminosalicylic acid
D. Both 'B' and 'C' *(p. 186-187)*

14.11 *Among the disease modifying antirheumatic drugs, fastest symptom relief is obtained with:*

A. Auranofin
B. Hydroxychloroquine
C. Sulfasalazine
D. Methotrexate *(p. 187)*

14.12 *Hyperuricaemia is produced by the following drugs* ***except:***

A. Ethambutol
B. Pyrazinamide
C. Sulfinpyrazone
D. Hydrochlorothiazide *(p. 188, 190)*

14.8 B	**14.9 A**	**14.10 B**	**14.11 D**	**14.12 C**

14.13 *Select the first choice drug for acute gout:*
A. Cochicine
B. Indomethacin
C. Allopurinol
D. Dexamethasone *(p. 188-189)*

14.14 *Nonsteroidal antiinflammatory drugs are more commonly used than colchicine in acute gout because:*
A. They are more effective
B. They act more rapidly
C. They have additional uricosuric action
D. They are better tolerated *(p. 188-189)*

14.15 *Select the drug which is neither analgesic, nor anti-inflammatory, nor uricosuric, but is highly efficacious in acute gout:*
A. Prednisolone
B. Colchicine
C. Naproxen
D. Sulfinpyrazone *(p. 188-189)*

14.16 *The most important dose-limiting adverse effect of colchicine is:*
A. Sedation
B. Kidney damage
C. Diarrhoea
D. Muscle paralysis *(p. 189)*

14.17 *Probenecid has the following action(s):*
A. Uricosuric
B. Analgesic
C. Antiinflammatory
D. Both 'A' and 'C' *(p. 189-190)*

14.13	**B**	**14.14**	**D**	**14.15**	**B**	**14.16**	**C**	**14.17**	**A**

14.18 *Select the drug which is used in chronic gout but is* ***not*** *uricosuric:*

A. Probenecid
B. Phenylbutazone
C. Sulfinpyrazone
D. Allopurinol *(p. 191)*

14.19 *Sulfinpyrazone has the following action(s):*

A. Antiplatelet aggregatory
B. Uricosuric
C. Antiinflammatory
D. Both 'A' and 'B' *(p. 190-191)*

14.20 *Allopurinol lowers the plasma concentration of:*

A. Hypoxanthine
B. Xanthine
C. Uric acid
D. All of the above *(p. 191)*

14.21 *Choose the correct statement about allopurinol:*

A. It is a purine antimetabolite with anti-neoplastic activity
B. It is a competitive inhibitor of xanthine oxidase
C. It is inactive itself, but its metabolite alloxanthine is a competitive inhibitor of xanthine oxidase
D. Both allopurinol as well as its metabolite alloxanthine are noncompetitive inhibitors of xanthine oxidase *(p. 191)*

14.22 *Allopurinol* ***does not*** *inhibit the metabolism of:*

A. 6-Mercaptopurine
B. 6-Thioguanine
C. Azathioprine
D. Theophylline *(p. 191)*

14.18	**D**	**14.19**	**D**	**14.20**	**C**	**14.21**	**B**	**14.22**	**B**

14.23 *A 35-year-old male presented with an attack of acute gout. He was treated with a 10 day course of naproxen. His blood uric acid level is high. What future line of treatment is most appropriate:*

A. No regular medication. Treat attacks of acute gout when they occur with naproxen.
B. Regular long-term treatment with naproxen
C. Regular long-term treatment with allopurinol
D. Start with allopurinol + naproxen for 2 months followed by long-term allopurinol treatment *(p. 191, 192)*

14.24 *Allopurinol is indicated in the following category of chronic gout patients:*

A. Over producers of uric acid
B. Under excretors of uric acid
C. Those with tophi and/or renal urate stones
D. All of the above *(p. 192)*

14.25 *Allopurinol has a therapeutic effect in the following conditions* ***except:***

A. Radiotherapy induced hyperuricaemia
B. Hydrochlorothiazide induced hyperuricaemia
C. Acute gouty arthritis
D. Kala-azar *(p. 192)*

14.23 D 14.24 D 14.25 C



Respiratory System Drugs

CHOOSE THE MOST APPROPRIATE RESPONSE

15.1 *The following expectorant acts both directly on the airway mucosa as well as reflexly:*
A. Potassium iodide
B. Guaiphenesin
C. Terpin hydrate
D. Bromhexine *(p. 195-196)*

15.2 *Bromhexine acts by:*
A. Inhibiting cough centre
B. Irritating gastric mucosa and reflexly increasing bronchial secretion
C. Depolymerizing mucopolysaccharides present in sputum.
D. Desensitizing stretch receptors in the lungs *(p. 196)*

15.3 *Codeine is used clinically as:*
A. Analgesic
B. Antitussive
C. Antidiarrhoeal
D. All of the above *(p. 197, 424, 622)*

15.4 *Mucokinetic is a drug which:*
A. Reduces airway mucus secretion
B. Increases airway mucus secretion
C. Makes respiratory secretions more watery
D. Stimulates mucociliary activity of bronchial epithelium *(p. 196)*

15.1A	15.2C	15.3D	15.4C

15.5 *Antitussives act by:*
A. Liquifying bronchial secretions
B. Raising the threshold of cough centre
C. Reducing cough inducing impulses from the lungs
D. Both 'B' and 'C' are correct *(p. 197)*

15.6 *Dextromethorphan is an:*
A. Analgesic
B. Antitussive
C. Expectorant
D. Antihistaminic *(p. 197)*

15.7 *Which of the following is* ***not*** *an antitussive:*
A. Oxeladin
B. Clophedianol
C. Dextropropoxyphene
D. Dextromethorphan *(p. 197, 426)*

(Note: Dextropropoxyphene is a codeine like analgesic which has poor antitussive action. Its levo-isomer is antitussive.)

15.8 *The following antitussive is present in opium but has no analgesic or addicting properties:*
A. Noscapine
B. Codeine
C. Pholcodeine
D. Ethylmorphine *(p. 197)*

15.9 *Which of the following ingredients has neither specific antitussive nor expectorant nor bronchodilator action, but is commonly present in proprietary cough formulations:*
A. Ambroxol
B. Chlorpheniramine
C. Guaiphenesin
D. Noscapine *(p. 197, 198)*

15.5D	15.6B	15.7C	15.8A	15.9B

15.10 *Bronchodilators are useful in cough:*
A. Only when cough is nonproductive
B. Only when cough is associated with thick sticky secretions
C. Only when reflex bronchoconstriction is associated
D. Irrespective of nature of cough or associated features *(p. 198)*

15.11 *The following antiasthma drug is **not** a bronchodilator:*
A. Ipratropium bromide
B. Theophylline
C. Formoterol
D. Sodium cromoglycate *(p. 199, 205)*

15.12 *The most prominent and dose related side effect of salbutamol is:*
A. Rise in blood pressure
B. Muscle tremor
C. Hyperglycaemia
D. Central nervous system stimulation *(p. 200)*

15.13 *The following class(es) of drugs are clinically beneficial in bronchial asthma:*
A. Histamine H_1 receptor antagonists
B. Platelet activating factor (PAF) antagonists
C. Leukotriene (*cys* LT_1) receptor antagonists
D. All of the above *(p. 199, 205)*

15.14 *Select the fastest acting inhaled bronchodilator:*
A. Ipratropium bromide
B. Formoterol
C. Salbutamol
D. Salmeterol *(p. 200)*

15.10 C	**15.11 D**	**15.12 B**	**15.13 C**	**15.14 C**

15.15 *In a patient of bronchial asthma, inhaled salbutamol produces the following effect(s):*
A. Inhibits antigen-antibody reaction in the lungs
B. Causes bronchodilatation
C. Reduces bronchial hyperreactivity
D. Both 'B' and 'C' are correct *(p. 200)*

15.16 *Inhaled salbutamol is useful in bronchial asthma for:*
A. Aborting/terminating asthma attacks
B. Round the clock prophylaxis of asthma
C. Status asthmaticus
D. All of the above *(p. 200, 209)*

15.17 *Select the correct statement about salmeterol:*
A. It is a long acting selective β_2 agonist bronchodilator
B. It is a bronchodilator with anti-inflammatory property
C. It is a β blocker that can be safely given to asthmatics
D. It is an antihistaminic with mast cell stabilizing property *(p. 200)*

15.18 *Which of the following β_2 agonist bronchodilators is given by inhalation, and is suitable for both terminating asthma attacks as well as for twice daily prophylaxis:*
A. Terbutaline
B. Bambuterol
C. Salmeterol
D. Formoterol *(p. 200-201)*

15.19 *Caffeine is more powerful than theophylline in exerting the following action:*
A. Bronchodilatation
B. Cardiac stimulation
C. Diuresis
D. Augmentation of skeletal muscl contractility *(p. 202)*

15.15B 15.16A 15.17A 15.18D 15.19D

15.20 *The following vascular bed is constricted by caffeine:*
A. Coronary
B. Cutaneous
C. Cranial
D. Mesenteric *(p. 201)*

15.21 *Methylxanthines exert the following action(s) at cellular/molecular level:*
A. Intracellular release of Ca^{2+}
B. Antagonism of adenosine
C. Inhibition of phosphodiesterase
D. All of the above *(p. 202-203)*

15.22 *Choose the correct statement about theophylline:*
A. Its use in asthma has declined because of narrow safety margin
B. Its dose needs to be reduced in smokers
C. It acts by increasing the formation of cAMP
D. Its plasma halflife is longer in children compared to that in adults *(p. 203-204)*

15.23 *Choose the correct statement about bambuterol:*
A. It is an orally acting bronchodilator
B. It is a prodrug
C. It inhibits the enzyme pseudocholinesterase
D. All of the above *(p. 200)*

15.24 *Relatively higher dose of theophylline is required to attain therapeutic plasma concentration in:*
A. Smokers
B. Congestive heart failure patients
C. Those receiving erythromycin
D. Those receiving cimetidine *(p. 203)*

15.20C 15.21D 15.22A 15.23D 15.24A

15.25 *Which of the following drugs inhibits theophylline metabolism and raises its plasma concentration:*
A. Phenytoin
B. Ciprofloxacin
C. Levofloxacin
D. Rifampicin *(p. 203-204)*

15.26 *Select the antiasthma drug which cannot be administered by inhalation:*
A. Theophylline
B. Ipratropium bromide
C. Budesonide
D. Terbutaline *(p. 203-204)*

15.27 *Theophylline is believed to benefit asthma patients by exerting the following actions* ***except****:*
A. Bronchodilatation
B. Augmentation of diaphragmatic contractility
C. Reduced mediator release
D. Inhibition of antigen: antibody reaction *(p. 204)*

15.28 *Montelukast produces the following action(s) in bronchial asthma patients:*
A. Bronchodilatation
B. Suppression of bronchial hyperreactivity
C. Stabilization of mast cells
D. Both 'A' and 'B' *(p. 205)*

15.29 *In comparison to inhaled β_2 adrenergic agonists, the inhaled anticholinergics:*
A. Are more effective in bronchial asthma
B. Are better suited for control of an acute attack of asthma
C. Produce slower response in bronchial asthma
D. Produce little benefit in chronic obstructive lung disease *(p. 204-205)*

15.25 B 15.26 A 15.27 D 15.28 D 15.29 C

15.30 *Select the most appropriate drug for regular prophylactic therapy in a 10 year old child who suffers from exercise induced asthma:*

A. Oral salbutamol
B. Oral theophylline
C. Inhaled sodium cromoglycate
D. Inhaled salmeterol *(p. 206)*

15.31 *Choose the correct statement(s) about ipratropium bromide:*

A. It preferentially dilates peripheral bronchioles
B. It produces additional bronchodilatation when added to nebulized salbutamol
C. As metered dose inhaler it is used for terminating asthma attacks
D. Both 'B' and 'C' *(p. 97, 205, 209)*

15.32 *Sodium cromoglycate has a role in the treatment of the following conditions* ***except****:*

A. Chronic bronchial asthma
B. Chronic urticaria
C. Chronic allergic rhinitis
D. Chronic allergic conjunctivitis *(p. 206)*

15.33 *Select the drug that is neither bronchodilator nor antiinflammatory, but has antihistaminic and mast cell stabilizing activity:*

A. Sodium cromoglycate
B. Ketotifen
C. Beclomethasone dipropionate
D. Chlorpheniramine *(p. 206)*

15.34 *Leukotriene antagonists are used in bronchial asthma:*

A. For terminating acute attacks
B. As monotherapy in place of β_2 agonists
C. As adjuvants to β_2 agonists for avoiding corticosteroids
D. As nebulized powder in refractory cases

(p. 205)

15.30C 15.31B 15.32B 15.33B 15.34C

15.35 *The most consistent, pronounced and sustained relief of symptoms in chronic bronchial asthma is afforded by:*
A. β_2 sympathomimetics
B. Anticholinergics
C. Sodium cromoglycate
D. Corticosteroids *(p. 206, 208)*

15.36 *Systemic corticosteroids are indicated in the following conditions* ***except****:*
A. Mild episodic asthma
B. Severe chronic asthma
C. Status asthmaticus
D. To prevent neonatal respiratory distress syndrome *(p. 207-209, 263)*

15.37 *Intranasal spray of budesonide is indicated in:*
A. Common cold
B. Acute sinusitis
C. Perennial vasomotor rhinitis
D. Epistaxis *(p. 208)*

15.38 *In patients of bronchial asthma inhaled corticosteroids achieve the following* ***except:***
A. Reduce the need for bronchodilator medication
B. Control an attack of refractory asthma
C. Reduce bronchial hyperreactivity
D. Reverse diminished responsiveness to sympathomimetic bronchodilators *(p. 207-209)*

15.39 *Inhaled beclomethasone dipropionate should be used only in:*
A. Acute attack of asthma
B. Moderate to severe chronic asthma
C. Status asthmaticus
D. Asthma not responding to systemic corticosteroids *(p. 207, 209)*

15.35D 15.36A 15.37C 15.38B 15.39B

15.40 *Budesonide is a:*
A. Nonsteroidal antiinflammatory drug
B. High ceiling diuretic
C. Inhaled corticosteroid for asthma
D. Contraceptive *(p. 208)*

15.41 *One of the most common side effect of inhaled beclomethasone dipropionate is:*
A. Pneumonia
B. Oropharyngeal candidiasis
C. Atrophic rhinitis
D. Pituitary-adrenal suppression *(p. 207)*

15.42 *In an asthma patient treated with systemic corticosteroids, bronchodilator drugs:*
A. Are not needed
B. Are contraindicated
C. May be used on 'as and when required' basis
D. Are ineffective *(p. 208, 209)*

15.43 *Reflex bronchoconstriction is most likely to occur with the following form of inhaled antiasthma medication:*
A. Metered dose spray of drug in solution
B. Dry powder rotacap
C. Nebuliser
D. Nebuliser with spacer *(p. 208)*

15.44 *Choose the correct statement(s) about inhaled glucocorticoids in chronic obstructive pulmonary disease (COPD):*
A. They are indicated in COPD only for severe / advanced cases
B. Instituted early they retard the progression of COPD
C. Their use predisposes to respiratory infections
D. Both 'A' and 'B' *(p. 207)*

15.40C 15.41B 15.42C 15.43B 15.44A

15.45 *To be a useful inhaled glucocorticoid the drug should have:*

A. High oral bioavailability
B. Low oral bioavailability
C. Additional bronchodilator activity
D. Prodrug character *(p. 207, 208)*

15.46 *A patient of chronic bronchial asthma was maintained on oral prednisolone 20 mg/day for 3 months. It was decided to switch him over to inhaled beclomethasone dipropionate 200 μg 4 times a day. What should be done to the oral prednisolone medication after starting inhaled beclomethasone:*

A. It should be stopped immediately
B. Its dose should be tapered from the next day
C. It should be given at the same dose for one week and then tapered
D. Its dose should be doubled for one week and then tapered *(p. 207)*

15.47 *The following component of management protocol of status asthmaticus has now been shown to be useless:*

A. Intravenous aminophylline
B. Intravenous hydrocortisone
C. Nebulized salbutamol
D. Nebulized ipratropium bromide *(p. 209)*

15.45 B 15.46 C 15.47 A



Hormones and Related Drugs

CHOOSE THE MOST APPROPRIATE RESPONSE

16.1 *The following hypothalamic regulatory hormone is **not** a peptide:*

A. Growth hormone release inhibitory hormone
B. Prolactin release inhibitory hormone
C. Gonadotropin releasing hormone
D. Corticotropin releasing hormone *(p. 213)*

16.2 *Which hormone acts through a cytoplasmic receptor:*

A. Calcitriol
B. Prolactin
C. Vasopressin
D. None of the above *(p. 214)*

16.3 *Actions of growth hormone include the following **except:***

A. Increased protein synthesis
B. Increased fat utilization
C. Increased carbohydrate utilization
D. Glucose intolerance *(p. 215-216)*

16.4 *Several actions of growth hormone are exerted through the elaboration of:*

A. Cyclic AMP
B. Cyclic GMP
C. Somatostatin
D. Insulin like growth factor-1 *(p. 215)*

16.1 B 16.2 A 16.3 C 16.4 D

16.5 *Octreotide is a long acting synthetic analogue of:*
A. Prolactin
B. Growth hormone
C. Somatostatin
D. Gonadotropin releasing hormone *(p. 217)*

16.6 *Somatostatin inhibits the release of:*
A. Growth hormone
B. Insulin
C. Thyrotropin
D. All of the above *(p. 217)*

16.7 *Indications of somatostatin include:*
A. Macroprolactinoma
B. Zollinger Ellison syndrome
C. Bleeding esophageal varices
D. Steatorrhoea *(p. 217)*

16.8 *Drugs that suppress growth hormone release in acromegaly include the following* ***except:***
A. Bromocriptine
B. Somatostatin
C. Octreotide
D. Nafarelin *(p. 217, 218, 221)*

16.9 *For therapeutic use, growth hormone is obtained from:*
A. Recombinant DNA technique
B. Human cadaver pituitaries
C. Porcine pituitaries
D. Chemical synthesis *(p. 216)*

16.10 *Hyperprolactinemia can cause the following* ***except****:*
A. Amenorrhoea
B. Gynaecomastia
C. Multiple ovulation
D. Depressed fertility *(p. 218)*

16.5 C 16.6 D 16.7 C 16.8 D 16.9 A 16.10 C

16.11 *Bromocriptine causes the following:*
A. Prolactin release
B. Vomiting
C. Uterine contraction
D. Impotence *(p. 218)*

16.12 *The most prominent action of bromocriptine is:*
A. Dopamine D2 agonism
B. Dopamine D2 antagonism
C. Dopamine D1 antagonism
D. α adrenergic antagonism *(p. 218)*

16.13 *Gynaecomastia can be treated with:*
A. Chlorpromazine
B. Cimetidine
C. Bromocriptine
D. Metoclopramide *(p. 218)*

16.14 *Menotropins is a preparation of:*
A. FSH + LH obtained from urine of menstruating women
B. LH obtained from urine of pregnant women
C. FSH + LH obtained from urine of menopausal women
D. LH obtained from serum of pregnant mare *(p. 219)*

16.15 *The hypothalamic gonadotropin releasing hormone (GnRH) is:*
A. A single peptide
B. A mixture of two distinct peptides FSH-RH and LH-RH
C. A mixture of several peptides
D. Dopamine *(p. 219)*

16.11 B 16.12 A 16.13 C 16.14 C 16.15 A

16.16 *Gonadotropins are indicated in the following conditions* ***except***:
A. Hypogonadotrophic hypogonadism in males
B. Cryptorchism in a boy less than 7 years old
C. Amenorrhoea and infertility in women
D. Polycystic ovaries *(p. 220)*

16.17 *Superactive GnRH agonists cause:*
A. Initial as well as sustained release of gonadotropins
B. Initial inhibition followed by stimulation of gonadotropin release after 1-2 weeks
C. Initial stimulation followed by inhibition of gonadotropin release after 1-2 weeks
D. Initial as well as sustained inhibition of gonadotropin release *(p. 220)*

16.18 *Thyrotropin exerts the following actions on the thyroid gland* ***except****:*
A. Increases vascularity
B. Inhibits proteolysis of thyroglobulin
C. Induces hyperplasia and hypertrophy
D. Promotes iodide trapping *(p. 221)*

16.19 *Serum TSH levels are high in most cases of:*
A. Myxoedema
B. Grave's disease
C. Carcinoma thyroid
D. Toxic nodular goiter *(p. 221)*

16.20 *Adrenocorticotropic hormone is primarily used for:*
A. Treatment of Addison's disease
B. Treatment of congenital adrenal hyperplasia
C. Treatment of autoimmune diseases
D. Diagnosis of pituitary-adrenal axis disorders *(p. 222)*

16.16 D	**16.17 C**	**16.18 B**	**16.19 A**	**16.20 D**

17.1 *Trapping of iodide by the following organ/organs is enhanced by thyrotropin:*
A. Thyroid
B. Salivary gland
C. Placenta
D. All of the above *(p. 224)*

17.2 *Triiodothyronine differs from thyroxine in that:*
A. It is more avidly bound to plasma proteins
B. It has a shorter plasma half life
C. It is less potent
D. It has a longer latency of action *(p. 228-229)*

17.3 *Metabolic rate of the following organ is* ***not*** *significantly affected by thyroxine:*
A. Brain
B. Heart
C. Liver
D. Skeletal muscle *(p. 228)*

17.4 *The most reliable guide to adjustment of thyroxine dose in a patient of hypothyroidism is:*
A. Pulse rate
B. Body weight
C. Serum thyroxine level
D. Serum TSH level *(p. 229)*

17.5 *Actions of thyroxine include the following* ***except****:*
A. Induction of negative nitrogen balance
B. Reduction in plasma cholesterol level
C. Fall in plasma free fatty acid level
D. Rise in blood sugar level *(p. 227)*

17.6 *Complications of over treatment with thyroxine include the following* ***except****:*
A. Auricular fibrillation
B. Angina pectoris
C. Congestive heart failure
D. Acceleration of atherosclerosis *(p. 228)*

17.1 A	17.2 B	17.3 A	17.4 D	17.5 C	17.6 D

17.7 *Thyroxine therapy is indicated in the following conditions* ***except:***

A. Euthyroid status with raised TSH level
B. Diffuse nontoxic goiter
C. Nonfunctional thyroid nodule
D. Benign functioning thyroid nodule

(p. 229, 230)

17.8 *Triiodothyronine is preferred over thyroxine in the treatment of:*

A. Endemic goiter
B. Cretinism
C. Papillary carcinoma of thyroid
D. Myxoedema coma *(p. 229)*

17.9 *The following thyroid inhibitor* ***does not*** *produce goiter when given in over dose:*

A. Propyl thiouracil
B. Carbimazole
C. Radioactive iodine
D. Sodium thiocyanate *(p. 230)*

17.10 *Carbimazole acts by inhibiting:*

A. Iodide trapping
B. Oxidation of iodide
C. Proteolysis of thyroglobulin
D. Synthesis of thyroglobulin protein *(p. 231)*

17.11 *Antithyroid drugs exert the following action:*

A. Inhibit thyroxine synthesis
B. Block the action of thyroxine on pituitary
C. Block the action of TSH on thyroid
D. Block the action of thyroxine on peripheral tissues *(p. 230-231)*

17.7 C	**17.8 D**	**17.9 C**	**17.10 B**	**17.11 A**

17.12 *The following thyroid inhibitor interferes with peripheral conversion of thyroxine to triiodothyronine:*
A. Propyl thiouracil
B. Methimazole
C. Carbimazole
D. Radioactive iodine *(p. 231)*

17.13 *Overtreatment with the following thyroid inhibitor results in enlargement of the thyroid:*
A. Lugol's iodine
B. Radioactive iodine
C. Carbimazole
D. All of the above *(p. 231)*

17.14 *A 60-year-old male presents with severe hyperthyroidism and multinodular goiter. It was decided to treat him with ^{131}I. The most appropriate course of treatment would be:*
A. Immediate ^{131}I dosing with no other drug before or after
B. Propranolol for 1 week followed by ^{131}I
C. Propranolol + carbimazole till severe thyrotoxicosis is controlled—1 week gap—^{131}I—resume carbimazole after 1 week for 2-3 months
D. Propranolol + Lugol's iodine for 2 weeks—^{131}I—continue Lugol's iodine for 2-3 months *(p. 232, 234)*

17.15 *Carbimazole differs from propylthiouracil in that:*
A. It is dose to dose less potent
B. It has a shorter plasma half life
C. It does not produce an active metabolite
D. It does not inhibit peripheral conversion of thyroxine to triiodothyronine *(p. 231)*

17.12 A 17.13 C 17.14 C 17.15 D

17.16 *The thyroid inhibitor which produces the fastest response is:*

A. Lugol's iodine
B. Radioactive iodine
C. Propylthiouracil
D. Lithium carbonate *(p. 232)*

17.17 *Choose the correct statement about carbimazole:*

A. It induces improvement in thyrotoxic symptoms afer 1-4 weeks therapy
B. Control of thyrotoxic symptoms with carbimazole is accompanied by enlargement of thyroid gland
C. Its long term use in Grave's disease leads to 'thyroid escape'
D. It mitigates thyrotoxic symptoms without lowering serum thyroxine levels *(p. 231-232)*

17.18 *In the treatment of hyperthyroidism, carbimazole has the following advantage over radioactive iodine:*

A. Cost of treatment is lower
B. It is preferable in uncooperative patient
C. It is better tolerated by the patients
D. Hypothyroidism when induced is reversible *(p. 232)*

17.19 *Lugol's iodine is used in hyperthyroidism:*

A. As long term definitive monotherapy
B. Preoperatively for 10-15 days
C. Postoperatively for 10-15 days
D. As adjuvant to carbimazole for long term therapy *(p. 233)*

17.16 A 17.17 A 17.18 D 17.19 B

17.20 *The aim of iodine therapy before subtotal thyroidectomy in Grave's disease is:*
A. To render the patient euthyroid
B. To restore the iodine content of the thyroid gland
C. To inhibit peripheral conversion of thyroxine into triiodothyronine
D. To reduce friability and vascularity of the thyroid gland *(p. 233)*

17.21 *The uses of sodium/potassium iodide include the following* ***except****:*
A. Preoperative preparation of Grave's disease patient
B. Prophylaxis of endemic goiter
C. As antiseptic
D. As expectorant *(p. 233, 806)*

17.22 *The physical half life of radioactive* ^{131}I *is:*
A. 8 hours
B. 8 days
C. 16 days
D. 60 days *(p. 233)*

17.23 *The most important drawback of radioactive iodine treatment of Grave's disease is:*
A. Subsequent hypothyroidism in many patients
B. Marked side effect for 1-2 weeks after treatment
C. High cost
D. Permanent cure cannot be achieved *(p. 234)*

17.24 *Propranolol is used in hyperthyroidism:*
A. As short-term symptomatic therapy till effect of carbimazole develops
B. As long-term therapy after subtotal thyroidectomy
C. In patients not responding to carbimazole
D. To potentiate the effect of radioactive iodine *(p. 234)*

17.20D 17.21C 17.22B 17.23A 17.24A

17.25 *Radioactive iodine is the treatment of choice for the following category of thyrotoxic patients:*
A. Children
B. Young adults with recent oneset of Grave's disease
C. Elderly patients with ischaemic heart disease
D. Pregnant women *(p. 234)*

18.1 *Insulin release from pancreatic β cells is augmented by the following* ***except:***
A. Ketone bodies
B. Glucagon
C. Vagal stimulation
D. Alfa adrenergic agonists *(p. 237)*

18.2 *Action of Insulin* ***does not*** *include the following:*
A. Facilitation of glucose transport into cells
B. Facilitation of glycogen synthesis by liver
C. Facilitation of neoglucogenesis by liver
D. Inhibition of lipolysis in adipose tissue *(p. 238)*

18.3 *The major limitation of the thiazolidinediones in the treatment of type 2 diabetes mellitus is:*
A. Frequent hypoglycaemic episodes
B. Hyperinsulinemia
C. Lactic acidosis
D. Low hypoglycaemic efficacy in moderate to severe cases *(p. 235, 250)*

18.4 *Glucose entry into the cells of the following organ/ tissue is highly dependent on the presence of insulin:*
A. Brain
B. Liver
C. Adipose tissue
D. Kidney tubules *(p. 238)*

17.25C	18.1D	18.2C	18.3D	18.4C

18.5 *Choose the correct statement(s) about actions of insulin:*

A. It favours translocation of glucose transporters from intracellular site to the plasma membrane
B. It enhances transcription of lipoprotein lipase in vascular endothelium
C. It increases production of the enzyme glucokinase
D. All of the above *(p. 238, 239)*

18.6 *The insulin receptor is a:*

A. Ion channel regulating receptor
B. Tyrosine protein kinase receptor
C. G-protein coupled receptor
D. None of the above *(p. 239)*

18.7 *The primary route of administration of insulin is:*

A. Intradermal
B. Subcutaneous
C. Intramuscular
D. Intravenous *(p. 240)*

18.8 *The duration of action of insulin-zinc suspension (lente insulin) is:*

A. 2–4 hours
B. 8–10 hours
C. 20–24 hours
D. 30–36 hours *(p. 240)*

18.9 *The most common adverse reaction to insulin is:*

A. Hypoglycaemia
B. Lipodystrophy
C. Urticaria
D. Angioedema *(p. 241)*

18.5D	18.6B	18.7B	18.8C	18.9A

18.10 *Which of the following is* ***true*** *of counterregulatory symptoms of insulin hypoglycaemia:*

A. They generally appear before neuroglucopenic symptoms
B. They are accentuated after long-term insulin treatment
C. They result from parasympathetic activation
D. They manifest as hunger and fatigue

(p. 241-242)

18.11 *Which of the following is a neuroglucopenic symptom of hypoglycaemia:*

A. Sweating
B. Palpitation
C. Tremor
D. Abnormal behaviour *(p. 241-242)*

18.12 *There is no alternative to insulin therapy for:*

A. All type 1 diabetes mellitus patients
B. All type 2 diabetes mellitus patients
C. Type 2 diabetes patients not controlled by a sulfonylurea drug
D. Type 2 diabetes patients not controlled by a biguanide drug *(p. 242)*

18.13 *In diabetic patients, round the clock tight control of hyperglycaemia achieved by multiple daily insulin injections or insulin pumps:*

A. Prevents macrovascular disease more effectively
B. Is recommended in all type 2 diabetes patients
C. Is associated with higher incidence of hypoglycaemic reactions
D. Both A and C are correct *(p. 242-243)*

18.10 A	**18.11 D**	**18.12 A**	**18.13 D**

18.14 *In a patient of diabetes mellitus maintained on insulin therapy, administration of the following drug can vitiate glycaemia control:*

A. Prednisolone
B. Prazosin
C. Paracetamol
D. Phenytoin *(p. 242)*

18.15 *Insulin therapy is required for the following category/ categories of type 2 diabetes mellitus patients*:

A. Patients with ketoacidosis
B. Patients undergoing surgery
C. Pregnant diabetic
D. All of the above *(p. 242)*

18.16 *The insulin preparation of choice in diabetic keto-acidosis is:*

A. Regular insulin
B. Lente insulin
C. Isophane insulin
D. A 30:70 mixture of plain and isophane insulin *(p. 244)*

18.17 *Which of the following measures is **not** an essential component of the management of moderately severe diabetic ketoacidosis:*

A. Insulin
B. Intravenous fluids
C. Potassium chloride
D. Sodium bicarbonate *(p. 244)*

18.18 *The monocomponent insulin preparations differ from the conventional preparations in the following respects **except:***

A. They are less allergenic
B. They cause less hypoglycaemic reactions
C. They cause less lipodystrophy
D. They are less liable to induce insulin resistance *(p. 241)*

18.14 A 18.15 D 18.16 A 18.17 D 18.18 B

18.19 *Insulin resistance can be minimised by the use of:*

A. Corticosteroids
B. Tolbutamide
C. Protamine
D. Monocomponent / human insulin

(p. 241, 245)

18.20 *Human insulins are obtained by the following sources/methods* ***except****:*

A. Cadaver pancreas
B. Proinsulin recombinant bacterial
C. Precursor yeast recombinant
D. Enzyme modification of pork insulin

(p. 241)

18.21 *Compared to pork/beef insulins, the human insulins:*

A. Are more potent
B. Have a faster kinetics of absorption and elimination
C. Have longer biological action half life
D. Penetrate blood-brain barrier more efficiently

(p. 241)

18.22 *Which of the following is* ***not*** *a specific indication for the more expensive monocomponent/human insulins:*

A. Insulin resistance
B. Pregnant diabetic
C. Sulfonylurea maintained diabetic posted for surgery
D. Type 1 diabetes mellitus *(p. 240-241)*

18.19D 18.20A 18.21B 18.22D

18.23 *The second generation sulfonylurea hypoglycaemics differ from the first generation ones in that they:*
A. Are more potent
B. Are longer acting
C. Do not lower blood sugar in nondiabetic subjects
D. Are less prone to cause hypoglycaemic reaction *(p. 246-247)*

18.24 *Metformin is preferred over phenformin because:*
A. It is more potent
B. It is less liable to cause lactic acidosis
C. It does not interfere with vitamin B_{12} absorption
D. It is not contraindicated in patients with kidney disease *(p. 248-249)*

18.25 *Sulfonylureas do **not** lower blood sugar level in:*
A. Nondiabetics
B. Type 1 diabetics
C. Type 2 diabetics
D. Obese diabetics *(p. 246)*

18.26 *Sulfonylurea hypoglycaemics act by:*
A. Reducing intestinal absorption of glucose
B. Increasing insulin secretion from pancreas
C. Reversing down-regulation of insulin receptors
D. Both 'B' and 'C' are correct *(p. 246)*

18.27 *Which of the following drugs can precipitate hypoglycaemia if given to a diabetic controlled with a sulfonylurea drug:*
A. Phenobarbitone
B. Chloramphenicol
C. Rifampicin
D. Oral contraceptive *(p. 246)*

18.23 A 18.24 B 18.25 B 18.26 D 18.27 B

18.28 *The hypoglycaemic action of sulfonylureas is likely to be attenuated by the concurrent use of:*
A. Hydrochlorothiazide
B. Propranolol
C. Theophylline
D. Aspirin *(p. 246, 248)*

18.29 *Chlorpropamide is* ***not*** *a preferred sulfonylurea because:*
A. Hypoglycaemic reaction is more common with it
B. Incidence of alcohol intolerance reaction is higher with it
C. It can produce cholestatic jaundice
D. All of the above *(p. 247, 248)*

18.30 *Metformin causes little lowering of blood sugar level in:*
A. Nondiabetics
B. Obese diabetics
C. Type 2 diabetics
D. Diabetics not responding to sulfonylureas *(p. 248)*

18.31 *The 1st phase of insulin release from pancreatic β cells is augmented by:*
A. Glibenclamide
B. Metformin
C. Nateglinide
D. Both 'A' and 'C' *(p. 246, 248, 249)*

18.32 *Choose the correct statement about nateglinide:*
A. It is a long acting oral hypoglycaemic drug
B. Taken just before a meal, it limits post-prandial hyperglycaemia in type 2 diabetes mellitus
C. It lowers blood glucose in both type 1 and type 2 diabetes mellitus
D. It acts by opening K^+ channels in myocytes and adipocytes *(p. 249)*

18.28 A 18.29 D 18.30 A 18.31 C 18.32 B

18.33 *Which of the following is **not** a sulfonylurea but acts by analogous mechanism to bring about quick and brief insulin release that is useful for normalizing meal time glycaemic excursions in type 2 diabetes mellitus:*

A. Glimepiride
B. Miglitol
C. Repaglinide
D. Rosiglitazone *(p. 249)*

18.34 *Metformin acts by:*

A. Releasing insulin from pancreas
B. Suppressing gluconeogenesis and glucose output from liver
C. Up regulating insulin receptors
D. Inhibiting degradation of insulin *(p. 248)*

18.35 *Choose the correct statement(s) about pioglitazone:*

A. It acts as an agonist on nuclear paroxisome proliferator receptor γ
B. It enhances transcription of insulin responsive genes
C. It lowers blood sugar in type 2 diabetes mellitus without causing hyperinsulinemia
D. All of the above *(p. 249-250)*

18.36 *The thiazolidinediones are mainly used as:*

A. Sole drug in type 1 diabetes mellitus
B. Sole drug in type 2 diabetes mellitus
C. Addon drug to a sulfonylurea and/or a biguanide in type 2 diabetes mellitus
D. Addon drug to insulin in type 1 diabetes mellitus *(p. 250)*

18.33C 18.34B 18.35D 18.36C

18.37 *The present status of oral hypoglycaemics in diabetes mellitus is:*

A. They are the first choice drug in all cases
B. They should be prescribed only if the patient refuses insulin injections
C. They are used only in type I diabetes mellitus
D. They are used first in most uncomplicated mild to moderate type 2 diabetics *(p. 250)*

18.38 *The following feature disfavours use of oral hypoglycaemics in diabetes mellitus:*

A. Age at onset of disease over 40 years
B. Insulin requirement more than 40 U/day
C. Fasting blood sugar level between 100–200 mg/dl
D. Associated obesity *(p. 250)*

18.39 *Which of the following is true of acarbose:*

A. It reduces absorption of glucose from intestines
B. It produces hypoglycaemia in normal as well as diabetic subjects
C. It limits postprandial hyperglycaemia in diabetics
D. It raises circulating insulin levels *(p. 252)*

18.40 *The following antidiabetic drug inhibits intestinal brush border α-glucosidase enzymes:*

A. Acarbose
B. Pioglitazone
C. Metformin
D. Guargum *(p. 252)*

18.37D 18.38B 18.39C 18.40A

18.41 *Guargum limits post-prandial glycaemia by:*
A. Inhibiting intestinal brush border α-glucosidases
B. Slowing carbohydrate absorption from intestine
C. Releasing incretins from the intestine
D. Promoting uptake of glucose into skeletal muscles *(p. 252)*

18.42 *Select the drug which tends to reverse insulin resistance by increasing cellular glucose transporters:*
A. Glibenclamide
B. Rosiglitazone
C. Acarbose
D. Prednisolone *(p. 249)*

18.43 *Glucagon release from pancreas is stimulated by:*
A. High blood glucose level
B. Insulin
C. Somatostatin
D. Adrenaline *(p. 252)*

19.1 *The Na^+ retaining action of aldosterone is exerted on the:*
A. Proximal convoluted tubule
B. Ascending limb of loop of Henle
C. Cortical diluting segment
D. Distal convoluted tubule *(p. 256, 534)*

19.2 *Aldosterone enhances Na^+ reabsorption in renal tubules by:*
A. Stimulating carbonic anhydrase
B. Activating Na^+ K^+ ATPase
C. Inducing the synthesis of Na^+ K^+ ATPase
D. Inducing renal prostaglandin synthesis *(p. 256, 534)*

18.41 B	**18.42 B**	**18.43 D**	**19.1 D**	**19.2 C**

19.3 *Hydrocortisone exerts the following actions:*
A. Increases both K^+ and Ca^{2+} excretion
B. Decreases both K^+ and Ca^{2+} excretion
C. Decreases K^+ but increases Ca^{2+} excretion
D. Increases K^+ but decreases Ca^{2+} excretion
(p. 256, 257)

19.4 *Adverse consequences of excess mineralocorticoid action include the following* ***except:***
A. Na^+ and water retention
B. Acidosis
C. Aggravation of CHF associated myocardial fibrosis
D. Rise in blood pressure *(p. 256)*

19.5 *Glucocorticoids impair carbohydrate tolerance by:*
A. Promoting gluconeogenesis in liver
B. Depressing glucose uptake into skeletal muscles
C. Inhibiting insulin secretion
D. Both A and B are correct *(p. 256)*

19.6 *Corticosteroids exert antiinflammatory action by inhibiting the following enzyme:*
A. Cyclooxygenase
B. Lipoxygenase
C. Phospholipase-A
D. Phosphodiesterase *(p. 258)*

19.7 *Hydrocortisone induces the synthesis of the following protein which in turn inhibits the enzyme phospholipase-A_2:*
A. Heat shock protein-90
B. Inhibin
C. Transcortin
D. Lipocortin *(p. 258)*

19.3 A	**19.4 B**	**19.5 D**	**19.6 C**	**19.7 D**

19.8 *The glucocorticoid receptor is located:*
A. On the outer surface of the cell membrane
B. On the inner surface of the cell membrane
C. In the cytoplasm
D. Inside the nucleus *(p. 43, 44, 258)*

19.9 *The most important mechanism of antiinflammatory action of glucocorticoids is:*
A. Inhibition of lysosomal enzymes
B. Restriction of recruitment of inflammatory cells at the site of inflammation
C. Antagonism of action of interleukins
D. Suppression of complement function
(p. 257-258)

19.10 *The following glucocorticoid has significant mineralocorticoid activity also:*
A. Hydrocortisone
B. Triamcinolone
C. Dexamethasone
D. Betamethasone *(p. 259)*

19.11 *Select the corticosteroid with the lowest oral: parenteral activity ratio:*
A. Prednisolone
B. Methyl prednisolone
C. Hydrocortisone
D. Dexamethasone *(p. 259)*

19.12 *Dexamethasone differs from prednisolone in that it is:*
A. Longer acting
B. More potent
C. More selective
D. All of the above *(p. 260, 261)*

19.8 C	**19.9 B**	**19.10 A**	**19.11 C**	**19.12 D**

19.13 *A patient being treated with 20 mg prednisolone daily has to be shifted on to dexamethasone. What should be his daily dose of dexamethasone:*

A. 0.75 mg
B. 3 mg
C. 10 mg
D. 40 mg *(p. 260)*

19.14 *Select the compound that is preferred for high dose intravenous corticosteroid pulse therapy:*

A. Cortisone
B. Hydrocortisone
C. Triamcinolone
D. Methyl prednisolone *(p. 261)*

19.15 *The corticosteroid preferred for replacement therapy in Addison's disease is:*

A. Aldosterone
B. Fludrocortisone
C. Hydrocortisone
D. Betamethasone *(p. 259, 262)*

19.16 *The following form of corticosteroid therapy carries the maximum adverse effect potential:*

A. Prednisolone 20 mg/day oral for one year
B. Prednisolone 60 mg/day oral for 7 days
C. Dexamethasone 4 mg intravenous twice daily for 3 days
D. Methyl-prednisolone 1000 mg intravenous single dose *(p. 262)*

19.17 *Corticosteroid therapy can aggravate the following disorders* ***except:***

A. Congenital adrenal hyperplasia
B. Diabetes mellitus
C. Hypertension
D. Peptic ulcer *(p. 262, 265)*

19.13 B	**19.14 D**	**19.15 C**	**19.16 A**	**19.17 A**

19.18 *A patient of chronic bronchial asthma maintained on oral prednisolone 20 mg daily and inhaled salbutamol as required develops chest infection. Which of the following measures is recommended:*

A. Stop prednisolone
B. Reduce prednisolone dose to 5 mg/day
C. No change/increase in prednisolone dose
D. Substitute prednisolone with inhaled budesonide *(p. 262)*

19.19 *Corticosteroid therapy is practically mandatory in the following condition:*

A. Septic shock
B. Renal transplant
C. Rheumatoid arthritis
D. Ulcerative colitis *(p. 262-264, 789)*

19.20 *For limiting cerebral edema due to brain tumour, the preferred corticosteroids are betamethasone/dexamethasone because:*

A. They do not cause Na^+ and water retention
B. They are more potent
C. They can be administered intravenously
D. They inhibit brain tumours *(p. 263)*

19.21 *Along with effective antimicrobial therapy, corticosteroids are indicated in the following infective conditions* ***except:***

A. Tubercular meningitis
B. Severe *P. carinii* pneumonia in AIDS patient
C. *Herpes simplex* keratitis
D. Erythema nodosum leprosum *(p. 263, 714)*

19.22 *Systemic corticosteroid therapy is not used routinely and is reserved only for severe cases of:*

A. Exfoliative dermatitis
B. Posterior uveitis
C. Acute rheumatic fever
D. Hodgkin's disease *(p. 262)*

19.18 C	**19.19 B**	**19.20 A**	**19.21 C**	**19.22 C**

19.23 *The following adverse effect of corticosteroids is mainly due to their mineralocorticoid action:*
A. Osteoporosis
B. Rise in blood pressure
C. 'Moon face'
D. Increased susceptibility to infection *(p. 264)*

19.24 *Which of the following bones is affected more by glucocorticoid induced osteoporosis:*
A. Lumber vertebra
B. Humerus
C. Radius
D. Femur *(p. 264)*

19.25 *After chronic systemic therapy, withdrawal of corticosteroids should be gradual because:*
A. Corticosteroids produce psychological dependence
B. Abrupt withdrawal may reactivate the underlying disease
C. Abrupt withdrawal produces rebound hypertension
D. All of the above are correct *(p. 264-265)*

19.26 *The following measure can minimise pituitary-adrenal suppression during long-term corticosteroid therapy:*
A. Use of betamethasone in place of prednisolone
B. Use of prednisolone on alternate days
C. Division of the daily dose in three equal 8 hourly doses
D. Administration of the total daily dose at bed time *(p. 265)*

19.23 B	**19.24 A**	**19.25 B**	**19.26 B**

20.1 *Prolonged testosterone therapy can cause:*
A. Hypertrophy of seminiferous tubules of testes
B. Hypertrophy of interstitial cells of testes
C. Atrophy of interstitial cells of testes
D. Both 'A' and 'B' are correct *(p. 267)*

20.2 *Conversion of testosterone to dihydrotestosterone by the enzyme 5α-reductase is required for the following actions* ***except:***
A. Formation of male external genitalia in the foetus
B. Prostatic hypertrophy in elderly males
C. Pubertal changes in the male adolescent
D. Spermatogenesis *(p. 268)*

20.3 *Testosterone therapy started in a boy of 8 years and continued till puberty is likely to:*
A. Increase adult stature
B. Reduce adult stature
C. Have no effect on adult stature
D. Cause hypertrophy of penis *(p. 269)*

20.4 *For the treatment of hypogonadism and impotence, testosterone/dihydrotestosterone can be administered by the following route/routes:*
A. Oral
B. Intramuscular
C. Transdermal
D. Both 'B' and 'C' *(p. 268, 269)*

20.5 *The following androgen* ***does not*** *produce cholestatic jaundice as an adverse effect:*
A. Testosterone propionate
B. Methyl testosterone
C. Fluoxymesterone
D. Stanozolol *(p. 269)*

20.1 C	**20.2 D**	**20.3 B**	**20.4 D**	**20.5 A**

20.6 *Select the disorder in which methyltestosterone is beneficial but testosterone is ineffective:*
A. Hereditary angioneurotic edema
B. Delayed puberty in a boy
C. Impotence due to testicular failure
D. AIDS related muscle wasting *(p. 269, 270)*

20.7 *Parenteral testosterone therapy in a boy can cause the following adverse effects* ***except:***
A. Gynaecomastia
B. Acne
C. Cholestatic jaundice
D. Precocious puberty *(p. 269)*

20.8 *Choose the correct statement about anabolic steroids:*
A. They are testosterone congeners having anabolic but no androgenic activity
B. They are androgens with relatively selective anabolic activity
C. They are suitable for long-term therapy in children
D. Both 'B' and 'C' are correct *(p. 270-271)*

20.9 *The following is* ***not*** *a legitimate indication for the use of anabolic steroids:*
A. To enhance the physical ability of sportsmen
B. Suboptimal growth in children
C. Senile osteoporosis
D. Hypoplastic anaemia *(p. 270-271)*

20.10 *Danazol is used for the following disorders* ***except:***
A. Amenorrhoea
B. Endometriosis
C. Fibrocystic breast disease
D. Precocious puberty in male children *(p. 271)*

20.6 A	**20.7 C**	**20.8 B**	**20.9 A**	**20.10 A**

20.11 *Danazol produces the following side effects in premenopausal women* ***except:***
A. Acne
B. Menorrhagia
C. Amenorrhoea
D. Hot flashes *(p. 271)*

20.12 *Select the drug that primarily reduces the static component of urinary obstruction in benign hypertrophy of prostate and takes more than 3 months to exert its beneficial effect:*
A. Tamsulosin
B. Terazosin
C. Finasteride
D. Amphetamine *(p. 272)*

20.13 *The following drug has potent antiandrogenic and weak progestational activity:*
A. Ethylestrenol
B. Clomiphene citrate
C. Cyproterone acetate
D. Magestrol acetate *(p. 272)*

20.14 *Which of the following is a non-steroidal antiandrogen that is palliative in advanced carcinoma prostate when combined with a GnRH agonist:*
A. Cyproterone acetate
B. Danazol
C. Finasteride
D. Flutamide *(p. 272)*

20.15 *Circulating testosterone levels in men are elevated during treatment with:*
A. Danazol
B. Finasteride
C. Flutamide
D. Ketoconazole *(p. 271, 272, 720)*

20.11 B	**20.12 C**	**20.13 C**	**20.14 D**	**20.15 C**

20.16 *Which of the following is a steroid 5α-reductase inhibitor that has been found useful in benign prostatic hypertrophy and male pattern baldness:*
A. Flutamide
B. Finasteride
C. Prazosin
D. Minoxidil *(p. 272)*

20.17 *Finasteride acts by:*
A. Blocking testosterone receptors in the prostate gland
B. Reducing testosterone secretion from testes
C. Reducing LH secretion from pituitary
D. Lowering circulating as well as prostatic dihydrotestosterone concentration *(p. 272)*

20.18 *In patients with benign prostatic hypertrophy, finasteride exerts the following action/actions:*
A. Reduces size of the prostate gland
B. Increases peak urinary flow rate
C. Relaxes vesical sphincter
D. Both 'A' and 'B' are correct *(p. 272)*

20.19 *Estrogens exert the following actions* ***except:***
A. Cornification of vaginal epithelium
B. Proliferation of endometrium
C. Maturation of graafian follicle
D. Anabolism *(p. 273, 274)*

20.20 *Estrogen therapy in postmenopausal women has been implicated in increasing the risk of the following disorders* ***except:***
A. Gall stones
B. Osteoporosis
C. Endometrial carcinoma
D. Breast cancer *(p. 276-277)*

20.16 B	**20.17 D**	**20.18 D**	**20.19 C**	**20.20 B**

20.21 *Metabolic actions of estrogens tend to cause the following* ***except:***

A. Anabolism
B. Impaired glucose tolerance
C. Rise in plasma LDL-cholesterol
D. Salt and water retention *(p. 274)*

20.22 *Transdermal estradiol differs from oral estrogen therapy in that it:*

A. Causes less induction of hepatic synthesis of clotting factors
B. Does not inhibit FSH secretion
C. Does not affect vaginal cytology
D. All of the above are correct *(p. 275)*

20.23 *In which of the following conditions estrogen is not the primary drug but is added to progestin as adjuvant:*

A. Dysfunctional uterine bleeding
B. Menopausal syndrome
C. Osteoporosis
D. Atrophic vaginitis *(p. 276, 278)*

20.24 *Which of the following statements most closely reflects the current status of estrogens in post-menopausal women:*

A. Estrogens should be prescribed routinely to all menopausal women
B. Estrogens should be prescribed when menopausal symptoms are severe
C. Estrogens should be prescribed only when there is radiological evidence of osteoporosis
D. Estrogens should be prescribed along with a progestin after considering risk:benefit ratio in individual patients *(p. 276-277)*

20.21 C	**20.22 A**	**20.23 A**	**20.24 D**

20.25 *Estrogen therapy can worsen the following associated conditions* ***except:***

A. Migraine
B. Cholelithiasis
C. Acne vulgaris
D. Endometriosis *(p. 276)*

20.26 *Addition of a progestin for 10-12 days each month to estrogen replacement therapy in menopausal women is recommended because the progestin:*

A. Blocks the increased risk of myocardial infarction due to estrogen
B. Blocks the increased risk of endometrial carcinoma due to estrogen
C. Reverses vulval atrophy occurring in postmenopausal women
D. Enhances the metabolic benefits of estrogen treatment *(p. 277)*

20.27 *The estrogen commonly used for hormone replacement therapy in menopausal women is:*

A. Ethinylestradiol
B. Estradiol benzoate
C. Diethylstilbestrol
D. Conjugated estrogens *(p. 277)*

20.28 *The daily dose of estrogen for hormone replacement therapy in postmenopausal women is:*

A. Same as for contraception
B. Higher than that for contraception
C. Lower than that for contraception
D. Variable depending on the age of the woman *(p. 277)*

20.25 C	**20.26 B**	**20.27 D**	**20.28 C**

20.29 *Select the compound which used for hormone replacement therapy in postmenopausal women serves the purpose of both estrogen and progestin with weak androgenic activity:*

A. Tibolone
B. Mestranol
C. Desogestrel
D. Gestodene *(p. 277)*

20.30 *Select the correct statement about tibolone:*

A. It is an antiestrogen used for palliative treatment of carcinoma breast
B. It is an estrogenic + progestational steroid used for hormone replacement therapy in postmenopausal women
C. It is an antiandrogen used for male pattern baldness
D. It is a nonsteroidal estrogen used topically for senile vaginitis *(p. 277)*

20.31 *Estrogens are palliative in the following malignancy:*

A. Carcinoma breast
B. Carcinoma cervix
C. Endometrial carcinoma
D. Carcinoma prostate *(p. 278)*

20.32 *Estrogen replacement therapy for postmenopausal women is contraindicated in subjects with:*

A. Leg vein thrombosis
B. Undiagnosed vaginal bleeding
C. Migraine
D. All of the above *(p. 276, 277)*

20.29	**A**	**20.30**	**B**	**20.31**	**D**	**20.32**	**D**

20.33 *In women of child bearing age, clomiphene citrate produces the following actions* ***except:***

A. Hot flushes
B. Ovulation
C. Decreased FSH and LH secretion
D. Polycystic ovaries *(p. 278)*

20.34 *Clomiphene citrate is indicated for the following condition/conditions:*

A. Female infertility due to anovular cycles
B. Male infertility due to oligozoospermia
C. Endometriosis
D. Both 'A' and 'B' *(p. 278)*

20.35 *For the treatment of female infertility, clomiphene citrate is used in the following manner:*

A. Daily from 5th to 10th day of menstrual cycle
B. On alternate days over the last two weeks of menstrual cycle
C. Cyclically for 3 weeks with one week gap
D. Continuously till conception occurs *(p. 278)*

20.36 *The following is an orally active ovulation inducing agent:*

A. Menotropin
B. Mifepristone
C. Danazol
D. Clomiphene citrate *(p. 278)*

20.37 *Which of the following is a selective estrogen receptor modulator that improves bone mineral density in postmenopausal women:*

A. Clomiphene citrate
B. Raloxifene
C. Ormeloxifene
D. Alendronate *(p. 279, 306)*

20.33 C	**20.34 D**	**20.35 A**	**20.36 D**	**20.37 B**

20.38 *What is **true** of tamoxifen:*
A. It can induce endometrial proliferation in postmenopausal women
B. It exerts antiestrogenic activity in bone
C. It raises LDL-cholesterol levels
D. It is ineffective in estrogen receptor-negative breast cancer *(p. 279)*

20.39 *Benefits of tamoxifen citrate therapy include the following **except:***
A. Reduction in recurrence rate of breast cancer
B. Improved bone mass
C. Suppression of menopausal hot flushes
D. Improved lipid profile *(p. 279)*

20.40 *The primary indication of tamoxiphen citrate is:*
A. Female infertility
B. Endometrial carcinoma
C. Carcinoma breast
D. Endometriosis *(p. 279)*

20.41 *Tamoxifen citrate is used for palliative treatment of carcinoma breast in:*
A. Premenopausal women
B. Postmenopausal women
C. Mastectomized patients
D. All of the above *(p. 279)*

20.42 *The following effect(s) of tamoxifen citrate indicate(s) that it possesses tissue specific estrogenic action as well:*
A. Inhibition of breast cancer cells
B. Endometrial proliferation
C. Hot flushes in premenopausal women
D. All of the above *(p. 279)*

20.38	**A**	**20.39**	**C**	**20.40**	**C**	**20.41**	**D**	**20.42**	**B**

20.43 *The following is true of raloxifene* ***except:***
A. It acts as an estrogen agonist in bone
B. It exerts estrogen antagonistic action on endometrium
C. It increases risk of developing breast cancer
D. It can induce/aggravate menopausal hot flushes *(p. 279)*

20.44 *Choose the selective estrogen receptor modulator that is useful in dysfunctional uterine bleeding by acting as estrogen antagonist in endometrium, but does not alter vaginal epithelium or cervical mucus:*
A. Ormeloxifene
B. Tamoxifen
C. Centchroman
D. Danazol *(p. 280)*

20.45 *Progesterone administration:*
A. Suppresses onset of menstruation
B. Induces watery cervical secretion
C. Sensitizes the uterus to oxytocin
D. Cornifies vaginal epithelium *(p. 281)*

20.46 *The 19-Norprogestins differ from progesterone derivatives in that they:*
A. Have potent antiovulatory activity
B. Have no additional androgenic activity
C. Have no additional estrogenic activity
D. Are preferred for use in endometriosis
(p. 280)

20.47 *The distinctive features of desogestrel include the following* ***except:***
A. It is a prodrug
B. It has both strong progestational and strong antiovulatory activities
C. It has additional androgenic acitivity
D. It does not counteract the beneficial effect of estrogen on lipid profile *(p. 280)*

20.43 C	**20.44 A**	**20.45 A**	**20.46 A**	**20.47 C**

20.48 *Actions of progesterone include the following* ***except:***
A. Rise in body temperature
B. Endometrial proliferation
C. Proliferation of acini in mammary gland
D. Suppression of cell mediated immunity
(p. 281)

20.49 *Select the progestin preparation for coadministration with estrogen for hormone replacement therapy that does not counteract the beneficial effect of the latter on lipid profile due to lack of androgenic activity:*
A. Micronized oral progesterone
B. Norethindrone
C. Lynestrenol
D. Medroxyprogesterone acetate *(p. 281-282)*

20.50 *Select the indication for which a progestin is used alone without combining with an estrogen:*
A. Threatened abortion
B. Dysfunctional uterine bleeding
C. Hormone replacement therapy
D. Premenstrual tension *(p. 283)*

20.51 *Side effects of cyclic progestin therapy include the following* ***except:***
A. Headache
B. Gastroesophageal reflux
C. Breast dyscomfort
D. Irregular bleeding *(p. 282-283)*

20.52 *Addition of a progestin for 10-12 days every month to cyclic estrogen replacement therapy during menopause is recommended because the progestin:*
A. Prevents osteoporosis
B. Prevents irregular bleeding
C. Blocks increased risk of endometrial carcinoma
D. Both 'B' and 'C' are correct *(p. 283)*

20.48 B	**20.49 A**	**20.50 A**	**20.51 D**	**20.52 D**

20.53 *The following is/are beneficial in endometriosis:*
A. Norethindrone
B. Nafarelin
C. Danazol
D. All of the above *(p. 221, 271, 283)*

20.54 *Select the drug which administered orally causes cervical ripening in pregnant women to facilitate surgical abortion or induction of labour:*
A. Mifepristone
B. Raloxifene
C. Natural progesterone
D. Levonorgestrel *(p. 284)*

20.55 *Mifepristone possesses the following activities:*
A. Potent antiprogestin + weak androgenic
B. Potent antiprogestin + weak antiglucocorticoid
C. Potent antiestrogenic + weak antiprogestin
D. Potent antiestrogenic + weak glucocorticoid *(p. 283)*

20.56 *Which of the following drugs is an antiprogestin:*
A. Gemeprost
B. Megestrol
C. Mifepristone
D. Tamoxifen *(p. 283)*

20.57 *The most important indication of mifepristone is:*
A. Endometriosis
B. Cushing's syndrome
C. First term abortion
D. Second term abortion *(p. 284)*

20.53 D	**20.54 A**	**20.55 B**	**20.56 C**	**20.57 C**

20.58 *Administration of mifepristone in the late luteal phase:*
A. Induces menstruation
B. Postpones menstruation
C. Prevents luteolysis
D. Causes decidualization of endometrium
(p. 284)

20.59 *Which of the following can act as a single dose postcoital contraceptive:*
A. Clomiphene citrate
B. Mifepristone
C. Danazol
D. Medroxyprogesterone acetate *(p. 284)*

20.60 *The following regimen is preferred for nonsurgical termination of pregnancy in the first 7 weeks:*
A. Intravenous oxytocin infusion
B. Intramuscular carboprost
C. Intravaginal mifepristone followed by intra-amniotic dinoprost
D. Oral mifepristone followed by oral misoprostol *(p. 284)*

20.61 *The most popular form of hormonal contraception is:*
A. Combined estrogen + progestin oral pill
B. Phased estrogen + progestin oral pill
C. Postcoital estrogen + progestin pill
D. Depot progestin injection *(p. 285)*

20.62 *The purpose/purposes served by the progestin component of the combined estrogen + progestin contraceptive pill is/are:*
A. Suppression of ovulation
B. Prompt bleeding at the end of the course
C. Blockade of increased risk of endometrial carcinoma
D. All of the above *(p. 285)*

20.58 A	**20.59 B**	**20.60 D**	**20.61 A**	**20.62 D**

20.63 *The progestin used in combined oral contraceptive pill is a 19-nortestosterone derivative because:*

A. They have potent antiovulatory action of their own
B. They do not produce any metabolic effects
C. They produce fewer side effects
D. They are longer acting *(p. 285)*

20.64 *In which of the following forms of oral contraception, pills are taken continuously without interruption:*

A. Combined pill
B. Phased pill
C. Minipill
D. Both 'B' and 'C' *(p. 285)*

20.65 *A progestin and an estrogen are combined in oral contraceptive pill because:*

A. The estrogen blocks the side effects of the progestin
B. The progestin blocks the side effects of the estrogen
C. Both synergise to suppress ovulation
D. Both synergise to produce hostile cervical mucus *(p. 285)*

20.66 *The regimen(s) used for postcoital emergency contraception is/are:*

A. Levonorgestrel 0.5 mg + ethinylestradiol 0.1 mg taken twice 12 hour apart
B. Levonorgestrel 0.75 mg taken twice 12 hour apart
C. Mifepristone 600 mg single dose
D. All of the above *(p. 286)*

20.63 A	**20.64 C**	**20.65 C**	**20.66 D**

20.67 *The most common and important undesirable effect of injectable contraceptive depot medroxyprogesterone acetate is:*

A. Nausea and vomiting
B. Disruption of cyclic menstrual bleeding
C. Venous thrombosis
D. Hypertension *(p. 287)*

20.68 *The primary mechanism of action of the combined estrogen-progestin oral contraceptive pill is:*

A. Production of cervical mucus hostile to sperm penetration
B. Suppression of FSH and LH release
C. Making endometrium unsuitable for implantation
D. Enhancing uterine contractions to dislodge the fertilized ovum *(p. 287, 288)*

20.69 *Which of the following is advised when a woman on combined oral contraceptive pill misses a dose:*

A. Continue with the course without regard to the missed dose
B. Take 2 pills the next day and continue with the course
C. Take 2 pills everyday for the remaining part of the course
D. Discontinue the course and use alternative method of contraception *(p. 288)*

20.70 *The currently used injectable hormonal contraceptive contains:*

A. Long acting progestin
B. Long acting estrogen
C. Both long acting estrogen and progestin
D. Chorionic gonadotropin *(p. 287)*

20.67 B	**20.68 B**	**20.69 B**	**20.70 A**

20.71 *Which side effect of the oral contraceptive subsides after 3–4 cycles of continued use:*
A. Glucose intolerance
B. Rise in blood pressure
C. Headache
D. Fluid retention *(p. 289)*

20.72 *Oral contraceptive use increases the risk of occurrence of the following diseases* ***except:***
A. Hypertension
B. Leg vein thrombosis
C. Endometrial carcinoma
D. Gall stones *(p. 289-290)*

20.73 *Concurrent use of the following drug is likely to cause failure of oral contraception:*
A. Isoniazid
B. Rifampicin
C. Cimetidine
D. Propranolol *(p. 290)*

20.74 *Health benefits afforded by the combined estrogen-progestin oral contraceptive pill include the following* ***except:***
A. Reduced menstrual blood loss
B. Lower risk of fibrocystic breast disease
C. Lower risk of myocardial infarction
D. Lower risk of endometrial carcinoma
(p. 289, 290)

20.75 *On stoppage of the combined estrogen-progestin contraceptive pill, fertility returns after:*
A. 1–2 months
B. 4–6 months
C. 6–12 months
D. Uncertain period *(p. 288)*

20.71 C	**20.72 C**	**20.73 B**	**20.74 C**	**20.75 A**

20.76 *Centchroman is:*
A. An oral contraceptive for women
B. An oral contraceptive for men
C. A mast cell stabilizer
D. A centrally acting muscle relaxant *(p. 290)*

20.77 *The following has been found to act as a male contraceptive without affecting libido or potency:*
A. Cyproterone acetate
B. Goserelin
C. Centchroman
D. Gossypol *(p. 291)*

20.78 *The following contraceptive acts primarily by interfering with implantation of blastocyst:*
A. Gossypol
B. Centchroman
C. Combined estrogen-progestin pill
D. Phased pill *(p. 290)*

21.1 *Select the tissue that is most sensitive to oxytocin:*
A. Myometrium
B. Myoepithelium of mammary alveoli
C. Vascular smooth muscle
D. Renal collecting ducts *(p. 293)*

21.2 *Actions of oxytocin include the following* ***except:***
A. Vasoconstriction
B. Increased water reabsorption in renal collecting ducts
C. Contraction of mammary myoepithelium
D. Release of prostaglandins from endometrium *(p. 293)*

20.76 A	20.77 D	20.78 B	21.1 B	21.2 A

21.3 *Oxytocin is essential for:*
A. Initiation of labour
B. Formation of milk
C. Milk ejection reflex
D. Both 'A' and 'C' are correct *(p. 293)*

21.4 *Oxytocin is preferred over ergometrine for augmenting labour because:*
A. It has brief and titratable action
B. It is less likely to cause foetal anoxia
C. It is less likely to impede foetal descent
D. All of the above *(p. 293-294)*

21.5 *The drug of choice for controlling postpartum haemorrhage is:*
A. Oxytocin
B. Methylergometrine
C. Dihydroergotamine
D. Prostaglandin E_2 *(p. 294)*

21.6 *Ergometrine is contraindicated in the following conditions* ***except:***
A. Multiparity
B. Toxaemia of pregnancy
C. Pelvic sepsis
D. Peripheral vascular disease *(p. 295)*

21.7 *Ergometrine stops postpartum haemorrhage by:*
A. Causing vasoconstriction of uterine arteries
B. Increasing tone of uterine muscle
C. Promoting coagulation
D. Inducing platelet aggregation *(p. 295)*

21.3 C	21.4 D	21.5 B	21.6 A	21.7 B

21.8 *Indications of ergometrine include the following* ***except:***

A. Postpartum haemorrhage
B. Inadequate uterine involution
C. Uterine inertia during labour
D. Uterine atony after cesarean section

(p. 294, 295)

21.9 *Select the drug that has been used to suppress labour:*

A. Atropine
B. Ritodrine
C. Prostaglandin E_2
D. Progesterone *(p. 296)*

21.10 *The adrenergic tocolytic preferred for arresting labour is:*

A. Ritodrine
B. Isoprenaline
C. Salbutamol
D. Terbutaline *(p. 296)*

21.11 *Use of ritodrine to arrest premature labour can cause the following complications* ***except:***

A. Tachycardia
B. Fall in blood pressure
C. Hypoglycaemia
D. Pulmonary edema *(p. 296)*

21.12 *Which of the following tocolytics used for suppressing labour is most likely to compromise placental perfusion:*

A. Salbutamol
B. Ethyl alcohol
C. Magnesium sulfate
D. Nifedipine *(p. 296)*

21.8 C	**21.9 B**	**21.10 A**	**21.11 C**	**21.12 D**

22.1 *The drug used for controlling tetany is:*
A. Intravenous diazepam
B. Intramuscular vitamin D
C. Intravenous calcium gluconate
D. Intravenous calcitonin *(p. 299)*

22.2 *Medicinal calcium salts are indicated for:*
A. Prevention of osteoporosis
B. Hastening fracture union
C. Peripheral neuritis
D. All of the above *(p. 299)*

22.3 *Bone resorption is accelerated by:*
A. Estrogens
B. Parathormone
C. Bisphosphonates
D. Calcitonin *(p. 298, 300)*

22.4 *The primary action of parathormone is:*
A. To increase intestinal calcium absorption
B. To increase calcium reabsorption in kidney tubules
C. To promote calcium deposition in extraosseus tissues
D. To increase resorption of calcium from bone *(p. 300)*

22.5 *Parathormone receptors are expressed on the surface of:*
A. Osteoblasts
B. Osteoclasts
C. Gut mucosal cell
D. All of the above *(p. 300)*

22.1 C	**22.2 A**	**22.3 B**	**22.4 D**	**22.5 A**

22.6 *The drug of choice for hypoparathyroidism is:*
A. Parathormone
B. Calcium lactate
C. Vitamin D
D. Pamidronate *(p. 301, 304)*

22.7 *The most suitable vitamin D preparation for vitamin D dependent rickets is:*
A. Calciferol
B. Cholecalciferol
C. Calcifediol
D. Calcitriol *(p. 304)*

22.8 *The vitamin that is regarded to be a hormone is:*
A. Vitamin D
B. Vitamin C
C. Vitamin B_{12}
D. Vitamin A *(p. 302)*

22.9 *The following is **not** a feature of hyper-vitaminosis D:*
A. Hypertension
B. Spontaneous fractures
C. Renal stones
D. Weakness *(p. 303)*

22.10 *The following drug can cause rickets in children by interfering with vitamin D action:*
A. Tetracycline
B. Digoxin
C. Phenytoin
D. Ciprofloxacin *(p. 304)*

22.6 C	**22.7 D**	**22.8 A**	**22.9 B**	**22.10 C**

22.11 *Bisphosphonates are beneficial in the following conditions* ***except:***

A. Paget's disease
B. Senile osteoporosis
C. Rickets
D. Osteolytic bony metastasis *(p. 305)*

22.12 *Bisphosphonates are indicated in the following condition:*

A. Organophosphate poisoning
B. Dementia
C. Steven's Johnson syndrome
D. Osteoporosis *(p. 305)*

22.13 *The drug/drugs that can be used to treat osteoporosis is/are:*

A. Raloxifene
B. Alendronate
C. Pamidronate
D. Both 'A' and 'B' *(p. 305, 306)*

22.14 *Select the drug for which the following instructions must be given to the patient "To be taken on empty stomach in the morning with a full glass of water (not milk, tea or coffee), to remain upright and not take any food or medicine for 30 min":*

A. Alfacalcidol
B. Alendronate
C. Glibenclamide
D. Raloxifene *(p. 306)*

22.11	**C**	**22.12**	**D**	**22.13**	**D**	**22.14**	**B**

6

Drugs Acting on Peripheral (Somatic) Nervous System

CHOOSE THE MOST APPROPRIATE RESPONSE

23.1 *Which of the following drugs is a nondepolarizing neuromuscular blocker:*

A. Succinylcholine
B. Vecuronium
C. Decamethonium
D. Dantrolene sodium *(p. 309, 314)*

23.2 *The site of action of d-tubocurarine is:*

A. Spinal internuncial neurone
B. Motor nerve ending
C. Muscle end-plate
D. Sodium channels in the muscle fibre

(p. 310)

23.3 *At the muscle end-plate, d-tubocurarine reduces the:*

A. Number of Na^+ channels
B. Duration for which the Na^+ channels remain open
C. Ion conductance of the open Na^+ channel
D. Frequency of Na^+ channel opening

(p. 310)

23.1B 23.2C 23.3D

23.4 *Depolarizing neuromuscular blockers differ from competitive blockers in the following attributes* ***except:***
A. They induce contraction of isolated frog rectus abdominis muscle
B. Ether anaesthesia intensifies block produced by them
C. Tetanic nerve stimulation during partial depolarizing block produces well sustained contraction
D. Neostigmine does not reverse block produced by them *(p. 312)*

23.5 *Succinylcholine produces spastic paralysis in:*
A. Rabbits
B. Frogs
C. Birds
D. Patients with atypical pseudocholinesterase *(p. 311, 312)*

23.6 *The fall in blood pressure caused by d-tubocurarine is due to:*
A. Reduced venous return
B. Ganglionic blockade
C. Histamine release
D. All of the above *(p. 312)*

23.7 *Select the skeletal muscle relaxant that is commonly used for endotracheal intubation despite causing histamine release, K^+ efflux from muscles and cardiovascular changes:*
A. Pipecuroniun
B. Succinylcholine
C. Pancuronium
D. Cisatracurium *(p. 313)*

23.4B 23.5C 23.6D 23.7B

23.8 *Neuromuscular blocking drugs do not produce central actions because:*
A. They do not cross the blood-brain barrier
B. Nicotinic receptors are not present in the brain
C. They are sequestrated in the periphery by tight binding to the skeletal muscles
D. They do not ionise at the brain pH *(p. 312)*

23.9 *Pancuronium differs from tubocurarine in that:*
A. It is a depolarizing blocker
B. Its action is not reversed by neostigmine
C. It can cause rise in BP on rapid I.V. injection
D. It causes marked histamine release *(p. 314)*

23.10 *Which of the following drugs undergoes 'Hofmann' elimination:*
A. Succinylcholine
B. Pancuronium
C. Vecuronium
D. Atracurium *(p. 314)*

23.11 *The neuromuscular blocker that does not need reversal of action by neostigmine at the end of the operation is:*
A. d-Tubocurarine
B. Doxacurium
C. Pipecuronium
D. Mivacurium *(p. 313, 314)*

23.12 *The most rapidly acting nondepolarizing neuromuscular blocking agent which can be used as an alternative to succinylcholine for tracheal intubation is:*
A. Rocuronium
B. Pancuronium
C. Doxacurium
D. Pipecuronium *(p. 313, 314)*

23.8 A 23.9 C 23.10 D 23.11 D 23.12 A

23.13 *Succinylcholine is the preferred muscle relaxant for tracheal intubation because:*

A. It produces rapid and complete paralysis of respiratory muscles with quick recovery
B. It does not alter heart rate or blood pressure
C. It does not cause histamine release
D. It does not produce postoperative muscle soreness *(p. 313-314)*

23.14 *Which of the following is applicable to mivacurium:*

A. It undergoes Hoffmann elimination
B. It is the shortest acting nondepolarizing neuromuscular blocker
C. It is excreted unchanged by kidney
D. It does not cause histamine release *(p. 313, 314)*

23.15 *Neostigmine reverses the following actions of d-tubocurarine* ***except:***

A. Motor weakness
B. Ganglionic blockade
C. Histamine release
D. Respiratory paralysis *(p. 315)*

23.16 *Postoperative muscle soreness may be a side effect of the following neuromuscular blocker:*

A. d-tubocurarine
B. Succinylcholine
C. Pancuronium
D. Atracurium *(p. 313-314)*

23.17 *The following antibiotic accentuates the nuromuscular blockade produced by pancuronium:*

A. Streptomycin
B. Erythromycin
C. Penicillin G
D. Chloramphenicol *(p. 315)*

23.13 A 23.14 B 23.15 C 23.16 B 23.17 A

23.18 *Dantrolene sodium reduces skeletal muscle tone by:*
A. Reducing acetylcholine release from motor nerve endings
B. Suppressing spinal polysynaptic reflexes
C. Inhibiting the generation of muscle action potential
D. Reducing Ca^{2+} release from sarcoplasmic reticulum in the muscle fibre *(p. 316)*

23.19 *Which of the following is a centrally acting skeletal muscle relaxant:*
A. Carisoprodol
B. Dantrolene sodium
C. Quinine
D. Decamethonium *(p. 317)*

23.20 *Select the muscle relaxant that is used to control spasticity associated with upper motor neurone paralysis:*
A. Vecuronium
B. Succinylcholine
C. Chlorzoxazone
D. Baclofen *(p. 317, 318)*

23.21 *The $GABA_B$ receptor:*
A. Is an intrinsic ion channel containing receptor
B. Mediates neuronal depolarization
C. Is insensitive to blockade by bicuculline
D. Regulates intracellular cAMP *(p. 317)*

23.22 *The following is a skeletal muscle relaxant that acts as a central α_2 adrenergic agonist:*
A. Tizanidine
B. Brimonidine
C. Chlormezanone
D. Quinine *(p. 318)*

23.18D 23.19A 23.20D 23.21C 23.22A

23.23 *Which of the following is **not** true of tizanidine:*
A. It is a clonidine congener used in spasticity due to stroke or spinal injury
B. It reduces muscle tone by activating $GABA_B$ receptors
C. It inhibits release of excitatory amino-acids in spinal interneurones
D. It reduces muscle spasms without producing weakness *(p. 318)*

23.24 *Diazepam is used as a muscle relaxant for:*
A. Deep intra-abdominal operation
B. Tracheal intubation
C. Tetanus
D. Diagnosis of myasthenia gravis *(p. 317)*

23.25 *Indications of centrally acting muscle relaxants include all of the following **except:***
A. Balanced anaesthesia
B. Traumatic muscle spasms
C. Torticollis
D. Electroconvulsive therapy *(p. 318-319)*

24.1 *The clinically used local anaesthetics have the following common features **except:***
A. They are amphiphilic weak bases
B. They are used for surgery in non-cooperative patients
C. In their use, care of vital functions is generally not needed
D. They are safer than general anaesthetics in patients with respiratory and cardiovascular disease *(p. 320)*

23.23B 23.24C 23.25A 24.1B

24.2 *The local anaesthetics having amide linkage differ from those having ester linkage in that the amide-linked local anaesthetics:*

A. Are not surface anaesthetics
B. Have a shorter duration of action
C. Are degraded in the plasma
D. Do not show cross-sensitivity with ester-linked local anaesthetics *(p. 321)*

24.3 *The following is **not** true of local anaesthetics:*

A. The local anaesthetic is required in the unionized form for penetrating the neuronal membrane
B. The local anaesthetic approaches its receptor only from the intraneuronal face of the Na^+ channel
C. The local anaesthetic binds to its receptor mainly when the Na^+ channel is in the resting state
D. The local anaesthetic combines with its receptor in the ionized cationic form *(p. 321-322)*

24.4 *Local anaesthetics block nerve conduction by:*

A. Blocking all cation channels in the neuronal membrane
B. Hyperpolarizing the neuronal membrane
C. Interfering with depolarization of the neuronal membrane
D. Both 'B' and 'C' are correct *(p. 321-322)*

24.5 *Sensitivity of a nerve fibre to blockade by lignocaine depends on:*

A. Whether the fibre is sensory or motor
B. Whether the fibre is myelinated or nonmyelinated
C. Internodal distances in the fibre
D. Both 'B' and 'C' are correct *(p. 322-323)*

24.2D	24.3C	24.4C	24.5D

24.6 *A resting nerve is relatively resistant to blockade by lignocaine compared to one which is repeatedly stimulated because:*

A. Lignocaine penetrates resting nerve membrane poorly
B. Lignocaine binds more avidly to the inactivated Na^+ channel
C. Nerve impulse promotes ionization of lignocaine
D. Nodes of Ranvier are inaccessible in the resting state *(p. 321-322)*

24.7 *Which of the following is **not** the reason for greater susceptibility of smaller sensory fibres to blockade by local anaesthetics than larger motor fibres:*

A. Sensory fibres are inherently more sensitive than motor fibres
B. More slender fibres have shorter internodal distances
C. Small sensory fibres generate higher frequency longer lasting action potential
D. Smaller fibres have shorter critical lengths for blockade *(p. 323)*

24.8 *Which sensation is blocked first by low concentrations of a local anaesthetic:*

A. Pain
B. Temperature
C. Touch
D. Deep pressure *(p. 323)*

24.9 *Injection of adrenaline along with a local anaesthetic serves the following purpose:*

A. Lowers the concentration of the local anaesthetic to produce nerve block
B. Prolongs the duration of local anaesthesia
C. Increases the anaesthetised area
D. Reduces the local toxicity of the local anaesthetic *(p. 323)*

24.6 B 24.7 A 24.8 A 24.9 B

24.10 *Adrenaline added to local anaesthetic solution for infiltration anaesthesia affords the following* ***except:***
A. Prolongs the duration of local anaesthesia
B. Makes the injection less painful
C. Provides a more bloodless field for surgery
D. Reduces systemic toxicity of the local anaesthetic *(p. 323)*

24.11 *The following local anaesthetic raises BP instead of tending to cause a fall:*
A. Cocaine
B. Dibucaine
C. Lignocaine
D. Procaine *(p. 324)*

24.12 *Toxicity of local anaesthetics involves the following organs* ***except:***
A. Heart
B. Brain
C. Kidney
D. Skin and subcutaneous tissue *(p. 324)*

24.13 *The local anaesthetic with the longest duration of action is:*
A. Procaine
B. Chloroprocaine
C. Lignocaine
D. Dibucaine *(p. 325, 326)*

24.14 *Which of the following is a poor surface anaesthetic:*
A. Procaine
B. Lignocaine
C. Tetracaine
D. Benoxinate *(p. 325)*

24.10B 24.11A 24.12C 24.13D 24.14A

24.15 *The local anaesthetic having high cardiotoxic and arrhythmogenic potential is:*

A. Lignocaine
B. Procaine
C. Bupivacaine
D. Ropivacaine *(p. 326)*

24.16 *Which of the following statements is* ***true*** *for lignocaine:*

A. It is an ester-linked local anaesthetic
B. It is not likely to exhibit cross-sensitivity with procaine
C. It has a shorter duration of action than procaine
D. It is not a surface anaesthetic *(p. 325)*

24.17 *Low concentration of bupivacaine is preferred for spinal / epidural obstetric analgesia because:*

A. It has a longer duration of action
B. It can produce sensory blockade without paralysing abdominal muscles
C. It distributes more in maternal tissues so that less reaches the foetus
D. All of the above are correct *(p. 326)*

24.18 *The following local anaesthetic is poorly water soluble, PABA derivative and primarily used for anorectal lesions, wounds and ulcers:*

A. Benzocaine
B. Dibucaine
C. Procaine
D. Benoxinate *(p. 326)*

24.15C 24.16B 24.17D 24.18A

24.19 *Choose the local anaesthetic that is specifically used to produce corneal anaesthesia for tonometry:*
A. Tetracaine
B. Oxethazaine
C. Ropivacaine
D. Benoxinate *(p. 326)*

24.20 *Eutectic lignocaine-prilocaine has the following unique property:*
A. It causes motor blockade without sensory block
B. By surface application, it can anaesthetise unbroken skin
C. It is not absorbed after surface application
D. It has strong vasoconstrictor action *(p. 325)*

24.21 *Oxethazaine is used for anaesthetizing gastric mucosa because:*
A. It is not absorbed from the gastrointestinal tract
B. It remains largely unionized in acidic medium
C. It is highly ionized in acidic medium
D. It produces no systemic effects even at high doses *(p. 326)*

24.22 *Surface anaesthesia is used for the following* ***except:***
A. Ocular tonometry
B. Urethral dilatation
C. Tooth extraction
D. Anal fissure *(p. 327)*

24.23 *In which of the following techniques the concentration of the local anaesthetic used is the lowest:*
A. Infiltration anaesthesia
B. Nerve block anaesthesia
C. Spinal anaesthesia
D. Epidural anaesthesia *(p. 327, 328)*

24.19D 24.20B 24.21B 24.22C 24.23A

24.24 *The segmental level of spinal anaesthesia depends on:*
A. Volume of the local anaesthetic injected
B. Specific gravity of the local anaesthetic solution
C. Posture of the patient
D. All of the above factors *(p. 328)*

24.25 *In spinal anaesthesia the segmental level of:*
A. Sympathetic block is lower than the sensory block
B. Sympathetic block is higher than the sensory block
C. Motor block is higher than the sensory block
D. Sympathetic, motor and sensory block has the same level *(p. 328)*

24.26 *The duration of spinal anaesthesia depends on each of the following* ***except:***
A. Which local anaesthetic is used
B. Concentration of the local anaesthetic used
C. Posture of the patient
D. Whether adrenaline has been added to the local anaesthetic *(p. 328)*

24.27 *The following factor is* ***not*** *involved in the causation of hypotension due to spinal anaesthesia:*
A. Histamine release
B. Reduced sympathetic vasoconstrictor tone
C. Decreased venous return from the lower limbs
D. Bradycardia *(p. 328)*

24.28 *Spinal anaesthesia is* ***not*** *suitable for:*
A. Vaginal delivery
B. Lower segment caesarian section
C. Prostatectomy
D. Operations on mentally ill patients *(p. 329)*

24.24D 24.25B 24.26C 24.27A 24.28D

24.29 *Epidural anaesthesia differs from spinal anaesthesia in that:*

A. Epidural anaesthesia produces less cardiovascular complications
B. Headache is more common after epidural anaesthesia
C. Blood concentrations of the local anaesthetic are lower after epidural anaesthesia
D. Greater separation between sensory and motor blockade can be obtained with epidural anaesthesia *(p. 329)*

24.30 *Intravenous regional anaesthesia is suitable for:*

A. Orthopedic manipulations on the upper limb
B. Vascular surgery on the lower limb
C. Head and neck surgery
D. Caesarian section *(p. 329-330)*

24.29D 24.30A



Drugs Acting on Central Nervous System

CHOOSE THE MOST APPROPRIATE RESPONSE

25.1 *The minimal alveolar concentration of an inhalational anaesthetic is a measure of its:*

A. Potency
B. Therapeutic index
C. Diffusibility
D. Oil: water partition coefficient *(p. 333)*

25.2 *The primary mechanism by which general anaesthetics produce their action is:*

A. Affecting receptor operated ion channels in cerebral neurones
B. Blocking voltage sensitive Na^+ channels in neuronal membrane
C. Depressing metabolic activity of cerebral neurones
D. Blocking production of high energy phosphates in the brain *(p. 334)*

25.3 *General anaesthetics produce immobility in response to painful surgical stimuli by acting primarily at the:*

A. Motor cortex
B. Basal ganglia
C. Thalamus
D. Spinal cord *(p. 334)*

25.1A 25.2A 25.3D

25.4 *Which general anaesthetic selectively inhibits excitatory NMDA receptors:*
A. Thiopentone
B. Halothane
C. Desflurane
D. Ketamine *(p. 334)*

25.5 *If a patient being anaesthetised with ether is unconscious, has regular respiration, blood pressure and heart rate are normal, corneal reflex is present and eyeballs are roving, the patient is in:*
A. Stage II
B. Stage III plane 1
C. Stage III plane 2
D. Stage III plane 3 *(p. 335)*

25.6 *No surgical operation should be performed during the following stage of anaesthesia:*
A. Stage I
B. Stage II
C. Stage III, plane 1
D. Stage III, plane 3 *(p. 335)*

25.7 *Which of the following is a sign of deep anaesthesia:*
A. Appearance of tears in eyes
B. Resistance to passive inflation of lungs
C. Fall in blood pressure
D. Patient makes swallowing movements
(p. 335, 336)

25.8 *The following factor delays induction with an inhaled general anaesthetic:*
A. Alveolar perfusion-ventilation mismatch
B. Hyperventilation
C. Low blood:gas partition coefficient of the anaesthetic
D. Inclusion of 5% carbon dioxide in the inhaled gas mixture *(p. 336)*

25.4D	25.5B	25.6B	25.7C	25.8A

25.9 *'Second gas effect' is exerted by the following gas when coadministered with halothane:*
A. Nitrous oxide
B. Cyclopropane
C. Nitrogen
D. Helium *(p. 337)*

25.10 *'Diffusion hypoxia' is likely to occur only after use of nitrous oxide because it:*
A. Is a respiratory depressant
B. Has low blood solubility and is used in high concentration
C. Is a very potent anaesthetic
D. Interferes with diffusion of oxygen into the tissues *(p. 337)*

25.11 *Select the inhalational general anaesthetic which is metabolized in the body to a significant extent:*
A. Sevoflurane
B. Isoflurane
C. Ether
D. Halothane *(p. 337, 340)*

25.12 *The following anaesthetic can be used by the open drop method:*
A. Ether
B. Desflurane
C. Halothane
D. Isoflurane *(p. 339)*

25.13 *The minimal alveolar concentration (MAC) of halothane is:*
A. 75%
B. 25%
C. 7.5%
D. 0.75% *(p. 338)*

25.9A 25.10B 25.11D 25.12A 25.13D

25.14 *The following general anaesthetic has poor muscle relaxant action:*
A. Ether
B. Nitrous oxide
C. Halothane
D. Isoflurane *(p. 339)*

25.15 *Select the correct statement about nitrous oxide:*
A. It irritates the respiratory mucosa
B. It has poor analgesic action
C. It is primarily used as a carrier and adjuvant to other anaesthetics
D. It frequently induces post anaesthetic nausea and retching *(p. 339)*

25.16 *Ether is still used as a general anaesthetic in India, specially in peripheral hospitals because:*
A. It is nonexplosive
B. It is pleasant smelling and nonirritating
C. It induces anaesthesia rapidly
D. It is cheap and can be administered without anaesthetic machine *(p. 339)*

25.17 *As a general anaesthetic, halothane has the following advantages* ***except:***
A. Very good analgesic action
B. Noninflammable and nonexplosive
C. Reasonably rapid induction of anaesthesia
D. Pleasant and nonirritating *(p. 339-340)*

25.18 *The general anaesthetic having significant cardiodepressant property is:*
A. Halothane
B. Enflurane
C. Ether
D. Nitrous oxide *(p. 339-340)*

25.14 B 25.15 C 25.16 D 25.17 A 25.18 A

25.19 *Select the general anaesthetic having the most marked uterine relaxant action:*
A. Propofol
B. Halothane
C. Nitrous oxide
D. Ether *(p. 340)*

25.20 *Malignant hyperthermia is a rare complication of use of the following anaesthetic:*
A. Ketamine
B. Thiopentone sodium
C. Halothane
D. Ether *(p. 340)*

25.21 *Select the general anaesthetic that is particularly suitable for outpatient surgery because of quick recovery and short-lived post-anaesthetic psychomotor impairment:*
A. Ether
B. Halothane
C. Enflurane
D. Desflurane *(p. 341)*

25.22 *The following is true of sevoflurane* ***except****:*
A. It induces anaesthesia rapidly
B. It is nonpungent
C. It produces prolonged postanaesthetic psychomotor impairment
D. It is less potent than halothane *(p. 341)*

25.23 *The drug/drugs used mainly for induction of general anaesthesia is/are:*
A. Thiopentone sodium
B. Fentanyl + droperidol
C. Ketamine
D. All of the above *(p. 342)*

25.19 B 25.20 C 25.21 D 25.22 C 25.23 A

25.24 *Residual CNS depression is least marked after the use of the following anaesthetic:*
A. Diazepam
B. Thiopentone sodium
C. Lorazepam
D. Propofol *(p. 343)*

25.25 *The anaesthetic action of thiopentone sodium is characterised by:*
A. Good muscle relaxation
B. Poor analgesia
C. Sensitization of heart to adrenaline
D. No postoperative residual CNS depression *(p. 342)*

25.26 *Induction of anaesthesia with propofol is often attended by:*
A. Transient apnoea
B. Sharp short lasting fall in blood pressure
C. Pain in the injected vein
D. All of the above *(p. 343)*

25.27 *'Dissociative anaesthesia' is produced by:*
A. Ketamine
B. Fentanyl
C. Propofol
D. Both 'A' and 'B' are correct *(p. 344)*

25.28 *Ketamine is the preferred anaesthetic for the following* ***except:***
A. Hypertensives
B. Trauma cases who have bled significantly
C. Burn dressing
D. Short operations on asthmatics *(p. 344)*

25.24 D 25.25 B 25.26 D 25.27 A 25.28 A

25.29 *Select the anaesthetic that increases cardiac output and blood pressure:*
A. Halothane
B. Fentanyl
C. Ketamine
D. Diazepam *(p. 344)*

25.30 *Intravenous fentanyl is used in balanced anaesthesia to afford:*
A. Relaxation of chest muscles
B. Analgesia
C. Unconsciousness
D. Suppression of gastric acid secretion *(p. 344)*

25.31 *Use of morphine in preanaesthetic medication:*
A. Is routine except in the presence of contraindications
B. Is restricted to patients being anaesthetised with ether
C. Should be made only in combination with atropine
D. Is restricted mostly to patients in pain preoperatively *(p. 346)*

25.32 *Use of glycopyrrolate in preanaesthetic medication serves the following purposes* ***except:***
A. Prevents respiratory secretions during anaesthesia
B. Guards against reflex vagal bradycardia during surgery
C. Produces amnesia for perioperative events
D. Reduces the probability of occurrence of laryngospasm *(p. 346)*

25.29C 25.30B 25.31D 25.32C

25.33 *The following drug is routinely used in preanaesthetic medication for prolonged operations:*
A. Atropine
B. Morphine
C. Promethazine
D. Ranitidine *(p. 346)*

26.1 *The following is **true** about actions of ethylalcohol:*
A. It exerts anticonvulsant action followed by lowering of seizure threshold
B. It lowers pain threshold
C. It increases confidence and reduces number of errors
D. It increases heat production and helps to keep warm in cold weather *(p. 349)*

26.2 *Effect of alcohol on sleep has the following feature:*
A. It is a dependable hypnotic but is not prescribed because of abuse potential
B. It consistently improves the quality of sleep
C. It can disorganise sleep architecture
D. It suppresses sleep apnoea *(p. 349)*

26.3 *Patients treated with the following drug should be cautioned not to consume alcoholic beverages:*
A. Mebendazole
B. Metronidazole
C. Methimazole
D. Metamizol *(p. 351)*

26.4 *Regular low-to-moderate alcohol consumption is associated with:*
A. Lower incidence of coronary artery disease
B. Myocardial depression
C. Physical dependence
D. Wernicke's encephalopathy *(p. 350, 353)*

25.33D	26.1A	26.2C	26.3B	26.4A

26.5 *Moderate amounts of alcohol produce the following effects* ***except:***
A. Flushing
B. Tachycardia
C. Diuresis
D. Rise in body temperature *(p. 350)*

26.6 *Consumption of alcoholic beverages in moderate amounts can be allowed for the following category of subjects:*
A. Epileptics
B. Patients with history of myocardial infarction
C. Gastroesophageal reflux patients
D. Pregnant women *(p. 352)*

26.7 *Safe limit of daily alcohol consumption is:*
A. Same for men and women
B. Relatively lower for women than for men
C. Relatively higher for women than for men
D. Less than half for women than for men *(p. 352)*

26.8 *What is considered to be the safe limit of daily alcohol consumption by an adult man in the absence of contraindications and interacting drugs:*
A. 20-40 ml of whisky
B. 50-100 ml of whisky
C. 120-180 ml of whisky
D. 200-300 ml of whisky *(p. 352)*

26.9 *Which of the following motivating factors is the* ***least*** *important for the alcohol drinking habit:*
A. Physical dependence on alcohol
B. Pleasurable feelings induced by alcohol
C. Attitude to relate drinking with enjoyment
D. Social belief that alcohol intoxicated subject is unmindful of his actions *(p. 352)*

26.5D	26.6B	26.7B	26.8B	26.9A

26.10 *Select the drug that has been found to reduce alcohol craving and chances of resumed heavy drinking by alcoholics after they have undergone a detoxification programme:*
A. Chlordiazepoxide
B. Chlorpromazine
C. Methadone
D. Naltrexone *(p. 353)*

26.11 *Disulfiram is used for the treatment of:*
A. Acute alcoholic intoxication
B. Both physically and psychologically dependent alcoholics
C. Alcoholics psychologically but not physically dependent on alcohol
D. Both 'A' and 'B' are correct *(p. 354)*

26.12 *Ethanol is used in methanol poisoning because it:*
A. Antagonises the actions of methanol
B. Stimulates the metabolism of methanol and reduces its blood level
C. Inhibits the metabolism of methanol and generation of toxic metabolite
D. Replenishes the folate stores depleted by methanol *(p. 354)*

26.13 *Which of the following is a specific inhibitor of the enzyme alcohol dehydrogenase and is useful in the treatment of methanol poisoning:*
A. Disulfiram
B. Ethylene glycol
C. Calcium leucovorin
D. Fomepizole *(p. 355)*

27.1 *Barbiturates exert the following actions* ***except:***
A. Anticonvulsant
B. Analgesic
C. Antianxiety
D. Respiratory depressant *(p. 358-359)*

26.10D 26.11C 26.12C 26.13D 27.1B

27.2 *The mechanism of action of barbiturates differs from that of benzodiazepines in that they:*
A. Do not affect the GABA-benzodiazepine receptor-chloride channel complex
B. Act as inverse agonists at the benzodiazepine receptor
C. Increase the frequency of chloride channel opening without affecting its life time
D. Have both GABA-facilitatory as well as GABA-mimetic actions *(p. 359)*

27.3 *Which of the following processes plays the major role in terminating the action of phenobarbitone:*
A. Biliary excretion
B. Renal excretion
C. Hepatic metabolism
D. Redistribution *(p. 360)*

27.4 *Currently barbiturates are primarily used as:*
A. Hypnotic
B. Sedative
C. Antiepileptic
D. Preanaesthetic medicant *(p. 360)*

27.5 *Benzodiazepines differ from barbiturates in the following aspects* ***except:***
A. They have a steeper dose response curve
B. They have higher therapeutic index
C. They have lower abuse liability
D. They do not induce microsomal drug metabolizing enzymes *(p. 361-362)*

27.6 *Hypnotic benzodiazepines increase the period of time spent in the following stage of sleep:*
A. Stage II
B. Stage III
C. Stage IV
D. REM stage *(p. 362)*

27.2D	27.3B	27.4C	27.5A	27.6A

27.7 *Select the correct statement about benzodiazepines (BZDs):*

A. All BZDs facilitate GABA mediated Cl^- influx into neurones
B. Different BZDs exert the same degrees of hypnotic, anxiolytic and anticonvulsant actions
C. The BZD receptor is homogeneous at all neuronal sites
D. The muscle relaxant action of BZDs is **not** blocked by flumazenil *(p. 362, 363, 368)*

27.8 *Hypnotic dose of diazepam produces the following action:*

A. Tachycardia
B. Constipation
C. Hyperalgesia
D. Decreased nocturnal gastric secretion *(p. 361, 362)*

27.9 *The primary mechanism of action of benzodiazepines is:*

A. Dopamine antagonism
B. Adenosine antagonism
C. Opening of neuronal chloride channels
D. Facilitation of GABA-mediated chloride influx *(p. 362-363)*

27.10 *Select the drug that antagonises diazepam action noncompetitively:*

A. Adenosine
B. Flumazenil
C. Bicuculline
D. Valproic acid *(p. 362, 364)*

27.7 A	27.8 D	27.9 D	27.10 C

27.11 *The following drugs exert their action through the $GABA_A$-benzodiazepine–receptor Cl^- channel complex* ***except:***

A. Baclofen
B. Zolpidem
C. Bicuculline
D. Phenobarbitone *(p. 317, 364, 366)*

27.12 *At a single hypnotic dose, the pharmacokinetics of diazepam is characterised by:*

A. Slow elimination and little redistribution
B. Slow elimination with marked redistribution
C. Rapid elimination and marked redistribution
D. Ultra rapid elimination *(p. 364)*

27.13 *The following is a very potent and short acting benzodiazepine whose use as hypnotic has been noted to cause psychiatric disturbances in some cases:*

A. Flurazepam
B. Nitrazepam
C. Temazepam
D. Triazolam *(p. 365)*

27.14 *Which of the following statements is* ***not*** *true of zopiclone:*

A. It is a nonbenzodiazepine hypnotic with efficacy and safety similar to benzodiazepines
B. It does not produce rebound sleep disturbances on discontinuation
C. It does not act by potentiating GABA
D. It is used to wean off insomniacs from regular benzodiazepine use *(p. 366)*

27.11A 27.12B 27.13D 27.14C

27.15 *Choose the drug that has been found to be more selective for the ω_1 subtype of BZD receptor, and produces hypnotic action but little antianxiety, muscle relaxant or anticonvulsant actions:*

A. Zopiclone
B. Zolpidem
C. Flumazenil
D. Melatonin *(p. 366)*

27.16 *Zolpidem differs from diazepam in that:*

A. It is safer in overdose than diazepam
B. Its hypnotic action shows little fading on repeated nightly use
C. It causes more marked suppression of REM sleep
D. It has more potent muscle relaxant action *(p. 366)*

27.17 *Diazepam is indicated in the following conditions* ***except:***

A. Generalized tonic-clonic (grand mal) epilepsy
B. Tetanus
C. Febrile convulsions
D. Cardiac catheterization *(p. 367, 376)*

27.18 *The following drug is used to reverse the CNS depression produced by diazepam:*

A. Dexamphetamine
B. Doxapram
C. Physostigmine
D. Flumazenil *(p. 367-368)*

27.15B 27.16B 27.17A 27.18D

27.19 *Select the correct statement about flumazenil:*
A. It is a CNS stimulant used as an antidote for benzodiazepine poisoning
B. It is a CNS depressant but blocks the action of diazepam
C. It has no CNS effect of its own but blocks the depressant effects of benzodiazepines as well as barbiturates
D. It has no CNS effect of its own but blocks the depressant effect of diazepam as well as stimulant effect of beta carbolines *(p. 367, 368)*

27.20 *The general principles in the use of hypnotics include the following* ***except:***
A. A hypnotic may be used intermittently for upto 2-3 weeks in short-term insomnia due to emotional stress
B. In patients with chronic insomnia a hypnotic should be used regularly
C. All hypnotics aggravate sleep apnoea
D. A hypnotic with slow elimination is preferred in patients with early morning awakening *(p. 366, 367)*

27.21 *Which of the following is not a CNS depressant but increases the tendency to fall asleep at night:*
A. Pyridoxine
B. Diphenhydramine
C. Melatonin
D. Ethanol *(p. 368)*

28.1 *The barbiturate having higher anticonvulsant: sedative activity ratio is:*
A. Pentobarbitone
B. Phenobarbitone
C. Butabarbitone
D. Thiopentone *(p. 370)*

27.19D 27.20B 27.21C 28.1B

28.2 *The most probable mechanism of anticonvulsant action of phenytoin is:*

A. Facilitation of GABAergic inhibitory transmission
B. Hyperpolarization of neurones
C. Interaction with Ca^{2+} channels to promote Ca^{2+} influx
D. Prolongation of voltage sensitive neuronal Na^{+} channel inactivation *(p. 371)*

28.3 *The following antiepileptic drug is most likely to impair learning and memory, and produce behavioral abnormalities in children:*

A. Valproic acid
B. Phenobarbitone
C. Phenytoin
D. Ethosuximide *(p. 371)*

28.4 *Phenytoin appears to derive its anticonvulsant action from:*

A. Selective inhibition of high frequency neuronal discharges
B. Selective inhibition of epileptic focus
C. Selective inhibition T-type Ca^{2+} current in brain cells
D. Selective enhancement of inhibitory transmission in the brain *(p. 371)*

28.5 *The characteristic feature of phenytoin pharmacokinetics is:*

A. High first pass metabolism
B. Nonsaturation kinetics of metabolism
C. Capacity limited metabolism saturating at higher therapeutic concentration range
D. Extrahepatic metabolism *(p. 372)*

28.2D	28.3B	28.4A	28.5C

28.6 *The following adverse effect(s) of phenytoin is/are related to high plasma drug concentration:*
A. Ataxia
B. Hirsutism
C. Gum hyperplasia
D. All of the above *(p. 372, 373)*

28.7 *The following drug displaces plasma protein bound phenytoin as well as decreases its metabolism:*
A. Carbamazepine
B. Sodium valproate
C. Cimetidine
D. Chloramphenicol *(p. 373)*

28.8 *Carbamazepine possesses the following property* ***not*** *shared by phenytoin:*
A. Modification of maximal electroshock seizures
B. Raising threshold for pentylenetetrazol convulsions
C. Suppression of complex partial seizures
D. Amelioration of trigeminal neuralgia
(p. 373)

28.9 *Select the antiepileptic drug that is effective in manic-depressive illness as well:*
A. Ethosuccimide
B. Primidone
C. Phenobarbitone
D. Carbamazepine *(p. 373)*

28.10 *The following antiepileptic drug is likely to cause hyponatremia as a side effect, especially in elderly patients:*
A. Primidone
B. Carbamazepine
C. Phenytoin
D. Sodium valproate *(p. 374)*

28.6 A	28.7 B	28.8 B	28.9 D	28.10 B

28.11 *The drug of choice for trigeminal neuralgia is:*
A. Aspirin
B. Imipramine
C. Carbamazepine
D. Valproic acid *(p. 374)*

28.12 *The following statement is* ***not*** *true of carbamazepine:*
A. It generates an active metabolite
B. Its plasma half life decreases to nearly half of the original value after chronic use
C. It is being used in mania
D. It is not effective in complex partial seizures *(p. 373-374)*

28.13 *The following antiepileptic drug raises pentylene tetrazol seizure threshold but does not modify maximal electroshock seizures:*
A. Ethosuximide
B. Carbamazepine
C. Primidone
D. Phenobarbitone *(p. 374)*

28.14 *The antiepileptic drug which suppresses maximal electroshock as well as kindled seizures, raises pentylenetetrazol threshold and is effective in both generalized tonic-clonic as well as absence seizures is:*
A. Phenytoin
B. Carbamazepine
C. Sodium valproate
D. Ethosuximide *(p. 375)*

28.15 *Select the drug having a narrow spectrum antiepileptic activity restricted to absence seizures:*
A. Lamotrigine
B. Ethosuccimide
C. Sodium valproate
D. Primidone *(p. 374)*

28.11C 28.12D 28.13A 28.14C 28.15B

28.16 *Sodium valproate has been shown to:*
A. Prolong neuronal Na^+ channel inactivation
B. Attenuate 'T' type Ca^{2+} current in neurones
C. Inhibit degradation of GABA by GABA-transaminase
D. All of the above *(p. 375)*

28.17 *Sodium valproate should be used with caution in young children because they are particularly at risk of developing the following adverse effect:*
A. Hepatitis
B. Loss of hair
C. Anorexia
D. Tremor *(p. 375)*

28.18 *The preferred drug for suppressing febrile convulsions is:*
A. Intramuscular phenobarbitone
B. Intravenous phenytoin
C. Rectal diazepam
D. Oral sodium valproate *(p. 378, 380)*

28.19 *Despite having anticonvulsant action, diazepam is* ***not*** *used in the treatment of epilepsy because:*
A. It is not effective orally
B. It causes sedation
C. Its anticonvulsant action wanes off with chronic use
D. Both 'B' and 'C' are correct *(p. 376)*

28.20 *Clobazam is a benzodiazepine used as:*
A. Hypnotic
B. Muscle relaxant
C. Anxiolytic
D. Antiepileptic *(p. 376)*

28.16D 28.17A 28.18C 28.19D 28.20D

28.21 *Choose the correct statement about lamotrigine:*
A. It is a dopaminergic agonist used in parkinsonism
B. It acts by blocking NMDA-type of glutamate receptors
C. It is a broad spectrum antiepileptic drug
D. It suppresses tonic-clonic seizures, but worsens absence seizures *(p. 377)*

28.22 *Select the antiepileptic drug that in addition is a preferred treatment for post herpetic neuralgia and pain due to diabetic neuropathy:*
A. Carbamazepine
B. Gabapentin
C. Lamotrigine
D. Primidone *(p. 377)*

28.23 *Gabapentin acts:*
A. As $GABA_A$ agonist
B. As precursor of GABA
C. By enhancing GABA release
D. By GABA independent mechanism *(p. 377)*

28.24 *Select the anticonvulsant drug that acts as a GABA-transaminase inhibitor:*
A. Gabapentin
B. Vigabatrin
C. Lamotrigine
D. Clobazam *(p. 377)*

28.25 *The following is true of topiramate* ***except:***
A. It is a broad spectrum antiepileptic drug
B. It inhibits the enzyme carbonic anhydrase
C. It is used as add-on therapy in refractory partial seizures
D. It is not effective in generalized tonic-clonic seizures *(p. 377)*

28.21C 28.22B 28.23C 28.24B 28.25D

28.26 *The following is true in the treatment of epilepsy* ***except****:*

A. The choice of drug depends on the cause of epilepsy and not on the seizure type
B. Treatment should be instituted as early as possible
C. Treatment is generally started with a single drug and the other drug is added or substituted according to response
D. Withdrawal of drug can be attempted if no seizures have occurred for 3-5 years

(p. 378-379)

28.27 *A combination of two or more antiepileptic drugs is used:*

A. Routinely in all types of epilepsy
B. In all cases of complex partial seizures
C. In all cases of secondarily generalized seizures
D. Only when monotherapy with first/second choice drugs fails *(p. 378-379)*

28.28 *Select the factor which indicates that withdrawal of the successfully used antiepileptic medication is likely to result in recurrence of seizures:*

A. Childhood epilepsy
B. Partial seizures
C. Treatment started soon after seizure onset
D. Absence of EEG abnormality *(p. 378-379)*

28.29 *An epileptic woman controlled by phenytoin therapy conceives. Which of the following measures is most appropriate:*

A. Medical termination of pregnancy
B. Withdraw phenytoin therapy
C. Gradually reduce phenytoin dose to the lowest effective level
D. Substitute phenytoin with a combination of carbamazepine and sodium valproate *(p. 379)*

28.26 A 28.27 D 28.28 B 28.29 C

28.30 *Risk of neural tube defect in the offspring can be minimised in pregnant women receiving antiepileptic drugs by supplemental therapy with:*

A. Folic acid
B. Vitamin A
C. Vitamin E
D. Pyridoxine *(p. 379)*

28.31 *Which of the following is the most suitable drug for a 6-year-old girl suffering from absence seizures with occasional generalized tonic-clonic seizures:*

A. Ethosuccimide
B. Sodium valproate
C. Carbamazepine
D. Phenytoin *(p. 379-380)*

28.32 *A 3-year-old boy gets seizures whenever he develops fever. Which is the most appropriate strategy so that he does not develop febrile convulsions:*

A. Treat fever with paracetamol and do not give any anticonvulsant drug
B. Continuous phenobarbitone prophylaxis till the age of 10 years
C. Continuous diazepam prophylaxis for 3 years
D. Intermittent diazepam prophylaxis started at the onset of fever *(p. 380)*

28.33 *The preferred drug for status epilepticus is:*

A. Intravenous diazepam
B. Intravenous phenytoin sodium
C. Intramuscular phenobarbitone
D. Rectal diazepam *(p. 380)*

28.30A 28.31B 28.32D 28.33A

29.1 *The most effective drug in parkinsonism is:*
A. Bromocriptine
B. Selegiline
C. Levodopa + carbidopa
D. Biperiden *(p. 382)*

29.2 *In parkinsonian patients levodopa exerts the following effects* ***except:***
A. Reduces skeletal muscle contractility
B. Decreases muscle tone
C. Increases locomotor activity
D. Inhibits muscle tremor *(p. 383)*

29.3 *The dopamine D2 receptor has the following feature:*
A. It is excitatory in nature
B. It is negatively coupled to adenyl cyclase
C. It is selectively blocked by bromocriptine
D. It is not blocked by metoclopramide
(p. 383, 393, 602)

29.4 *The usual cardiovascular effect of levodopa is:*
A. Bradycardia due to increased vagal tone
B. Rise in blood pressure due to increased noradrenaline content of adrenergic nerve endings
C. Fall in blood pressure due to decrease in sympathetic tone
D. Both 'A' and 'B' are correct *(p. 383)*

29.5 *The following drug/drugs does/do not produce any overt CNS effect in normal individuals but exert(s) clear cut therapeutic effect at the same dose in the presence of a specific neurological/psychiatric disorder:*
A. Chlorpromazine
B. Levodopa
C. Imipramine
D. All of the above *(p. 383)*

29.1 C	29.2 A	29.3 B	29.4 C	29.5 B

29.6 *Loss or alteration of taste sensation can occur a side effect of:*

A. Levodopa
B. Captopril
C. Penicillamine
D. All of the above *(p. 186, 384, 450)*

29.7 *Which of the following adverse effects of levodopa has a delayed onset and increases in severity with continued therapy:*

A. Nausea and vomiting
B. Postural hypotension
C. Cardiac arrhythmia
D. Abnormal movements *(p. 384)*

29.8 *The drug which abolishes the therapeutic effect of levodopa in parkinsonism, but not that of levodopa-carbidopa combination is:*

A. Metoclopramide
B. Pyridoxine
C. Chlorpromazine
D. Isoniazid *(p. 385)*

29.9 *Use of carbidopa along with levodopa in the treatment of parkinsonism:*

A. Inhibits development of involuntary movements
B. Minimises 'on-off ' effect'
C. Inhibits occurrence of behavioral abnormalities
D. Accentuates nausea and vomiting *(p. 385)*

29.10 *The following adverse effect of levodopa is* ***not*** *minimised by combining it with carbidopa:*

A. Involuntary movements
B. Nausea and vomiting
C. Cardiac arrhythmia
D. 'On-off ' effect *(p. 385)*

29.6D	29.7D	29.8B	29.9B	29.10A

29.11 *Though bromocriptine acts directly on dopamine receptors, it is used in parkinsonism only as a supplement to levodopa because:*

A. It has low efficacy
B. It produces marked dyskinesias
C. Used alone, its effective doses produce intolerable side effects
D. Its therapeutic effect takes long time to develop *(p. 386)*

29.12 *In the treatment of parkinsonism, bromocriptine differs from levodopa in the following respects* ***except:***

A. It does not need conversion to an active metabolite
B. It has a longer duration of action
C. It activates dopamine D2 receptors, with little / antagonistic action on D1 receptors
D. It does not produce behavioral / psychiatric side effects *(p. 219, 386)*

29.13 *Select the antiparkinsonian drug which directly activates dopaminergic D2 receptors in the striatum:*

A. Pramipexole
B. Entacapone
C. Benserazide
D. Selegiline *(p. 386)*

29.14 *Ropinirole differs from bromocriptine in the following respect:*

A. It does not directly activate dopamine D2 receptors
B. It produces milder gastrointestinal side effects
C. In early cases of parkinsonism, it is less likely to need levodopa supplementation
D. Both 'B' and 'C' are correct *(p. 386)*

29.11C 29.12D 29.13A 29.14D

29.15 *The following drug combination should* ***not*** *be used in parkinsonism:*
A. Levodopa + anticholinergics
B. Levodopa + amantadine
C. Bromocriptine + levodopa
D. Amantadine + anticholinergics *(p. 388)*

29.16 *The antiparkinsonian drug which acts by inhibiting the degradation of dopamine in the brain is:*
A. Carbidopa
B. Amantadine
C. Selegiline
D. Bromocriptine *(p. 387)*

29.17 *Tolerance to the antiparkinsonian action develops most rapidly in the case of:*
A. Levodopa
B. Levodopa + carbidopa
C. Amantadine
D. Bromocriptine *(p. 388)*

29.18 *The following drug is added to levodopa therapy of parkinsonism to attenuate 'wearing off' effect:*
A. Selegiline
B. Trihexiphenidyl
C. Amantadine
D. Any of the above *(p. 387)*

29.19 *The following is true of selegiline:*
A. It does not exert antiparkinsonian action unless combined with levodopa
B. It overcomes the 'on-off' effect in levodopa treated advanced parkinsonian patients
C. It retards the progression of Parkinson's disease
D. At doses used in parkinsonism it does not interfere with peripheral metabolism of dietary amines *(p. 387)*

29.15D 29.16C 29.17C 29.18A 29.19D

29.20 *Which of the following drugs has mild antiparkinsonian action of its own, prolongs levodopa action and allows reduction of its dose by about 25%:*

A. Benserazide
B. Selegiline
C. Amantadine
D. Pyridoxine *(p. 387)*

29.21 *The primary action by which entacapone and tolcapone enhance the therapeutic effect of levodopa-carbidopa in parkinsonism is:*

A. Inhibition of levodopa methylation in the liver
B. Inhibition of dopamine methylation in the brain
C. Inhibition of oxidative deamination of dopamine in the brain
D. Facilitation of active transport of levodopa across brain capillaries *(p. 387)*

29.22 *Entacapone differs from tolcapone in the following respect/respects:*

A. It is shorter acting
B. It acts only by inhibiting peripheral metabolism of levodopa
C. It is not hepatotoxic
D. All of the above are correct *(p. 387, 388)*

29.23 *The following is true about entacapone* ***except:***

A. It acts by inhibiting degradation of dopamine in the brain
B. If prolongs the therapeutic effect of levodopa-carbidopa in parkinsonism
C. It can accentuate levodopa induced dyskinesias
D. It can cause diarrhoea as a side effect *(p. 387)*

29.20B 29.21A 29.22D 29.23A

29.24 *Select the drug that reversibly inhibits the enzyme COMT and is useful as an adjuvant medication in advanced parkinson's disease:*
A. Pramipexole
B. Entacapone
C. Pergolide
D. Piribedil *(p. 387)*

29.25 *The following drug is effective in chlorpromazine induced parkinsonism:*
A. Trihexyphenidyl
B. Selegiline
C. Bromocriptine
D. Levodopa + carbidopa *(p. 388)*

29.26 *The antiparkinsonian action of central anticholinergics has the following features* ***except****:*
A. They control tremor more than rigidity
B. They produce a low ceiling therapeutic effect
C. They are effective in neuroleptic drug induced parkinsonism
D. They are the preferred drugs in advanced cases *(p. 388)*

29.27 *The following category of drugs is* ***not*** *indicated in early/mild cases of Parkinson's disease:*
A. Central anticholinergic
B. MAO-B inhibitor
C. COMT inhibitor
D. Nonergoline dopaminergic agonist
(p. 388-389)

29.28 *For majority of patients of parkinsonism the standard drug therapy is:*
A. Levodopa
B. Levodopa + carbidopa
C. Levodopa + trihexiphenidyl
D. Bromocriptine *(p. 389)*

29.24 B	29.25 A	29.26 D	29.27 C	29.28 B

30.1 *The 'neuroleptic syndrome' produced by chlorpromazine like drugs is characterized by the following* ***except:***

A. Emotional quietening
B. Paucity of movements
C. Ataxia
D. Indifference to external cues *(p. 392)*

30.2 *The distinctive action of chlorpromazine like drugs* ***not*** *possessed by any other class of drugs is:*

A. Relief of anxiety without producing sedation
B. Suppression of agressive behaviour
C. Mood elevation in depressed patients
D. Correction of distortions of thought and perception occurring in psychosis *(p. 392)*

30.3 *Actions of chlorpromazine include the following* ***except:***

A. Indifference to external stimuli
B. Postural hypotension
C. Hypoprolactinemia
D. Hypothermia in cold surroundings *(p. 392-393)*

30.4 *Fluphenazine differs from chlorpromazine in the following respects* ***except:***

A. It has higher antipsychotic efficacy
B. It is less sedative
C. It is less likely to precipitate seizures in epileptics
D. It causes more prominent extrapyramidal side effects *(p. 394, 395)*

30.1C	30.2D	30.3C	30.4A

30.5 *Compared to other antipsychotic drugs, the distinctive feature of penfluridol is:*
A. Very long duration of action
B. Weak dopamine D2 blocking activity
C. Lack of extrapyramidal side effects
D. Additional 5-HT_2 receptor blocking activity
(p. 396)

30.6 *Which of the following adverse effects of neuroleptic drugs is positively correlated to the antipsychotic potency of the different compounds:*
A. Sedation
B. Extrapyramidal motor disturbances
C. Postural hypotension
D. Lowering of seizure threshold *(p. 393, 397)*

30.7 *Selective inhibition of conditioned avoidance response in animals by a drug indicates that the drug is likely to be effective in:*
A. Anxiety
B. Major depression
C. Schizophrenia
D. Manic-depressive illness *(p. 392)*

30.8 *The following action of chlorpromazine is* ***not*** *based on its antidopaminergic property:*
A. Antipsychotic
B. Hyperprolactinemic
C. Antiemetic
D. Hypotensive *(p. 393)*

30.9 *Chlorpromazine therapy increases the secretion of the following hormone:*
A. Prolactin
B. Gonadotropin
C. Corticotropin
D. Antidiuretic hormone *(p. 393)*

30.5 A	30.6 B	30.7 C	30.8 D	30.9 A

30.10 *The following drug is* ***not*** *likely to produce dependence:*
A. Diazepam
B. Chlorpromazine
C. Pethidine
D. Methadone *(p. 395)*

30.11 *Which of the following is a long acting neuroleptic having specific antidopaminergic action, but little adrenergic or cholinergic blocking activity:*
A. Triflupromazine
B. Thioridazine
C. Clozapine
D. Pimozide *(p. 396)*

30.12 *The major limitation in the use of clozapine for treatment of schizophrenia is:*
A. Its potential to cause agranulocytosis
B. Its inability to benefit negative symptoms of schizophrenia
C. High incidence of extrapyramidal side effects
D. Production of hyperprolactinemia *(p. 396)*

30.13 *What is true of risperidone:*
A. It is an atypical neuroleptic which produces few extrapyramidal side effects
B. It has combined dopamine D2 and 5-HT_2 receptor blocking activity
C. It does not cause hyperprolactinemia
D. Both 'A' and 'B' are correct *(p. 396)*

30.14 *The following antipsychotic drug has weak dopamine D2 but additional 5-HT_2 blocking activity and benefits both positive and negative symptoms of schizophrenia:*
A. Loxapine
B. Clozapine
C. Pimozide
D. Penfluridol *(p. 396)*

30.10B 30.11D 30.12A 30.13D 30.14B

30.15 *Which of the following is an atypical neuroleptic drug:*
A. Loxapine
B. Olanzapine
C. Pimozide
D. Flupenthixol *(p. 396)*

30.16 *Olanzapine has the following features* ***except:***
A. It is an antipsychotic drug with weak D2 receptor blocking action
B. It has potent 5-HT_2 blocking and antimuscarinic actions
C. It lowers seizure threshold
D. It produces prominent extrapyramidal side effects *(p. 396)*

30.17 *Which of the following is a high potency antipsychotic drug having minimal sedative and autonomic effects and no propensity to cause weight gain:*
A. Chlorpromazine
B. Triflupromazine
C. Haloperidol
D. Olanzapine *(p. 395)*

30.18 *Clozapine is considered to be an atypical neuroleptic because:*
A. It has weak antidopaminergic action but high antipsychotic efficacy
B. Its side effect profile is different from that of chlorpromazine
C. It is not a phenothiazine derivative
D. Both 'A' and 'B' are correct *(p. 396)*

30.19 *The following side effect of typical neuroleptics may respond to propranolol:*
A. Parkinsonism
B. Acute muscle dystonia
C. Tardive dyskinesia
D. Akathisia *(p. 397)*

30.15B 30.16D 30.17C 30.18D 30.19D

30.20 *The following adverse effect can occur even long after withdrawal of the offending drug:*
A. Paradoxical tachycardia
B. Tardive dyskinesia
C. Malignant hyperthermia
D. Gynaecomastia *(p. 398)*

30.21 *The extrapyramidal adverse effect of antipsychotic drug therapy which does* ***not*** *respond to central anticholinergics is:*
A. Parkinsonism
B. Acute muscle dystonia
C. Rabbit syndrome
D. Tardive dyskinesia *(p. 397-398)*

30.22 *The antipsychotic drug most likely to cause ocular toxicity on long-term use is:*
A. Thioridazine
B. Haloperidol
C. Flupenthixol
D. Pimozide *(p. 395, 398)*

30.23 *The psychotic symptoms most benefited by neuroleptic drugs are:*
A. Judgement and memory impairment
B. Loss of insight and volition
C. Hallucinations, delusions and aggressive behaviour
D. Apathy and social withdrawal *(p. 398)*

30.24 *A manic patient has been brought to the hospital with nonstop talking, singing, uncontrolable behaviour and apparent loss of contact with reality. Which of the following is the most appropriate drug for rapid control of his symptoms:*
A. Lithium carbonate
B. Phenobarbitone
C. Haloperidol
D. Valproic acid *(p. 399, 417)*

30.20B 30.21D 30.22A 30.23C 30.24C

30.25 *The following is correct about antipsychotic drugs* ***except****:*

A. They only control symptoms of schizophrenia without affecting the basic disorder
B. Combination of two or more antipsychotic drugs is more efficacious than any single drug
C. In treating psychosis high potency drugs are preferred over low potency drugs
D. They donot produce dependence

(p. 395, 398, 399)

30.26 *Select the drug which should* ***not*** *be used to treat neurotic anxiety and tension syndromes despite having antianxiety action:*

A. Buspirone
B. Chlorpromazine
C. Diazepam
D. Alprazolam *(p. 399)*

30.27 *Chlorpromazine is ineffective in vomiting due to:*

A. Motion sickness
B. Morning sickness
C. Digoxin therapy
D. Gastritis *(p. 399)*

30.28 *The following statement(s) is/are correct in relation to diazepam and chlorpromazine:*

A. Both have anticonvulsant property
B. Both do not carry abuse liability
C. Both have antianxiety action
D. All of the above are correct *(p. 400)*

30.29 *Select the anxiolytic benzodiazepine that has additional mild antidepressant property:*

A. Chlordiazepoxide
B. Oxazepam
C. Alprazolam
D. Lorazepam *(p. 401)*

30.25 B 30.26 B 30.27 A 30.28 C 30.29 C

30.30 *Which of the following is a nonsedative anxiolytic:*
A. Chlorpromazine
B. Buspirone
C. Hydroxyzine
D. Alprazolam *(p. 401)*

30.31 *The following statement is correct about buspirone:*
A. It interacts with benzodiazepine receptor as an inverse agonist
B. It is a rapidly acting anxiolytic, good for panic states
C. It produces physical dependence and suppresses barbiturate withdrawal syndrome
D. It has anxiolytic but no anticonvulsant or muscle relaxant property *(p. 401-402)*

30.32 *Select the drug which relieves anxiety but neither reacts with benzodiazepine receptor nor produces any overt CNS effect:*
A. Oxazepam
B. Thioproperazine
C. Buspirone
D. Chlordiazepoxide *(p. 401)*

30.33 *The major constraint in the long term use of benzodiazepines for treatment of generalized anxiety disorder is:*
A. Development of tolerance to antianxiety action of the benzodiazepines
B. Possibility of drug dependence
C. Cardiovascular depression
D. Likelyhood of overdose toxicity *(p. 400-401)*

30.30B 30.31D 30.32C 30.33B

30.34 *The preferred class of drugs for long term treatment of severe anxiety disorder with intermittent panic attacks is:*
A. Phenothiazine (chlorpromazine like)
B. Azapirone (buspirone like)
C. β-blocker (propranolol like)
D. Selective serotonin reuptake inhibitor (sertraline like) *(p. 400, 402)*

30.35 *Choose the correct statement about the use of propranolol in anxiety:*
A. Being nonsedative, it is the drug of choice in chronic anxiety states
B. It suppresses the psychological component of anxiety
C. It suppresses the autonomic manifestations of acutely stressful situations
D. Both 'B' and 'C' are correct *(p. 402)*

30.36 *The following drug of abuse is a hallucinogen:*
A. Cocaine
B. Cannabis
C. Heroin
D. Methaqualone *(p. 403)*

31.1 *Which of the following is a selective MAO-B inhibitor:*
A. Selegiline
B. Clorgyline
C. Moclobemide
D. Tranylcypromine *(p. 387, 406)*

31.2 *The nonselective MAO inhibitors are not used clinically as antidepressants because of their:*
A. Low antidepressant efficacy
B. Higher toxicity
C. Potential to interact with many foods and drugs
D. Both 'B' and 'C' are correct *(p. 406)*

30.34D	30.35C	30.36B	31.1A	31.2D

31.3 *Which of the following MAO inhibitors is most likely to produce cheese reaction:*
A. Tranylcypromine
B. Moclobemide
C. Selegiline
D. Clorgyline *(p. 406)*

31.4 *The following is a reversible and selective MAO-A inhibitor:*
A. Bupropion
B. Entacapone
C. Moclobemide
D. Selegiline *(p. 405, 406)*

31.5 *'Cheese reaction' in a MAO inhibited patient manifests as:*
A. Precipitous fall in blood pressure and shock
B. Hypertensive crisis
C. Acute manic episode
D. Convulsions *(p. 406)*

31.6 *Choose the correct statement about moclobemide:*
A. It is a reversible inhibitor of MAO-A with short duration of action
B. Patients taking it need to be cautioned not to consume tyramine rich food
C. It is contraindicated in elderly patients
D. It produces anticholinergic side effects
(p. 406, 407)

31.7 *Imipramine given to nondepressed individuals produces:*
A. Euphoria
B. Insomnia
C. Lethargy and light headedness
D. Inappropriate behaviour *(p. 407)*

31.3 A	31.4 C	31.5 B	31.6 A	31.7 C

31.8 *Of the following, choose the antidepressant having both high sedative and high anticholinergic activity:*
A. Imipramine
B. Amitriptyline
C. Fluoxetine
D. Trazodone *(p. 408)*

31.9 *The antidepressant which selectively blocks 5-hydroxytryptamine uptake is:*
A. Fluoxetine
B. Amoxapine
C. Desipramine
D. Dothiepin *(p. 408, 412)*

31.10 *Imipramine produces the following actions* ***except:***
A. Euphoria
B. Dryness of mouth
C. Tachycardia
D. Lowering of seizure threshold *(p. 407, 409)*

31.11 *Adaptive changes in brain monoamine turnover due to blockade of noradrenaline/5-HT reuptake is credited with the following effect:*
A. Antipsychotic
B. Antianxiety
C. Antiparkinsonian
D. Antidepressant *(p. 409)*

31.12 *The mechanisms involved in the causation of dangerous cardiac arrhythmias due to overdose of tricyclic antidepressants include the following* ***except****:*
A. Intraventricular conduction block
B. Potentiation of noradrenaline
C. Antagonism of acetylcholine
D. Increased vagal tone *(p. 409)*

31.8 B 31.9 A 31.10 A 31.11 D 31.12 D

31.13 *A 65-year-old man was brought to the hospital with complaints of pain in lower abdomen and not having passed urine for 16 hours. The bladder was found to be full. His son informed that he was depressed for the last 2 years and only the day before a doctor had given him some medicine. Which of the following drugs is he most likely to have received:*

A. Alprazolam
B. Sertraline
C. Amitryptyline
D. Trazodone *(p. 408, 410)*

31.14 *The following drug/drugs should not be used to treat tricyclic antidepressant drug poisoning:*

A. Quinidine
B. Digoxin
C. Atropine
D. All of the above *(p. 410)*

Note: Atropine is contraindicated because tricyclic antidepressants themselves have anticholinergic action

31.15 *Limitations of typical tricyclic antidepressants include the following* ***except:***

A. Narrow safety margin
B. Low oral bioavailability
C. Frequent side effects
D. Long latent period for response *(p. 411)*

31.16 *Tricyclic antidepressants abolish the antihypertensive action of the following drug:*

A. Enalapril
B. Clonidine
C. Atenolol
D. Diltiazem *(p. 410)*

31.13C 31.14D 31.15B 31.16B

31.17 *The following is a tetracyclic antidepressant that has additional dopamine blocking and neuroleptic properties, as well as greater propensity to cause seizures in overdose:*

A. Amoxapine
B. Doxepin
C. Dothiepin
D. Trazodone *(p. 411)*

31.18 *The selective serotonin reuptake inhibitors have overcome the following limitation(s) of typical tricyclic antidepressants:*

A. Frequent anticholinergic, sedative and hypotensive side effects
B. High risk of cardiac arrhythmias and seizures in overdose
C. Delayed response
D. Both 'A' and 'B' are correct *(p. 411)*

31.19 *Advantages of selective serotonin reuptake inhibitors (SSRIs) include the following* ***except:***

A. No interference with ejaculation and orgasm
B. Minimal sedative action
C. Unlikely to cause fall in BP
D. Lack of seizure precipitating potential

(p. 411)

31.20 *Choose the selective serotonin reuptake inhibitor that is less likely to inhibit CYP2D6 and CYP3A4 resulting in fewer drug interactions:*

A. Sertraline
B. Paroxetine
C. Fluoxetine
D. Fluvoxamine *(p. 412)*

31.17 A 31.18 D 31.19 A 31.20 A

31.21 *Currently, the selective serotonin reuptake inhibitors are the preferred drugs for the following psychiatric disorder/disorders:*

A. Phobias
B. Obsessive-compulsive disorder
C. Post-traumatic stress disorder
D. All of the above *(p. 412)*

31.22 *The distinctive features of fluoxetine compared to the typical tricyclic antidepressants include the following* ***except:***

A. It is less likely to produce cardiac arrhythmias in overdose
B. It infrequently produces sedative and anticholinergic side effects
C. It can elevate mood of apparently nondepressed patients suffering from chronic somatic illness
D. It does not block neuronal uptake of biogenic amines *(p. 411, 412)*

31.23 *The following antidepressant increases rather than inhibits 5-HT uptake into neurones:*

A. Clomipramine
B. Fluoxetine
C. Tianeptine
D. Trazodone *(p. 413)*

31.24 *Venlafaxine differs from standard tricyclic antidepressants in that it:*

A. Does not inhibit 5-HT reuptake
B. Does not inhibit noradrenaline reuptake
C. Does not have anticholinergic or anti-adrenergic property
D. Has lower antidepressant efficacy *(p. 413)*

31.21D 31.22D 31.23C 31.24C

31.25 *Which of the following is labelled as a 'serotonin and noradrenaline reuptake inhibitor or SNRI':*

A. Amineptine
B. Venlafaxine
C. Bupropion
D. Citalopram *(p. 413)*

31.26 *Choose the drug that has been labelled as a 'noradrenergic and specific serotonergic antidepressant' or 'Na SSA':*

A. Mirtazapine
B. Mianserin
C. Venlafaxine
D. Sertraline *(p. 413)*

31.27 *The following is true of bupropion* ***except:***

A. It inhibits dopamine reuptake along with inhibiting noradrenaline reuptake
B. It produces sedation as a side effect
C. It is being used as an aid for smoking cessation
D. It is likely to produce seizures in overdose *(p. 413)*

31.28 *A patient of endogenous depression was put on imipramine therapy. After what interval the therapeutic effect is likely to manifest:*

A. Three days
B. One week
C. Three weeks
D. Three months *(p. 413)*

31.29 *Prolonged painful erection of penis has been noted particularly as a side effect of:*

A. Doxepin
B. Citalopram
C. Bupropion
D. Trazodone *(p. 412)*

31.25 B 31.26 A 31.27 B 31.28 C 31.29 D

31.30 *The tricyclic antidepressants are also effective in the following psychiatric disorders* ***except:***
A. Schizophrenia
B. Obsessive-compulsive disorder
C. Bulimia
D. Phobic states *(p. 414)*

31.31 *A 30-year-old woman suffering from endogenous depression improved after one month of treatment with amitriptyline. How long the drug should be continued:*
A. 1-2 weeks
B. 6-12 months
C. 2-3 years
D. Life long *(p. 414)*

31.32 *Diabetic and other types of neuropathic pain often responds to:*
A. Chlorpromazine
B. Diazepam
C. Imipramine
D. Lithium *(p. 414)*

31.33 *Indications of tricyclic antidepressants include the following* ***except:***
A. Attention deficit-hyperactive disorder in children
B. Mania
C. Prophylaxis of migraine
D. Panic disorder *(p. 414)*

31.34 *The following statement about lithium is* ***not*** *correct:*
A. It has a sedative action in normal individuals
B. It controls mania, but takes 1–2 weeks to produce the effect
C. It has prophylactic effect in recurrent unipolar depression
D. It can be combined with tricyclic antidepressants for refractory cases of major depression *(p. 415, 417)*

31.30 A 31.31 B 31.32 C 31.33 B 31.34 A

31.35 *For therapeutic effect in manic depressive illness, steady-state serum lithium concentration should be maintained between:*
A. 0.2–0.4 mEq/L
B. 0.5–0.8 mEq/L
C. 1.0–1.3 mEq/L
D. 1.5–2.5 mEq/L *(p. 416)*

31.36 *Select the psychotropic drug having a narrow safety margin:*
A. Chlorpromazine
B. Buspirone
C. Lithium carbonate
D. Fluoxetine *(p. 416)*

31.37 *Renal excretion of lithium is reduced by:*
A. Furosemide
B. Hydrochlorothiazide
C. Indomethacin
D. All of the above *(p. 416, 417)*

31.38 *The following drug can be used as an alternative to lithium in mania and bipolar illness:*
A. Carbamazepine
B. Carisoprodol
C. Clomipramine
D. Diethyl carbamazine *(p. 417)*

31.39 *The constellation of side effects consisting of thirst, polyuria, looseness of stools and fine tremors is characteristically associated with the following psychotropic drug:*
A. Amitriptyline
B. Lithium carbonate
C. Lorazepam
D. Buspirone *(p. 416)*

31.35B 31.36C 31.37D 31.38A 31.39B

31.40 *Prolonged lithium therapy can cause:*
A. Diabetes mellitus
B. Goiter
C. Parkinsonism
D. Gout *(p. 416)*

31.41 *Drugs effective in bipolar illness include the following* ***except:***
A. Olanzapine
B. Diazepam
C. Sodium valproate
D. Lamotrigine *(p. 417, 418)*

32.1 *Morphine analgesia differs from that produced by aspirin in the following respect(s):*
A. It has a higher ceiling
B. It covers both perception as well as psychic processing of the pain
C. Visceral and ischaemic pain is relieved better than somatic inflammatory pain
D. All of the above are correct *(p. 420)*

32.2 *Morphine produces analgesia by acting at:*
A. Peripheral pain receptors
B. A spinal site
C. Supraspinal sites
D. Both spinal and supraspinal sites *(p. 420)*

32.3 *In man sedation caused by morphine is characterised by:*
A. Little or no motor incoordination
B. Initial excitement
C. Rise in seizure threshold
D. All of the above *(p. 420)*

31.40 B	31.41 B	32.1 D	32.2 D	32.3 A

32.4 *The subjective effects of morphine include the following* ***except:***

A. Dysphoria in many uninitiated individuals
B. Euphoria in dependent subjects
C. Visual hallucinations
D. Detachment to self and surroundings

(p. 420)

32.5 *Actions of morphine include the following* ***except:***

A. Vagal stimulation
B. Miosis
C. Antiemetic
D. Postural hypotension *(p. 420-421)*

32.6 *Morphine induced fall in blood pressure involves the following factors* ***except****:*

A. Direct cardiac depression
B. Direct reduction of vascular tone
C. Vasomotor centre depression
D. Histamine release *(p. 421)*

32.7 *Instead of depressing, morphine stimulates:*

A. Vasomotor centre
B. Edinger Westphal nucleus
C. Temperature regulating centre
D. Cough centre *(p. 421)*

32.8 *Morphine induced constipation involves the following mechanisms* ***except:***

A. Increase in tone and decrease in propulsive activity of intestinal muscles
B. Antivagal action
C. Spasm of gastrointestinal sphincters
D. Reduction of gastrointestinal secretions

(p. 421)

32.4 C	32.5 C	32.6 A	32.7 B	32.8 B

32.9 *In a comatose patient suspected of poisoning, which of the following findings would be against the drug being morphine:*
A. Mydriasis
B. Marked respiratory depression
C. Cyanosis
D. Fall in blood pressure *(p. 422)*

32.10 *The following is* ***not*** *true of morphine:*
A. Its 2-glucuronide metabolite is an active analgesic
B. Its active metabolite penetrates blood-brain barrier better than morphine
C. Its oral: parenteral activity ratio is 1:4
D. It undergoes enterohepatic cycling *(p. 422)*

32.11 *The antidote of choice for morphine poisoning is:*
A. Nalorphine
B. Nalbuphine
C. Naltrexone
D. Naloxone *(p. 422)*

32.12 *What is true of tolerance occurring in regular opium abusers:*
A. Tolerance develops to all actions of morphine
B. No tolerance occurs to euphoric and sedative actions of morphine
C. No tolerance occurs to constipating and miotic actions of morphine
D. Lethal dose of morphine is not significantly increased *(p. 423)*

32.13 *Morphine dependence is characterized by:*
A. Marked drug seeking behaviour
B. Physical dependence without psychic dependence
C. Physical as well as psychic dependence
D. Both 'A' and 'C' are correct *(p. 423)*

32.9A 32.10B 32.11D 32.12C 32.13D

32.14 *Use of morphine in the following category of patients does **not** carry any special risk:*

A. Ischaemic heart disease patients
B. Bronchial asthma patients
C. Elderly male patients
D. Biliary colic patients *(p. 423)*

32.15 *Morphine is contraindicated in head injury because:*

A. It does not relieve the pain of head injury
B. It can raise intracranial tension
C. It can cause constipation
D. It is liable to cause addiction *(p. 423)*

32.16 *Choose the correct statement about codeine:*

A. It has a lower oral: parenteral activity ratio than morphine
B. It is devoid of abuse liability
C. It is a weaker analgesic than morphine
D. It is a more potent antitussive than morphine *(p. 424)*

32.17 *The following is true of pethidine **except:***

A. At equianalgesic doses it causes less respiratory depression than morphine
B. It is less constipating than morphine
C. It is a poor antitussive
D. In overdose it often produces excitatory effects *(p. 424-425)*

32.18 *Norpethidine produced as a metabolite of pethidine is responsible for the following effect:*

A. Euphoria
B. Excitement
C. Analgesia
D. Respiratory depression *(p. 425)*

32.14 A 32.15 B 32.16 C 32.17 A 32.18 B

32.19 *The following opioid is more potent than morphine:*
A. Pethidine
B. Fentanyl
C. Dextropropoxyphene
D. Tramadol *(p. 425)*

32.20 *Indicate the opioid analgesic that is used as transdermal patch for chronic and cancer pain:*
A. Morphine
B. Pentazocine
C. Fentanyl
D. Tramadol *(p. 425, 427)*

32.21 *The distinctive feature(s) of methadone compared to morphine is/are:*
A. High oral bioavailability
B. High plasma protein and tissue binding
C. Delayed and milder withdrawal symptoms in dependent subjects
D. All of the above *(p. 425-426)*

32.22 *The following opioid analgesic is similar to codeine in pharmacological profile but is less constipating:*
A. Methadone
B. Buprenorphine
C. Butorphanol
D. Dextropropoxyphene *(p. 426)*

32.23 *Select the analgesic which acts through opioid as well as additional spinal monoaminergic mechanisms:*
A. Tramadol
B. Ethoheptazine
C. Dextropropoxyphene
D. Alfentanil *(p. 426)*

32.19B 32.20C 32.21D 32.22D 32.23A

32.24 *An opioid analgesic is preferred over aspirin like analgesic in the following condition:*

A. Acute gout
B. Burn
C. Toothache
D. Neuralgia *(p. 427)*

32.25 *Morphine affords symptomatic relief of dyspnoea in acute left ventricular failure by the following mechanisms* ***except:***

A. Bronchodilatation
B. Depression of respiratory centre
C. Reduction in cardiac preload
D. Shift of blood from pulmonary to systemic circuit *(p. 427)*

32.26 *Morphine has high affinity for the following opioid receptor(s):*

A. μ (Mu)
B. κ (Kappa)
C. δ (Delta)
D. All of the above *(p. 428)*

32.27 *Features of μ (Mu) opioid receptor include the following* ***except:***

A. Acts by inhibiting cAMP formation
B. Mediates miotic action
C. Mediates low ceiling respiratory depression
D. Mediates high ceiling supraspinal analgesia *(p. 428, 429)*

32.28 *Nalorphine is nearly equipotent analgesic as morphine, but is* ***not*** *used clinically as an analgesic because:*

A. It causes more marked respiratory depression
B. It has higher abuse potential
C. It antagonises the action of morphine
D. It produces prominent dysphoric effects *(p. 430)*

32.24 B 32.25 A 32.26 A 32.27 C 32.28 D

32.29 *Which of the following is an agonist-antagonist type of opioid analgesic:*
A. Pethidine
B. Pentazocine
C. Fentanyl
D. Buprenorphine *(p. 430, 431)*

32.30 *Select the opioid analgesic which acts primarily through κ(kappa) opioid receptor:*
A. Pentazocine
B. Methadone
C. Buprenorphine
D. Pethidine *(p. 431)*

32.31 *The following opioids are κ(kappa) receptor analgesics* ***except:***
A. Buprenorphine
B. Butorphanol
C. Nalbuphine
D. Pentazocine *(p. 429, 431, 432)*

32.32 *Choose the correct statement about pentazocine:*
A. It causes bradycardia and fall in blood pressure
B. Its subjective effects are pleasurable at low doses but turn unpleasant at high doses
C. It induces vomiting frequently
D. It substitutes for morphine in dependent subjects *(p. 431)*

32.33 *Pentazocine differs from morphine in that:*
A. It is inactive by the oral route
B. It does not produce physical dependence
C. It has a lower ceiling of analgesic effect
D. Its action is not blocked by naloxone
(p. 431)

32.29 B 32.30 A 32.31 A 32.32 B 32.33 C

32.34 *The following is **true** of buprenorphine:*
A. It is an agonist-antagonist type of opioid analgesic
B. Its subjective effects are different from those of morphine
C. Naloxone is largely ineffective in reversing its effects
D. It produces mydriasis *(p. 432)*

32.35 *The following are pure opioid antagonists **except:***
A. Nalmfene
B. Nalbuphine
C. Naloxone
D. Naltrexone *(p. 431, 432, 433)*

32.36 *Select the correct statement about Naloxone:*
A. It equally blocks μ, κ and δ opioid receptors
B. It blocks μ receptors at lower doses than those needed for others
C. It blocks κ receptors at lower doses than those needed for others
D. It blocks δ receptors at lower doses than those needed for others *(p. 432)*

32.37 *Which action of morphine is incompletely reversed by naloxone:*
A. Analgesia
B. Respiratory depression
C. Sedation
D. Miosis *(p. 432)*

32.38 *Lower dose of naloxone is required to:*
A. Antagonise the actions of nalorphine
B. Antagonise the actions of pentazocine
C. Precipitate withdrawal in mildly morphine dependent subjects
D. Precipitate withdrawal in highly morphine dependent subjects *(p. 423. 433)*

32.34C 32.35B 32.36B 32.37C 32.38D

32.39 *Select the opioid antagonist that is preferred for long term opioid blockade therapy of post addicts:*
A. Nalorphine
B. Naloxone
C. Naltrexone
D. Nalbuphine *(p. 433)*

32.40 *The following is **not** true of naltrexone:*
A. It produces agonistic actions of its own in the absence of morphine
B. It is active orally
C. It has a long duration of action
D. It can reduce craving for alcohol in chronic alcoholics *(p. 433)*

32.41 *The following statement is **true** about endogenous opioid peptides:*
A. They activate only μ opioid recepors
B. They do not occur in peripheral tissues
C. They mediate stress induced analgesia
D. Naloxone fails to antagonise their action *(p. 439)*

33.1 *Strychnine produces convulsions by:*
A. Stimulating NMDA receptors
B. Facilitating the excitatory transmitter glutamate
C. Blocking the inhibitory transmitter GABA
D. Blocking the inhibitory transmitter glycine *(p. 435)*

33.2 *The following drug has been used to stimulate respiratory and vasomotor centres as an expedient measure, because it has the least propensity to induce convulsions:*
A. Pentylenetetrazole
B. Doxapram
C. Bicuculline
D. Amphetamine *(p. 436)*

32.39C	32.40A	32.41C	33.1D	33.2B

33.3 *The drug of choice for hyperkinetic children is:*
A. Methylphenidate
B. Nikethamide
C. Caffeine
D. Clonazepam *(p. 436)*

33.4 *The neurotransmitter system in the brain most affected in Alzheimer's disease is:*
A. Glutaminergic
B. Gabaergic
C. Dopaminergic
D. Cholinergic *(p. 437)*

33.5 *Hepatotoxicity has markedly restricted use of the following cerebroselective anticholinesterase in Alzheimer's disease:*
A. Rivastigmine
B. Tacrine
C. Galantamine
D. Donepezil *(p. 439)*

33.6 *The following is true of rivastigmine* ***except:***
A. It is a relatively selective inhibitor of G1 isoform of acetylcholinesterase
B. It has been found to retard disease progression in Alzheimer's disease
C. It affords measurable improvement in Alzheimer's disease symptom score
D. It enhances cerebral cholinergic transmission with only mild peripheral effect
(p. 439)

33.7 *Indications of piracetam include the following* ***except:***
A. Apnoea in preterm infant
B. Learning defects in children
C. Confusional states in the elderly
D. Memory impairment following electroconvulsive therapy *(p. 438)*

33.3 A	33.4 D	33.5 B	33.6 B	33.7 A

33.8 *The following drug claimed to have a therapeutic effect in senile dementia has α adrenergic blocking activity:*
A. Piracetam
B. Pyritinol
C. Codergocrine
D. Methylphenidate *(p. 438)*

33.9 *Select the drug that improves some symptoms in Alzheimer's dementia by increasing brain acetylcholine levels:*
A. Pemoline
B. Donepezil
C. Nicergoline
D. Piribedil *(p. 439)*

33.10 *Select the correct statement abut donepezil:*
A. It is a topical carbonic anhydrase inhibitor used in glaucoma
B. It is a catechol-'O'-methyl transferase inhibitor used as adjuvant in parkinson's disease
C. It is a cerebroselective anticholinesterase that affords symptomatic improvement in Alzheimer's disease
D. It is a synthetic cannabinoid with antiemetic property *(p. 439)*

33.11 *Pyritinol (pyrithioxine) is used as:*
A. Analeptic drug
B. Cognition enhancing drug
C. Antiepileptic drug

33.8C 33.9B 33.10C 33.11B

D. Antidepressant drug *(p. 439-440)*

33.12 *Extract of the following plant has platelet activating factor (PAF) antagonistic activity and is claimed to benefit cognitive disorders due to cerebral ischaemia:*

A. Ginkgo biloba
B. Claviceps purpurea
C. Amanita muscaria
D. Artemisia annua *(p. 440)*

33.12 A



Cardiovascular Drugs

CHOOSE THE MOST APPROPRIATE RESPONSE

34.1 *Under physiological conditions the rate limiting enzyme in the generation of angiotensin II is:*
A. Renin
B. Angiotensin converting enzyme
C. Aminopeptidase
D. Angiotensinase *(p. 445)*

34.2 *Angiotensin II causes rise in blood pressure by:*
A. Direct vasoconstriction
B. Releasing adrenaline from adrenal medulla
C. Increasing central sympathetic tone
D. All of the above *(p. 445-446)*

34.3 *Angiotensin III is equipotent to angiotensin II in:*
A. Releasing aldosterone from adrenal cortex
B. Promoting Na^+ and water reabsorption by direct intrarenal action
C. Causing vasoconstriction
D. Contracting intestinal smooth muscle
(p. 445, 446)

34.4 *The following is a pressor peptide that can be generated both in circulation as well as locally in certain tissues:*
A. Bradykinin
B. Angiotensin
C. Kallidin
D. Plasmin *(p. 445, 454)*

34.1 A	**34.2 D**	**34.3 A**	**34.4 B**

34.5 *The following factors enhance renin release from the kidney* ***except****:*

A. Fall in blood pressure
B. Reduction in blood volume
C. Enhanced sympathetic activity
D. Volume overload *(p. 446, 447)*

34.6 *Angiotensin II plays a key role in the following risk factor for ischaemic heart disease:*

A. Hypercholesterolemia
B. Ventricular hypertrophy
C. Carbohydrate intolerance
D. Cardiac arrhythmia *(p. 446)*

34.7 *Ventricular remodeling after myocardial infarction involves the mediation of:*

A. Angiotensin II
B. Prostaglandin
C. Bradykinin
D. Thromboxane A_2 *(p. 446)*

34.8 *Captopril pretreatment:*

A. Inhibits the pressor action of angiotensin I
B. Inhibits the pressor action of angiotensin II
C. Potentiates the depressor action of bradykinin
D. Both 'A' and 'C' are correct *(p. 449)*

34.9 *Captopril produces greater fall in blood pressure in:*

A. Diuretic treated patients
B. Patients having low plasma renin activity
C. Sodium replete normotensive individuals
D. Untreated CHF patients *(p. 449)*

34.5	**D**	**34.6**	**B**	**34.7**	**A**	**34.8**	**D**	**34.9**	**A**

34.10 *Potentiation of bradykinin appears to play a role in the following effects of angiotensin converting enzyme inhibitors* ***except****:*

A. Fall in BP in the short term
B. Fall in BP in the long term
C. Cough in susceptible individuals
D. Angioedema in susceptible individuals

(p. 449)

34.11 *Enalapril differs from captopril in that:*

A. It blocks angiotensin II receptors
B. It does not produce cough as a side effect
C. It is less liable to cause abrupt first dose hypotension
D. It has a shorter duration of action

(p. 450, 451)

34.12 *Enalapril differs from captopril in the following features* ***except****:*

A. It is dose to dose more potent
B. Its oral absorption is not affected by food in stomach
C. It acts more rapidly
D. It has longer duration of action *(p. 450, 451)*

34.13 *The following angiotensin converting enzyme inhibitor can reduce cardiac contractility:*

A. Captopril
B. Enalapril
C. Perindopril
D. Lisinopril *(p. 451)*

34.10	**B**	**34.11**	**C**	**34.12**	**C**	**34.13**	**D**

34.14 *Advantages of angiotensin converting enzyme inhibitors as antihypertensive include the following* ***except****:*

A. They tend to reverse left ventricular hypertrophy
B. Their efficacy is not reduced by nonsteroidal antiinflammatory drugs
C. They do not worsen blood lipid profile
D. They do not impair work performance

(p. 450, 451)

34.15 *The following drug increases cardiac output in congestive heart failure without having any direct myocardial action:*

A. Captopril
B. Digoxin
C. Amrinone
D. Dobutamine *(p. 452, 469)*

34.16 *Angiotensin converting enzyme inhibitors reduce the following haemodynamic parameters in congestive heart failure* ***except****:*

A. Systemic vascular resistance
B. Right atrial pressure
C. Cardiac output
D. Heart rate x pressure product *(p. 452)*

34.17 *Angiotensin converting enzyme inhibitors afford maximum protection against progression of heart failure when used:*

A. At the higher therapeutic dose range over long term
B. At the maximum tolerated dose only till haemodynamic compensation is restored
C. At low doses over long term
D. At low doses along with diuretics / digoxin

(p. 452)

34.14	**B**	**34.15**	**A**	**34.16**	**C**	**34.17**	**A**

34.18 *In post-myocardial infarction and other high cardiovascular risk subjects but without hypertension or heart failure, prolonged ACE inhibitor medication has been found to:*

A. Increase the chances of sudden cardiac death
B. Reduce the incidence of fatal as well as non-fatal myocardial infarction or stroke
C. Lower the risk of developing heart failure and diabetes
D. Both 'B' and 'C' *(p. 452)*

34.19 *Which of the following statements most closely describes the current status of angiotensin converting enzyme inhibitors in congestive heart failure:*

A. They are the first choice drugs unless contraindicated
B. They are used when diuretics alone fail
C. They are a substitute for digitalis
D. They are to be used as adjuncts only in resistant cases *(p. 452)*

34.20 *Long term ACE inhibitor therapy may retard the progression of:*

A. Diabetic nephropathy
B. Diabetic retinopathy
C. Hypertensive nephropathy
D. All of the above *(p. 452-453)*

34.21 *The following drug has been demonstrated to retard progression of left ventricular dysfunction and prolong survival of congestive heart failure patients:*

A. Digoxin
B. Furosemide
C. Enalapril
D. Amrinone *(p. 452, 469)*

34.18 D 34.19 A 34.20 D 34.21 C

34.22 *Losartan is a:*

A. Selective AT_1 receptor antagonist
B. Selective AT_2 receptor antagonist
C. Nonselective AT_1 + AT_2 receptor antagonist
D. AT_1 receptor partial agonist *(p. 447, 453)*

34.23 *Clinically, the angiotensin antagonists share the following features of angiotensin converting enzyme inhibitors* ***except:***

A. Antihypertensive efficacy
B. Potential to reverse left ventricular hypertrophy
C. Lack of effect on carbohydrate tolerance
D. Potential to induce cough in susceptible individuals *(p. 453, 454)*

34.24 *Choose the drug that selectively blocks AT_1 subtype of angiotensin receptors:*

A. Ramipril
B. Lovastatin
C. Candesartan
D. Sumatriptan *(p. 454)*

34.25 *An elderly hypertensive was treated with hydrochlorothiazide 50 mg daily. Even after a month, his BP was not reduced to the desired level and another antihypertensive was added. After 2 hours of taking the other drug his BP fell precipitously. The most likely other drug given to him is:*

A. Atenolol
B. Captopril
C. Methyldopa
D. Amlodipine *(p. 449)*

34.22 A	**34.23 D**	**34.24 C**	**34.25 B**

34.26 *Indications of angiotensin converting enzyme inhibitors include the following* ***except:***
A. Evolving myocardial infarction
B. Diabetic nephropathy
C. Scleroderma crisis
D. Stable angina pectoris *(p. 452, 453)*

34.27 *Losartan differs from enalapril in the following respect:*
A. It does not potentiate bradykinin
B. It depresses cardiovascular reflexes
C. It impairs carbohydrate tolerance
D. It does not have fetopathic potential
(p. 453)

34.28 *Bradykinin and angiotensin II have the following feature common to both:*
A. They both cause fall in BP
B. They both are degraded by Kininase II
C. Their precursor proteins are plasma α_2 globulins
D. They both release aldosterone from adrenal cortex *(p. 445, 454)*

34.29 *Select the nonapeptide which can be generated from plasma globulin by snake venom enzymes, causes fall in BP and intense pain when applied to blister base:*
A. Kallidin
B. Bradykinin
C. Angiotensin II
D. Angiotensin III *(p. 454, 455)*

34.30 *Actions of bradykinin include the following* ***except****:*
A. Fall in blood pressure
B. Cardiac depression
C. Increase in capillary permeability
D. Bronchoconstriction *(p. 455)*

34.26	**D**	**34.27**	**A**	**34.28**	**C**	**34.29**	**B**	**34.30**	**B**

34.31 *The following kinin action is mediated primarily by the kinin B_1 receptor:*
A. Intestinal contraction
B. Bronchoconstriction
C. EDRF release and vasodilatation
D. Production of Interleukin, TNF_α and other inflammatory mediators *(p. 456)*

35.1 *Digitalis in creases the force of contraction of ventricles by:*
A. Increasing the duration of systole
B. Increasing the rate of contraction without affecting the duration of systole
C. Increasing the rate of contraction, but reducing the duration of systole
D. Increasing both the rate of contraction as well as the duration of systole *(p. 458)*

35.2 *In a failing heart therapeutic dose of digoxin has **no** effect on the following parameter:*
A. Cardiac output
B. Heart rate
C. Tone of ventricular fibres
D. Cardiac vagal tone *(p. 458)*

35.3 *Digitalis slows the heart in congestive heart failure by:*
A. Increasing vagal tone
B. Decreasing sympathetic overactivity
C. Direct depression of sinoatrial node
D. All of the above *(p. 459)*

35.4 *The electrophysiological effects of digitalis on Purkinje fibres include the following **except:***
A. Enhancement of resting membrane potential
B. Decrease in the slope of phase-0 depolarization
C. Increase in the rate of phase-4 depolarization
D. Abbreviation of action potential duration
(p. 459)

34.31 D	**35.1 C**	**35.2 C**	**35.3 D**	**35.4 A**

35.5 *Digitalis induced increase in refractory period of myocardial fibres is most consistent and pronounced in the:*

A. Atria
B. Ventricles
C. A-V node
D. Purkinje fibres *(p. 459)*

35.6 *What is/are the consequence(s) of myocardial Na^+ K^+ ATPase inhibition by digoxin:*

A. Increased intracellular Na^+ ion concentration
B. Increased cytosolic Ca^{2+} ion concentration
C. Increased intracellular K^+ ion concentration
D. Both 'A' and 'B' are correct *(p. 460-461)*

35.7 *The positive inotropic action of digoxin takes several hours to develop because:*

A. Binding of digoxin to Na^+K^+ATPase is slow
B. After Na^+K^+ATPase inhibition by digoxin, Ca^{2+} loading of myocardial fibres occurs progressively with each contraction
C. Digoxin inhibits Na^+K^+ATPase through modification of gene function which takes time
D. Both 'A' and 'B' are correct *(p. 461)*

35.8 *Among all cardiac glycosides, digoxin is the most commonly used, because:*

A. It is the most potent and fastest acting glycoside
B. It has the highest and most consistent oral bioavailability
C. It is the longest acting and the safest glycoside
D. It has intermediate plasma half life so that dose adjustments are possible every 2-3 days and toxicity abates rather rapidly after discontinuation *(p. 462)*

35.5 C	**35.6 D**	**35.7 D**	**35.8 D**

35.9 *The most important channel of elimination of digoxin is:*
A. Glomerular filtration
B. Tubular secretion
C. Hepatic metabolism
D. Excretion in bile *(p. 462)*

35.10 *Infusion of potassium chloride is indicated in digitalis toxicity when the manifestation(s) is/are:*
A. Vomiting, hyperapnoea and visual disturbance
B. Pulsus bigeminus with heart rate 110/min in a patient on maintenance digoxin therapy
C. Ventricular tachycardia in a child who has accidentally ingested 10 digoxin tablets
D. 2:1 A-V block with occasional ventricular extrasystoles *(p. 463)*

35.11 *Potassium therapy tends to counteract the cardiac toxicity of digitalis by:*
A. Reducing the affinity of sarcolemal Na^+ K^+ATPase for digitalis
B. Suppressing ectopic automaticity enhanced by digitalis
C. Promoting A-V conduction
D. Both 'A' and 'B' are correct *(p. 463)*

35.12 *Select the most suitable antiarrhythmic drug for counteracting ventricular extrasystoles due to digoxin toxicity:*
A. Lignocaine
B. Quinidine
C. Verapamil
D. Amiodarone *(p. 463)*

35.9 A	**35.10 B**	**35.11 D**	**35.12 A**

35.13 *The following drug given concurrently can enhance toxicity of digoxin:*
A. Phenobarbitone
B. Metoclopramide
C. Quinidine
D. Magnesium hydroxide *(p. 464)*

35.14 *Digoxin is contraindicated in:*
A. Angina pectoris patients
B. Ventricular tachycardia
C. Hypertensive patients
D. Complete heart-block *(p. 463)*

35.15 *Digitalis is most suitable for treatment of CHF when it is due to:*
A. Cor pulmonale
B. Arterio-venous shunt
C. Thiamine deficiency
D. Long-standing uncontrolled hypertension *(p. 464)*

35.16 *The dose of digoxin in congestive heart failure is adjusted by monitoring:*
A. Electrocardiogram
B. Heart rate and symptoms of CHF
C. Blood pressure
D. Plasma digoxin levels *(p. 465)*

35.17 *Digoxin affords the following benefit/benefits in CHF:*
A. Restores cardiac compensation and relieves symptoms
B. Reverses the pathological changes of CHF
C. Prolongs survival of CHF patients
D. Both 'A' and 'B' are correct *(p. 464-465)*

35.13 C	**35.14 B**	**35.15 D**	**35.16 B**	**35.17 A**

35.18 *Long-term maintenance therapy with digoxin is the best option in the following category of CHF patients:*

A. Hypertensive patients
B. Patients with hypertrophic cardiomyopathy
C. Patients with associated atrial fibrillation
D. Patients having cardiac valvular defects

(p. 466)

35.19 *A patient of CHF was treated with furosemide and digoxin. He became symptom-free and is stable for the last 3 months with resting heart rate 68/min in sinus rhythm but left ventricular ejection fraction is low. Which of the following lines of action is warranted:*

A. Stop above medication and start an ACE inhibitor
B. Continue all medication as before
C. Continue the diuretic but stop digoxin
D. Continue digoxin but stop the diuretic

(p. 466, 469)

35.20 *The following action of digoxin is responsible for beneficial effect in auricular fibrillation:*

A. Increased myocardial contractility
B. Suppression of SA node
C. Depression of A-V conduction
D. Enhanced Purkinje fibre automaticity

(p. 466)

35.21 *Select the drug that can help restore cardiac performance as well as prolong survival in CHF patients:*

A. Spironolactone
B. Furosemide
C. Dobutamine
D. Metoprolol

(p. 467, 469)

35.18 C	**35.19 A**	**35.20 C**	**35.21 D**

35.22 *The following drug can relieve symptoms of CHF but does not retard disease progression or prolong survival:*
A. Digoxin
B. Carvedilol
C. Spironolactone
D. Ramipril *(p. 466, 467)*

35.23 *Which of the following drugs can afford both haemodynamic improvement as well as disease modifying benefits in CHF:*
A. Furosemide
B. Milrinone
C. Losartan
D. Digoxin *(p. 467, 469)*

35.24 *What is the usual response to digoxin in a patient of atrial fibrillation:*
A. Restoration of normal sinus rhythm
B. Conversion of atrial fibrillation to atrial flutter
C. Increase in atrial fibrillation frequency, but decrease in ventricular rate
D. Decrease in atrial fibrillation frequency, but increase in ventricular rate *(p. 466)*

35.25 *Digoxin produces the following effect(s) in atrial flutter:*
A. Reduces ventricular rate
B. Prevents shift of A-V block to a lower grade
C. Converts atrial flutter to atrial fibrillation
D. All of the above *(p. 467)*

35.26 *The preferred diuretic for mobilizing edema fluid in CHF is:*
A. Hydrochlorothiazide
B. Furosemide
C. Metolazone
D. Amiloride *(p. 467)*

35.22 A	**35.23 C**	**35.24 C**	**35.25 D**	**35.26 B**

35.27 *Beneficial effect/effects of diuretics in CHF patients include the following:*
A. Symptomatic relief
B. Regression of pathological changes
C. Prolongation of life expectancy
D. Both 'A' and 'C' *(p. 467)*

35.28 *Glyceryl trinitrate is used in CHF for:*
A. Routine treatment of mild to moderate chronic heart failure
B. Rapid symptom relief in acute left ventricular failure
C. Arresting disease progression
D. Both 'A' and 'B' *(p. 468, 469)*

35.29 *Vasodilators are used to treat:*
A. Acute heart failure attending myocardial infarction
B. Chronic heart failure due to diastolic dysfunction
C. Chronic heart failure due to both systolic as well as diastolic dysfunction
D. All of the above *(p. 468-469)*

35.30 *The following type of vasodilator is not beneficial in CHF due to systolic dysfunction:*
A. Calcium channel blocker
B. Angiotensin converting enzyme inhibitor
C. Nitrate
D. Hydralazine *(p. 469)*

35.31 *Which vasodilator is most suitable for a patient of CHF who is symptomatic even at rest and has a central venous pressure of 25 mm Hg and cardiac index 1.8 L/min/m^2*:
A. Glyceryl trinitrate
B. Enalapril
C. Hydralazine
D. Nifedipine *(p. 469)*

35.27 A	**35.28 B**	**35.29 D**	**35.30 A**	**35.31 B**

35.32 *Beneficial effects of β-adrenoceptor blockers in CHF include the following* ***except:***

A. Antagonism of ventricular wall stress enhancing action of sympathetic overactivity
B. Antagonism of vasoconstriction due to sympathetic overactivity
C. Prevention of pathological remodeling of ventricular myocardium
D. Prevention of dangerous cardiac arrhythmias *(p. 469)*

35.33 *The following is true of β-adrenergic blocker therapy in CHF:*

A. They are added to conventional therapy after cardiac compensation is restored
B. They are indicated only in severe (NYHA class IV) heart failure
C. They are to be used only at low doses
D. All of the above *(p. 469-470)*

35.34 *Choose the correct statement about use of β-adrenergic blockers in CHF:*

A. All β blockers are equally effective in CHF
B. They are used as alternative to conventional therapy with ACE inhibitors ± digitalis/diuretic
C. They are most useful in mild to moderate cases with systolic dysfunction due to dilated cardiomyopathy
D. They are indicated only in asymptomatic left ventricular dysfunction *(p. 469-470)*

35.35 *The following drug is used for short-term control of emergency heart failure, but not for long-term treatment of congestive heart failure:*

A. Digoxin
B. Ramipril
C. Dobutamine
D. Spironolactone *(p. 470)*

35.32 B	**35.33 A**	**35.34 C**	**35.35 C**

35.36 *Select the drug which is an 'inodilator' beneficial in refractory congestive heart failure:*

A. Nicorandil
B. Amiodarone
C. Amrinone
D. Carvedilol *(p. 471)*

35.37 *Raised plasma aldosterone level in CHF contributes to disease progression by exerting the following effects* ***except:***

A. Fibrotic remodeling of myocardium
B. Hyperkalemia and hypermagnesemia
C. Increasing cardiac preload by Na^+ and water retention
D. Enhancing cardiotoxicity of sympathetic overactivity *(p. 470)*

35.38 *The following apply to use of spironolactone in CHF* ***except:***

A. It is indicated only in NYHA class III / IV cases as additional drug to conventional therapy
B. It affords prognostic benefit in severe heart failure over and above that afforded by ACE inhibitors
C. It helps overcome refractoriness to diuretics
D. It affords rapid symptomatic relief *(p. 470)*

35.39 *Milrinone is best used:*

A. In a patient of mild CHF
B. As an additional drug alongwith conventional therapy to tide over crisis in refractory CHF
C. For long-term maintenance therapy of CHF
D. To suppress digitalis induced arrhythmias *(p. 471)*

35.36 C	**35.37 B**	**35.38 D**	**35.39 B**

36.1 *The principal action common to all class I antiarrhythmic drugs is:*

A. Na^+ channel blockade
B. K^+ channel opening
C. Depression of impulse conduction
D. Prolongation of effective refractory period

(p. 474)

36.2 *The antiarrhythmic drug which decreases both rate of depolarization (phase 0) as well as rate of repolarization (phase 3) of myocardial fibres is:*

A. Lignocaine
B. Propranolol
C. Quinidine
D. Verapamil *(p. 475)*

36.3 *Quinidine has the following action on electrophysiological properties of the heart* ***except:***

A. Decreases automaticity of Purkinje fibres
B. Abolishes after depolarizations
C. Prolongs refractory period of atrial fibres
D. Decreases membrane responsiveness of atrial and ventricular fibres *(p. 475)*

36.4 *The limitations of quinidine in the treatment of cardiac arrhythmias include the following* ***except:***

A. It has narrow spectrum antiarrhythmic activity
B. It is not tolerated by many patients
C. It can precipitate myocardial decompensation
D. It can cause marked hypotension

(p. 476, 477)

36.1 A	**36.2 C**	**36.3 B**	**36.4 A**

36.5 *The following is **not** true of quinidine:*

A. It blocks myocardial Na^+ channels primarily in the open state
B. It has no effect on myocardial K^+ channels
C. It produces frequency dependent blockade of myocardial Na^+ channels
D. It delays recovery of myocardial Na^+ channels *(p. 475, 476)*

36.6 *Quinidine can cause paradoxical tachycardia in a patient of:*

A. Sick sinus syndrome
B. Atrial extrasystoles
C. Atrial fibrillation
D. Ventricular extrasystoles *(p. 476)*

36.7 *Quinidine is now used primarily for:*

A. Conversion of atrial fibrillation to sinus rhythm
B. Control of ventricular rate in atrial flutter
C. Termination of ventricular tachycardia
D. Prevention of recurrences of atrial fibrillation / ventricular tachycardia *(p. 477)*

36.8 *The following antiarrhythmic drug has the most prominent anticholinergic action:*

A. Disopyramide
B. Quinidine
C. Procainamide
D. Lignocaine *(p. 477)*

36.9 *Procainamide differs from quinidine in the following respect(s):*

A. It does not cause paradoxical tachycardia
B. It has no α adrenergic blocking activity
C. It has little antivagal action
D. Both 'B' and 'C' are correct *(p. 477)*

36.5 B	**36.6 C**	**36.7 D**	**36.8 A**	**36.9 D**

36.10 *The following is true of procainamide* ***except****:*

A. It generates an active metabolite in the body
B. Its plasma half-life is longer than that of quinidine
C. On long-term use, it can cause systemic lupus erythematosus like illness
D. It is effective in many cases of ventricular extrasystoles, not responding to lignocaine

(p. 477)

36.11 *The most significant feature of the antiarrhythmic action of lignocaine is:*

A. Suppression of phase-4 depolarization in ventricular ectopic foci
B. Prolongation of action potential duration
C. Prolongation of effective refractory period
D. Depression of membrane responsiveness

(p. 478)

36.12 *Myocardial Na^+ channel blockade by lignocaine has the following characteristic:*

A. It blocks inactivated Na^+ channels more than activated channels
B. It blocks activated Na^+ channels more than inactivated channels
C. It delays rate of recovery of Na^+ channels
D. It produces more prominent blockade of atrial than ventricular Na^+ channels *(p. 478)*

36.13 *Lignocaine is the preferred antiarrhythmic for emergency control of cardiac arrhythmias following acute myocardial infarction because:*

A. It has a rapidly developing and titratable antiarrhythmic action
B. It causes little myocardial depression and hypotension
C. It has broad spectrum antiarrhythmic efficacy in atrial as well as ventricular arrhythmias
D. Both 'A' and 'B' are correct *(p. 479)*

36.10 B	**36.11 A**	**36.12 A**	**36.13 D**

36.14 *Lignocaine is effective in the following cardiac arrhythmia(s):*
A. Atrial fibrillation
B. Paroxysmal supraventricular tachycardia
C. Digitalis induced ventricular extrasystoles
D. All of the above *(p. 479)*

36.15 *The following is an orally active lignocaine congener used for both acute as well as chronic ventricular arrhythmias:*
A. Mexiletine
B. Flecainide
C. Moricizine
D. Propafenone *(p. 479)*

36.16 *Select the drug which is used by intravenous infusion for emergency control of tachycardia and sudden rise in blood pressure:*
A. Amiodarone
B. Lignocaine
C. Esmolol
D. Disopyramide *(p. 129, 481)*

36.17 *The following is true of propafenone* ***except****:*
A. It is a weak Na^+ channel blocker
B. It markedly delays recovery of myocardial Na^+ channels
C. It has additional β-adrenergic blocking property
D. It slows anterograde as well as retrograde conduction in the WPW bypass tract *(p. 480)*

36.14 C	**36.15 A**	**36.16 C**	**36.17 A**

36.18 *Which of the following drugs depresses automaticity of SA node as well as ectopic foci, abbreviates action potential duration of Purkinje fibres, and slows atrioventricular conduction:*

A. Propranolol
B. Lignocaine
C. Procainamide
D. Bretylium *(p. 480)*

36.19 *The following antiarrhythmic drug accumulates in the body for a very long time:*

A. Procainamide
B. Mexiletine
C. Bretylium
D. Amiodarone *(p. 481)*

36.20 *Choose the antiarrhythmic drug which prolongs action potential, can aggravate atrioventricular block but not heart failure, and has broad spectrum utility in acute as well as chronic, and ventricular as well as supraventricular arrhythmias:*

A. Quinidine
B. Amiodarone
C. Mexiletine
D. Diltiazem *(p. 481)*

36.21 *Hypothyroidism is a possible consequence of prolonged therapy with:*

A. Amiodarone
B. Mexiletine
C. Sotalol
D. Procainamide *(p. 482)*

36.18 A	**36.19 D**	**36.20 B**	**36.21 A**

36.22 *Choose the correct statement(s) about dofetilide:*

A. It is a pure class III antiarrhythmic
B. It has no adrenergic/cholinergic receptor blocking property
C. It selectively depresses the rapid component of delayed rectifier K^+ current in myocardial fibres
D. All of the above *(p. 482)*

36.23 *The following drug is preferred for termination as well as prophylaxis of paroxysmal supraventricular tachycardia:*

A. Digoxin
B. Verapamil
C. Propranolol
D. Quinidine *(p. 483)*

36.24 *The following drug terminates paroxysmal supraventricular tachycardia rapidly, but cannot be used to prevent its recurrences:*

A. Verapamil
B. Adenosine
C. Propranolol
D. Digoxin *(p. 483)*

36.25 *Actions of adenosine include the following* ***except:***

A. Depression of A-V node
B. Coronary vasodilatation
C. Bronchodilatation
D. Fall in BP *(p. 483, 484)*

36.22	**D**	**36.23**	**B**	**36.24**	**B**	**36.25**	**C**

36.26 *Use of adenosine for terminating an episode of paroxysmal supraventricular tachycardia has the following advantages* ***except:***

A. It does not produce any side effect
B. It can be given to patients with low blood pressure
C. Its action lasts less than 1 min after bolus intravenous injection
D. It is effective in patients not responding to verapamil *(p. 483, 484)*

37.1 *The following drug is used to reduce the frequency of angina pectoris as well as to terminate an acute attack:*

A. Isosorbide dinitrate
B. Pentaerythritol tetranitrate
C. Diltiazem
D. Dipyridamole *(p. 488, 491)*

37.2 *Antianginal drugs afford the following benefit/benefits:*

A. Terminate anginal attacks
B. Decrease the frequency of anginal attacks
C. Retard the progression of coronary artery disease
D. Both 'A' and 'B' are correct *(p. 487)*

37.3 *Choose the correct statement about the action of nitrates on coronary vessels:*

A. They mitigate angina pectoris by increasing total coronary flow
B. They preferentially dilate conducting arteries without affecting resistance arterioles
C. They preferentially dilate autoregulatory arterioles without affecting the larger arteries
D. They increase subepicardial blood flow without affecting subendocardial blood flow

(p. 488, 489)

36.26 A	**37.1 A**	**37.2 D**	**37.3 B**

37.4 *Organic nitrates have predominantly venodilator action because:*
A. They are selectively concentrated in veins
B. Veins express larger quantities of enzymes that generate nitric oxide from nitrates
C. Venous smooth muscle has greater capacity to relax
D. All of the above are correct *(p. 489)*

37.5 *Organic nitrates relax vascular smooth muscle by:*
A. Increasing intracellular cyclic GMP
B. Increasing intracellular cyclic AMP
C. Decreasing intracellular cyclic AMP
D. Both 'A' and 'C' are correct *(p. 489)*

37.6 *Blood flow in the following vascular bed generally decreases under the influence of glyceryl trinitrate:*
A. Coronary
B. Cutaneous
C. Renal
D. Cranial *(p. 489)*

37.7 *Select the organic nitrate which undergoes minimal first-pass metabolism in the liver:*
A. Glyceryl trinitrate
B. Isosorbide dinitrate
C. Isosorbide mononitrate
D. Erythrityl tetranitrate *(p. 489, 491)*

37.8 *The primary mechanism of beneficial effect of glyceryl trinitrate in classical angina pectoris is:*
A. Increase in total coronary blood flow
B. Redistribution of coronary blood flow
C. Reduction of cardiac preload
D. Reduction of cardiac afterload *(p. 489)*

37.4 B	**37.5 A**	**37.6 C**	**37.7 C**	**37.8 C**

37.9 *Nitrate tolerance is least likely to develop with the use of:*

A. Sustained release oral glyceryl trinitrate
B. Sublingual glyceryl trinitrate
C. Transdermal glyceryl trinitrate
D. Oral pentaerythritol tetranitrate *(p. 490)*

37.10 *Glyceryl trinitrate is administered by the following routes* ***except:***

A. Oral
B. Sublingual
C. Intramuscular
D. Intravenous *(p. 490, 491)*

37.11 *Select the drug which can markedly potentiate the vasodilator action of organic nitrates:*

A. Propranolol
B. Fluoxetine
C. Hydrochlorothiazide
D. Sildenafil *(p. 124, 490)*

37.12 *A patient of acute myocardial infarction being treated in intensive care unit developed left ventricular failure with raised central venous pressure. It was decided to use glyceryl trinitrate. Which route/method of administration would be most suitable:*

A. Sublingual
B. Oral
C. Intravenous bolus injection
D. Slow intravenous infusion *(p. 492)*

37.9 B	**37.10 C**	**37.11 D**	**37.12 D**

37.13 *A patient suffers from episodic pain diffusely localized over the chest and upper abdomen, which is relieved by sublingual glyceryl trinitrate. He could be suffering from:*

A. Angina pectoris
B. Biliary colic
C. Esophageal spasm
D. Any of the above *(p. 491, 492)*

37.14 *Started within 4-6 hours of acute myocardial infarction, which of the following drug(s) can reduce the area of necrosis and the attendant mortality:*

A. Propranolol
B. Glyceryl trinitrate
C. Lignocaine
D. Both 'A' and 'B' are correct *(p. 130, 492)*

37.15 *The dihydropyridines block the following type of calcium channels:*

A. L-type voltage sensitive channels
B. T-type voltage sensitive channels
C. N-type voltage sensitive channels
D. Receptor operated calcium channels *(p. 493, 494)*

37.16 *The antidotal effect of sodium nitrite in cyanide poisoning is dependent upon:*

A. Chemical combination of sodium nitrite with cyanide
B. Vasodilatation caused by sodium nitrite
C. Conversion of haemoglobin to methaemoglobin by sodium nitrite
D. Facilitation of cyanocobalamine formation by sodium nitrite *(p. 492)*

37.13 D	**37.14 D**	**37.15 A**	**37.16 C**

37.17 *Which of the following drugs is most likely to accentuate varient (Prinzmetal) angina:*

A. Propranolol
B. Atenolol
C. Verapamil
D. Dipyridamole *(p. 492)*

37.18 *The characteristic feature(s) of dihydropyridine calcium channel blockers is/are:*

A. They have minimal negative inotropic action on the heart
B. They have no effect on A-V conduction
C. They do not affect the activation-inactivation kinetics of the calcium channels
D. All of the above *(p. 494, 495)*

37.19 *Frequency dependent cardiac calcium channel blockade is exhibited by:*

A. Verapamil
B. Nifedipine
C. Felodipine
D. Amlodipine *(p. 494, 495)*

37.20 *The following calcium channel blocker is specifically indicated to counteract cerebral vasospasm and neurological sequelae following subarachnoid haemorrhage:*

A. Lacidipine
B. Nimodipine
C. Nicardipine
D. Nitrendipine *(p. 496)*

37.17	**A**	**37.18**	**D**	**37.19**	**A**	**37.20**	**B**

37.21 *The following calcium channel blocker should not be used in patients with ischaemic heart disease:*

A. Verapamil sustained release tablet
B. Amlodipine tablet
C. Nifedipine soft geletin capsule
D. Nifedipine extended release tablet *(p. 497)*

37.22 *The following antianginal drug is most likely to produce tachycardia as a side effect:*

A. Amlodipine
B. Nifedipine
C. Diltiazem
D. Verapamil *(p. 495, 496)*

37.23 *The cardiac response to verapamil and nifedipine in human subjects is:*

A. Verapamil causes tachycardia while nifedipine causes bradycardia
B. Both cause bradycardia
C. Verapamil causes bradycardia while nifedipine causes tachycardia
D. Both cause tachycardia *(p. 495)*

37.24 *The following is true of nifedipine* ***except****:*

A. It can aggravate urine voiding difficulty in elderly males with prostatic hypertrophy
B. It promotes Na^+ retention by a renal tubular action to cause ankle oedema as side effect
C. It can inhibit insulin release from pancreas
D. At high doses it can paradoxically increase the frequency of angina pectoris

(p. 495, 496)

37.21 C	**37.22 B**	**37.23 C**	**37.24 B**

37.25 *Which of the following is **not** an attribute of amlodipine:*
A. Generation of an active metabolite
B. Large volume of distribution
C. High and consistent oral bioavailability
D. Long elimination half life *(p. 496, 497)*

37.26 *Propranolol should **not** be prescribed for a patient of angina pectoris who is already receiving:*
A. Nifedipine
B. Felodipine
C. Verapamil
D. Isosorbide mononitrate *(p. 495)*

37.27 *The short acting dihydropyridine preparations can aggravate myocardial ischaemia by invoking:*
A. Coronary vasospasm
B. Thrombus formation
C. Vagal activation
D. Reflex sympathetic discharge to the heart *(p. 497)*

37.28 *Which of the following drugs is a potassium channel opener:*
A. Nicorandil
B. Hydralazine
C. Glibenclamide
D. Amiloride *(p. 499)*

37.29 *Though nitrates and calcium channel blockers are both vasodilators, they are used concurrently in angina pectoris, because:*
A. They antagonise each other's side effects
B. Nitrates primarily reduce preload while calcium channel blockers primarily reduce after-load
C. Nitrates increase coronary flow while calcium channel blockers reduce cardiac work
D. Both 'B' and 'C' are correct *(p. 498)*

37.25 A	**37.26 C**	**37.27 D**	**37.28 A**	**37.29 B**

37.30 *Select the drug which is a potassium channel opener as well as nitric oxide donor:*
A. Diazoxide
B. Sodium nitroprusside
C. Minoxidil
D. Nicorandil *(p. 499)*

37.31 *Select the drug that may improve myocardial tolerance to ischaemia and reduce anginal attacks without altering heart rate, blood pressure or myocardial O_2 consumption:*
A. Trimetazidine
B. Nicorandil
C. Dipyridamole
D. Nicotinic acid *(p. 499-500)*

37.32 *Choose the correct statement about trimetazidine:*
A. It is a novel calcium channel blocker
B. It improves tissue perfusion by modifying rheological property of blood
C. It is an antianginal drug which acts by nonhaemodynamic mechanisms
D. Both 'A' and 'B' are correct *(p. 499)*

37.33 *A drug which preferentially dilates autoregulatory coronary arterioles with little effect on large conducting vessels is likely to:*
A. Evoke coronary steal phenomenon
B. Mitigate classical angina but not variant angina
C. Decrease total coronary blood flow in healthy subjects
D. Avert ECG changes of ischaemia
(p. 499, 500)

37.30 D	**37.31 A**	**37.32 C**	**37.33 A**

37.34 *'Coronary steal phenomenon' has been noted most frequently with:*

A. Glyceryl trinitrate
B. Dipyridamole
C. Propranolol
D. Diltiazem *(p. 499, 500)*

37.35 *The following drug is believed to improve microcirculation in peripheral vascular diseases by promoting RBC flexibility:*

A. Cyclandelate
B. Theophylline
C. Pentoxiphylline
D. Nicotinic acid *(p. 500)*

38.1 *The antihypertensive action of calcium channel blockers is characterized by the following* ***except:***

A. Delayed onset; blood pressure starts falling after 1–2 weeks therapy
B. Lack of central side effects
C. No compromise of male sexual function
D. Safety in peripheral vascular diseases *(p. 505)*

38.2 *Higher incidence of myocardial infarction and increased mortality has been noted with the use of the following antihypertensive drug:*

A. Nifedipine
B. Verapamil
C. Diltiazem
D. Lisinopril *(p. 505)*

37.34 B	**37.35 C**	**38.1 A**	**38.2 A**

38.3 *Choose the correct statement about long acting calcium channel blocking drugs as antihypertensives:*

A. They are the most effective drugs in suppressing hypertensive left ventricular hypertrophy
B. They are as effective as diuretics or β blockers in reducing cardiovascular / total mortality
C. They compromise quality of life more than β blockers
D. They have no beneficial effect in hypertensive / diabetic nephropathy *(p. 505)*

38.4 *Choose the most suitable antihypertensive drug for a 45-year-old male company executive who has a travelling job. His blood pressure is 160/100 mm Hg, and he is a diabetic controlled with glibenclamide 5 mg twice a day:*

A. Propranolol
B. Enalapril
C. Clonidine
D. Hydrochlorothiazide *(p. 504)*

Note: In this patient the other drugs are not suitable for the following reasons:

Propranolol: Can vitiate diabetes control and prolong hypoglycaemia if it occurs. Also it is more likely to impair work capacity and sexual function.

Clonidine: This patient with a travelling job is likely to miss some doses → rebound hypertension.

Hydrochlorothiazide: May worsen diabetes; more likely to produce weakness, fatigue and impotence.

38.3 B 38.4 B

38.5 *Persistent dry cough may occur as a side effect of the following antihypertensive drug:*

A. Enalapril
B. Atenolol
C. Diltiazem
D. Methyldopa *(p. 504)*

38.6 *Loss of taste sensation can be a side effect of the following antihypertensive drug:*

A. Clonidine
B. Captopril
C. Verapamil
D. Prazosin *(p. 450)*

38.7 *Shortacting nifedipine formulation is not recommended now for treatment of hypertension because:*

A. It tends to increase heart rate and cardiac work
B. It invokes pronounced reflex sympathetic discharges
C. It can impair haemodynamics in patients with diastolic dysfunction
D. All of the above *(p. 505)*

38.8 *The most likely mechanism of antihypertensive action of thiazide diuretics in the long-term is:*

A. Reduction of circulating blood volume
B. Reduction in cardiac output
C. Decreased sympathetic tone
D. Reduction in total peripheral vascular resistance and improved compliance of resistance vessels *(p. 506)*

38.5 A	**38.6 B**	**38.7 D**	**38.8 D**

38.9 *The following is **not** a feature of thiazide diuretics used as antihypertensive:*

A. They do not cause symptomatic postural hypotension
B. The dose has to be titrated over a wide range according to the response
C. They restore responsiveness to other antihypertensives when tolerance has developed
D. They decrease renal calcium excretion which may improve calcium balance in elderly patients *(p. 506, 507)*

38.10 *Furosemide is to be preferred over hydrochlorothiazide when hypertension is accompanied by:*

A. Asthma
B. Hyperuricaemia
C. Diabetes
D. Congestive heart failure *(p. 506)*

38.11 *Thiazide diuretics **do not** potentiate the antihypertensive action of one of the following drugs:*

A. Metoprolol
B. Nifedipine
C. Hydralazine
D. Captopril *(p. 506)*

38.12 *As antihypertensives the thiazide diuretics have the following advantages **except:***

A. High ceiling antihypertensive action
B. Absence of CNS side effects
C. Absence of tolerance development
D. Low cost *(p. 506)*

38.9 B	**38.10 D**	**38.11 B**	**38.12 A**

38.13 *Low dose therapy with the following category of antihypertensive drugs has been found to be more advantageous in the long-term than high dose therapy with the same drugs:*

A. β adrenergic blockers
B. α_1 adrenergic blockers
C. Central sympatholytics
D. Diuretics *(p. 507)*

38.14 *Thiazide diuretics are the preferred first line antihypertensives for the following category of patients:*

A. Young hypertensives
B. Physically and sexually active male hypertensives
C. Elderly obese hypertensives
D. Diabetic hypertensives *(p. 507)*

38.15 *Indapamide differs from other diuretics in that:*

A. It has selective antihypertensive action at doses which cause little diuresis
B. It is a more efficacious antihypertensive
C. Its antihypertensive action develops more rapidly
D. All of the above *(p. 507)*

38.16 *A 40-year-old politician suffered from attacks of chest pain diagnosed as angina pectoris. He had a tense personality, resting heart rate was 96/min, blood pressure 170/104 mm Hg, but blood sugar level and lipid profile were normal. Select the most suitable antihypertensive for initial therapy in his case:*

A. Nifedipine
B. Hydrochlorothiazide
C. Atenolol
D. Methyldopa *(p. 508)*

38.13 D	**38.14 C**	**38.15 A**	**38.16 C**

38.17 *In the treatment of hypertension the beta adrenergic blockers have the following advantage:*

A. They have minimal effect on work capacity, sleep quality and libido
B. They do not cause postural hypotension
C. Used alone, they have high ceiling antihypertensive efficacy
D. They can be used in combination with any other antihypertensive drug *(p. 508)*

38.18 *Which of the following feature(s) limit(s) the use of prazosin as a first line antihypertensive drug:*

A. Higher incidence of disturbing side effects
B. Unfavourable metabolic effects
C. Development of tolerance when used alone
D. Both 'A' and 'C' are correct *(p. 509)*

38.19 *The following antihypertensive drug has a favourable effect on plasma lipid profile:*

A. Prazosin
B. Propranolol
C. Hydrochlorothiazide
D. Furosemide *(p. 509)*

38.20 *The following drug has been found to improve urine flow in elderly males with benign prostatic hypertrophy:*

A. Nifedipine
B. Prazosin
C. Disopyramide
D. Imipramine *(p. 123, 509)*

38.17 B	**38.18 D**	**38.19 A**	**38.20 B**

38.21 *Rapid intravenous injection of clonidine causes rise in BP due to:*

A. Stimulation of vasomotor centre
B. Release of noradrenaline from adrenergic nerve endings
C. Agonistic action on vascular α_2 adrenergic receptors
D. Cardiac stimulation *(p. 510)*

38.22 *Rebound hypertension on sudden stoppage of medication is most likely to occur with:*

A. Hydrochlorothiazide
B. Prazosin
C. Clonidine
D. Lisinopril *(p. 510)*

38.23 *The following antihypertensive drug has been found to suppress certain manifestations of morphine withdrawal syndrome and to block postoperative pain when injected intrathecally:*

A. Prazosin
B. Clonidine
C. Reserpine
D. Ketanserin *(p. 510)*

38.24 *Methyldopa lowers BP by:*

A. Inhibiting dopa decarboxylase in adrenergic nerve endings
B. Generating α-methyl noradrenaline in brain which reduces sympathetic tone
C. Generating α-methyl noradrenaline which acts as a false transmitter in peripheral adrenergic nerve endings
D. Activating vascular dopamine receptors *(p. 511)*

38.21 C	**38.22 C**	**38.23 B**	**38.24 B**

38.25 *Methyldopa differs from clonidine in the following respect:*

A. It is less likely to cause rebound hypertension on sudden discontinuation
B. It does not reduce plasma renin activity
C. It has a central as well as peripheral site of antihypertensive action
D. It does not produce central side effects

(p. 511)

38.26 *Used alone the following antihypertensive drug tends to increase cardiac work and can precipitate angina:*

A. Clonidine
B. Hydralazine
C. Captopril
D. Prazosin *(p. 511)*

38.27 *Hydralazine is a directly acting vasodilator, but is not used* ***alone*** *as an antihypertensive because:*

A. By itself, it is a low efficacy antihypertensive
B. Effective doses cause marked postural hypotension
C. Tolerance to the antihypertensive action develops early due to counterregulatory mechanisms
D. It primarily reduces systolic blood pressure with little effect on diastolic blood pressure

(p. 511, 512)

38.28 *Long-term hydralazine therapy is likely to cause:*

A. Gynaecomastia
B. Thrombocytopenia
C. Haemolytic anaemia
D. Lupus erythematosus *(p. 512)*

38.25	**A**	**38.26**	**B**	**38.27**	**C**	**38.28**	**D**

38.29 *The following antihypertensive is used topically to treat alopacia areata:*

A. Hydralazine
B. Prazosin
C. Minoxidil
D. Indapamide *(p. 512)*

38.30 *The following vasodilator(s) act(s) by opening K^+ channels in the vascular smooth muscle:*

A. Dipyridamole
B. Minoxidil
C. Diazoxide
D. Both 'B' and 'C' *(p. 512)*

38.31 *Diazoxide is an effective hypotensive, but is* ***not*** *used in the long-term treatment of hypertension because:*

A. It impairs glucose tolerance by inhibiting insulin release
B. It inhibits uric acid excretion
C. It causes marked Na^+ and water retention leading to development of tolerance
D. All of the above *(p. 513)*

38.32 *Select the vasodilator that is administered only by slow intravenous infusion and dilates both resistance as well as capacitance vessels:*

A. Minoxidil
B. Diazoxide
C. Sodium nitroprusside
D. Glyceryl trinitrate *(p. 513)*

38.33 *The following antihypertensive drug tends to lower plasma renin activity:*

A. Clonidine
B. Hydralazine
C. Nifedipine
D. Captopril *(p. 515)*

38.29 C	38.30 D	38.31 D	38.32 C	38.33 A

38.34 *Tolerance does not develop to the vasodilator action of sodium nitroprusside while it develops to glyceryl trinitrate because:*

A. Intact sod. nitroprusside molecule acts like nitric oxide
B. Enzymes which generate nitric oxide from nitroprusside are different
C. Sod. nitroprusside has a long duration of action
D. Sod. nitroprusside has additional K^+ channel opening action *(p. 513)*

38.35 *The principles of antihypertensive drug usage enunciated in JNC VI and WHO-ISH guidelines include the following* ***except:***

A. Therapy for grade I and II hypertension should be initiated with a single drug
B. Dose of thiazide diuretic should be 12.5-25 mg hydrochlorothiazide or equivalent per day
C. All subjects with BP higher than 140/90 mmHg should be put on antihypertensive medication immediately
D. If the drug chosen initially fails to lower BP, it should be replaced by a drug/combination from another class (*p. 514, 515)*

38.34 B 38.35 C

38.36 *Select the correct statement about combining antihypertensive drugs:*

A. Antihypertensive combinations should always be preferred over single drugs
B. Combinations of antihypertensives with similar pattern of haemodynamic action are superior to those with dissimilar pattern
C. Antihypertensives which act on different regulatory systems maintaining blood pressure should be combined
D. A diuretic must be included whenever antihypertensives are combined *(p. 515, 516)*

38.37 *The following antihypertensive combination is irrational, and therefore should* ***not*** *be used:*

A. Nifedipine + hydralazine
B. Amlodipine + atenolol
C. Enalapril + clonidine
D. Enalapril + hydrochlorothiazide *(p. 517)*

38.38 *Angiotensin converting enzyme inhibitors are contraindicated in:*

A. High renin hypertensives
B. Diabetics
C. Congestive heart failure patients
D. Pregnant women *(p. 450, 517)*

38.39 *A woman in the 28th week of pregnancy has developed pregnancy induced hypertension with a blood pressure reading of 150/100 mm Hg. Select the most appropriate antihypertensive drug for her:*

A. Furosemide
B. Methyldopa
C. Propranolol
D. Captopril *(p. 517)*

38.36 C	**38.37 A**	**38.38 D**	**38.39 B**

38.40 *The following procedure for rapid lowering of BP in hypertensive urgency/emergency has been abandoned:*

A. Sublingual/oral nifedipine
B. Intravenous glyceryl trinitrate infusion
C. Intravenous sodium nitroprusside infusion
D. Intravenous esmolol injection *(p. 518)*

38.41 *Use of sublingual/oral nifedipine soft geletine capsule for rapid BP lowering in hypertensive urgency has been discarded because of:*

A. Delayed onset of action
B. Inability to control the rate and extent of fall in BP
C. Reports of adverse/fatal outcome
D. Both 'B' and 'C' *(p. 518)*

38.42 *A semiconscious patient of haemorrhagic cerebral stroke has been brought to the emergency. His blood pressure is 240/120 mmHg. Select the procedure to lower his blood pressure as rapidly as possible:*

A. Sublingual nifedipine
B. Intramuscular injection of hydralazine
C. Intravenous infusion of sodium nitroprusside
D. Intravenous injection of clonidine

(p. 518)

38.40 A 38.41 D 38.42 C

9

Drugs Acting on Kidney

CHOOSE THE MOST APPROPRIATE RESPONSE

39.1 *Secretion of K^+ in the late distal tubule and collecting ducts of kidney depends on:*

A. Intracellular K^+ content
B. Unabsorbed Na^+ load presented to the distal segment
C. Aldosterone level
D. All of the above *(p. 523)*

39.2 *Diuretics acting on the ascending limb of loop of Henle are the most efficacious in promoting salt and water excretion because:*

A. Maximum percentage of salt and water is reabsorbed in this segment
B. Reabsorptive capacity of the segments distal to it is limited
C. This segment is highly permeable to both salt and water
D. This segment is responsible for creating corticomedullary osmotic gradient

(p. 524)

39.1D 39.2B

39.3 *Select the diuretic which is orally active, efficacious in acidosis as well as alkalosis, causes diuresis even in renal failure and has additional carbonic anhydrase inhibitory action:*

A. Mannitol
B. Benzthiazide
C. Indapamide
D. Furosemide *(p.526)*

39.4 *Furosemide acts by inhibiting the following in the renal tubular cell:*

A. Na^+-K^+-$2Cl^-$ cotransporter
B. Na^+-Cl^- symporter
C. Na^+-H^+ antiporter
D. Na^+ K^+ ATPase *(p. 526)*

39.5 *The following diuretic abolishes the corticomedullary osmotic gradient in the kidney:*

A. Acetazolamide
B. Furosemide
C. Hydrochlorothiazide
D. Spironolactone *(p. 526)*

39.6 *Intravenous furosemide promptly mitigates dyspnoea in acute left ventricular failure by:*

A. Producing bronchodilatation
B. Causing rapid diuresis and reducing circulating blood volume
C. Increasing venous capacitance and reducing cardiac preload.
D. Stimulating left ventricular contractility *(p. 526)*

39.3D 39.4A 39.5B 39.6C

39.7 *Parenteral furosemide is an alternative diuretic to mannitol in the following condition:*
A. Pulmonary edema
B. Cirrhotic edema
C. Cerebral edema
D. Cardiac edema *(p. 528)*

39.8 *Thiazide diuretics and furosemide have directionally opposite effect on the net renal excretion of the following substance:*
A. Uric acid
B. Calcium
C. Magnesium
D. Bicarbonate *(p. 527, 529)*

39.9 *Select the diuretic which is similar in efficacy and pattern of electrolyte excretion to furosemide, but is 40 times more potent dose to dose:*
A. Piretanide
B. Bumetanide
C. Xipamide
D. Metolazone *(p. 527)*

39.10 *Though ethacrynic acid is also a high ceiling diuretic, it is practically not used because:*
A. It is more ototoxic
B. It causes diarrhoea and gut bleeding
C. Its response increases steeply over a narrow dose range
D. All of the above (*p. 527)*

39.11 *The Na^+-Cl^- symport in the early distal convoluted tubule of the kidney is inhibited by:*
A. Thiazides
B. Metolazone
C. Xipamide
D. All of the above *(p. 528-530)*

39.7C	39.8B	39.9B	39.10D	39.11D

39.12 *The following diuretic reduces positive free water clearance but does not affect negative free water clearance:*

A. Hydroflumethiazide
B. Furosemide
C. Ethacrynic acid
D. Mannitol *(p. 528)*

(Note: Furosemide and ethacrynic acid are loop diuretics which abolish corticomedullary osmotic gradient. Mannitol also dissipates this gradient. All these diuretics therefore reduce both positive as well as negative free water clearance.)

39.13 *Choose the correct statement about thiazide diuretics:*

A. They act in the proximal convoluted tubule
B. They are uricosuric
C. They augment corticomedullary osmotic gradient
D. They induce diuresis in acidosis as well as alkalosis *(p. 528)*

39.14 *Thiazide diuretics enhance K^+ elimination in urine primarily by:*

A. Inhibiting proximal tubular K^+ reabsorption
B. Inhibiting Na^+ K^+-$2Cl^-$ cotransport in the ascending limb of loop of Henle
C. Increasing the availability of Na^+ in the distal tubular fluid to exchange with interstitial K^+
D. Potentiating the action of aldosterone *(p. 528)*

39.12A 39.13D 39.14C

39.15 *The primary site of action of thiazide diuretics is:*
A. Proximal tubule
B. Ascending limb of loop of Henle
C. Cortical diluting segment
D. Collecting ducts *(p. 528, 529)*

39.16 *The most important reason for the thiazides being only moderately efficacious diuretics is:*
A. About 9/10th of glomerular filtrate is reabsorbed proximal to their site of action
B. Compensatory increase in reabsorption at sites not affected by these drugs
C. They decrease glomerular filtration
D. They have relatively flat dose response curve *(p. 529)*

39.17 *Individual drugs of thiazide and related class of diuretics differ markedly from each other in the following respect?*
A. Diuretic efficacy
B. Diuretic potency
C. Side effects
D. Propensity to cause hyperkalemia *(p. 528-529, 530)*

39.18 *Combined tablets of thiazide or high ceiling diuretics with potassium chloride are not recommended because:*
A. Potassium absorbed while diuresis is occurring is largely excreted out
B. Potassium administered concurrently diminishes the diuretic action
C. Potassium chloride in tablet formulation is likely to cause gut ulceration
D. Both 'A' and 'C' are correct *(p. 531)*

39.15C 39.16A 39.17B 39.18D

39.19 *Intravenous saline infusion is the treatment of choice for the following complication(s) of vigorous furosemide therapy:*

A. Dilutional hyponatremia
B. Acute saline depletion
C. Hypokalemia
D. All of the above *(p. 531)*

39.20 *Long-term thiazide therapy can cause hyperglycaemia by:*

A. Reducing insulin release
B. Interfering with glucose utilization in tissues
C. Increasing sympathetic activity
D. Increasing corticosteroid secretion *(p. 507)*

39.21 *In addition to counteracting potassium loss, triamterene also opposes the following consequence of thiazide/furosemide therapy:*

A. Hyperuricaemia
B. Rise in plasma LDL-cholesterol
C. Magnesium loss
D. Both 'A' and 'C' are correct *(p. 532)*

39.22 *A patient of congestive heart failure was being treated with furosemide and digoxin. He developed urinary tract infection. Which of the following antimicrobials should be avoided:*

A. Ampicillin
B. Gentamicin
C. Norfloxacin
D. Cotrimoxazole *(p. 532)*

39.19B 39.20A 39.21C 39.22B

39.23 *Nonsteroidal antiinflammatory drugs reduce the diuretic action of furosemide by:*

A. Preventing prostaglandin mediated intrarenal haemodynamic actions
B. Blocking the action in ascending limb of loop of Henle.
C. Enhancing salt and water reabsorption in distal tubule
D. Increasing aldosterone secretion *(p. 532)*

39.24 *The most appropriate measure to overcome diminished responsiveness to furosemide after its long-term use is:*

A. Switching over to parenteral administration of furosemide
B. Addition of a thiazide diuretic
C. Addition of acetazolamide
D. Potassium supplementation *(p. 532-533)*

39.25 *At equinatriuretic doses which diuretic causes the maximum K^+ loss:*

A. Furosemide
B. Hydrochlorothiazide
C. Acetazolamide
D. Amiloride *(p. 533)*

39.26 *Which of the following has a 'self limiting diuretic' (action of the drug itself causing changes which limit further diuresis) action:*

A. Indapamide
B. Spironolactone
C. Xipamide
D. Acetazolamide *(p. 533)*

39.23 A 39.24 B 39.25 C 39.26 D

39.27 *The following is **not** itself an efficacious diuretic, and is used only as an adjuvant/corrective to other diuretics:*

A. Acetazolamide
B. Metolazone
C. Spironolactone
D. Indapamide *(p. 535)*

39.28 *Spironolactone can be usefully combined with the following diuretics **except:***

A. Furosemide
B. Amiloride
C. Hydrochlorothiazide
D. Chlorthalidone *(p. 535)*

(*Note:* Both spironolactone and amiloride are potassium sparing weak natriuretics. Hence, no purpose is served by combining them.)

39.29 *The current therapeutic indication of acetazolamide is:*

A. Congestive heart failure
B. Renal insufficiency
C. Cirrhosis of liver
D. Glaucoma *(p. 533)*

39.30 *A patient of liver cirrhosis with ascitis was treated with hydrochlorothiazide 50 mg twice daily. He responded initially, but over a couple of months the diuretic action gradually diminished and ascitis again appeared. Select the measure to reinduce diuresis:*

A. Increase hydrochlorothiazide dose to 100 mg twice daily
B. Add acetazolamide 250 mg twice daily
C. Add spironolactone 50 mg thrice daily
D. Substitute hydrochlorothiazide by spironolactone 50 mg 6 hourly *(p. 535)*

39.27C 39.28B 39.29D 39.30C

39.31 *Aldosterone increases Na^+ reabsorption and K^+ excretion in the renal collecting duct cells by:*
A. Inducing synthesis of Na^+K^+ATPase
B. Inducing synthesis of amiloride sensitive Na^+ channels
C. Translocating Na^+ channels from cytosolic site to luminal membrane
D. All of the above *(p. 534)*

39.32 *Select the diuretic that can cause gynaecomastia, hirsutism and menstrual disturbance as a side effect on long-term use:*
A. Amiloride
B. Spironolactone
C. Metolazone
D. Acetazolamide *(p. 535)*

39.33 *Amiloride inhibits K^+ excretion in the distal tubules and collecting ducts by blocking:*
A. Electrogenic K^+ channels
B. Electrogenic Na^+ channels
C. Nonelectrogenic Na^+-Cl^- symport
D. H^+K^+ATPase *(p. 534, 535)*

39.34 *Which of the following is a potassium retaining diuretic:*
A. Triamterene
B. Trimethoprim
C. Tizanidine
D. Trimetazidine *(p. 535)*

39.35 *Triamterene differs from spironolactone in that:*
A. It has greater natriuretic action
B. Its K^+ retaining action is not dependent on presence of aldosterone
C. It acts from the luminal membrane side of the distal tubular cells
D. Both 'B' and 'C' are correct *(p. 534, 535)*

39.31D 39.32B 39.33B 39.34A 39.35D

39.36 *Choose the correct statement about amiloride:*

A. It antagonises the action of aldosterone
B. It can be used to treat lithium induced diabetes insipidus
C. It increases calcium loss in urine
D. It is dose to dose less potent than triamterene

(p. 535, 536)

39.37 *Amiloride has the following effect on urinary cation excretion:*

A. Decreases both K^+ and H^+ ion excretion
B. Decreases K^+ excretion but increases H^+ ion excretion
C. Increases K^+ but decreases Na^+ excretion
D. Decreases both Na^+ and K^+ excretion

(p. 535)

39.38 *Use of potassium sparing diuretics in patients receiving the following drug needs close monitoring:*

A. Furosemide
B. Hydrochlorothiazide
C. Captopril
D. Verapamil *(p. 450, 536)*

39.39 *The following diuretic acts on the luminal membrane of distal tubule and collecting ducts to inhibit electrogenic Na^+ reabsorption so that K^+ excretion is diminished and bicarbonate excretion is enhanced:*

A. Xipamide
B. Isosorbide
C. Triamterene
D. Spironolactone *(p. 534, 535)*

39.36 B 39.37 A 39.38 C 39.39 C

39.40 *Choose the correct statement about osmotic diuretics:*
A. They are large molecular weight substances which form colloidal solution
B. Their primary site of action is collecting ducts in the kidney
C. They increase water excretion without increasing salt excretion
D. They can lower intraocular pressure *(p. 536)*

39.41 *The following is true of mannitol* ***except:***
A. It inhibits solute reabsorption in the thick ascending limb of loop of Henle
B. It is contraindicated in patients with increased intracranial tension
C. It is contraindicated in acute left ventricular failure
D. It is not used to treat cardiac or hepatic or renal edema *(p. 536-537)*

40.1 *Which of the following peptides is a selective vasopressin V_2 receptor agonist:*
A. Arginine vasopressin
B. Desmopressin
C. Lypessin
D. Terlipressin *(p. 540)*

40.2 *The primary mechanism by which antidiuretic hormone reduces urine volume is:*
A. Decrease in glomerular filtration rate
B. Decreased renal blood flow
C. Decreased water permeability of descending limb of loop of Henle
D. Increased water permeability of collecting duct cells *(p. 539)*

39.40 D	**39.41 B**	**40.1 B**	**40.2 D**

40.3 *The vasopressin action(s) mediated by V_2 receptors include(s):*

A. Increased water permeability of collecting duct cells
B. Increased urea permeability of collecting duct cells
C. Vasoconstriction
D. Both 'A' and 'B' *(p. 539, 540)*

40.4 *Desmopressin is preferred over arginine vasopressin in the treatment of diabetes insipidus for the following reasons* ***except:***

A. It is a more potent antidiuretic
B. It is a selective vasopressin V_1 receptor agonist
C. It has little vasoconstrictor activity
D. It is longer acting *(p. 540, 541)*

40.5 *Select the action of vasopressin exerted through the V_1 subtype receptors:*

A. Release of coagulation factor VIII and von Willebrands factor from vascular endothelium
B. Increased peristalsis of gut
C. Dilatation of blood vessels
D. Increased water permeability of renal collecting ducts *(p. 539, 540)*

40.6 *The following tissue is most sensitive to vasopressin:*

A. Renal collecting ducts
B. Intestinal smooth muscle
C. Vascular smooth muscle
D. Uterus *(p. 539)*

40.3D	40.4B	40.5B	40.6A

40.7 *Desmopressin reduces urine volume in:*
A. Neurogenic diabetes insipidus
B. Nephrogenic diabetes insipidus
C. Both neurogenic as well as nephrogenic diabetes insipidus
D. Normal individuals but not in diabetes insipidus *(p. 541)*

40.8 *Choose the correct statement(s) about terlipressin:*
A. It is a prodrug
B. It is used to control bleeding from esophageal varices
C. It is preferred for controlling bleeding in von Willebrand's disease
D. Both 'A' and 'B' are correct *(p. 540, 541)*

40.9 *The following is true of desmopressin* ***except:***
A. It is nonselective V_1 and V_2 receptor agonist
B. It is more potent and longer acting than arginine vasopressin (AVP)
C. It is preferred over AVP for treatment of diabetes insipidus
D. It can be administered orally *(p. 540, 541)*

40.10 *Indications of desmopressin include the following* ***except:***
A. Neurogenic diabetes insipidus
B. Nephrogenic diabetes insipidus
C. Bedwetting in children
D. Bleeding due to haemophilia *(p. 540, 541)*

40.11 *Arginine vasopressin is preferred over desmopressin in the following condition:*
A. Diabetes insipidus
B. Bedwetting in children
C. Bleeding esophageal varices
D. Bleeding in haemophilia *(p. 541)*

40.7A	40.8D	40.9A	40.10B	40.11C

40.12 *The following drug reduces urine volume in both pituitary origin as well as renal diabetes insipidus and is orally active:*

A. Vasopressin
B. Hydrochlorothiazide
C. Chlorpropamide
D. Carbamazepine *(p. 541)*

40.12 B

10

Drugs Affecting Blood and Blood Formation

CHOOSE THE MOST APPROPRIATE RESPONSE

41.1 *Absorption of oral iron preparations can be facilitated by coadministering:*

A. Antacids
B. Tetracyclines
C. Phosphates
D. Ascorbic acid *(p. 546)*

41.2 *The gut controls the entry of ingested iron in the body by:*

A. Regulating the availability of apoferritin which acts as the carrier of iron across the mucosal cell
B. Regulating the turnover of apoferritin-ferritin interconversion in the mucosal cell
C. Complexing excess iron to form ferritin which remains stored in the mucosal cell and is shed off
D. Regulating the number of transferrin receptors on the mucosal cell *(p. 546)*

41.3 *In the iron deficient state, transferrin receptors increase in number on the:*

A. Intestinal mucosal cells
B. Erythropoietic cells
C. Reticuloendothelial cells
D. All of the above *(p. 547)*

41.1D 41.2C 41.3B

41.4 *The percentage of elemental iron in hydrated ferrous sulfate is:*
A. 5%
B. 10%
C. 20%
D. 33% *(p. 547)*

41.5 *Select the oral iron preparation which does not impart metallic taste and has good oral tolerability despite high iron content but whose efficacy in treating iron deficiency anaemia has been questioned:*
A. Iron hydroxy polymaltose
B. Ferrous succinate
C. Ferrous fumarate
D. Ferrous gluconate *(p. 548)*

41.6 *The daily dose of elemental iron for maximal haemopoietic response in an anaemic adult is:*
A. 30 mg
B. 100 mg
C. 200 mg
D. 500 mg *(P. 549)*

41.7 *The side effect which primarily limits acceptability of oral iron therapy is:*
A. Epigastric pain and bowel upset
B. Black stools
C. Staining of teeth
D. Metallic taste *(p. 547, 549)*

41.8 *Choose the correct statement about severity of side effects to oral iron medication:*
A. Ferrous salts are better tolerated than ferric salts
B. Complex organic salts of iron are better tolerated than inorganic salts
C. Liquid preparations of iron are better tolerated than tablets
D. Tolerability depends on the quantity of elemental iron in the medication *(p. 547)*

41.4C	41.5A	41.6C	41.7A	41.8D

41.9 *The following is **not** a valid indication for parenteral iron therapy:*

A. Inadequate response to oral iron due to patient noncompliance
B. Anaemia during pregnancy
C. Severe anaemia associated with chronic bleeding
D. Anaemia in a patient of active rheumatoid arthritis *(p. 549)*

41.10 *Iron sorbitol-citric acid differs from iron dextran in that:*

A. It cannot be injected i.v.
B. It is not excreted in urine
C. It is not bound to transferrin in plasma
D. It produces fewer side effects *(P. 549)*

41.11 *Choose the correct statement about iron therapy:*

A. Haemoglobin response to intramuscular iron is faster than with oral iron therapy
B. Iron must be given orally except in pernicious anaemia
C. Prophylactic iron therapy must be given during pregnancy
D. Infants on breastfeeding do not require medicinal iron *(p. 550)*

41.12 *A patient of iron deficiency anaemia has been put on iron therapy. What should be the rate of rise in haemoglobin level of blood so that response is considered adequate:*

A. 0.05 – 0.1 g% per week
B. 0.1 – 0.2 g% per week
C. 0.5 – 1.0 g% per week
D. More than 1.0 g% per week *(p. 550)*

41.9 B 41.10 A 41.11 C 41.12 C

41.13 *The following chelating agent should **not** be used systemically to treat acute iron poisoning in a child:*

A. Desferrioxamine
B. Calcium edetate
C. Dimercaprol
D. Calcium disodium diethylene triamine penta acetic acid *(p. 551)*

41.14 *Megaloblastic anaemia occurs in:*

A. Vitamin B_{12} but not folic acid deficiency
B. Folic acid but not Vitamin B_{12} deficiency
C. Either Vitamin B_{12} or folic acid deficiency
D. Only combined Vitamin B_{12} + folic acid deficiency *(p. 553, 555)*

41.15 *The metabolic reaction requiring vitamin B_{12} but **not** folate is:*

A. Conversion of malonic acid to succinic acid
B. Conversion of homocysteine to methionine
C. Conversion of serine to glycine
D. Thymidylate synthesis *(p. 552)*

41.16 *The daily dietary requirement of vit B_{12} by an adult is:*

A. 1-3 μg
B. 50-100 μg
C. 0.1-0.5 mg
D. 1-3 mg *(p. 552)*

41.17 *The following factor(s) is/are required for the absorption of dietary vitamin B_{12}:*

A. Gastric acid
B. Gastric intrinsic factor
C. Transcobalamine
D. Both 'A' and 'B' *(p. 552)*

41.13C 41.14C 41.15A 41.16A 41.17D

41.18 *A 60-year-old patient presented with anorexia, weakness, paresthesia and mental changes. His tongue was red, tendon reflexes were diminished, haemoglobin was 6 g% with large red cells and neutrophils had hypersegmented nuclei. Endoscopy revealed atrophic gastritis. Deficiency of which factor is likely to be responsible for his condition:*

A. Folic acid
B. Vitamin B_{12}
C. Pyridoxine
D. Riboflavin *(p. 553)*

41.19 *Features of methylcobalamin include the following:*

A. It is an active coenzyme form of vit B_{12}
B. It is required for the synthesis of S-adenosyl methionine
C. It is specifically indicated for correcting neurological defects of vit B_{12} deficiency
D. All of the above *(p. 553)*

41.20 *Hydroxocobalamin differs from cyanocobalamin in that:*

A. It is more protein bound and better retained
B. It is beneficial in tobacco amblyopia
C. It benefits haematological but not neurological manifestations of vit B_{12} deficiency
D. Both 'A' and 'B' are correct *(p. 552, 554)*

41.21 *Megaloblastic anaemia developing under the following condition is due entirely to folate deficiency* ***not*** *associated with vitamin B_{12} deficiency:*

A. Malnutrition
B. Blind loop syndrome
C. Phenytoin therapy
D. Pregnancy *(p. 555)*

41.18B 41.19D 41.20D 41.21C

41.22 *A patient of megaloblastic anaemia was treated with oral folic acid 5 mg daily. After 2 weeks he reported back with cognitive deficit, sensory disturbance, depressed knee jerk, while blood picture and haemoglobin level were improved. What could be the most likely explanation:*

A. Folic acid was not adequately absorbed resulting in partial response
B. Folate therapy has precipitated vitamin B_{12} deficiency in the neural tissue
C. Folate therapy has unmasked pyridoxine deficiency
D. Patient has folate reductase abnormality in the nervous system *(p. 555)*

41.23 *Folinic acid is specifically indicated for:*

A. Prophylaxis of neural tube defect in the offspring of women receiving anticonvulsant medication
B. Counteracting toxicity of high dose methotrexate
C. Pernicious anaemia
D. Anaemia associated with renal failure *(p. 555)*

41.24 *Recombinant human erythropoietin is indicated for:*

A. Megaloblastic anaemia
B. Haemolytic anaemia
C. Anaemia in patients of thalassemia
D. Anaemia in chronic renal failure patients *(p. 556)*

41.22D 41.23B 41.24D

41.25 *A patient of chronic renal failure maintained on intermittent haemodialysis has anaemia not responding to iron therapy. Which of the following additional drug is indicated:*

A. Epoetin
B. Cyanocobalamin
C. Folic acid
D. Pyridoxine *(p. 556)*

42.1 *Vitamin K is indicated for the treatment of bleeding occurring in patients:*

A. Being treated with heparin
B. Being treated with streptokinase
C. Of obstructive jaundice
D. Of peptic ulcer *(p. 559)*

42.2 *Choose the preparation(s) of vitamin K that should* ***not*** *be injected in the newborn:*

A. Phytonadione
B. Menadione
C. Menadione sod.diphosphate
D. Both 'B' and 'C' *(p. 559, 560)*

42.3 *Menadione (vitamin K_3) can produce kernicterus in neonates by:*

A. Inducing haemolysis
B. Inhibiting glucuronidation of bilirubin
C. Displacing plasma protein bound bilirubin
D. Both 'A' and 'B' are correct *(p. 560)*

42.4 *Select the correct statement about ethamsylate:*

A. It checks capillary bleeding
B. It inhibits platelet aggregation
C. It is an antifibrinolytic drug
D. It is used to fibrose bleeding piles *(p. 560)*

41.25 A 42.1 C 42.2 D 42.3 D 42.4 A

42.5 *The primary mechanism by which heparin prevents coagulation of blood is:*

A. Direct inhibition of prothrombin to thrombin conversion
B. Facilitation of antithrombin III mediated inhibition of factor Xa and thrombin
C. Activation of antithrombin III to inhibit factors IX and XI
D. Inhibition of factors XIIa and XIIIa *(p. 561)*

42.6 *Low concentrations of heparin selectively interfere with the following coagulation pathway(s):*

A. Intrinsic pathway
B. Extrinsic pathway
C. Common pathway
D. Both 'A' and 'C' *(p. 561)*

42.7 *Low doses of heparin prolong:*

A. Bleeding time
B. Activated partial thromboplastin time
C. Prothrombin time
D. Both 'B' and 'C' *(p. 561)*

42.8 *The following action(s) of heparin is/are essential for inhibition of factor Xa:*

A. Facilitation of antithrombin III mediated inhibition of factor XIIa
B. Provision of scaffold for the clotting factor to interact with antithrombin III
C. Induction of a configurational change in antithrombin III to expose its interacting sites
D. Both 'A' and 'B' *(p. 561)*

42.5 B	42.6 A	42.7 B	42.8 C

42.9 *The following is true of heparin* ***except****:*

A. Sudden stoppage of continuous heparin therapy causes rebound increase in blood coagulability
B. High doses of heparin inhibit platelet aggregation
C. Heparin is the physiologically active circulating anticoagulant
D. Heparin clears lipemic plasma *in vivo* but not *in vitro* *(p. 561, 562)*

42.10 *Low molecular weight heparins differ from unfractionated heparin in that:*

A. They selectively inhibit factor Xa
B. They do not significantly prolong clotting time
C. They are metabolized slowly and have longer duration of action
D. All of the above are correct *(p. 563)*

42.11 *Low molecular weight heparins have the following advantages over unfractionated heparin* ***except:***

A. Higher efficacy in arterial thrombosis
B. Less frequent dosing
C. Higher and more consistent subcutaneous bioavailability
D. Laboratory monitoring of response not required *(p. 563)*

42.12 *Low dose subcutaneous heparin therapy is indicated for:*

A. Prevention of leg vein thrombosis in elderly patients undergoing abdominal surgery
B. Ischaemic stroke
C. Patients undergoing neurosurgery
D. Prevention of extention of coronary artery thrombus in acute myocardial infarction *(p. 562)*

42.9C 42.10D 42.11A 42.12A

42.13 *Heparin is contraindicated in patients suffering from the following diseases* ***except****:*

A. Pulmonary tuberculosis
B. Bleeding due to defibrination syndrome
C. Subacute bacterial endocarditis
D. Large malignant tumours *(p. 563, 568)*

42.14 *The following can be used to antagonise the action of heparin in case of overdose:*

A. Heparan sulfate
B. Dextran sulfate
C. Protamine sulfate
D. Ancrod *(p. 564)*

42.15 *Blood level of which clotting factor declines most rapidly after the initiation of warfarin therapy:*

A. Factor VII
B. Factor IX
C. Factor X
D. Prothrombin *(p. 564)*

42.16 *The following statements are true of oral anticoagulants* ***except****:*

A. They interfere with an early step in the synthesis of clotting factors
B. Irrespective of the dose administered, their anticoagulant effect has a latency of onset of 1-3 days
C. Their dose is adjusted by repeated measurement of prothrombin time
D. They are contraindicated during pregnancy *(p. 564, 566)*

42.13B 42.14C 42.15A 42.16A

42.17 *You are treating a patient of deep vein thrombosis with warfarin. What value of International normalized ratio (INR) will you attempt by adjusting dose of the anticoagulant for an adequate therapeutic effect:*

A. 1.2 – 1.5
B. 1.3 – 1.7
C. 1.5 – 2.0
D. 2.0 – 3.0 *(p. 566)*

42.18 *The following drug reduces the effect of oral anticoagulants:*

A. Broad spectrum antibiotic
B. Cimetidine
C. Aspirin
D. Oral contraceptive *(p. 567)*

42.19 *The most clear cut beneficial results are obtained in the use of anticoagulants for the following purpose:*

A. Prevention of recurrences of myocardial infarction
B. Prevention of venous thrombosis and pulmonary embolism
C. Cerebrovascular accident
D. Retinal artery thrombosis *(p. 567)*

42.20 *Anticoagulant medication is indicated in:*

A. Immobilized elederly patients
B. Buerger's disease
C. Stroke due to cerebral thrombosis
D. All of the above *(p. 567, 568)*

42.17D 42.18D 42.19B 42.20A

42.21 *Use of anticoagulants in acute myocardial infarction affords the following benefit(s):*
A. Reduces short-term mortality
B. Prevents thrombus extension and subsequent attack
C. Prevents venous thromboembolism
D. All of the above

42.22 *The most effective drug for prevention of stroke in atrial fibrillation patients is:*
A. Aspirin
B. Warfarin
C. Low dose subcutaneous heparin
D. Digoxin *(p. 568)*

42.23 *Select the fibrinolytic drug(s) that is/are antigenic:*
A. Streptokinase
B. Urokinase
C. Alteplase
D. Both 'A' and 'B' *(p. 569, 570)*

42.24 *Which fibrinolytic agent(s) selectively activate(s) fibrin bound plasminogen rather than circulating plasminogen:*
A. Urokinase
B. Streptokinase
C. Alteplase
D. Both 'A' and 'C' *(p. 569, 570)*

42.25 *The most important complication of streptokinase therapy is:*
A. Hypotension
B. Bleeding
C. Fever
D. Anaphylaxis *(p. 570)*

42.21C 42.22B 42.23A 42.24C 42.25B

42.26 *Thrombolytic therapy is indicated in the following conditions **except**:*
A. Acute myocardial infarction
B. Stroke due to cerebral thrombosis
C. Deep vein thrombosis
D. Large pulmonary embolism *(p. 570, 571)*

42.27 *A patient of acute myocardial infarction has been brought to the ICU. What is the time lapse since symptom onset beyond which you will **not** consider instituting thrombolytic therapy:*
A. 3 hours
B. 6 hours
C. 16 hours
D. 24 hours *(p. 570)*

42.28 *Thrombolytic therapy instituted within 3-6 hours of onset of acute myocardial infarction affords the following benefit(s):*
A. Reduces mortality
B. Reduces area of myocardial necrosis
C. Preserves ventricular function
D. All of the above *(p. 570)*

42.29 *The preferred route of administration of streptokinase in acute myocardial infarction is:*
A. Intravenous
B. Subcutaneous
C. Intracoronary
D. Intracardiac *(p. 570)*

42.30 *Streptokinase therapy of myocardial infarction is contraindicated in the presence of the following **except**:*
A. Peptic ulcer
B. Ventricular extrasystoles
C. History of recent trauma
D. Severe hypertension *(p. 571)*

42.26 B 42.27 C 42.28 D 42.29 A 42.30 B

42.31 *A patient has an episode of hematemesis following streptokinase infused for the treatment of deep vein thrombosis. Which of the following drugs would be most effective in controlling the bleeding episode:*

A. Vitamin K
B. Noradrenaline
C. Epsilon aminocaproic acid
D. Rutin *(p. 571)*

42.32 *Tranexaemic acid is a specific antidote of:*

A. Fibrinolytic drugs
B. Organophosphates
C. Barbiturates
D. Heparin *(p. 571)*

42.33 *Aspirin prolongs bleeding time by inhibiting the synthesis of:*

A. Clotting factors in liver
B. Prostacyclin in vascular endothelium
C. Cyclic AMP in platelets
D. Thromboxane A_2 in platelets *(p. 572)*

42.34 *Inhibition of thromboxane synthesis by aspirin in platelets lasts for 5-7 days because:*

A. Aspirin persists in the body for 5-7 days
B. Aspirin induced depletion of arachidonic acid lasts 5-7 days
C. Regeneration of aspirin inhibited cyclooxygenase takes 5-7 days
D. Platelets cannot generate fresh thromboxane synthetase and their turnover time is 5-7 days *(p. 572)*

42.31C 42.32A 42.33D 42.34D

42.35 *The following drug increases cyclic-AMP in platelets and inhibits their aggregation without altering levels of thromboxane A_2 or prostacyclin:*

A. Aspirin
B. Sulfinpyrazone
C. Dipyridamole
D. Abciximab *(p. 572)*

42.36 *Choose the correct statement about ticlopidine:*

A. It blocks $GPII_b/III_a$ receptors on platelet membrane
B. It prevents ADP mediated platelet adenylyl-cyclase inhibition
C. It inhibits thromboxane A_2 synthesis in platelets
D. It does not prolong bleeding time *(p. 572)*

42.37 *Choose the drug which alters surface receptors on platelet membrane to inhibit aggregation, release reaction and to improve platelet survival in extra-corporeal circulation:*

A. Dipyridamole
B. Ticlopidine
C. Aspirin
D. Heparin *(p. 572)*

42.38 *Ticlopidine is recommended for the following* ***except****:*

A. To reduce neurological sequelae of stroke
B. Transient ischaemic attacks
C. To prevent occlusion of coronary artery bypass graft
D. Intermittent claudication *(p. 572-573)*

42.35C 42.36B 42.37B 42.38A

(Note: Once stroke has occurred, no antiplatelet drug (including ticlopidine) alters the course of neurological or other complications. However, they do reduce the occurrence of stroke and transient ischaemic attacks.)

42.39 *The following is true of clopidogrel* ***except:***
A. It is a $GPII_b/III_a$ receptor antagonist
B. It inhibits fibrinogen induced platelet aggregation
C. It is indicated for prevention of stroke in patients with transient ischaemic attacks
D. It is a prodrug *(p. 573)*

42.40 *The following is true of abciximab* ***except:***
A. It is a monoclonal antibody against $GPII_b/III_a$
B. It inhibits platelet aggregation induced by a variety of platelet agonists
C. It is antigenic
D. It is used to reduce the risk of restenosis in patients undergoing PTCA *(p. 573)*

42.41 *Combined therapy with dipyridamole and warfarin is recommended in subjects with the following:*
A. Risk factors for coronary artery disease
B. Prosthetic heart valves
C. Cerebral thrombosis
D. Buerger's disease *(p. 574)*

42.42 *Indications for the use of antiplatelet drugs include the following* ***except****:*
A. Secondary prophylaxis of myocardial infarction
B. Unstable angina pectoris
C. Disseminated intravascular coagulation
D. Stroke prevention in patients with transient ischaemic attacks *(p. 573, 574)*

42.39A 42.40C 42.41B 42.42C

43.1 *Choose the most potent and most efficacious LDL-cholesterol lowering HMG-CoA reductase inhibitor:*
A. Lovastatin
B. Simvastatin
C. Pravastatin
D. Atorvastatin *(p. 578)*

43.2 *The following is true of simvastatin* ***except:***
A. It is more potent than lovastatin
B. At the highest recommended dose, it causes greater LDL-cholesterol lowering than lovastatin
C. It does not undergo first pass metabolism in liver
D. It can raise HDL-cholesterol level when the same is low at base line *(p. 578)*

43.3 *Select the most appropriate hypolipidemic drug for a patient with raised LDL-cholesterol level but normal triglyceride level:*
A. A HMG-CoA reductase inhibitor
B. A fibric acid derivative
C. Gugulipid
D. Nicotinic acid *(P. 578, 582)*

43.4 *Select the drug which reduces cholesterol synthesis in liver, increases expression of LDL receptors on hepatocytes and has been found to reduce mortality due to coronary artery disease:*
A. Simvastatin
B. Nicotinic acid
C. Gemfibrozil
D. Colestipol *(p. 577, 578)*

43.1D 43.2C 43.3A 43.4A

43.5 *The rare but characteristic adverse effect of HMG-CoA reductase inhibitors is:*

A. Onycolysis
B. Myopathy
C. Alopecia
D. Oculomucocutaneous syndrome *(p. 578)*

43.6 *Features of atorvastatin include the following:*

A. Dose to dose most potent HMG-CoA reductase inhibitor
B. Higher ceiling of LDL-cholesterol lowering action than lovastatin
C. Antioxidant property
D. All of the above *(p. 578)*

43.7 *Select the hypocholesterolemic drug which interferes with intestinal absorption of bile salts and cholesterol, and secondarily increases cholesterol turnover in the liver:*

A. Gemfibrozil
B. Cholestyramine
C. Lovastatin
D. Bezafibrate *(p. 577, 579)*

43.8 *Gemfibrozil has the following features* ***except:***

A. It lowers plasma LDL cholesterol to a greater extent than triglycerides
B. It tends to raise plasma HDL-cholesterol level
C. It is a first line drug for type III, type IV and type V hyperlipoproteinemia
D. It reduces the incidence of myocardial infarction *(p. 580)*

43.5 B 43.6 D 43.7 B 43.8 A

43.9 *Antiatherosclerotic effect of which class of hypolipidemic drugs may involve additional mechanisms like improved endothelial function, reduced LDL oxidation and antiinflammatory property:*

A. Bile acid sequestrant resins
B. Statins
C. Fibrates
D. Nicotinic acid *(p. 579)*

43.10 *Select the hypolipidemic drug that enhances lipoprotein synthesis, fatty acid oxidation and LDL-receptor expression in liver through paroxisome proliferator-activated receptor α:*

A. Lovastatin
B. Atorvastatin
C. Bezafibrate
D. Nicotinic acid *(p. 579, 580)*

43.11 *A patient with coronary artery disease has raised serum triglyceride level (500 mg/dl) but normal total cholesterol level (150 mg/dl). Which hypolipidemic drug should be prescribed:*

A. Probucol
B. Gemfibrozil
C. Cholestyramine
D. Lovastatin *(p. 580, 583)*

43.12 *The following is true of bezafibrate* ***except****:*

A. It activates lipoprotein lipase
B. It mainly lowers serum triglyceride level with smaller effect on LDL cholesterol level
C. It increases the incidence of myopathy due to statins
D. It tends to lower plasma fibrinogen level *(p. 579, 580)*

43.9B 43.10C 43.11B 43.12C

43.13 *Choose the correct statement about lovastatin:*

A. It markedly lowers plasma triglyceride with little effect on cholesterol level
B. It is used as an adjuvant to gemfibrozil for type III hyperlipoproteinemia
C. It is not effective in diabetes associated hypercholesterolemia
D. It is a competitive inhibitor of the rate limiting step in cholesterol synthesis *(p. 577-578)*

43.14 *Which of the following hypolipidemic drugs is most effective in raising HDL-cholesterol level and lowers serum triglycerides:*

A. Nicotinic acid
B. Fenofibrate
C. Cholestyramine
D. Pravastatin *(p. 580, 581)*

43.`15 *What is true of nicotinic acid as well as nicotinamide:*

A. Both possess vitamin B_3 activity
B. Both cause cutaneous vasodilatation
C. Both lower plasma triglyceride and VLDL levels
D. Both cause hyperglycaemia after prolonged medication *(p. 580-581)*

43.16 *Pretreatment with the following drug can be employed to reduce intolerable flushing, warmth and itching caused by nicotinic acid when used for lowering plasma lipids:*

A. Chlorpheniramine
B. Atropine
C. Aspirin
D. Prednisolone *(p. 581)*

43.13D 43.14A 43.15A 43.16C

43.17 *Which hypolipidemic drug has been used to control and prevent pancreatitis in familial hypertriglyceridemia:*

A. Lovastatin
B. Nicotinic acid
C. Cholestyramine
D. Clofibrate *(p. 581)*

43.18 *Select the first line hypolipidemic drug/drugs for treating hypertriglyceridemia in a subject with normal cholesterol level:*

A. Fibrates
B. HMG-CoA reductase inhibitors
C. Nicotinic acid
D. Both 'A' and 'C' are correct *(p. 583)*

43.19 *Specific drug therapy to lower serum triglycerides (TG) in a subject with normal LDL-cholesterol level is indicated:*

A. In all subjects with serum TG> 150 mg/dl
B. In subjects with existing coronary artery disease and serum TG > 150 mg/dl
C. In subjects with HDL-cholesterol < 40 mg/dl and serum TG > 150 mg/dl
D. Both 'B' and 'C' are correct *(p. 583)*

43.20 *In a 50-year-old male without any other coronary artery disease risk factor, hypocholesterolemic drugs are considered necessary when the serum LDL-cholesterol level is higher than:*

A. 130 mg/dl
B. 160 mg/dl
C. 190 mg/dl
D. 240 mg/dl *(p. 582)*

43.17B 43.18D 43.19D 43.20C

43.21 *High molecular weight, pharmacodynamically inert, nonantigenic substances which form colloidal solution are used as:*

A. Osmotic purgatives
B. Osmotic diuretics
C. Plasma expanders
D. All of the above *(p. 583)*

43.22 *As a plasma expander, dextran has the following advantages* ***except:***

A. It exerts oncotic pressure similar to plasma proteins
B. It keeps plasma volume expanded for about 24 hours
C. It is nonpyrogenic
D. It does not interfere with grouping and cross matching of blood *(p. 583-584)*

43.23 *Hydroxyethyl starch is a:*

A. Plasma expander
B. Haemostatic
C. Heparin substitute
D. Bile acid sequestrant *(p. 584)*

43.24 *Plasma expanders are used in the following conditions* ***except***:

A. Congestive heart failure
B. Extensive burns
C. Mutilating injuries
D. Endotoxin shock *(p. 584)*

(Note: They will increase circulating blood volume and thus preload on heart, which will worsen heart failure.)

43.21 C 43.22 D 43.23 A 43.24 A

11

Gastrointestinal Drugs

CHOOSE THE MOST APPROPRIATE RESPONSE

44.1 *Histamine H_2 blockers attenuate the gastric secretory response to acetylcholine and pentagastrin as well because*:

A. H_2 blockers block gastric mucosal cholinergic and gastrin receptors as well
B. H_2 blockers inhibit the proton pump in gastric mucosa
C. Acetylcholine and gastrin act partly by releasing histamine in gastric mucosa
D. Histamine, acetylcholine and gastrin all act through the phospholipase C-IP_3:DAG pathway in gastric mucosa *(p. 587, 588)*

44.2 *For healing duodenal ulcer the usual duration of H_2 blocker therapy is:*

A. 4 weeks
B. 6 weeks
C. 8 weeks
D. 12 weeks *(p. 590)*

44.3 *What is true of acid control therapy with H_2 blockers:*

A. It generally heals duodenal ulcers faster than gastric ulcers
B. It checks bleeding in case of bleeding peptic ulcer
C. It prevents gastroesophageal reflux
D. Both 'A' and 'B' are correct *(p. 590)*

44.1C 44.2C 44.3A

44.4 *In the intact animal H_2 receptor antagonists potentiate the following action of histamine:*
A. Cardiac stimulation
B. Fall in blood pressure
C. Uterine relaxation
D. Bronchospasm *(p. 589)*

44.5 *Gynaecomastia can occur as a side effect of:*
A. Bromocriptine
B. Cimetidine
C. Famotidine
D. Levodopa *(p. 589)*

44.6 *Which histamine H_2 blocker has most marked inhibitory effect on microsomal cytochrome P-450 enzyme:*
A. Cimetidine
B. Ranitidine
C. Roxatidine
D. Famotidine *(p. 590, 591)*

44.7 *Choose the correct statement about H_2 receptor blockers:*
A. They are the most efficacious drugs in inhibiting gastric acid secretion
B. They cause fastest healing of duodenal ulcers
C. They prevent stress ulcers in the stomach
D. They afford most prompt relief of ulcer pain *(p. 590)*

(Note: Proton pump inhibitors are the most efficacious drugs in inhibiting gastric acid secretion. They also cause faster healing of duodenal ulcers. Antacids and proton pump inhibitors relieve ulcer pain more promptly. However, injected i.v. H_2 blockers are extensively used for prophylaxis of gastric erosions and bleeding in acutely stressful conditions.)

44.4D 44.5B 44.6A 44.7C

44.8 *Ranitidine differs from cimetidine in the following respect:*
A. It is less potent
B. It is shorter acting
C. It does not have antiandrogenic action
D. It produces more CNS side effects *(p. 590, 591)*

44.9 *Compared to H_2 blockers, omeprazole affords the following:*
A. Faster relief of ulcer pain
B. Faster healing of duodenal ulcer
C. Higher efficacy in healing reflux esophagitis
D. All of the above *(p. 592)*

44.10 *Choose the drug which blocks basal as well as stimulated gastric acid secretion without affecting cholinergic, histaminergic or gastrin receptors:*
A. Famotidine
B. Loxatidine
C. Omeprazole
D. Pirenzepine *(p. 591, 592)*

44.11 *Omeprazole exerts practically no other action except inhibition of gastric acid secretion because:*
A. It transforms into the active cationic forms only in the acidic pH of the gastric juice
B. Its active forms have selective affinity for the H^+K^+ATPase located in the apical canaliculi of gastric parietal cells
C. Its cationic forms are unable to diffuse out from the gastric parietal cell canaliculi
D. All of the above *(p. 591-592)*

44.8C 44.9D 44.10C 44.11D

44.12 *The most efficacious drug for inhibiting round the clock gastric acid output is:*
A. Omeprazole
B. Cimetidine
C. Pirenzepine
D. Misoprostol *(p. 591)*

44.13 *The following is true of proton pump inhibitors* ***except:***
A. They are the most effective drugs for Zolinger Ellison syndrome
B. Their prolonged use can cause atrophy of gastric mucosa
C. They inhibit growth of *H. pylori* in stomach
D. They have no effect on gastric motility
(p. 591-593, 598)

44.1 4 *The first choice drug for nonsteroidal antiinflammatory drug associated gastric ulcer is:*
A. Omeprazole
B. Misoprostol
C. Ranitidine
D. Sucralfate *(p. 590, 592, 594)*

44.15 *Select the drug which is an inhibitor of gastric mucosal proton pump:*
A. Carbenoxolone sodium
B. Sucralfate
C. Famotidine
D. Lansoprazole *(p. 593)*

44.16 *The following class of gastric antisecretory drug also reduce gastric motility and have primary effect on juice volume, with less marked effect on acid and pepsin content:*
A. Histamine H_2 blockers
B. Anticholinergics
C. Proton pump inhibitors
D. Prostaglandins *(p. 593)*

44.12A	44.13B	44.14A	44.15D	44.16B

44.17 *The primary mechanism by which prostaglandins promote ulcer healing is:*

A. Inhibition of gastric acid secretion
B. Augmentation of bicarbonate buffered mucus layer covering gastroduodenal mucosa
C. Increased bicarbonate secretion in gastric juice
D. Increased turnover of gastric mucosal cell

(p. 593)

44.18 *Choose the antiulcer drug that inhibits gastric acid secretion, stimulates gastric mucus and bicarbonate secretion and has cytoprotective action on gastric mucosa:*

A. Misoprostol
B. Sucralfate
C. Carbenoxolone sodium
D. Colloidal bismuth subcitrate *(p. 593)*

44.19 *The following statement is true about misoprostol:*

A. It relieves peptic ulcer pain, but does not promote ulcer healing
B. It heals nonsteroidal antiinflammatory drug induced gastric ulcer not responding to H_2 blockers
C. It produces fewer side effects than H_2 blockers
D. It is the most effective drug for preventing ulcer relapse *(p. 593)*

44.20 *The 'acid neutralizing capacity' of an antacid is governed by:*

A. The equivalent weight of the antacid
B. The pH of 1N solution of the antacid
C. The rate at which the antacid reacts with HCl
D. Both 'A' and 'C' *(p. 594)*

44.17B 44.18A 44.19B 44.20D

44.21 *As an antacid, sodium bicarbonate has the following disadvantages* ***except****:*

A. It causes acid rebound
B. In ulcer patients, it increases risk of perforation
C. It has low acid neutralizing capacity
D. It is contraindicated in hypertensives

(p. 594)

44.22 *The following is true of aluminium hydroxide gel* ***except****:*

A. It is a weak and slowly reacting antacid
B. Its acid neutralizing capacity decreases on storage
C. It interferes with absorption of phosphate in the intestine
D. It causes loose motions as a side effect

(p. 594, 595)

44.23 *Choose the correct statement about magaldrate:*

A. It is a mixture of magnesium and aluminium hydroxides
B. It has a rapid as well as sustained acid neutralizing action
C. Its acid neutralizing capacity is 2 m Eq/g
D. It causes systemic alkalosis *(p. 595)*

44.24 *Antacid combinations of magnesium and aluminium salts are superior to single component preparations because:*

A. They have rapid as well as sustained acid neutralizing action
B. They are less likely to affect gastric emptying
C. They are less likely to alter bowel movement
D. All of the above *(p. 595)*

44.21C 44.22D 44.23B 44.24D

44.25 *In peptic ulcer, antacids are now primarily used for:*
A. Prompt pain relief
B. Ulcer healing
C. Preventing ulcer relapse
D. Control of bleeding from the ulcer *(p. 596)*

44.26 *Sucralfate promotes healing of duodenal ulcer by:*
A. Enhancing gastric mucus and bicarbonate secretion
B. Coating the ulcer and preventing the action of acid-pepsin on ulcer base
C. Promoting regeneration of mucosa
D. Both 'A' and 'B' are correct *(p. 596)*

44.27 *Antacids administered concurrently reduce efficacy of the following antipeptic ulcer drug:*
A. Cimetidine
B. Colloidal bismuth
C. Sucralfate
D. Pirenzepine *(p. 596-597)*

44.28 *The following antiulcer drug does not act by reducing the secretion of or neutralizing gastric acid:*
A. Magaldrate
B. Sucralfate
C. Misoprostol
D. Omeprazole *(p. 596)*

44.29 *The most important drawback of sucralfate in the treatment of duodenal ulcer is:*
A. Low ulcer healing efficacy
B. Poor relief of ulcer pain
C. High incidence of side effects
D. Need for taking a big tablet four times a day
(p. 596)

44.25A 44.26B 44.27C 44.28B 44.29D

44.30 *Choose the correct statement about colloidal bismuth subcitrate:*

A. It causes prolonged neutralization of gastric acid
B. It has anti-*H.pylori* activity
C. It relieves peptic ulcer pain promptly
D. All of the above are correct *(p. 597)*

44.31 *Eradication of H.pylori along with gastric antisecretory drugs affords the following benefit(s):*

A. Faster relief of ulcer pain
B. Faster ulcer healing
C. Reduced chance of ulcer relapse
D. Both 'B' and 'C' are correct *(p. 597)*

44.32 *The drugs employed for anti-H.pylori therapy include the following* ***except:***

A. Ciprofloxacin
B. Clarithromycin
C. Tinidazole
D. Amoxicillin *(p. 597, 598)*

44.33 *The following is true of anti-H.pylori therapy* ***except****:*

A. It is indicated in all patients of peptic ulcer
B. Resistance to any single antimicrobial drug develops rapidly
C. Concurrent suppression of gastric acid enhances efficacy of the regimen
D. Colloidal bismuth directly inhibits *H.pylori* but has poor patient acceptability *(p. 598)*

44.34 *The preferred regimen for preventing duodenal ulcer relapse is:*

A. Maintenance antacid regimen
B. Maintenance H_2 blocker regimen
C. On demand intermittent H_2 blocker regimen
D. Maintenance sucralfate regimen *(p. 598)*

44.30B 44.31D 44.32A 44.33A 44.34B

45.1 *The most dependable emetic used to expel ingested poisons is:*
A. Intramuscular emetine
B. Oral syrup ipecacuanha
C. Intramuscular apomorphine
D. Oral bromocriptine *(p. 599-600)*

45.2 *In a conscious patient of poisoning, use of an emetic is permissible in case the ingested poison is:*
A. Ferrous sulfate
B. Sodium hydroxide
C. Kerosine
D. Morphine *(p. 551, 600-601)*

45.3 *The most effective antimotion sickness drug suitable for short brisk journies is:*
A. Promethazine theoclate
B. Cinnarizine
C. Prochlorperazine
D. Hyoscine *(p. 601)*

45.4 *In case of hill journey, antimotion sickness drugs are best administered at:*
A. Twelve hours before commencing journey
B. One hour before commencing journey
C. Immediately after commencing journey
D. At the first feeling of motion sickness
(p. 601)

45.5 *Chlorpromazine and its congeners suppress vomiting of following etiologies* ***except:***
A. Motion sickness
B. Radiation sickness
C. Postanaesthetic
D. Uremic *(p. 602)*

45.1C	45.2A	45.3D	45.4B	45.5A

45.6 *Choose the phenothiazine compound which has selective labyrinthine suppressant action, is used for vomiting and vertigo, but not in schizophrenia:*
A. Triflupromazine
B. Prochlorperazine
C. Trifluoperazine
D. Thioridazine *(p. 602)*

45.7 *Metoclopramide has the following actions* ***except:***
A. Increases lower esophageal sphincter tone
B. Increases tone of pyloric sphincter
C. Increases gastric peristalsis
D. Increases intestinal peristalsis *(p. 602)*

45.8 *Metoclopramide blocks apomorphine induced vomiting, produces muscle dystonias and increases prolactin release indicates that it has:*
A. Anticholinergic action
B. Antihistaminic action
C. Anti 5-HT_3 action
D. Antidopaminergic action *(p. 602)*

45.9 *Activation of the following type of receptors present on myenteric neurones by metoclopramide is primarily responsible for enhanced acetylcholine release improving gastric motility:*
A. Muscarinic M_1
B. Serotonergic 5-HT_3
C. Serotonergic 5-HT_4
D. Dopaminergic D2 *(p. 603)*

45.10 *Select the prokinetic-antiemetic drug which at relatively higher doses blocks both dopamine D2 as well as 5-HT_3 receptors and enhances acetylcholine release from myenteric neurones:*
A. Cisapride
B. Prochlorperazine
C. Metoclopramide
D. Domperidone *(p. 602-603)*

45.6B	**45.7B**	**45.8D**	**45.9C**	**45.10C**

45.11 *Which prokinetic drug(s) produce(s) extrapyramidal side effects:*
A. Metoclopramide
B. Cisapride
C. Domperidone
D. All of the above *(p. 603, 604)*

45.12 *The progastrokinetic action of the following drug(s) is attenuated by atropine:*
A. Domperidone
B. Metoclopramide
C. Cisapride
D. Both 'B' and 'C' *(p. 603, 604)*

45.13 *A patient returning from dinner party meets with road accident and has to be urgently operated upon under general anaesthesia. Which drug can be injected intramuscularly to hasten his gastric emptying:*
A. Methylpolysiloxane
B. Promethazine
C. Metoclopramide
D. Apomorphine *(p. 604)*

45.14 *Select the correct statement regarding the antiemetic efficacy of the three prokinetic drugs metoclopramide, domperidone and cisapride:*
A. Cisapride is the most effective
B. Metoclopramide is the most effective
C. Domperidone is the most effective
D. All three are equally efficacious
(p. 603, 604)

45.15 *Which antiemetic selectively blocks levodopa induced vomiting without blocking its antiparkinsonian action:*
A. Metoclopramide
B. Cisapride
C. Domperidone
D. Ondansetron *(p. 604)*

45.11A 45.12D 45.13C 45.14B 45.15C

45.16 *The following prokinetic drug has been implicated in causing serious ventricular arrhythmias, particularly in patients concurrently receiving erythromycin or ketoconazole:*

A. Domperidone
B. Cisapride
C. Mosapride
D. Metoclopramide *(p. 605)*

45.17 *Indicate the drug which does not improve lower esophageal sphincter tone or prevent gastroesophageal reflux, but is used as first line treatment of gastroesophageal reflux disease:*

A. Sodium alginate + aluminium hydroxide gel
B. Omeprazole
C. Mosapride
D. Famotidine *(p. 605, 606)*

45.18 *Select the drug(s) which afford(s) relief in gastroesophageal reflux by increasing lower esophageal sphincter tone and promoting gastric emptying, but without affecting acidity of gastric contents:*

A. Sodium alginate
B. Metoclopramide
C. Cisapride
D. Both 'B' and 'C' *(p. 606)*

45.19 *The fastest symptomatic relief as well as highest healing rates in reflux esophagitis are obtained with:*

A. Prokinetic drugs
B. H_2 receptor blockers
C. Proton pump inhibitors
D. Sodium alginate *(p. 605, 606)*

45.16B 45.17B 45.18D 45.19C

45.20 *Prokinetic drugs serve the following purpose(s) in gastroesophageal reflux disease:*
A. Reduce reflux of gastric contents into esophagus
B. Promote healing of esophagitis
C. Reduce acidity of gastric contents
D. Both 'A' and 'B' are correct *(p. 606)*

45.21 *Cisapride enhances gastrointestinal motility by:*
A. Activating serotonin 5-HT_4 receptor
B. Activating muscarinic M_3 receptor
C. Blocking dopamine D2 receptor
D. All of the above *(p. 604)*

45.22 *The most effective antiemetic for controlling cisplatin induced vomiting is:*
A. Prochlorperazine
B. Ondansetron
C. Metoclopramide
D. Promethazine *(p. 606, 607)*

45.23 *Select the antiemetic that prevents activation of emetogenic afferents in the gut and their central relay in chemoreceptor trigger zone/nucleus tractus solitarious, but has no effect on gastric motility:*
A. Ondansetron
B. Domperidone
C. Metoclopramide
D. Cisapride *(p. 606)*

45.24 *Granisetron is a:*
A. Second generation antihistaminic
B. Drug for peptic ulcer
C. Antiemetic for cancer chemotherapy
D. New antiarrhythmic drug *(p. 607)*

45.20 A 45.21 A 45.22 B 45.23 A 45.24 C

45.25 *Ondansetron is effective in the following type(s) of vomiting:*
A. Cisplatin induced
B. Radiotherapy induced
C. Postoperative
D. All of the above *(p. 607)*

45.26 *Ondansetron blocks emetogenic impulses at the following site(s):*
A. Vagal afferents in intestines
B. Nucleus tractus solitarius
C. Chemoreceptor trigger zone
D. All of the above *(p. 606)*

45.27 *Choose the correct statement about ondansetron:*
A. It is a dopamine D2 receptor antagonist
B. It suppresses postoperative nausea and vomiting
C. It is the most effective antiemetic for motion sickness
D. It is not effective by oral route *(p. 606-607)*

45.28 *Cancer chemotherapy induced vomiting that is not controlled by metoclopramide alone can be suppressed by combining it with:*
A. Amphetamine
B. Dexamethasone
C. Hyoscine
D. Cyclizine *(p. 604)*

45.29 *Prolonged treatment with the following drug can promote dissolution of gallstones if the gall bladder is functional:*
A. Ursodeoxycholic acid
B. Sodium taurocholate
C. Sodium glycocholate
D. Cholecystokinin *(p. 609)*

45.25D 45.26D 45.27B 45.28B 45.29A

46.1 *Irrespective of the type, all laxatives exert the following action:*

A. Increase the content of solids in the faeces
B. Increase the water content of faeces
C. Reduce absorption of nutrients
D. Increase intestinal motility *(p. 610)*

46.2 *Used as a laxative, liquid paraffin has the following drawbacks* ***except***:

A. It interferes with absorption of fat soluble vitamins
B. It is unpleasant to swallow
C. It causes griping
D. It can produce foreign body granulomas

(p. 612)

46.3 *A 70-year-old patient presented with weakness, tiredness and muscle cramps. The ECG showed Q-T prolongation, flattening of T wave and occasional A-V block. His serum K^+ was low (2.8 mEq/L). He admitted taking a laxative every day for the past several months. Which laxative could be responsible for the above condition:*

A. Bisacodyl
B. Liquid paraffin
C. Methylcellulose
D. Bran *(p. 612)*

46.1 B 46.2 C 46.3 A

46.4 *A patient presented with abdominal pain and frequent unsatisfactory bowel movement. For the last one year he has been using a purgative twice weekly to open his bowel. On colonoscopy the colon was found to be atonic with bluish pigmentation of the mucosa. Which is the most likely purgative that the patient has been using:*

A. Liquid paraffin
B. Ispaghula
C. Senna
D. Lactulose *(p. 613)*

46.5 *Which of the following purgatives undergoes entero-hepatic circulation to produce prolonged action:*

A. Docusates
B. Phenolphthalein
C. Castor oil
D. Mag. sulfate *(p. 612)*

46.6 *The following purgative stimulates intestinal motility independent of its action on mucosal fluid dynamics:*

A. Castor oil
B. Senna
C. Docusates
D. Sod.pot. tartrate *(p. 613)*

46.7 *Choose the correct statement about lactulose:*

A. It stimulates myenteric neurones to enhance gut peristalsis
B. Administered orally it acts as a purgative within 2-4 hours
C. It is an osmotic laxative that produces soft but formed stools
D. All of the above are correct *(p. 613, 614)*

46.4C	**46.5B**	**46.6B**	**46.7C**

46.8 *The following laxative lowers blood ammonia level in hepatic encephalopathy:*
A. Bisacodyl
B. Liquid paraffin
C. Lactulose
D. Magnesium sulfate *(p. 614)*

46.9 *Select the purgative that should **not** be taken at bed time:*
A. Magnesium sulfate
B. Bisacodyl
C. Senna
D. Ispaghula *(p. 613, 615)*

46.10 *Stimulant purgatives are contraindicated in the following:*
A. Bed ridden patients
B. Before abdominal radiography
C. Spastic constipation
D. Atonic constipation *(p. 614)*

46.11 *Saline osmotic purgatives are used for:*
A. Treatment of constipation
B. Prevention of constipation in patients of piles
C. Avoidance of straining at stools in patients of hernia
D. Tapeworm infestation: following niclosamide administration *(p. 613, 614)*

46.12 *The most suitable laxative for a patient of irritable bowel disease with spastic constipation is:*
A. Dietary fibre
B. Liquid paraffin
C. Bisacodyl
D. Senna *(p. 614)*

46.8C 46.9A 46.10C 46.11D 46.12A

46.13 *The success of oral rehydration therapy of diarrhoea depends upon the following process in the intestinal mucosa:*

A. Sodium pump mediated Na^+ absorption
B. Glucose coupled Na^+ absorption
C. Bicarbonate coupled Na^+ absorption
D. Passive Na^+ diffusion secondary to nutrient absorption *(p. 617)*

46.14 *For optimum rehydration, the molar concentration of glucose in ORS should be:*

A. Equal to or somewhat higher than the molar concentration of Na^+
B. Somewhat lower than molar concentration of Na^+
C. One third the molar concentration of Na^+
D. Three times the molar concentration of Na^+ *(p. 617)*

46.15 *Cyclic nucleotides exert the following action on salt transport across intestinal mucosal cells:*

A. Both cyclic AMP and cyclic GMP enhance Cl^- and HCO_3^- secretion
B. Cyclic AMP enhances but cyclic GMP inhibits Cl^- and HCO_3^- secretion
C. Cyclic AMP inhibits but cyclic GMP enhances Na^+ and Cl^- reabsorption
D. Both cyclic AMP and cyclic GMP enhance Na^+ and Cl^- reabsorption *(p. 616)*

46.16 *The concentration of sodium ions in the standard WHO oral rehydration solution is:*

A. 40 m moles / L
B. 60 m moles / L
C. 90 m moles / L
D. 110 m moles / L *(p. 617)*

46.13 B 46.14 A 46.15 A 46.16 C

46.17 *The 'new formula' WHO-ORS differs from the older 'standard formula' WHO-ORS in the following respect(s):*
A. It has lower Na^+ ion and glucose concentration
B. It has higher K^+ ion concentration
C. It has no basic salt
D. Both 'B' and 'C' are correct *(p. 617, 618)*

46.18 *The following is true of 'new formula' WHO-ORS:*
A. It has Na^+ ion concentration of 75 mM/L
B. Its glucose concentration is 75 mM/L
C. Its total osmolarity is 245 mOsm/L
D. All of the above are correct *(p. 618)*

46.19 *The electrolyte composition of standard WHO oral rehydration solution is based upon that of:*
A. Enterotoxigenic *E. coli* diarrhoea stools
B. Cholera stools in adults
C. Cholera stools in children
D. Rotavirus diarrhoea stools *(p. 617)*

46.20 *Institution of oral rehydration therapy has the following beneficial effect in diarrhoea:*
A. Stops further diarrhoea
B. Restores hydration and electrolyte balance without affecting diarrhoea
C. Hastens clearance of the enteropathogen
D. Obviates the need for specific antimicrobial therapy *(p. 618)*

46.21 *Apart from diarrhoea, oral rehydration solution has been employed in:*
A. Severe vomiting
B. Burn cases
C. Heat stroke
D. Both 'B' and 'C' *(p. 618)*

46.17A 46.18D 46.19C 46.20B 46.21D

46.22 *An adult patient of acute diarrhoea presents with abdominal pain, fever, mucus and blood in stools and is suspected to be suffering from Shigella enteritis. What antimicrobial treatment would be most appropriate:*

A. No antimicrobial treatment
B. Metronidazole
C. Norfloxacin
D. Chloramphenicol *(p. 619)*

46.23 *Antimicrobial treatment does not alter the course of the following diarrhoeas* ***except****:*

A. Mild enterotoxigenic *E.coli* diarrhoea
B. Campylobacter diarrhoea
C. Coeliac disease diarrhoea
D. Food poisoning diarrhoea *(p. 619, 620)*

46.24 *The following diarrhoea is consistently benefited by antimicrobial therapy:*

A. Irritable bowel syndrome
B. Cholera
C. Salmonella diarrhoeas
D. Traveller's diarrhoea *(p. 619)*

46.25 *The therapeutic effect of sulfasalazine in ulcerative colitis is exerted by:*

A. Inhibitory action of the unabsorbed drug on the abnormal colonic flora
B. Breakdown of the drug in colon to release 5-aminosalicylic acid which suppresses inflammation locally
C. Release of sulfapyridine having antibacterial property
D. Systemic immunomodulatory action of the drug *(p. 620-621)*

46.22C 46.23B 46.24B 46.25B

46.26 *The primary role of sulfasalazine in ulcerative colitis is:*
A. Suppression of enteroinvasive pathogens
B. Control of acute exacerbations of the disease
C. Maintenance of remission
D. Both 'B' and 'C' *(p. 620)*

46.27 *The preferred drug for controlling an acute exacerbation of ulcerative colitis is:*
A. Prednisolone
B. Sulfasalazine
C. Mesalazine
D. Vancomycin *(p. 263, 620)*

46.28 *The following is/are true of mesalazine:*
A. It exerts mainly local antiinflammatory action in the lower gut
B. It is a broad spectrum antidiarrhoeal drug
C. It can be administered as a retention enema
D. Both 'A' and 'C' *(p. 621)*

46.29 *To be effective in ulcerative colitis, 5-aminosalicylic acid has to be given as:*
A. Acrylic polymer coated tablet which releases the drug only in the lower bowel
B. A complex of two molecules joined together by azo bond
C. A retention enema
D. Any of the above ways *(p. 621)*

46.30 *Mesalazine (coated 5-amino salicylic acid) differs from sulfasalazine in that:*
A. It is more effective in ulcerative colitis
B. It produces less adverse effect
C. It has no therapeutic effect in rheumatoid arthritis
D. Both 'B' and 'C' are correct *(p. 186, 621)*

46.26C 46.27A 46.28D 46.29D 46.30D

46.31 *A 3-year-old child was given one tablet three times a day to control loose motions. The diarrhoea stopped but next day the child was brought in a toxic condition with abdominal distention and vomiting. He had paralytic ileus, mild dehydration, low blood pressure and sluggish reflexes. Which antidiarrhoeal drug could have caused this condition:*

A. Iodochlorhydroxyquinoline
B. Furazolidone
C. Loperamide
D. Metronidazole *(p. 622)*

46.32 *A small amount of atropine is added to the diphenoxylate tablet/syrup to:*

A. Suppress associated vomiting of gastroenteritis
B. Augment the antimotility action of diphenoxylate
C. Block side effects of diphenoxylate
D. Discourage overdose and abuse of diphenoxylate *(p. 622)*

46.33 *The opioid antidiarrhoeal drugs act by the following mechanism(s):*

A. They relax the intestinal smooth muscle
B. They inhibit intestinal peristalsis
C. They promote clearance of intestinal pathogens
D. All of the above *(p. 622)*

46.31C 46.32D 46.33B

46.34 *Choose the correct statement about the role of opioid antimotility drugs in the management of diarrhoeas:*

A. They are used to control diarrhoea irrespective of its etiology
B. They should be used only as a short-term measure after ensuring that enteroinvasive organisms are not involved
C. They are used as adjuvants to antimicrobial therapy of diarrhoea
D. They are the drugs of choice in irritable bowel syndrome diarrhoea *(p. 622)*

46.35 *The following is true of loperamide* ***except****:*

A. It is absorbed from intestines and exerts centrally mediated antidiarrhoeal action
B. It acts on the opioid receptors in the gut
C. It increases tone and segmenting activity of the intestines
D. It inhibits intestinal secretion by binding to calmodulin in the mucosal cells *(p. 622)*

46.34B 46.35A

12

Antimicrobial Drugs

CHOOSE THE MOST APPROPRIATE RESPONSE

47.1 *Choose the antimicrobial which acts by interfering with DNA function in the bacteria:*

A. Chloramphenicol
B. Ciprofloxacin
C. Streptomycin
D. Vancomycin *(p. 628)*

47.2 *Which antibiotic is primarily bacteriostatic but becomes bactericidal at higher concentrations:*

A. Erythromycin
B. Tetracycline
C. Chloramphenicol
D. Ampicillin *(p. 629)*

47.3 *Select the antibiotic that has a high therapeutic index:*

A. Streptomycin
B. Doxycycline
C. Cephalexin
D. Vancomycin *(p. 629)*

47.4 *The following organism is notorious for developing antimicrobial resistance rapidly:*

A. Streptococcus pyogenes
B. Meningococcus
C. Treponema pallidum
D. Escherichia coli *(p. 630)*

47.1B 47.2A 47.3C 47.4D

47.5 *Widespread and prolonged use of an antibiotic leads to emergence of drug resistant strains because antibiotics:*

A. Induce mutation in the bacteria
B. Promote conjugation among bacteria
C. Allow resistant strains to propagate preferentially
D. All of the above *(p. 630, 631)*

47.6 *The most important mechanism of concurrent acquisition of multidrug resistance among bacteria is:*

A. Mutation
B. Conjugation
C. Transduction
D. Transformation *(p. 631)*

47.7 *Drug destroying type of bacterial resistance is important for the following antibiotics* ***except****:*

A. Cephalosporins
B. Tetracyclines
C. Chloramphenicol
D. Aminoglycosides *(p. 631,670)*

47.8 *Acquisition of inducible energy dependent efflux proteins by bacteria serves to:*

A. Secrete exotoxins
B. Enhance virulance
C. Lyse host tissue
D. Confer antibiotic resistance *(p. 631)*

47.5C 47.6B 47.7B 47.8D

47.9 *Methicillin resistant staphylococci do not respond to β-lactam antibiotics because:*

A. They produce a β-lactamase which destroys methicillin and related drugs
B. They elaborate an amidase which destroys methicillin and related drugs
C. They have acquired penicillin binding protein which has low affinity for β-lactam antibiotics
D. They are less permeable to β-lactam antibiotics *(p. 659)*

47.10 *The following strategy will promote rather than curb emergence of antibiotic resistant micro-organisms:*

A. Whenever possible use broad spectrum antibiotics
B. Prefer a narrow spectrum antibiotic to a broad spectrum one if both are equally effective
C. Prefer short and intensive courses of antibiotics
D. Use antibiotic combinations for prolonged therapy *(p. 632)*

47.11 *Superinfections are more common with:*

A. Use of narrow spectrum antibiotics
B. Short courses of antibiotics
C. Use of antibiotics that are completely absorbed from the small intestines
D. Use of antibiotic combinations covering both gram positive and gram negative bacteria *(p. 632)*

47.9C 47.10A 47.11D

47.12 *The following organisms are frequently responsible for superinfections* ***except:***
A. Pseudomonas aeruginosa
B. Salmonella typhi
C. Clostridium difficile
D. Candida albicans *(p. 633)*

47.13 *Select the antibiotic whose dose must be reduced in patients with renal insufficiency:*
A. Ampicillin
B. Chloramphenicol
C. Tobramycin
D. Erythromycin *(p. 633)*

47.14 *Which antimicrobial should be avoided in patients of liver disease:*
A. Tetracycline
B. Cotrimoxazole
C. Cephalexin
D. Ethambutol *(p. 634)*

47.15 *What is break point concentration of an antibiotic:*
A. Concentration at which the antibiotic lyses the bacteria
B. Concentration of the antibiotic which demarkates between sensitive and resistant bacteria
C. Concentration of the antibiotic which overcomes bacterial resistance
D. Concentration at which a bacteriostatic antibiotic becomes bactericidal *(p. 635)*

47.12B 47.13C 47.14A 47.15B

47.16 *A bactericidal antibiotic has the following characteristic(s):*

A. Pronounced postantibiotic effect
B. Large difference between MBC and MIC values
C. Efficacy in the absence of host defence
D. All of the above *(p. 634, 635)*

47.17 *Bacteriostatic drugs are unlikely to effect cure of bacterial infection in the following category of patients* ***except****:*

A. Diabetic patients
B. Patients with allergic disorders
C. Patients on corticosteroid therapy
D. Subacute bacterial endocarditis patients *(p. 635)*

47.18 *Antimicrobial drug combinations are aimed at achieving the following* ***except****:*

A. Faster and more complete elimination of the infecting organism
B. Treat infection when nature and sensitivity of the infecting organism is not definite
C. Prevent emergence of resistant strains
D. Prevent superinfection *(p. 636, 637)*

47.19 *Which type of antimicrobial drug combination is most likely to exhibit antagonism:*

A. Bactericidal + Bactericidal
B. Bactericidal + Bacteriostatic for a highly sensitive organism
C. Bactericidal + Bacteriostatic for a marginally sensitive organism
D. Bacteriostatic + Bacteriostatic *(p. 637)*

47.16C 47.17B 47.18D 47.19B

47.20 *Select the drug combination which does **not** exhibit supraadditive synergism:*
A. Nalidixic acid + Nitrofurantoin
B. Amoxicillin + Clavulanic acid
C. Pyrimethamine + Sulfadoxine
D. Sulfamethoxazole + Trimethoprim *(p. 637)*

47.21 *Choose the condition which is mostly treated with a combination of antimicrobials:*
A. Lobar pneumonia
B. Typhoid
C. Peritonitis
D. Syphilis *(p. 638)*

47.22 *Prophylactic use of antibiotics is **not** justified in the following condition:*
A. To prevent secondary infection in common cold
B. Thoroughly cleaned contaminated wound
C. Rheumatic fever in a child of 10 years
D. Catheterization of urethra in an elderly male *(p. 639)*

47.23 *Antimicrobial prophylaxis is regularly warranted in the following:*
A. Chronic obstructive lung disease patients
B. Neonates delivered by forceps
C. Anastomotic intestinal surgery
D. All of the above *(p. 639)*

47.24 *Surgical antibiotic prophylaxis for clean elective surgery started just before operation should be continued for:*
A. One day
B. Three days
C. Five days
D. Seven days *(p. 639)*

47.20A 47.21C 47.22A 47.23C 47.24A

47.25 *Which of the following is **not** likely to be the cause of failure of antimicrobial therapy of an acute infection:*

A. Improper selection of drug and dose
B. Acquisition of resistance during treatment
C. Failure to drain the pus
D. Uncontrolled diabetes mellitus *(p. 639, 640)*

48.1 *That sulfonamides act by inhibiting folate synthesis in bacteria is supported by the following findings **except**:*

A. Paraaminobenzoic acid antagonises the action of sulfonamides
B. Methionine antagonises the action of sulfonamides
C. Purines and thymidine present in pus antagonise the action of sulfonamides
D. Bacteria that utilise folic acid taken up from the medium are insensitive to sulfonamides *(p. 642)*

48.2 *Indicate the sulfonamide whose sodium salt yields a nearly neutral solution which is suitable for topical use in the eye:*

A. Sulfadiazine
B. Sulfacetamide
C. Sulfadoxine
D. Sulfamoxole *(p. 643)*

48.3 *A higher incidence of adverse effects to cotrimoxazole occurs when this drug is used for:*

A. Typhoid fever
B. Whooping cough
C. Pneumocystis carinii pneumonia in AIDS patients
D. Chancroid *(p. 645)*

47.25B	**48.1B**	**48.2B**	**48.3C**

48.4 *The following is true of sulfonamides* ***except****:*

A. They are more likely to produce crystalluria in alkaline urine in which they are less soluble
B. They are primarily metabolized by acetylation
C. They may exert bactericidal action in the urinary tract
D. Used alone, they have become therapeutically unreliable for serious infections

(p. 643)

48.5 *Select the sulfonamide drug which is active against Pseudomonas and is used by topical application for prophylaxis of infection in burn cases:*

A. Sulfadiazine
B. Silver sulfadiazine
C. Sulfadoxine
D. Sulfamethoxazole *(p. 643)*

48.6 *Trimethoprim inhibits bacteria without affecting mammalian cells because:*

A. It does not penetrate mammalian cells
B. It has high affinity for bacterial but low affinity for mammalian dihydrofolate reductase enzyme
C. It inhibits bacterial folate synthetase as well as dihydrofolate reductase enzymes
D. All of the above *(p. 644)*

48.7 *Trimethoprim is combined with sulfamethoxazole in a ratio of 1:5 to yield a steady state plasma concentration ratio of:*

A. Trimethoprim 1: Sulfamethoxazole 5
B. Trimethoprim 1: Sulfamethoxazole 10
C. Trimethoprim 1: Sulfamethoxazole 20
D. Trimethoprim 5: Sulfamethoxazole 1

(p. 644)

48.4A	48.5B	48.6B	48.7C

48.8 *Indicate the condition in which neither trimethoprim nor sulfamethoxazole alone are effective, but their combination cotrimoxazole is:*
A. Prostatitis
B. Lymphogranuloma venereum
C. Pneumocystis carinii pneumonia
D. Bacillary dysentery *(p. 645, 646)*

48.9 *The following quinolone antimicrobial agent is* ***not*** *useful in systemic infections:*
A. Lomefloxacin
B. Ofloxacin
C. Nalidixic acid
D. Pefloxacin *(p. 647)*

48.10 *Indicate the enzyme(s) inhibited by fluoroquinolones:*
A. Both 'A' and 'C'
B. Topoisomerase II
C. Topoisomerase IV
D. DNA gyrase *(p. 647)*

48.11 *Select the antimicrobial drug which is used orally only for urinary tract infection or for bacterial diarrhoeas:*
A. Nalidixic acid
B. Azithromycin
C. Bacampicillin
D. Pefloxacin *(p. 647)*

48.12 *Nalidixic acid is primarily active against:*
A. Cocci
B. Bacilli
C. Gram positive bacteria
D. Gram negative bacteria *(p. 646)*

48.8C 48.9C 48.10D 48.11A 48.12D

48.13 *The fluoroquinolones have improved over nalidixic acid in the following respect(s)**:***
A. They have higher antimicrobial potency
B. They have extended antimicrobial spectrum
C. Development of bacterial resistance against them is slow and infrequent
D. All of the above *(p. 646-647)*

48.14 *Adverse effects of ciprofloxacin are referable primarily to the following **except:***
A. Gastrointestinal tract
B. Kidney
C. Skin
D. Nervous system *(p. 648)*

48.15 *Select the fluoroquinolone which has high oral bioavailability, longer elimination half-life and which does not inhibit metabolism of theophylline:*
A. Norfloxacin
B. Pefloxacin
C. Lomefloxacin
D. Ciprofloxacin *(p. 649, 651)*

48.16 *A single oral dose of the following drug can cure most cases of uncomplicated gonorrhoea:*
A. Ciprofloxacin
B. Cotrimoxazole
C. Spectinomycin
D. Doxycycline *(p. 649, 696)*

48.17 *Which fluoroquinolone has enhanced activity against gram positive bacteria and anaerobes:*
A. Pefloxacin
B. Ciprofloxacin
C. Sparfloxacin
D. Norfloxacin *(p. 651)*

48.13D 48.14B 48.15C 48.16A 48.17C

48.18 *The most common mechanism of development of resistance to fluoroquinolones is:*
A. Chromosomal mutation altering affinity of target site
B. Plasmid transfer
C. Acquisition of drug destroying enzyme
D. Acquisition of alternative metabolic pathway *(p. 647, 648)*

48.19 *Ciprofloxacin is **not** active against:*
A. H.influenzae
B. E.coli
C. Enterobacter spp.
D. Bacteroides fragilis *(p. 648)*

48.20 *Important microbiological features of ciprofloxacin include the following **except:***
A. Long postantibiotic effect
B. Marked suppression of intestinal anaerobes
C. MBC values close to MIC values
D. Slow development of resistance *(p. 648)*

48.21 *Currently the drug of choice for emperic treatment of typhoid fever is:*
A. Chloramphenicol
B. Cotrimoxazole
C. Ciprofloxacin
D. Ampicillin *(p. 649)*

48.22 *The following drug may cure typhoid fever, but does not prevent development of carrier state:*
A. Ciprofloxacin
B. Cotrimoxazole
C. Chloramphenicol
D. Ceftriaxone *(p. 649, 676)*

48.18 A 48.19 D 48.20 B 48.21 C 48.22 C

48.23 *The distinctive feature(s) of sparfloxacin compared to ciprofloxacin is/are:*
A. Enhanced activity against gram positive bacteria
B. Lack of pharmacokinetic interaction with theophylline and warfarin
C. Higher incidence of phototoxic reaction
D. All of the above *(p. 561)*

48.24 *In the treatment of typhoid fever, ciprofloxacin has the following advantage(s):*
A. It is effective in nearly all cases
B. Early abetment of fever and other symptoms
C. Development of carrier state is unlikely
D. All of the above *(p. 649)*

48.25 *Distinctive features of gatifloxacin include the following* ***except:***
A. Higher affinity for the enzyme topoisomerase IV
B. Activity restricted to gram negative bacteria
C. Potential to prolong QTc interval
D. Employed to treat community acquired pneumonia *(p. 651)*

48.26 *The following fluoroquinolones have augmented activity against gram positive bacteria* ***except:***
A. Lomefloxacin
B. Levofloxacin
C. Gatifloxacin
D. Moxifloxacin *(p. 651)*

49.1 *The beta lactam antibiotics include the following:*
A. Cephalosporins
B. Monobactams
C. Carbapenems
D. All of the above *(p. 653)*

48.23D	48.24D	48.25B	48.26A	49.1D

49.2 *The most likely explanation of differing sensitivities of different bacteria to various penicillins is:*

A. Differing susceptibilities of the various penicillins to β-lactamases produced by different bacteria
B. Differing affinities of penicillin binding proteins present in different bacteria towards various penicillins
C. Differing penetrability of various penicillins into different bacteria
D. Differing rates of cell wall synthesis by different bacteria *(p. 654)*

49.3 *Penicillins interfere with bacterial cell wall synthesis by:*

A. Inhibiting synthesis of N-acetyl muramic acid pentapeptide
B. Inhibiting conjugation between N-acetyl muramic acid and N-acetyl glucosamine
C. Inhibiting transpeptidases and carboxypeptidases which cross link the peptidoglycan residues
D. Counterfeiting for D-alanine in the bacterial cell wall *(p. 654)*

49.4 *The characteristic feature(s) of penicillin G is/are:*

A. It is unstable in aqueous solution
B. Its antibacterial action is unaffected by pus and tissue fluids
C. It is equally active against resting and multiplying bacteria
D. Both 'A' and 'B' are correct *(p. 653, 654)*

49.2B 49.3C 49.4D

49.5 *Gram negative organisms are largely insensitive to benzyl penicillin because:*

A. They produce large quantities of penicillinase
B. They do not utilise D-alanine whose incorporation in the cell wall is inhibited by benzylpenicillin
C. Benzyl penicillin is not able to penetrate deeper into the lipoprotein-peptidoglycan multilayer cell wall of gram negative bacteria
D. Both 'A' and 'B' are correct *(p. 654, 655)*

49.6 *The dominant pharmacokinetic feature of penicillin G is:*

A. It is equally distributed extra- and intracellularly
B. It is rapidly secreted by proximal renal tubules
C. It has low oral bioavailability due to high first pass metabolism in liver
D. It does not cross blood–CSF barrier even when meninges are inflamed *(p. 655)*

49.7 *The penicillin G preparation with the longest duration of action is:*

A. Benzathine penicillin
B. Sodium penicillin
C. Potassium penicillin
D. Procaine penicillin *(p. 656)*

49.8 *If a patient gives history of urticaria, itching and swelling of lips following injection of penicillin G, then:*

A. He will develop similar reaction whenever penicillin is injected
B. He can be given ampicillin safely
C. He can be given oral phenoxymethyl penicillin safely
D. All natural and semisynthetic penicillins are contraindicated for him *(p. 656)*

49.5C 49.6B 49.7A 49.8D

49.9 *The most important reason for highly restricted use of penicillin G injections in present day therapeutics is its:*

A. Narrow spectrum of activity
B. Potential to cause hypersensitivity reaction
C. Short duration of action
D. Neurotoxicity *(p. 656-657)*

49.10 *Intradermal test for penicillin sensitivity should be performed by injecting the following quantity of sodium benzyl penicillin:*

A. 10 U
B. 100 U
C. 1000 U
D. 5000 U *(p. 656)*

49.11 *An intradermal penicillin sensitivity test has been performed on a patient and found to be negative. This indicates that:*

A. Penicillin antibodies are not present in his body
B. He will not develop any reaction when full dose of penicillin is injected
C. He will not develop anaphylactic reaction when full dose of penicillin is injected
D. He is unlikely to develop immediate type of hypersensitivity reaction when full dose of penicillin is injected *(p. 656)*

(Note: Negative intradermal test does not completely rule out the possibility of immediate type of hypersensitivity (including anaphylaxis). It only indicates that such reactions are unlikely in that subject.)

49.9 B 49.10 A 49.11 D

49.12 *Indicate the disease in which penicillin G continues to be used as first line treatment in all cases (unless contraindicated), because the causative organism has not developed resistance so far:*

A. Gonorrhoea
B. Syphilis
C. Staphylococcal abscess
D. Haemophillus influenzae meningitis

(p. 657)

49.13 *Though penicillin G kills the causative organism, it is only of adjuvant value to other measures in:*

A. Diphtheria
B. Subacute bacterial endocarditis
C. Syphilis
D. Anthrax *(p. 657)*

49.14 *Benzathine penicillin injected once every 4 weeks for 5 years or more is the drug of choice for:*

A. Agranulocytosis patients
B. Prophylaxis of bacterial endocarditis in patients with valvular defects
C. Prophylaxis of rheumatic fever
D. Treatment of anthrax *(p. 657, 658)*

49.15 *Which of the following is **not** a semisynthetic penicillin:*

A. Procaine penicillin
B. Ampicillin
C. Cloxacillin
D. Carbenicillin *(p. 658)*

49.12B 49.13A 49.14C 49.15A

49.16 *Semisynthetic penicillins developed so far have overcome the following drawbacks of benzylpenicillin* ***except***:
A. Lack of efficacy against gram negative bacilli
B. Susceptibility to bacterial penicillinase
C. Inactivation by gastric acid
D. Potential to cause hypersensitivity reactions
(p. 658)

49.17 *Choose the semisynthetic penicillin which has an extended spectrum of activity against many gram negative bacilli, is acid resistant but* ***not*** *penicillinase resistant:*
A. Cloxacillin
B. Amoxicillin
C. Phenoxymethyl penicillin
D. Piperacillin *(p. 658, 660)*

49.18 *Features of phenoxymethyl penicillin include the following:*
A. It is acid stable and orally active
B. Its antibacterial spectrum is similar to that of benzyl penicillin
C. It is used for less serious penicillin G sensitive infections
D. All of the above are correct *(p. 658)*

49.19 *Cloxacillin is indicated in infections caused by the following organism(s):*
A. Staphylococci
B. Streptococci
C. Gonococci
D. All of the above *(p. 659)*

49.20 *The most frequent side effect of oral ampicillin is:*
A. Nausea and vomiting
B. Loose motions
C. Constipation
D. Urticaria *(p. 660)*

49.16D 49.17B 49.18D 49.19A 49.20B

49.21 *Amoxicillin is inferior to ampicillin for the treatment of the following infection:*
A. Typhoid
B. Shigella enteritis
C. Subacute bacterial endocarditis
D. Gonorrhoea *(p. 660)*

49.22 *Select the semisynthetic penicillin which is* ***not*** *acid resistant:*
A. Phenoxymethyl penicillin
B. Ampicillin
C. Carbenicillin
D. Cloxacillin *(p. 660-661)*

49.23 *Piperacillin differs from carbenicillin in the following respect(s):*
A. It is more active against Pseudomonas aeruginosa
B. It is active against Klebsiella as well
C. It is acid resistant
D. Both 'A' and 'B' are correct *(p. 661)*

49.24 *Clavulanic acid is combined with amoxicillin because:*
A. It kills bacteria that are not killed by amoxicillin
B. It retards renal excretion of amoxicillin
C. It counteracts the adverse effects of amoxicillin
D. It inhibits beta lactamases that destroy amoxicillin *(p. 661)*

49.21B 49.22C 49.23D 49.24D

49.25 *Amoxicillin + Clavulanic acid is active against the following organisms* ***except:***

A. Methicillin resistant Staph. aureus
B. Penicillinase producing Staph. aureus
C. Penicillinase producing N.gonorrhoeae
D. β-lactamase producing E.coli

(p. 661, 662)

49.26 *The following statement is* ***not*** *true of sulbactam:*

A. It is a broad spectrum β-lactamase inhibitor
B. It does not augment the activity of ampicillin against bacteria that are sensitive to the latter
C. It induces chromosomal β-lactamases
D. Combined with ampicillin, it is highly effective against penicillinase producing N. gonorrhoeae *(p. 662)*

49.27 *Sulbactam differs from clavulanic acid in that:*

A. It is not a progressive inhibitor of β-lactamase
B. It does not inhibit β-lactamase produced by gram negative bacilli
C. It is quantitatively more potent
D. It *per se* inhibits N.gonorrhoeae *(p. 662)*

49.28 *Which of the following is a second generation cephalosporin that is highly resistant to gram negative β-lactamases, and cures penicillinase positive as well as negative gonococcal infection by a single intramuscular dose:*

A. Cephalexin
B. Cefuroxime
C. Cefoperazone
D. Ceftazidime *(p. 664)*

49.25 A 49.26 C 49.27 D 49.28 B

49.29 *Cefotaxime has the following properties* ***except****:*
A. It is highly active against aerobic gram negative bacteria
B. It is the most active cephalosporin against Pseudomonas aeruginosa
C. It produces an active metabolite
D. It has achieved high cure rates in serious hospital acquired infections *(p. 664)*

49.30 *Choose the orally active third generation cephalosporin having good activity against gram positive cocci as well:*
A. Cefdinir
B. Ceftazidime
C. Cefoperazone
D. Ceftizoxime *(p. 665)*

49.31 *Select the 3rd generation cephalosporin that can be used only by parenteral route:*
A. Cefpodoxime proxetil
B. Ceftizoxime
C. Ceftibuten
D. Cefixime *(p. 664, 665)*

49.32 *Select the fourth generation cephalosporin among the following:*
A. Cefpirome
B. Ceftizoxime
C. Ceftazidime
D. Cefuroxime *(p. 663, 666)*

49.33 *Ceftriaxone has all the following attributes* ***except***:
A. It has a long plasma half life of 8 hours
B. It can cause bleeding by prolonging prothrombin time
C. It has attained high cure rates in multiresistant typhoid infection
D. It penetrates CSF poorly and therefore not effective in meningitis *(p. 665)*

49.29 B 49.30 A 49.31 B 49.32 A 49.33 D

49.34 *The third generation cephalosporins differ from the first generation cephalosporins in that they are:*
A. More active against gram positive cocci
B. More active against gram negative enterobacteriaceae
C. Nonimmunogenic
D. Not excreted by tubular secretion *(p. 664)*

49.35 *Choose the correct statement(s) about cefepime:*
A. It is a 4th generation cephalosporin
B. It is active against many bacteria resistant to 3rd generation celphalosporins
C. It is active by the oral route
D. Both 'A' and 'B' are correct *(p. 665, 666)*

49.36 *What is true of cefpirome:*
A. It is a fourth generation cephalosporin
B. It easily penetrates porin channels of gram negative bacteria
C. It inhibits type I β-lactamase producing enterobacteriaceae
D. All of the above *(p. 666)*

49.37 *The β-lactam antibiotic(s) that prolong(s) bleeding time by altering surface receptors on platelets is/are:*
A. Carbenicillin
B. Piperacillin
C. Cefotaxime
D. Both `A' and `B' are correct *(p. 661, 664)*

49.38 *The following statements are true about imipenem* ***except****:*
A. It is a β-lactam antibiotic, but neither a penicillin nor a cephalosporin
B. It is rapidly degraded in the kidney
C. It is safe in epileptics
D. It is always given in combination with cilastatin *(p. 667)*

49.34B 49.35D 49.36D 49.37A 49.38C

50.1 *The most important mechanism by which tetracycline antibiotics exert antimicrobial action is:*

A. They chelate Ca^{2+} ions and alter permeability of bacterial cell membrane
B. They bind to 30S ribosomes and inhibit bacterial protein synthesis
C. They bind to 50S ribosomes and interfere with translocation of the growing peptide chain in the bacteria
D. They interfere with DNA mediated RNA synthesis in bacteria *(p. 668-669)*

50.2 *Select the most potent tetracycline antibiotic:*

A. Demeclocycline
B. Oxytetracycline
C. Minocycline
D. Doxycycline *(p. 670, 671)*

50.3 *The following tetracycline has the potential to cause vestibular toxicity:*

A. Minocycline
B. Demeclocycline
C. Doxycycline
D. Tetracycline *(p. 671, 672)*

50.4 *Mammalian cells are not inhibited by low concentrations of tetracyclines that inhibit sensitive microorganisms because:*

A. Host cells lack active transport mechanism for tetracyclines
B. Host cells actively pump out tetracyclines
C. Protein synthesizing apparatus of host cells has low affinity for tetracyclines
D. Both 'A' and 'C' are correct *(p. 669)*

50.1B	50.2C	50.3A	50.4D

50.5 *Bacteria develop tetracycline resistance by the following mechanisms* ***except:***

A. Losing tetracycline concentrating mechanisms
B. Elaborating tetracycline inactivating enzyme
C. Synthesizing a 'protection protein' which interferes with binding of tetracycline to the target site
D. Actively pumping out tetracycline that has entered the cell *(p. 670)*

50.6 *An 8-year-old child presented with brownish discoloured and deformed anterior teeth. History of having received an antibiotic about 4 years earlier was obtained. Which antibiotic could be responsible for the condition:*

A. Chloramphenicol
B. Tetracycline
C. Erythromycin
D. Gentamicin *(p. 672)*

50.7 *Choose the correct statement about tetracyclines:*

A. Being broad spectrum antibioics they are dependable for empirical treatment of life-threatening infections
B. Currently, they are not the first choice antibiotic for any specific infection
C. They reduce stool volume and duration of diarrhoea in cholera
D. The are preferred for treatment of anaerobic bacterial infections *(p. 672, 673)*

50.5 B 50.6 B 50.7 C

50.8 *The drug of choice for atypical pneumonia due to Mycoplasma pneumoniae is:*

A. Doxycycline
B. Ciprofloxacin
C. Ceftriaxone
D. Gentamicin *(p. 673)*

50.9 *The most suitable tetracycline for use in a patient with impaired renal function is:*

A. Tetracycline
B. Demeclocycline
C. Oxytetracycline
D. Doxycycline *(p. 670, 671)*

50.10 *Compared to older tetracyclines, doxycycline produces a lower incidence of superinfection diarrhoea because:*

A. It is completely absorbed in the small intestines so that drug concentration in the colonic contents is low
B. It is inactivated by the gut microflora
C. It is not active against the microbes of the normal gut flora
D. It is a potent tetracycline and inhibits the superinfection causing microbes as well

(p. 670, 672)

50.11 *Select the antibiotic(s) that can be used to treat nonspecific urethritis due to Chlamydia trachomatis:*

A. Azithromycin
B. Doxycycline
C. Clindamycin
D. Both 'A' and 'B' are correct *(p. 673, 689)*

50.8 A 50.9 D 50.10 A 50.11 D

50.12 *Tetracyclines are still the first choice drugs for the following disease:*

A. Granuloma inguinale
B. Chancroid
C. Syphilis
D. Gonorrhoea in patients allergic to penicillin

(p. 673, 696)

50.13 *Tetracyclines are active against the following gram negative bacteria:*

A. Salmonella typhi
B. Pseudomonas aeruginosa
C. Yersinia pestis
D. All of the above *(p. 669)*

50.14 *A patient treated with capsule oxytetracycline 500 mg 6 hourly complained of epigastric pain. Which of the following measures will you recommend to counteract the side effect:*

A. Take the capsules with milk
B. Take the capsules with meals
C. Take aluminium hydroxide gel 15 minutes before the capsules
D. None of the above measures is suitable. Change the antibiotic if pain is distressing

(p. 670)

50.15 *A child presented with polyuria, weakness and fever. On the basis of investigations he was labelled to be suffering from Fancony syndrome. A history of taking some old left over antibiotic capsules was obtained. What could have been the antibiotic:*

A. Tetracycline
B. Chloramphenicol
C. Ampicillin
D. Cephalexin *(p. 671)*

50.12A 50.13C 50.14D 50.15A

50.16 *Chloramphenicol inhibits bacterial protein synthesis by:*

A. Binding to 30S ribosome and inhibiting attachment of aminoacyl tRNA
B. Binding to 50S ribosome and preventing peptide bond formation
C. Binding to 50S ribosome and blocking translocation of peptide chain
D. Binding to both 30S and 50S ribosome and inducing misreading of mRNA code

(p. 674)

50.17 *Chloramphenicol is more active than tetracyclines against:*

A. Bateroides fragilis
B. Treponema pallidum
C. Streptococci
D. Staphylococci *(p. 674)*

50.18 *The following antibiotic penetrates blood-CSF barrier the best:*

A. Erythromycin
B. Gentamicin
C. Tetracycline
D. Chloramphenicol *(p. 674)*

50.19 *The most important mechanism by which gram negative bacilli acquire chloramphenicol resistance is:*

A. Decreased permeability into the bacterial cell
B. Acquisition of a plasmid encoded for chloramphenicol acetyl transferase
C. Lowered affinity of the bacterial ribosome for chloramphenicol
D. Switching over from ribosomal to mitochondrial protein synthesis *(p. 674)*

50.16B 50.17A 50.18D 50.19B

50.20 *A premature neonate suffered respiratory distress and was given an antibiotic 100 mg/kg/day orally. Over the next two days his condition worsened, he become dull, stopped feeding, developed abdominal distention and an ashen gray appearance. Which is the most likely antibiotic given to him:*

A. Ampicillin
B. Chloramphenicol
C. Erythromycin
D. Ciprofloxacin *(p. 675)*

50.21 *Combination therapy with two (or more) antimicrobials is superior to monotherapy with any single effective drug in case of the following diseases* ***except:***

A. Typhoid fever
B. Leprosy
C. AIDS
D. Subacute bacterial endocarditis *(p. 676)*

50.22 *What is true of drug therapy of typhoid fever:*

A. Combination of chloramphenicol with ciprofloxacin is superior to either drug alone
B. Ceftriaxone (i.v.) is one of the fastest acting and most dependable treatment
C. Prolonged treatment with chloramphenicol eradicates typhoid carrier state
D. All of the above are correct *(p. 676)*

50.23 *What is the most important reason for the restricted use of systemic chloramphenicol:*

A. Emergence of chloramphenicol resistance
B. Its potential to cause bone marrow depression
C. Its potential to cause superinfections
D. Its potential to inhibit the metabolism of many drugs *(p. 675)*

50.20 B 50.21 A 50.22 B 50.23 B

50.24 *The primary reason why chloramphenicol is* ***not*** *being used as the first line drug for typhoid fever in most areas is:*

A. Toxic potential of chloramphenicol
B. Delayed defervescence with chloramphenicol
C. Delayed bacteriological cure with chloramphenicol
D. Spread of chloramphenicol resistance among S. typhi *(p. 676)*

50.25 *Empiric therapy with chloramphenicol is valid in the following conditions* ***except****:*

A. Urinary tract infection
B. Pelvic abscess
C. Endophthalmitis
D. Meningitis in a 4-year-old child *(p. 676, 677)*

51.1 *Aminoglycoside antibiotics have the following property common to all members:*

A. They are primarily active against aerobic gram negative bacilli
B. They are more active in acidic medium
C. They readily enter cells and are distributed in total body water
D. They are nearly completely metabolized in liver *(p. 678)*

51.2 *Which aminoglycoside antibiotic causes more hearing loss than vestibular disturbance as toxic effect:*

A. Streptomycin
B. Gentamicin
C. Kanamycin
D. Sisomicin *(p. 678, 683)*

50.24D 50.25A 51.1A 51.2C

51.3 *Select the class of antibiotics which act by interfering with bacterial protein synthesis, but are bactericidal:*
A. Tetracyclines
B. Aminoglycosides
C. Macrolides
D. Lincosamides *(p. 679)*

51.4 *The antibacterial action of aminoglycoside antibiotics is characterized by:*
A. Concentration dependent rate of bacterial cell killing
B. Concentration dependent prolonged post-antibiotic effect
C. More pronounced bactericidal effect in anaerobic medium
D. Both 'A' and 'B' are correct *(p. 679)*

51.5 *The following antibiotic(s) exert(s) a long postantibiotic effect:*
A. Fluoroquinolones
B. β-lactams
C. Aminoglycosides
D. All of the above *(p. 635, 648, 679)*

51.6 *Aminoglycoside antibiotics exert the following action(s) on sensitive bacteria:*
A. Induce synthesis of defective proteins
B. Make bacterial cell membrane more leaky
C. Augment their own carrier mediated entry into the bacteria
D. All of the above *(p. 679)*

51.3B	51.4D	51.5D	51.6D

51.7 *Bactericidal action of aminoglycoside antibiotics is due to:*

A. Inhibition of bacterial protein synthesis
B. Alteration of bacterial cell membrane permeability
C. Damage to bacterial cell wall
D. Inhibition of bacterial oxidative metabolism

(p. 679)

51.8 *Cross resistance among different members of the following class of antimicrobials is absent / incomplete or unidirectional:*

A. Aminoglycosides
B. Macrolides
C. Tetracyclines
D. Both 'B' and 'C' are correct

(p. 670, 679, 687)

51.9 *The most important mechanism of bacterial resistance to an aminoglycoside antibiotic is:*

A. Plasmid mediated acquisition of aminoglycoside conjugating enzyme
B. Mutational acquisition of aminoglycoside hydrolysing enzyme
C. Mutation reducing affinity of ribosomal protein for the antibiotic
D. Mutational loss of porin channels

(p. 679)

51.10 *Streptomycin sulfate is **not** absorbed orally because it is:*

A. Degraded by gastrointestinal enzymes
B. Destroyed by gastric acid
C. Highly ionized at a wide range of pH values
D. Insoluble in water *(p. 681)*

51.7 B 51.8 A 51.9 A 51.10 C

51.11 *The following is true for gentamicin:*
A. It is more active in acidic medium
B. It has a wide margin of safety
C. It is excreted unchanged, mainly by glomerular filtration
D. It primarily inhibits gram positive bacteria
(p. 678, 682)

51.12 *A 60-year-old patient with creatinine clearance 50 ml/min has to be treated with gentamicin. His daily dose of gentamicin should be reduced to the following percentage of the usual adult dose:*
A. 70%
B. 50%
C. 40%
D. 30% *(p. 682)*

51.13 *Gentamicin differs from streptomycin in that:*
A. It is less nephrotoxic
B. It is used for pseudomonas infections
C. It is not effective in tuberculosis
D. Both 'B' and 'C' are correct *(p. 682, 683)*

51.14 *Select the antibiotic which is equally effective whether injected 8 hourly or 24 hourly, provided the total daily dose remains the same:*
A. Gentamicin
B. Sod. penicillin G
C. Cefazolin
D. Vancomycin *(p. 682)*

51.15 *The aminoglycoside antibiotic which is distinguished by its resistance to bacterial aminoglycoside inactivating enzymes is:*
A. Kanamycin
B. Sisomicin
C. Amikacin
D. Tobramycin *(p. 683)*

51.11C 51.12B 51.13D 51.14A 51.15C

51.16 *Concurrent use of an aminoglycoside antibiotic should be avoided with the following antibiotic:*

A. Ampicillin
B. Vancomycin
C. Ciprofloxacin
D. Rifampin *(p. 681)*

51.17 *Oral neomycin is beneficial in hepatic coma because:*

A. In hepatic failure patients it is absorbed from the intestines
B. It decreases ammonia production by gut bacteria
C. It reacts chemically with ammonia in the gut to prevent its diffusion into blood
D. It induces ammonia detoxifying enzymes in the liver *(p. 684)*

51.18 *Neomycin is widely used as a topical antibiotic because:*

A. It is active against a wide range of bacteria causing superfecial infections
B. It rarely causes contact sensitization
C. It is poorly absorbed from the topical sites of application
D. All of the above are correct *(p. 684, 685)*

51.19 *Prolonged oral therapy with the following antibiotic can damage intestinal villi resulting in steatorrhoea and loose motions:*

A. Ampicillin
B. Tetracycline
C. Neomycin
D. Nystatin *(p. 685)*

51.16B 51.17B 51.18D 51.19C

52.1 *Hepatitis with cholestatic jaundice occurs most frequently as an adverse reaction to the following preparation of erythromycin:*

A. Erythromycin base
B. Erythromycin stearate
C. Erythromycin estolate
D. Erythromycin ethylsuccinate *(p. 687)*

52.2 *Select the antibiotic which inhibits bacterial protein synthesis by interfering with translocation of elongating peptide chain from acceptor site back to the peptidyl site of the ribosome so that ribosome does not move along the mRNA and the peptide chain is prematurely terminated:*

A. Chloramphenicol
B. Erythromycin
C. Tetracycline
D. Streptomycin *(p. 669, 686)*

52.3 *Bacteria become erythromycin resistant by the following mechanisms* ***except:***

A. Becoming less permeable to erythromycin
B. Elaborating an erythromycin esterase enzyme
C. Elaborating a 'protection protein' which blocks the erythromycin binding site
D. Altering the ribosomal binding site through a methylase enzyme *(p. 687)*

52.4 *A patient of bronchial asthma maintained on theophylline developed upper respiratory tract infection. Which antimicrobial if used can increase the risk of developing theophylline toxicity:*

A. Ampicillin
B. Cephalexin
C. Cotrimoxazole
D. Erythromycin *(p. 687)*

52.1C 52.2B 52.3C 52.4D

52.5 *Select the antibiotic which inhibits drug metabolizing isoenzyme CYP3A4 resulting in potentially fatal drug interaction with terfenadine:*
A. Erythromycin
B. Clindamycin
C. Gentamicin
D. Vancomycin *(p. 687-688)*

52.6 *The following antibiotic is a first line drug for treatment of Mycobacterium avium complex infection in AIDS patients:*
A. Clindamycin
B. Clarithromycin
C. Roxithromycin
D. Erythromycin *(p. 689, 708)*

52.7 *Compared to erythromycin, azithromycin has:*
A. Extended antimicrobial spectrum
B. Better gastric tolerance
C. Longer duration of action
D. All of the above *(p. 689)*

52.8 *A single oral dose of the following antibiotic is curative in most patients of nonspecific urethritis due to Chlamydia trachomatis:*
A. Doxycycline
B. Azithromycin
C. Erythromycin
D. Cotrimoxazole *(p. 689, 696)*

52.9 *The following is true of clarithromycin* ***except:***
A. It produces less gastric irritation and pain than erythromycin
B. It is the most active macrolide antibiotic against *Helicobacter pylori*
C. It does not interact with terfenadine or cisapride to cause cardiac arrhythmias
D. It exhibits dose dependent elimination kinetics *(p. 689)*

52.5 A	52.6 B	52.7 D	52.8 B	52.9 C

52.10 *The distinctive features of azithromycin include the following* ***except:***

A. Efficacy against organisms which have developed resistance to erythromycin
B. Marked tissue distribution and intracellular penetration
C. Long terminal elimination half-life
D. Low propensity to drug interactions due to inhibition of cytochrome P450 enzymes

(p. 689)

52.11 *Select the macrolide antibiotic that can be given once daily for 3 days for empirical treatment of ear-nose-throat, respiratory and genital infections:*

A. Erythromycin
B. Azithromycin
C. Roxithromycin
D. Clarithromycin *(p. 689-690)*

52.12 *Roxithromycin has the following advantage(s) over erythromycin:*

A. It is more effective in whooping cough
B. It causes less gastric irritation
C. It has longer plasma half-life
D. Both 'B' and 'C' are correct *(p. 688)*

52.13 *Highest incidence of antibiotic associated pseudomembranous enterocolitis has been noted with the use of:*

A. Ampicillin
B. Chloramphenicol
C. Vancomycin
D. Clindamycin *(p. 690)*

52.10 A 52.11 B 52.12 D 52.13 D

52.14 *Features of clindamycin include the following:*
A. It is primarily active against aerobic gram negative bacilli
B. It can be used topically to treat infected acne vulgaris
C. It is not absorbed orally
D. It is used to treat pseudomembranous enterocolitis *(p. 691, 801)*

52.15 *The following antibiotic is highly active against anaerobic bacteria including Bacteroides fragilis:*
A. Ciprofloxacin
B. Clarithromycin
C. Clindamycin
D. Tobramycin *(p. 690)*

52.16 *Antimicrobials effective against anaerobic bacteria include the following* ***except:***
A. Tobramycin
B. Clindamicin
C. Chloramphenicol
D. Metronidazole *(p. 678, 690, 751)*

52.17 *The drug of choice for treatment of methicillin resistant Staphylococcus aureus infection is:*
A. Cloxacillin
B. Vancomycin
C. Erythromycin
D. Amikacin *(p. 691)*

52.18 *The following is true of vancomycin* ***except:***
A. It is a bactericidal antibiotic active primarily against gram positive bacteria
B. It acts by inhibiting bacterial protein synthesis
C. It is an alternative to penicillin for enterococcal endocarditis
D. It can cause deafness as a dose related toxicity *(p. 691)*

52.14B 52.15C 52.16A 52.17B 52.18B

52.19 *Oral vancomycin is indicated in the following condition:*
A. Appendicitis
B. Campylobacter diarrhoea
C. Bacillary dysentery
D. Antibiotic associated pseudomembranous enterocolitis *(p. 691)*

52.20 *'Red man syndrome' has been associated with rapid intravenous injection of the following antibiotic:*
A. Vancomycin
B. Clindamycin
C. Cefoperazone
D. Piperacillin *(p. 691)*

52.21 *Teicoplanin has the following feature(s):*
A. Antimicrobial activity and indications similar to vancomycin
B. Long elimination half-life
C. Efficacy in systemic infections by oral route
D. Both 'A' and 'B' are correct *(p. 691)*

52.22 *Select the antimicrobial agent that can be used to treat with both methicillin resistant and vancomycin resistant Staphylococcus aureus infection:*
A. Clarithromycin
B. Clindamycin
C. Linezolid
D. Lincomycin *(p. 691, 692)*

52.23 *The following is true of linezolid* ***except:***
A. It inhibits bacterial protein synthesis at an early step
B. It is active against vancomycin resistant enterococci
C. It is the drug of choice for enterococcal endocarditis
D. It can be administered orally as well as by i.v. infusion *(p. 691, 692)*

52.19D 52.20A 52.21D 52.22C 52.23C

52.24 *What is true of Quinupristin-Dalfopristin:*
A. It is a synergistic combination of two similar antibiotics
B. It acts by inhibiting bacterial protein synthesis
C. It is active against most resistant coccal infections
D. All of the above are correct *(p. 692)*

52.25 *Indicate the attribute that is common to both polymyxin B and bacitracin:*
A. Both are active against gram negative bacteria
B. Both are too toxic for systemic use
C. Both act by inhibiting bacterial cell wall synthesis
D. Both are used orally for superinfection diarrhoeas *(p. 692, 693)*

52.26 *Indicate the drug which attains therapeutic antibacterial concentration in the urinary tract but* ***not*** *in other tissues:*
A. Pefloxacin
B. Amikacin
C. Nitrofurantoin
D. Cephalexin *(p. 693)*

52.27 *Choose the correct statement about methenamine (hexamine):*
A. It acts by getting converted to mandelic acid in the urinary tract
B. It releases formaldehyde in acidic urine which inturn kills bacteria
C. It is highly effective in acute urinary tract infections
D. It is the preferred urinary antiseptic in patients with liver disease *(p. 694)*

52.24D 52.25B 52.26C 52.27B

52.28 *Acidic urine augments the antibacterial action of the following drug:*

A. Ciprofloxacin
B. Cotrimoxazole
C. Gentamicin
D. Nitrofurantoin *(p. 693, 695)*

52.29 *Choose the correct statement in relation to treatment of urinary tract infection (UTI):*

A. Majority of UTIs are caused by gram positive bacteria
B. Smaller doses of the antimicrobial agent suffice for lower UTI
C. Fluid restriction is recommended so that the antimicrobial drug gets concentrated in urine
D. Most acute UTIs are treated with a combination antimicrobial regimen *(p. 694)*

52.30 *The drug of choice for penicillinase producing Neisseria gonorrhoeae urethritis is:*

A. Amoxicillin
B. Erythromycin
C. Ceftriaxone
D. Doxycycline *(p. 696)*

52.31 *The preparation of penicillin preferred for treatment of syphilis is:*

A. Sodium penicillin G
B. Benzathine penicillin G
C. Penicillin V
D. Ampicillin *(p. 657, 696)*

53.1 *First line antitubercular drugs include the following* ***except****:*

A. Ciprofloxacin
B. Streptomycin
C. Pyrazinamide
D. Ethambutol *(p. 698, 699)*

52.28D 52.29B 52.30C 52.31B 53.1A

53.2 *As an antitubercular drug, isoniazid has the following advantages* ***except***:
A. It is tuberculocidal
B. It acts on both extra and intracellular bacilli
C. Tubercle bacilli do not develop resistance against it
D. It is cheap *(p. 699)*

53.3 *What is true of isonicotinic acid hydrazide (INH):*
A. An active transport mechanism concentrates INH inside sensitive mycobacteria
B. Sensitive mycobacteria generate an active metabolite of INH through a catalase-peroxidase enzyme
C. The most common mechanism of INH resistance is mutation in the target gene which encodes for a specific fatty acid synthase enzyme
D. Both 'A' and 'B' are correct *(p. 699)*

53.4 *A patient of pulmonary tuberculosis treated with rifampin + isoniazid + pyrazinamide developed parasthesias, weakness, dizziness, ataxia and depressed tendon reflexes. Which of the following measures would you recommend:*
A. Temporarily discontinue isoniazid and add pyridoxine
B. Substitute isoniazid with thiacetazone
C. Substitute pyrazinamide with ethambutol
D. Substitute rifampin with streptomycin
(p. 700)

53.5 *Which of the following antitubercular drugs is* ***not*** *hepatotoxic:*
A. Isoniazid
B. Rifampicin
C. Pyrazinamide
D. Ethambutol *(p. 700-701)*

53.2C	53.3D	53.4A	53.5D

53.6 *The intermittently multiplying (spurter) tubercle bacilli present within caseous material having low oxygen tension are most susceptible to:*

A. Ethambutol
B. Rifampin
C. Streptomycin
D. Pyrazinamide *(p. 700, 704)*

53.7 *Choose the correct statement about rifampin:*

A. It is the most active drug on slow growing tubercle bacilli
B. Its antitubercular efficacy is lower than that of isoniazid
C. It is active against many atypical mycobacteria
D. It does not effectively cross blood-CSF barrier *(p. 700)*

53.8 *Rifampin kills tubercle bacilli by:*

A. Binding to mycobacterial DNA dependent RNA polymerase
B. Inhibiting mycobacterial DNA synthesis
C. Inhibiting synthesis of mycolic acids in mycobacteria
D. Damaging mycobacterial mitochondria *(p. 700)*

53.9 *Occurrence of the following adverse reaction absolutely contraindicates further use of rifampin in the treatment of tuberculosis:*

A. Respiratory syndrome
B. Cutaneous syndrome
C. Flu syndrome
D. Abdominal syndrome *(p. 700)*

53.6 B 53.7 C 53.8 A 53.9 A

53.10 *Apart from its use in tuberculosis and leprosy, rifampin is a first line drug for the following infective disease:*

A. Toxoplasmosis
B. Brucellosis
C. Donovanosis
D. Leishmaniasis *(p. 701)*

53.11 *Which first line antitubercular drug is only tuberculostatic and* ***not*** *tuberculocidal:*

A. Rifampin
B. Isoniazid
C. Ethambutol
D. Pyrazinamide *(p. 701)*

53.12 *Ethambutol is not used in children below 6 years of age because:*

A. Young children are intolerant to ethambutol
B. Ethambutol causes growth retardation in young children
C. It is difficult to detect ethambutol induced visual impairment in young children
D. In young children visual toxicity of ethambutol is irreversible *(p.701)*

53.13 *In a patient of pulmonary tuberculosis, pyrazinamide is most active on the following subpopulation of tubercle bacilli:*

A. Rapidly multiplying bacilli located on cavity walls
B. Slow growing bacilli within macrophages and at sites showing inflammatory response
C. Intermittently multiplying bacilli within caseous material
D. Dormant bacilli *(p. 701, 704)*

53.10B 53.11C 53.12C 53.13B

53.14 *The characteristic toxicity of ethambutol is:*
A. Hepatitis
B. Visual defects
C. Vestibular disturbance
D. Renal damage *(p. 701)*

53.15 *The antitubercular action of thiacetazone has the following feature(s):*
A. It is a low efficacy antitubercular drug
B. It is combined with isoniazid to improve anti-tubercular efficacy of the latter
C. It is combined with isoniazid to prevent development of resistant infection
D. Both 'A' and 'C' are correct *(p. 702)*

53.16 *Paraaminosalicylic acid is a second line antitubercular drug because of the following feature(s)*:
A. Low antitubercular efficacy
B. Frequent side effects
C. Bulky daily dose
D. All of the above *(p. 702)*

53.17 *The primary reason for **not** using ethionamide as a first line antitubercular drug is:*
A. It produces gastrointestinal intolerance and hepatitis
B. It is only tuberculostatic and not tuberculocidal
C. Ethionamide resistance has become widespread
D. It has to be given by injection *(p. 702)*

53.14B 53.15D 53.16D 53.17A

53.18 *Indicate the second line antitubercular drug that is being preferred to supplement ethambutol + streptomycin in case of hepatotoxicity due to isoniazid/rifampin/pyrazinamide:*

A. Ethionamide
B. Cycloserine
C. Ofloxacin
D. Capreomycin *(p. 703)*

53.19 *Clarithromycin is used for the following:*

A. Multidrug resistant M.tuberculosis infection
B. M.avium complex infection in AIDS patient
C. M.tuberculosis infection in a patient who develops jaundice due to first line antitubercular drugs
D. Both 'A' and 'B' are correct *(p. 703)*

53.20 *The most important reason for using a combination of chemotherapeutic agents in the treatment of tuberculosis is:*

A. To prevent development of resistance to the drugs
B. To obtain bactericidal effect
C. To broaden the spectrum of activity
D. To reduce adverse effects of the drugs *(p. 704)*

53.21 *In the short course regimen for treatment of tuberculosis, pyrazinamide and ethambutol are used for:*

A. Initial one month
B. Initial two months
C. Last two months
D. Throughout the course *(p. 706)*

53.18C 53.19B 53.20A 53.21B

53.22 *Addition of pyrazinamide and ethambutol for the first two months to the isoniazid + rifampin therapy of tuberculosis serves the following purpose(s):*

A. Reduces the total duration of therapy to 6 months
B. Produces more rapid sputum conversion
C. Permits reduction of rifampin dose
D. Both 'A' and 'B' are correct *(p. 705)*

53.23 *The short course chemotherapy of tuberculosis has practically replaced the conventional regimens because:*

A. It is more efficatious
B. It is less toxic
C. It has yielded higher completion rates
D. All of the above are correct *(p. 704)*

53.24 *What is true of DOTS strategy for treatment of tuberculosis:*

A. It consists of an initial intensive phase and a later continuation phase
B. The dose of antitubercular drugs is reduced after clinical response occurs
C. The patient himself is made responsible for administering antitubercular drugs
D. All of the above are correct *(p. 705)*

53.25 *The WHO guidelines for treatment of tuberculosis with short course chemotherapy under the DOTS strategy categorise patients on the basis of the following:*

A. Site and severity of the disease
B. Sputum smear positivity / negativity
C. History of earlier antitubercular drug use
D. All of the above *(p. 705, 706)*

53.22D 53.23D 53.24A 53.25D

53.26 *According to the current WHO guidelines, new (untreated) sputum smear positive cases of pulmonary tuberculosis are to be treated with the following regimen:*

A. Isoniazid + Rifampin + Pyrazinamide for 6 months
B. Isoniazid + Thiacetazone + Rifampin for 2 months followed by isoniazid + thiacetazone for 6 months
C. Isoniazid + Rifampin for 6 months with additional Pyrazinamide + Ethambutol / Streptomycin during the initial 2 months
D. Isoniazid + Rifampin for 6 months with additional Pyrazinamide during the initial 2 months *(p. 706)*

53.27 *As per WHO guidelines, treatment of failure or relapse (category II) patients of smear positive pulmonary tuberculosis differs from that of new cases in the following respect(s):*

A. All 5 first line antitubercular drugs are given in the initial intensive phase
B. Duration of intensive phase is increased to 5 months
C. Three drugs (HRE) are given in the continuation phase instead of two (HR)
D. Both 'A' and 'C' *(p. 706, 707)*

53.28 *Chemoprophylaxis for tuberculosis is recommended in the following category of subjects* ***except****:*

A. Mantoux positive child in the family of a tuberculosis patient
B. All Mantoux positive adult contacts of tubercular patients
C. Adult contacts of sputum positive tuberculosis patient who show Mantoux conversion
D. HIV positive subjects with a positive Mantoux test *(p. 708)*

53.26C 53.27D 53.28B

53.29 *The current WHO guidelines recommend isoniazid + rifampin + pyrazinamide for initial 2 months followed by isoniazid + rifampin for another 4 months for the following category of tubercular patients:*

A. New sputum positive cases of pulmonary tuberculosis
B. New sputum negative cases of pulmonary tuberculosis
C. Sputum positive patients of pulmonary tuberculosis who have interrupted treatment for more than 2 months
D. Tubercular meningitis patients *(p. 707)*

53.30 *Under the WHO guidelines for treatment of new cases of tuberculosis, when isoniazid + ethambutol are used in the continuation phase instead of isoniazid + rifampin,, the duration of this phase is:*

A. 2 months
B. 4 months
C. 6 months
D. 8 months *(p. 706)*

53.31 *A woman aged 25 years is diagnosed to be suffering from pulmonary tuberculosis. She is also 8 weeks pregnant. Antitubercular therapy for her should be:*

A. Started immediately
B. Delayed till end of first trimester
C. Delayed till end of second trimester
D. Delayed till after confinement *(p. 707)*

53.32 *Corticosteroids are absolutely contraindicated in the following type of tuberculosis:*

A. Miliary
B. Meningeal
C. Intestinal
D. Renal *(p. 708)*

53.29B 53.30C 53.31A 53.32C

53.33 *Multidrug resistant (MDR) tuberculosis is defined as resistance to:*

A. Any two or more antitubercular drugs
B. Isoniazid + any other antitubercular drug
C. Isoniazid + Rifampin ± any one or more antitubercular drugs
D. All five first line antitubercular drugs

(p. 707)

53.34 *Mycobact. tuberculosis infection in a HIV infected patient is treated with:*

A. The same antitubercular regimen as HIV negative patient
B. Four first line antitubercular drugs for 2 months followed by a longer continuation phase of 7 months with rifampin + isoniazid
C. All 5 first line antitubercular drugs for 9 months
D. Clarithromycin + Ciprofloxacin + Rifabutin for 12 months *(p. 708)*

53.35 *The drugs used to treat Mycobact. avium complex infection in AIDS patients include the following* ***except:***

A. Isoniazid
B. Clarithromycin
C. Ethambutol
D. Ciprofloxacin *(p. 708)*

54.1 *The most important dose dependent toxicity of dapsone is:*

A. Methemoglobinemia
B. Haemolysis
C. Hepatitis
D. Dermatitis *(p. 710)*

53.33C 53.34B 53.35A 54.1B

54.2 *The following is true of clofazimine* ***except****:*
A. It is cidal to Mycobacterium leprae
B. It has additional antiinflammatory property
C. It has a very long elimination half life
D. It discolours skin and sweat *(p. 710)*

54.3 *Which fluoroquinolone is highly active against Mycobact. leprae and is being used in alternative multidrug therapy regimens:*
A. Norfloxacin
B. Ofloxacin
C. Ciprofloxacin
D. Lomefloxacin *(p. 711)*

54.4 *The tetracycline with highest antileprotic activity is:*
A. Minocycline
B. Doxycycline
C. Demeclocycline
D. Oxytetracycline *(p. 711)*

54.5 *Select the macrolide antibiotic having clinically useful antileprotic activity:*
A. Azithromycin
B. Clarithromycin
C. Erythromycin
D. Roxithromycin *(p. 711)*

54.6 *Multidrug therapy with dapsone + rifampin ± clofazimine is the treatment of choice for:*
A. Multibacillary leprosy
B. Paucibacillary leprosy
C. Dapsone resistant leprosy
D. All forms of leprosy *(p. 712)*

54.2 A	54.3 B	54.4 A	54.5 B	54.6 D

54.7 *Currently, monotherapy of leprosy with dapsone is recommended for:*

A. Paucibacillary leprosy only
B. Multibacillary leprosy only
C. Both paucibacillary and multibacillary leprosy
D. Neither paucibacillary nor multibacillary leprosy *(p. 712)*

54.8 *The multidrug therapy of leprosy is superior to monotherapy on the following account(s):*

A. It prevents emergence of dapsone resistance
B. It is effective in cases with primary dapsone resistance
C. It shortens the total duration of drug therapy and improves compliance
D. All of the above *(p. 712)*

54.9 *If a multibacillary leprosy patient treated with standard fixed duration multidrug therapy relapses, he should be treated with:*

A. The same rifampin + dapsone + clofazimine regimen
B. Clofazimine + ofloxacin + minocycline
C. Clofazimine + ofloxacin + clarithromycin
D. Ofloxacin + minocycline + clarithromycin *(p. 712, 713)*

54.10 *Which antileprotic drug suppresses lepra reaction and reversal reaction as well:*

A. Dapsone
B. Rifampin
C. Clofazimine
D. Minocycline *(p. 710, 714)*

54.7D 54.8D 54.9A 54.10C

54.11 *In the multidrug therapy of leprosy, rifampicin is given:*

A. Daily
B. On alternate days
C. Weekly
D. Monthly *(p. 713)*

54.12 *The following is true of multidrug therapy of leprosy* ***except:***

A. It has been highly successful in paucibacillary but not in multibacillary cases
B. Relapse rate is very low in both paucibacillary and multibacillary cases
C. No resistance to rifampin develops despite its use once a month
D. Prevalence of lepra reaction is not higher compared to dapsone monotherapy *(p. 712-713)*

54.13 *Currently, under the mass programme (WHO/NLEP), the duration of multidrug therapy for multibacillary leprosy is:*

A. Two years fixed duration for all cases
B. One year fixed duration for all cases
C. Two years or more till disease inactivity is attained
D. One year for cases with bacillary index 3 or less and two years for cases with bacillary index 4 or more *(p. 713)*

54.14 *A single dose rifampin + ofloxacin + minocycline treatment has been recommended for:*

A. All cases of paucibacillary leprosy
B. All relapse cases of paucibacillary leprosy
C. Single skin lesion paucibacillary leprosy
D. None of the above *(p. 714)*

54.11D 54.12A 54.13B 54.14C

55.1 *In addition to fungi, amphotericin B is active against the following pathogen:*
A. Anaerobic bacteria
B. Giardia
C. Leishmania
D. Rickettsiae *(p. 716)*

55.2 *The polyene antibiotics act by:*
A. Inhibiting fungal cytochrome P450 enzyme
B. Binding to ergosterol and creating micropores in fungal cell membrane
C. Inhibiting fungal DNA synthesis
D. Disorienting microtubules in fungal cells *(p. 716)*

55.3 *Amphotericin B is **not** effective in the following fungal disease:*
A. Cryptococcosis
B. Histoplasmosis
C. Blastomycosis
D. Dermatophytosis *(p. 716)*

55.4 *The most important toxicity of amphotericin B is:*
A. Nephrotoxicity
B. Neurotoxicity
C. Hepatotoxicity
D. Bone marrow depression *(p. 717)*

55.5 *The newer lipid formulations of amphotericin B differ from the conventional formulation in the following respects **except:***
A. They are more efficacious
B. They produce milder acute reaction
C. They are less nephrotoxic
D. They produce milder anaemia *(p. 716)*

55.1 C	55.2 B	55.3 D	55.4 A	55.5 A

55.6 *Indicate the antifungal antibiotic which is used intravenously for systemic mycosis:*
A. Griseofulvin
B. Nystatin
C. Amphotericin B
D. Hamycin *(p. 716)*

55.7 *The drug of choice for monilial diarrhoea is:*
A. Flucytosine
B. Nystatin
C. Natamycin
D. Ketoconazole *(p. 718)*

55.8 *Griseofulvin is indicated in:*
A. All types of tinea infection
B. Onychomycosis
C. Pityriasis versicolor
D. Both 'B' and 'C' *(p. 719)*

55.9 *Select the antifungal drug which is administered only by the oral route:*
A. Amphotericin B
B. Ketoconazole
C. Griseofulvin
D. Tolnaftate *(p. 718)*

55.10 *The most probable mechanism of action of imidazole antifungal drugs is:*
A. They bind to ergosterol in fungal cell membrane and make it leaky
B. They interfere with ergosterol synthesis by fungi
C. They interfere with fungal mitosis
D. They block oxidative phosphorylation in fungi *(p. 719)*

55.6C	55.7B	55.8B	55.9C	55.10B

55.11 *Clotrimazole is used for the following conditions* ***except:***
A. Monilial diarrhoea
B. Monilial vaginitis
C. Otomycosis
D. Tinea cruris *(p. 720)*

55.12 *Which antifungal agent is effective in both dermatophytosis as well as systemic mycosis:*
A. Amphotericin B
B. Griseofulvin
C. Clotrimazole
D. Ketoconazole *(p. 721)*

55.13 *Adverse effects of ketoconazole include the following* ***except:***
A. Gynaecomastia
B. Oligozoospermia
C. Kidney damage
D. Menstrual irregularities *(p. 720)*

55.14 *The following statement is true about ketoconazole* ***except****:*
A. It is less toxic than amphotericin B
B. It produces a slower response than amphotericin B in systemic mycosis
C. Given orally it is the first line treatment for vaginal candidiasis
D. It is not effective in fungal meningitis
(p. 720,721)

55.15 *Choose the azole antifungal drug which is used only topically:*
A. Ketoconazole
B. Fluconazole
C. Itraconazole
D. Econazole *(p. 720)*

55.11A 55.12D 55.13C 55.14C 55.15D

55.16 *Fluconazole differs from ketoconazole in that:*

A. It is not active by the oral route
B. It is a more potent inhibitor of drug metabolism
C. It is not effective in cryptococcal meningitis
D. It is unlikely to produce anti-androgenic side effects *(p. 721)*

55.17 *Fluconazole offers the following advantage(s) over ketoconazole:*

A. It is longer acting
B. Its absorption from stomach is not dependent on gastric acidity
C. It produces fewer side effects
D. All of the above *(p. 721)*

55.18 *The following is applicable to itraconazole* ***except:***

A. It has largely replaced ketoconazole for treatment of systemic mycosis
B. It does not inhibit human steroid hormone synthesis
C. It is preferred for the treatment of fungal meningitis
D. It can interact with terfenadine to produce ventricular arrhythmias *(p. 722)*

55.19 *Fluconazole is more effective than intraconazole in the following systemic fungal disease:*

A. Pulmonary histoplasmosis
B. Cryptococcal meningitis
C. Nonmeningeal blastomycosis
D. Disseminated sporotrichosis *(p. 717, 722)*

55.16D 55.17D 55.18C 55.19B

55.20 *The only azole antifungal drug which has some activity against moulds like Aspergillus is:*
A. Itraconazole
B. Fluconazole
C. Miconazole
D. Ketoconazole *(p. 717, 722)*

55.21 *Select the drug that is fungicidal and acts by inhibiting fungal squalene epoxidase enzyme:*
A. Ketoconazole
B. Terbinafine
C. Tolnaftate
D. Hamycin *(p. 723)*

55.22 *The following drugs are effective in systemic mycosis* ***except:***
A. Terbinafine
B. Itraconazole
C. Ketoconazole
D. Fluconazole *(p. 722, 723)*

55.23 *The distinctive feature of terbinafine is:*
A. It is highly effective in histoplasmosis
B. It can be used topically as well as orally for dermatophytosis
C. It inhibits *Mucor* and *Aspergillus* as well
D. Applied intravaginally it cures both candida as well as trichomonas vaginitis *(p. 723)*

55.24 *The following are topical antifungal drugs* ***except****:*
A. Ciclopirox olamine
B. Tolnaftate
C. Crotamiton
D. Terbinafine *(p. 723-724, 811)*

55.20A 55.21B 55.22A 55.23B 55.24C

56.1 *Iodoxuridine is indicated in:*
A. Herpes simplex keratitis
B. Herpes zoster
C. Chickenpox
D. All of the above *(p. 726)*

56.2 *The high virus selectivity of acyclovir is due to:*
A. Its preferential uptake by virus infected cells
B. Need of virus specific enzyme for its conversion to the active metabolite
C. Its action on virus directed reverse transcriptase which does not occur in non-infected cells
D. Both 'A' and 'B' are correct *(p. 726)*

56.3 *Which of the following viruses is most susceptible to acyclovir:*
A. Herpes simplex type I virus
B. Herpes simplex type II virus
C. Varicella-zoster virus
D. Epstein-Barr virus *(p. 726)*

56.4 *What is true of acyclovir treatment of genital herpes simplex:*
A. Topical treatment affords symptomatic relief in primary as well as recurrent disease
B. Oral therapy for 10 days affords symptomatic relief as well as prevents recurrences
C. Oral therapy for 10 days affords symptomatic relief but does not prevent recurrences
D. Continuous long-term topical therapy is recommended to prevent recurrences
(p. 726-727)

56.1A	56.2D	56.3A	56.4C

56.5 *Ganciclovir is preferred over acyclovir in the following condition:*

A. Herpes simplex keratitis
B. Herpes zoster
C. Chickenpox
D. Cytomegalovirus retinitis in AIDS patients

(p. 727-728)

56.6 *Choose the correct statement about famciclovir:*

A. It is active against acyclovir resistant strains of herpes simplex virus
B. It does not need conversion to an active metabolite
C. It is used orally to treat genital herpes simplex
D. It is the drug of choice for cytomegalovirus retinitis *(p. 727)*

56.7 *Zidovudine inhibits the following virus/viruses:*

A. Human immunodeficiency virus
B. Cytomegalovirus
C. Hepatitis B virus
D. Both 'A' and 'B' *(p. 728)*

56.8 *Currently, monotherapy with zidovudine is recommended for:*

A. Asymptomatic HIV positive subjects with CD4 cell count more than 200/µl
B. Asymptomatic HIV positive subjects with CD4 cell count less than 200/µl
C. HIV positive subjects with opportunistic infection
D. None of the above *(p. 729)*

56.5D 56.6C 56.7A 56.8D

56.9 *Though the following drug reduces HIV titre, it is used only to treat associated cytomegalovirus infection in AIDS patients:*
A. Didanosine
B. Foscarnet
C. Acyclovir
D. Saquinavir *(p. 728)*

56.10 *The virus directed reverse transcriptase enzyme is inhibited by:*
A. Amantadine
B. Zidovudine
C. Vidarabine
D. Acyclovir *(p. 728)*

56.11 *The following anti-HIV drug should not be combined with zidovudine because of mutual antagonism:*
A. Stavudine
B. Lamivudine
C. Nevirapine
D. Ritonavir *(p. 729)*

56.12 *Select the drug that is active against both HIV and hepatitis B virus:*
A. Lamivudine
B. Indinavir
C. Didanosine
D. Efavirenz *(p. 729, 730)*

56.13 *Antiretroviral treatment affords the following benefit(s) in HIV infection:*
A. Increases CD4 leucocyte count
B. Reduces the incidence of opportunistic infections in AIDS patients
C. Increases survival time in AIDS patients
D. All of the above *(p. 729, 731)*

56.9B 56.10B 56.11A 56.12A 56.13D

56.14 *A health worker got accidentally exposed to HIV infected biological sample. Antiretroviral treatment will achieve the following in him:*
A. Reduce the risk of contracting HIV infection
B. Rule out the possibility of contracting HIV infection
C. Prevent appearance of HIV seropositivity but not HIV infection in him
D. None of the above *(p. 732)*

56.15 *Select the drug that acts by inhibiting HIV protease enzyme:*
A. Zalcitabine
B. Efavirenz
C. Stavudine
D. Nelfinavir *(p. 725, 730)*

56.16 *Anti-HIV drug therapy is recommended in the following category of HIV exposed subjects:*
A. HIV positive symptomatic patients with opportunistic infections
B. HIV positive asymptomatic subjects with CD4 cell count more than 400/µl
C. HIV positive asymptomatic subjects with CD4 cell count less than 200/µl
D. Both 'A' and 'C' *(p. 731)*

56.17 *Antiretroviral therapy is not recommended in asymptomatic HIV infected subjects with CD4 cell count more than 350/µl because of the following reason(s):*
A. All antiretroviral drugs lose efficacy after some time
B. Adverse effects of antiretroviral drugs compromise the quality of life of asymptomatic subjects
C. The treated subjects may produce and transmit drug resistant virus
D. All of the above *(p. 731)*

56.14A 56.15D 56.16C 56.17D

56.18 *Select the drug which directly inhibits HIV-reverse transcriptase without the need for intracellular activation by phosphorylation:*

A. Nelfinavir
B. Nevirapine
C. Stavudine
D. Didanosine *(p. 730)*

56.19 *According to current guidelines, previously untreated symptomatic HIV patients should be treated with:*

A. Zidovudine alone
B. Zidovudine + zalcitabine
C. Zidovudine + indinavir
D. Any two nucleoside reverse transcriptase inhibitors + one protease inhibitor *(p. 732)*

56.20 *Indicate the drug(s) that is/are used to treat chronic hepatitis B:*

A. Human interferon α
B. Lamivudine
C. Amantadine
D. Both 'A' and 'B' *(p. 730, 734)*

56.21 *Choose the correct statement(s) about retroviral protease inhibitors:*

A. They act at an early step in HIV replication
B. They are more active in inhibiting HIV than zidovudine
C. They inhibit CYP3A4 and interact with many other drugs
D. Both 'B' and 'C' are correct *(p. 730)*

56.18B 56.19D 56.20D 56.21D

56.22 *An AIDS patient treated with zidovudine + lamivudine + nelfinavir developed intolerable adverse effects. Then:*

A. Dose of all three drugs should be reduced to half
B. All three drugs should be stopped or substituted simultaneously
C. The drugs should be stopped one by one
D. Two drugs should be stopped while continuing the third *(p. 731, 732)*

56.23 *The HIV titer of an AIDS patient was found to be reduced but still detectable after 6 months of tripple drug anti-HIV therapy. The best course of action in this patient is:*

A. Continue the same 3 drugs for another 3 months
B. Replace all 3 drugs with a set of another 3 drugs
C. Replace 2 drugs and continue one previously used drug
D. Replace one drug and continue two previously used drugs *(p. 732)*

56.24 *Presently, the goal of antiretroviral therapy is:*

A. Eradication of HIV from the body of the patient
B. Inhibit viral replication to undetectable levels
C. Restore immune competence of the patient to effective level
D. Both 'B' and 'C' *(p. 731)*

56.22B 56.23B 56.24D

56.25 *Indicate the anti-HIV regimen that is generally reserved for advanced cases of AIDS or for repeated treatment failures:*

A. Two nucleoside reverse transcriptase inhibitors (NRTIs) + one protease inhibitor (PI)
B. Three NRTIs
C. Two NRTIs + one non-NRTI
D. One NRTI + one non-NRTI + one PI *(p. 732)*

56.26 *The initial regimen for antiretroviral therapy of previously untreated HIV patient consist of:*

A. Two nucleoside reverse transcriptase inhibitors (NRTIs) + one protease inhibitor (PI)
B. Two NRTIs + one non-NRTI
C. Three NRTIs
D. Any of the above *(p. 732)*

56.27 *Choose the correct statement about amantadine:*

A. It is an antimetabolite used for viral infections
B. It prevents penetration of the virus into the host cell
C. It is used to protect high risk subjects during an influenza A_2 epidemic
D. Concurrent administration of amantadine prevents antibody response to influenza vaccine *(p. 733)*

56.28 *The antiviral action of amantadine is exerted through:*

A. Interaction with the viral M2 protein
B. Interaction with a virus directed thymidine kinase
C. Inhibition of a viral protease enzyme
D. Inhibition of viral RNA mediated DNA synthesis *(p. 732)*

56.25D 56.26D 56.27C 56.28A

56.29 *What is true about human interferon α:*

A. It is used to treat HIV infection
B. It is used to treat Kaposi's sarcoma in AIDS patients
C. It is curative for hepatitis B virus infection
D. It is active orally *(p. 733-734)*

57.1 *Select the drug which is a causal prophylactic for both falciparum and vivax malaria but is not used as prophylactic on mass scale due to risk of severe reaction in some individuals:*

A. Mefloquine
B. Amodiaquine
C. Primaquine
D. Pyrimethamine *(p. 737)*

57.2 *Erythrocytic schizontocide antimalarial drugs are used as:*

A. Suppressive prophylactic
B. Clinical curative
C. Radical curative for *P.vivax*
D. Both 'A' and 'B' *(p. 737, 738)*

57.3 *The following drug is a causal prophylactic for falciparum malaria and suppressive prophylactic for vivax malaria:*

A. Chloroquine
B. Mepacrine
C. Quinine
D. Proguanil *(p. 737, 744)*

56.29B	57.1C	57.2D	57.3D

57.4 *An adult male living in nonmalarious area has to visit an area where chloroquine resistant P. falciparum is prevalent. He is intolerant to mefloquine and his G-6PD status is unknown. Select the drug that you will prescribe for prophylaxis of malaria:*

A. Primaquine
B. Doxycycline
C. Amodiaquine
D. Quinine *(p. 738)*

57.5 *The total dose of chloroquine (base) for treatment of an episode of malarial fever in a nonimmune adult is:*

A. 1000 mg
B. 1500 mg
C. 2000 mg
D. 2500 mg *(p. 738)*

57.6 *Recrudescence of malaria refers to recurrence of malarial fever due to:*

A. Reinfection of the patient by mosquito bite
B. Reinfection of blood by exoerythrocytic hypnozoites
C. Incomplete clearance of schizonts from blood
D. Any of the above *(p. 738)*

57.7 *The following drug should be used only as clinical curative but not as prophylactic in malaria:*

A. Pyrimethamine + sulfadoxine
B. Proguanil
C. Primaquine
D. Mefloquine *(p. 738, 745)*

57.4 B 57.5 B 57.6 C 57.7 A

57.8 *If a drug is active against the preerythrocytic stage of the malarial parasite it will be useful as a:*
A. Suppressive prophylactic
B. Causal prophylactic
C. Clinical curative
D. Radical curative *(p. 737)*

57.9 *Chemoprophylaxis of malaria is recommended for the following category of subjects:*
A. Residents of nonendemic areas
B. Residents of endemic areas
C. Travellers from nonendemic to endemic areas
D. Travellers from endemic to nonendemic areas *(p. 738)*

57.10 *Indicate the drug that is a slow acting low efficacy blood schizontocide that should* ***not*** *be used as a clinical curative:*
A. Proguanil
B. Chloroquine
C. Quinine
D. Mefloquine *(p. 738, 744)*

57.11 *A patient of vivax malaria was treated with the standard dose of chloroquine. After 6 weeks he reported back with a relapse. Which drug will you use to treat the relapse episode:*
A. Chloroquine
B. Primaquine
C. Pyrimethamine + sulfadoxine
D. Mefloquine *(p. 738)*

57.8 B 57.9 C 57.10 A 57.11 A

57.12 *Chloroquine resistant P. falciparum malaria can be cured by the following drugs* ***except:***

A. Quinine
B. Pyrimethamine + sulfadoxine
C. Primaquine
D. Artesunate *(p. 738)*

57.13 *Select the correct statement about primaquine:*

A. It has no role in falciparum malaria
B. It is used as a gametocidal drug in falciparum malaria
C. It is combined with chloroquine to treat resistant P. falciparum infection
D. It is used to prevent recrudescence of falciparum malaria *(p. 739, 747)*

57.14 *Radical cure of vivax malaria should be attempted in:*

A. Areas where only sporadic cases occur
B. Endemic areas with effective vector control measures
C. Endemic areas not covered by vector control
D. Both 'A' and 'B' are correct *(p. 739)*

57.15 *The following drug is a radical curative in vivax malaria:*

A. Quinine
B. Primaquine
C. Mefloquine
D. Chloroquine *(p. 739)*

57.12C 57.13B 57.14D 57.15B

57.16 *The regimens recommended for treatment of chloroquine resistant P.falciparum malaria in an adult include the following* ***except:***

A. Quinine 10 mg/kg/8 hourly+ doxycycline 100 mg/day for 7 days
B. Quinine 10 mg/kg 3 times a day x 7 days with pyrimethamine 75 mg + sulfadoxine 1500 mg on first day
C. Mefloquine 0.5 g daily for 7 days
D. Artemether 80 mg i.m./twice on first day followed by once daily for 4 days *(p. 738)*

57.17 *Chloroquine acts as:*

A. Preerythrocytic schizontocide for both P. falciparum and P. vivax
B. Erythrocytic schizontocide for both P. falciparum and P. vivax
C. Exoerythrocytic schizontocide for P. vivax
D. Gametocidal for P. falciparum *(p. 737, 739)*

57.18 *In addition to malarial parasite, chloroquine is active against:*

A. Microfilariae
B. Trichomonas vaginalis
C. Entamoeba histolytica
D. Dermatophytes *(p. 740)*

57.19 *Which of the following drugs is suitable for treatment of malaria during pregnancy:*

A. Quinine
B. Chloroquine
C. Pyrimethamine
D. Primaquine *(p. 740)*

57.16C 57.17B 57.18C 57.19B

57.20 *Chloroquine is indicated in the following disorders* ***except:***

A. Rheumatic fever
B. Discoid lupus erythematosus
C. Photogenic skin reactions
D. Lepra reaction *(p. 741)*

57.21 *Choose the drug whose single oral dose affords clinical cure of uncomplicated malaria caused by chloroquine sensitive/resistant P.falciparum as well as P. vivax:*

A. Quinine
B. Mefloquine
C. Artesunate
D. Proguanil *(p. 741, 742)*

57.22 *The following is true of mefloquine:*

A. P. falciparum does not develop resistance to mefloquine
B. Concurrent use of β blockers with mefloquine is contraindicated
C. Neuropsychiatric reactions are the most important adverse effects of mefloquine
D. All of the above *(p. 741, 742)*

57.23 *The drug of choice for cerebral malaria due to P. falciparum is:*

A. Quinine
B. Mefloquine
C. Chloroquine
D. Pyrimethamine + Sulfadoxine *(p. 744)*

57.20 A 57.21 B 57.22 C 57.23 A

57.24 *Clinical applications of quinine include the following* ***except:***

A. Uncomplicated chloroquine resistant malaria
B. Cerebral malaria
C. To induce abortion
D. Nocturnal leg cramps *(p. 744)*

57.25 *Intravenous injection of quinine produces:*

A. Rise in blood pressure
B. Neuromuscular block
C. Hyperglycaemia
D. Hypoglycaemia *(p. 743, 744)*

57.26 *The following is true of quinine:*

A. It has a longer elimination half-life than chloroquine
B. It is not to be used for prophylaxis of malaria
C. It is not active against P. vivax
D. It should not be used along with sulfa-pyrimethamine *(p. 743, 744)*

57.27 *Select the drug/combination that you will prescribe as a prophylactic to a resident of non-endemic area who got posted for 6 months to an endemic area with low degree chloroquine resistance among P. falciparum:*

A. Quinine
B. Proguanil + Chloroquine
C. Pyrimethamine + Sulfadoxine
D. Artemisinin *(p. 737, 738)*

57.28 *The fastest acting schizontocidal drug among the following is:*

A. Artemether
B. Mefloquine
C. Chloroquine
D. Proguanil *(p. 747)*

57.24C 57.25D 57.26B 57.27B 57.28A

57.29 *Proguanil is not used as a clinical curative in malaria because:*

A. Its schizontocidal action is slow
B. Resistance to proguanil is widespread
C. It is more toxic than chloroquine
D. All of the above *(p. 744)*

57.30 *Pyrimethamine + sulfadoxine should be used as a:*

A. Clinical curative in areas with chloroquine resistant malaria
B. Clinical curative in areas without chloroquine resistance among P. falciparum
C. Prophylactic in areas with or without chloroquine resistance
D. All of the above *(p. 745, 746)*

57.31 *Sulfadoxine-pyrimethamine combination is used as clinical curative but is not recommended for prophylaxis of malaria because of:*

A. Risk of megaloblastic anaemia due to pyrimethamine
B. Risk of severe dermatological reactions to sulfadoxine
C. Need for daily administration of the drug
D. Slow schizontocidal action of the drug *(p. 745)*

57.32 *The following antimalarial drug is more active against pre-and exoerythrocytic stages of the malarial parasite than against the erythrocytic stage:*

A. Proguanil
B. Primaquine
C. Pyrimethamine
D. Halofantrine *(p. 737, 746)*

57.29 A 57.30 A 57.31 B 57.32 B

57.33 *The most important risk in the use of primaquine is the occurrence of the following reaction in certain recipients:*
A. Ventricular arrhythmia
B. Agranulocytosis
C. Haemolysis
D. Anaphylaxis *(p. 746)*

57.34 *Use of the following antimalarial drug carries high risk of adverse effect in subjects with G-6-PD deficiency:*
A. Pyrimethamine
B. Artemisinin
C. Primaquine
D. Mefloquine *(p. 746)*

57.35 *Indicate the drug that can be used as an alternative to primaquine for radical cure of vivax malaria:*
A. Atovaquone
B. Bulaquine
C. Tetracycline
D. Proguanil *(p. 747)*

57.36 *Recrudescences attending 3 day artesunate therapy of chloroquine resistant falciparum malaria can be prevented by combining it with a single dose of:*
A. Quinine
B. Primaquine
C. Tetracycline
D. Mefloquine *(p. 748)*

57.37 *Use of artemisinin derivatives is restricted to treatment of multidrug resistant falciparum malaria because:*
A. Wide spread use for all cases of malaria may foster development of resistant strains
B. They are not active against P.vivax
C. They are more toxic than quinine
D. All of the above are correct *(p. 747, 748)*

57.33C 57.34C 57.35B 57.36D 57.37A

57.38 *Choose the antimalarial drug effective against multi-drug resistant P. falciparum, which rapidly terminates an attack of malarial fever, but has a short duration of action, so that recrudescence is common:*

A. Proguanil
B. Mefloquine
C. Amodiaquine
D. Artemisinin *(p. 747, 748)*

58.1 *Choose the correct statement(s) about metronidazole:*

A. It is a first line drug for amoebic dysentery as well as amoebic liver abscess
B. It affords the most rapid symptom relief in amoebic dysentery
C. It is the most effective drug in eradicating amoebic cysts from the colon
D. All of the above *(p. 750, 755)*

58.2 *In addition to amoebiasis, metronidazole is used for:*

A. Roundworm infestation
B. Hookworm infestation
C. Kala-azar
D. Giardiasis *(p. 751)*

58.3 *Metronidazole is selectively active against anaerobic organisms because:*

A. Aerobes have an active transport mechanism to pump it out of their cell
B. Only anaerobes reduce it to generate the reactive nitro radical
C. It is rapidly inactivated in the presence of oxygen
D. It binds to DNA of anaerobes with high affinity *(p. 750)*

57.38D 58.1A 58.2D 58.3B

58.4 *Select the drug which is used to treat antibiotic associated pseudomembranous enterocolitis and is a component of anti-H.pylori triple drug regimen:*
A. Amoxicillin
B. Vancomycin
C. Metronidazole
D. Clotrimazole *(p. 751, 752)*

58.5 *Metronidazole is used in peridontal abscess because of activity against:*
A. Entamoeba histolytica
B. Giardia lamblia
C. Anaerobic bacilli
D. Aerobic gram positive cocci *(p. 751, 752)*

(Note: Anaerobic bacilli, e.g. Bacteroides fragilis, are often involved in peridontal infections and metronidazole is effective against them.)

58.6 *The following precaution should be advised to the patient while prescribing metronidazole:*
A. To avoid driving
B. To get leucocyte count checked every second day
C. To avoid fatty / fried food
D. To avoid alcoholic beverages *(p. 751)*

58.7 *In addition to having antiamoebic activity, tinidazole inhibits:*
A. Anaerobic bacilli
B. Aerobic bacilli
C. Gram positive cocci
D. Gram negative cocci *(p. 752)*

58.8 *Tinidazole differs from metronidazole in that:*
A. It is not active against anaerobic bacteria
B. It has a broader spectrum of activity
C. It has a longer elimination half life
D. It has better oral absorption *(p. 752)*

58.4C	58.5C	58.6D	58.7A	58.8C

58.9 *The distinctive feature of secnidazole is:*
A. It is not absorbed after oral ingestion
B. It is recommended for single dose treatment of intestinal amoebiasis
C. It is effective in intestinal but not in hepatic amoebiasis
D. It is effective in both trichomonas as well as monilial vaginitis *(p. 752)*

58.10 *Indicate the drug that is **not** effective in amoebiasis*
A. Ornidazole
B. Mebendazole
C. Satranidazole
D. Secnidazole *(p. 752, 760-761)*

58.11 *Emetine is now used only as a reserve drug for amoebiasis because:*
A. It is less effective than metronidazole
B. It produces a slower response than metronidazole
C. It has cardiotoxic potential
D. It is not effective in extraintestinal amoebiasis *(p. 753)*

58.12 *The following drug is effective in hepatic amoebiasis but not in intestinal amoebiasis:*
A. Chloroquine
B. Emetine
C. Tetracycline
D. Diloxanide furoate *(p. 753)*

58.13 *Choose the most effective drug for mild intestinal amoebiasis and asymptomatic cyst passers:*
A. Metronidazole
B. Emetine
C. Quiniodochlor
D. Diloxanide furoate *(p. 753, 755)*

58.9B 58.10B 58.11C 58.12A 58.13D

58.14 *Prolonged use of the following drug has been implicated in the causation of subacute myelo-optic neuropathy (SMON):*
A. Diloxanide furoate
B. Iodochlorhydroxyquin
C. Emetine
D. Furazolidone *(p. 754)*

58.15 *The following antiamoebic drug should not be used in children because of risk of causing blindness:*
A. Quiniodochlor
B. Diloxanide furoate
C. Tinidazole
D. Secnidazole *(p. 754)*

58.16 *Choose the drug that can be used orally for intestinal amoebiasis, intravaginally for trichomonas vaginitis and topically for dermatophytosis:*
A. Quiniodochlor
B. Furazolidone
C. Ornidazole
D. Hamycin *(p. 724, 754)*

58.17 *After treating intestinal amoebiasis with metronidazole, a course of diloxanide furoate is often advised to:*
A. Cure any subclinical hepatic involvement
B. Suppress the symbiotic intestinal flora
C. Eradicate luminal cyst forming trophozoites
D. Both 'B' and 'C' are correct *(p. 753, 755)*

58.18 *Tetracycline is indicated in the following form(s) of amoebic infection:*
A. Acute amoebic dysentery
B. Chronic intestinal amoebiasis
C. Amoebic liver abscess
D. All of the above *(p. 754, 755)*

58.14B 58.15A 58.16A 58.17C 58.18B

58.19 *Select the drug which is active against a variety of diarrhoea producing organisms like Giardia, Shigella, Salmonella as well as S. typhi and Trichomonas vaginalis, but is not a first line treatment for any of these:*

A. Metronidazole
B. Mepacrine
C. Cotrimoxazole
D. Furazolidone *(p. 755)*

58.20 *The following drug is used for oral treatment of trichomonas vaginitis:*

A. Diiodohydroxyquin
B. Tinidazole
C. Clotrimazole
D. Natamycin *(p. 755-756)*

58.21 *The drug of choice for Kala azar is:*

A. Pentamidine
B. Amphotericin B
C. Sodium stibogluconate
D. Ketoconazole *(p. 756)*

58.22 *Pentamidine should be used to treat Kala azar only when sodium stibogluconate has failed or is not tolerated because:*

A. It achieves lower cure rates
B. It is more toxic
C. It requires a longer course of treatment
D. Relapses are more common with it *(p. 757)*

58.23 *What is true about use of amphotericin B in kala azar:*

A. It is currently the drug of choice
B. It is more effective than ketoconazole
C. It is indicated only in cases not responding to sodium stibogluconate
D. Both 'B' and 'C' are correct *(p. 758)*

58.19D 58.20B 58.21C 58.22B 58.23D

58.24 *Pentamidine is a first line drug for the following disease:*
A. Toxoplasmosis
B. Pneumocystis carinii pneumonia
C. Actinomycosis
D. Leishmaniasis *(p. 758)*

58.25 *Select the antimetabolite which is toxic to Leishmania but* ***not*** *to mammalian cells:*
A. Allopurinol
B. Cytarabine
C. 6-Mercaptopurine
D. 6-Thioguanine *(p. 758)*

58.26 *Leishmania donovani is susceptible to certain antifungal drugs because both fungi and Leishmania:*
A. Utilise purine salvage pathway
B. Utilise similar glycolytic mechanisms
C. Have similar topoisomerase II enzyme
D. Have ergosterol in their cell membranes *(p. 758)*

59.1 *As an anthelmintic mebendazole has the following advantages* ***except:***
A. It is active against most intestinal helminths
B. It is very well tolerated
C. Single dose cures roundworm and hookworm infestation
D. It does not require predrug fasting or postdrug purging *(p. 759-760)*

59.2 *The most probable mechanism of action of mebendazole is:*
A. Depolarization of membrane and spastic paralysis of the worm
B. Hyperpolarization of membrane and flaccid paralysis of the worm
C. Loss of intracellular microtubules and inhibition of glucose uptake in the worm
D. Tegument damage and leakage of contents of the worm *(p. 759, 760)*

58.24 B	58.25 A	58.26 D	59.1 C	59.2 C

59.3 *Albendazole is less effective than mebendazole in the following helminthic infestation:*
A. Hydatid disease
B. Trichuriasis
C. Strongyloidosis
D. Ascariasis *(p. 761)*

59.4 *The following helminthic disease can be treated by albendazole but* ***not*** *by mebendazole:*
A. Hookworm infestation
B. Threadworm infestation
C. Trichuriasis
D. Neurocysticercosis *(p. 761)*

59.5 *The following anthelmintic acts as a cholinergic agonist in the nematodes and causes spastic paralysis of the worms:*
A. Piperazine
B. Pyrantel pamoate
C. Mebendazole
D. Thiabendazole *(p. 762)*

59.6 *Select the condition for which 3 days treatment with pyrantel pamoate is recommended in place of single dose therapy for others:*
A. Ascariasis
B. Ancylostomiasis
C. Necatoriasis
D. Enterobiasis *(p. 762)*

59.7 *Piperazine antagonises the anthelmintic action of the following drug:*
A. Pyrantel pamoate
B. Mebendazole
C. Albendazole
D. Niclosamide *(p. 762)*

59.3B	59.4D	59.5B	59.6C	59.7A

59.8 *Anthelmintic action of piperazine is due to:*
A. Interference with ATP generation in the worm
B. Blockade of glucose uptake by the worm
C. Hyperpolarization of nematode muscle by GABA agonistic action
D. Depolarization of nematode muscle by activating nicotinic receptors *(p. 763)*

59.9 *The following anthelmintic has been found to be safe during pregnancy:*
A. Thiabendazole
B. Piperazine
C. Albendazole
D. Pyrantel pamoate *(p. 763)*

59.10 *A child has been brought with intestinal obstruction due to clumping of roundworms. Select the anthelmintic which administered by intragastric tube can relax the ascarids and relieve the obstruction:*
A. Levamisole
B. Mebendazole
C. Pyrantel pamoate
D. Piperazine *(p. 763)*

59.11 *The following is true of levamisole* ***except****:*
A. A single dose cures over 90% cases of round worm infestation
B. It is more effective against Necator americanus than against Ancylostoma duodenale
C. It has immunomodulating action
D. Its prolonged use causes severe reactions *(p. 763)*

59.8C 59.9B 59.10D 59.11B

59.12 *Thiabendazole is rarely used now because:*

A. It frequently produces incapacitating side effects
B. It produces lower cure rates in intestinal helminthiasis than mebendazole or albendazole
C. It needs pretreatment fasting and post treatment purgative
D. It is not active against roundworm and hookworm *(p. 762)*

59.13 *Drug/drugs effective in filariasis include:*

A. Ivermectin
B. Albendazole
C. Diethyl carbamazine citrate
D. All of the above *(p. 761, 764)*

59.14 *Diethyl carbamazine citrate has the following action in filariasis:*

A. Rapidly kills adult filarial worms and stops production of microfilariae
B. Kills circulating microfilariae
C. Kills microfilariae present in nodules and serous fluids
D. Promotes phagocytosis of circulating microfilariae *(p. 763)*

59.15 *The effects of diethyl carbamazine citrate in filariasis include the following* ***except:***

A. Rapid symptomatic relief in acute filarial attack
B. Renders filarial patients noninfective to mosquitoes
C. Prolonged treatment induces regression of filarial elephantiasis
D. Prolonged treatment may achieve radical cure by killing adult filarial worms lodged in lymphatics *(p. 764)*

59.12A 59.13D 59.14D 59.15C

(Note: Though prolonged treatment often kills adult filarial worms that cause lymphatic obstruction, once obstruction and fibrosis of lymphatics has occurred resulting in elephantiasis, the changes are irreversible.)

59.16 *The drug of choice for tropical eosinophilia is:*
A. Carbamazepine
B. Diethyl carbamazine citrate
C. Carbetapentane
D. Clomiphene citrate *(p. 764)*

59.17 *Select the drug that is used orally to treat scabies:*
A. Permethrin
B. Ivermectin
C. Praziquantel
D. Crotamiton *(p. 764, 811)*

59.18 *Which anthelmintic drug acts through a specific glutamate gated Cl^- ion channel found only in nematodes:*
A. Ivermectin
B. Niclosamide
C. Pyrantel pamoate
D. Praziquantel *(p. 764)*

59.19 *What is true of ivermectin:*
A. It is the most effective drug for strongyloidosis
B. It is the drug of choice for onchocerciasis
C. It can be used to treat pediculosis
D. All of the above *(p. 764, 765)*

59.20 *Praziquantel is preferred over niclosamide for Taenia solium infestation because:*
A. It achieves higher cure rates
B. It produces fewer side effects
C. It does not lead to digestion of worm and kills encysted larvae, so that chances of cysticercosis are minimized
D. Both 'A' and 'B' are correct *(p. 765, 766)*

59.16B 59.17B 59.18A 59.19D 59.20C

59.21 *A saline purgative is recommended following:*
A. Niclosamide for tapeworm infestation
B. Mebendazole for roundworm infestation
C. Pyrantel pamoate for hookworm infestation
D. Albendazole for whipworm infestation (Trichuriasis) *(p. 765)*

59.22 *For the treatment of Hymenolepis nana infestation, praziquantel has the following advantage(s) over niclosamide:*
A. It is better tolerated
B. It requires single dose treatment against 5 days treatment with niclosamide
C. A purgative is required after niclosamide but not after praziquantel
D. All of the above *(p. 765, 766)*

59.23 *The drug of choice for neurocysticercosis is:*
A. Albendazole
B. Niclosamide
C. Praziquantel
D. Ivermectin *(p. 761, 766)*

59.24 *Praziquantel is effective against the following helminth(s):*
A. Taenia saginata
B. Diphyllobothrium latum
C. Schistosomes
D. All of the above *(p. 765, 766)*

59.21 A 59.22 B 59.23 A 59.24 D

13

Chemotherapy of Neoplastic Diseases

CHOOSE THE MOST APPROPRIATE RESPONSE

60.1 *Which of the following neoplastic diseases is almost curable by chemotherapy:*

A. Bronchogenic carcinoma
B. Choriocarcinoma
C. Malignant melanoma
D. Colorectal carcinoma *(p. 769)*

60.2 *The following anticancer drug has high emetogenic potential:*

A. Vincristine
B. Chlorambucil
C. 6-Mercaptopurine
D. Cisplatin *(p. 771)*

60.3 *The following is true of cancer chemotherapy:*

A. Anticancer drugs increase the risk of developing leukaemias and lymphomas several years later
B. All anticancer drugs are highly emetogenic
C. Growth fraction of cancers is higher than any nomral tissue of the body
D. All of the above are correct *(p. 771)*

60.1 B 60.2 D 60.3 A

60.4 *Anticancer drugs weaken host defence by:*
A. Damaging respiratory and gut epithelia
B. Inducing granulocytopenia
C. Altering resident microbial flora
D. Both 'A' and 'B' are correct *(p. 770)*

60.5 *Practically all antineoplastic drugs can produce the following toxic effects* ***except:***
A. Depression of leucocyte count
B. Mucositis
C. Cardiomyopathy
D. Oligozoospermia *(p. 770, 771)*

60.6 *Alkylating agents exert cytotoxic action by inducing:*
A. Breakage of DNA strand
B. Cross linking of DNA strands
C. Abnormal pairing of purine and pyrimidine bases
D. All of the above *(p. 771)*

60.7 *The following is true of cyclophosphamide* ***except****:*
A. It is highly reactive and a vesicant on contact
B. It is a prodrug
C. It has marked immunosuppressant property
D. It frequently causes alopecia and cystitis *(p. 771)*

60.8 *The most important target of action of chlorambucil is:*
A. Myeloid tissue
B. Lymphoid tissue
C. Neural tissue
D. Skin *(p. 772)*

60.4 D	60.5 C	60.6 D	60.7 A	60.8 B

60.9 *Methotrexate has the following attributes* ***except****:*

A. It is cell cycle specific and kills cells in the S phase
B. Its toxicity primarily affects bone marrow and epithelial structures
C. Folic acid reverses its toxic effects
D. It is the drug of choice for choriocarcinoma

(p. 773)

60.10 *The following antineoplastic drug is a mitotic inhibitor and causes metaphase arrest:*

A. Busulfan
B. Vincristine
C. Cytarabine
D. Procarbazine *(p. 774)*

60.11 *Vinca alkaloids exert antitumor activity by:*

A. Activating topoisomerase II to cause breaks in DNA strands
B. Crosslinking DNA strands
C. Inhibiting DNA mediated RNA synthesis
D. Inhibiting polymerization of tubulin to form intracellular microtubules *(p. 774)*

60.12 *The following cytotoxic drug acts by inhibiting depolymerization of tubulin and thus producing abnormal arrays of microtubules:*

A. Paclitaxel
B. Vinblastine
C. Etoposide
D. Mitoxantrone *(p. 774)*

60.9 C 60.10 B 60.11 D 60.12 A

60.13 *Vincristine differs from vinblastine in the following respect(s):*
A. Its prominent adverse effect is neuropathy
B. It frequently produces alopecia
C. It does not significantly depress bone marrow
D. All of the above *(p. 774)*

60.14 *What is true of docetaxel:*
A. It is used as a reserve drug for refractory breast and ovarian cancer
B. It is a selective estrogen receptor modulator used for breast cancer
C. It is effective only in estrogen receptor positive breast cancer
D. Both 'B' and 'C' are correct *(p. 775)*

60.15 *Choose the correct statement about topotecan:*
A. It is a DNA topoisomerase I inhibitor which causes single strand DNA breaks
B. It is a cell cycle specific anticancer drug
C. It is a COMT-inhibitor used in advanced parkinsonism
D. Both 'A' and 'B' are correct *(p. 775)*

60.16 *The characteristic toxicity of doxorubicin is:*
A. Kidney damage
B. Liver damage
C. Cardiomyopathy
D. Pulmonary fibrosis *(p. 776)*

60.17 *Thioguanine differs from mercaptopurine in that:*
A. It is not metabolized by xanthine oxidase
B. It does not cause hyperuricemia
C. Its dose need not be reduced when allopurinol is given concurrently
D. Both 'A' and 'C' are correct *(p. 773)*

60.13 D	**60.14 A**	**60.15 D**	**60.16 C**	**60.17 D**

60.18 *Patients treated with the following anticancer drug are likely to develop a disulfiram like reaction on taking alcohol:*

A. Dacarbazine
B. Procarbazine
C. Melphalan
D. Hydroxyurea *(p. 776)*

60.19 *The following is true about use of prednisolone in malignant diseases* ***except****:*

A. It is curative in acute childhood leukaemia
B. It is used in Hodgkin's disease
C. It controls hypercalcaemia in patients with bony metastasis
D. It affords symptomatic relief in most cancer patients *(p. 777)*

60.20 *The following does* ***not*** *apply to cancer chemotherapy:*

A. Each treatment with a cytotoxic drug kills a constant number of malignant cells
B. Drugs are generally used at maximum tolerated doses
C. The same regimen which is palliative for a large solid tumour may be curative after surgical removal of the tumour
D. Combination regimens using several drugs in succession are superior to single drug used continuously *(p. 778-779)*

60.21 *Select the cell cycle nonspecific antineoplastic drug:*

A. Vincristine
B. Bleomycin
C. Methotrexate
D. 5-Fluorouracil *(p. 779)*

60.18 B	**60.19 A**	**60.20 A**	**60.21 D**

60.22 *Mesna is administered with cyclophosphamide and ifosphamide to:*

A. Potentiate their cytotoxic action
B. Retard their renal excretion
C. Block their emetic action
D. Ameliorate cystitis caused by them

(p. 780)

60.23 *Biological response modifiers like GM-CSF are used in conjunction with anticancer drugs for the following purpose(s):*

A. To enhance antitumour activity of the drug
B. To prevent hypersensitivity reactions to the drug
C. To hasten recovery from drug induced myelosuppression
D. Both 'A' and 'C' are correct *(p. 782)*

60.24 *What is true of thalidomide:*

A. It exerts antitumour activity in some solid malignant tumours
B. It ameliorates cancer associated cachexia
C. It exerts antileprotic action
D. All of the above *(p. 782)*

61.1 *Select the drug which is used exclusively in organ transplantation and autoimmune diseases, but* ***not*** *in cancers:*

A. Cyclophosphamide
B. Cyclosporine
C. Methotrexate
D. 6-Mercaptopurine *(p. 787)*

60.22	**D**	**60.23**	**C**	**60.24**	**B**	**61.1**	**B**

61.2 *Cyclosporine has the following attributes* ***except*****:**

A. It selectively suppresses humoral immunity without affecting cell mediated immunity
B. It is more active as immunosuppressant when administered before antigen exposure than after it
C. It is not toxic to the bone marrow
D. Its major toxicity is kidney damage

(p. 787)

61.2 A