1. Electronic control systems have the serious draw-backs of
(a) low reliability (b) operational difficulty (c) temperature sensitiveness (d) all of above

2. The system whose characteristic equation has the following roots is marginally stable
(a) -j, j, -1,1 (b) -3,-2,0 (c) -2+3j, -2-3j, -2 (d) -3,-2,-1

3. A phase log compensation will
(a) improve relative stability
(b)increase the speed of response
(c)increase band-width
(d) increase overshoot

4. For Nyquist plot we use
a. open loop function
b. closed loop function
c. characteristic equation
d. any of the above

• A system with gain margin close to unity or a phase margin close to zero is
a. highly stable
b. oscillatory
c. relatively stable
d. none of these

• Root locus diagram exhibits the
a. frequency response of a system
b. poles of the transfer function for a set of parameter values
c. bandwidth of system
d. all of the above

• Increase in the gain K makes the system
a. more stable
b. unstable
c. none of above

• The transfer function of a system is used to determine
a. the output for a given input
b. the type of system
c. the input for a given output
d. the steady state gain

• In a servo system the voltage induced in the control transformer rotor is the
a. error voltage
b. driving voltage
c. opposing voltage
d. none of these

• With the feedback system, the transient response
a. decays slowly
b. decays rapidly
c. rises slowly
d. rises quickly

1. The ratio of voltage and electric current in a closed circuit
(a) remains constant (b) varies (c) increases (d) falls

2. The resistance of a wire varies inversely as
(a) area of cross section (b) length (c) resistivity (d) temperature

3. The electrical conductivity of metals is typically of the order of (in ohm-1 m-1)

(a) 10 to the power of 7 (b) 10 to the power of 5 (c) 10 to the power of -4 (d) 10 to the power of -6

5. Four resistors, each of resistance R ohms are available. The minimum resistance of the combination will be
(a) 4R (b) R (c) R/4 (d) R/8

6. The elements which are not capable of delivering energy by its own are known as
(a) unilateral elements (b) non-linear elements (c) passive elements (d) active elements

7. The magentic susceptibility of paramagnetic material is
(a) less than zero (b) less than one but positive (c) greater than one (d) equal to zero

8. The Direction of current in an ac circuit
(a) is from positive to negative (b) is always in one direction (c) varies from instant to instant
(d)Cannot be determined

9. which of the following statements associated with purely resistive circuits is correct?
(a) PF is unity (b) Power consumed is zero (c) Heat produced is zero (d) PF is zero

10. The magnetic field energy in an inductor changes from maximum value to minimum value in in 5m sec when connected to an ac source. The frequency of the source is
(a) 20 Hz (b) 50 Hz (c) 200 Hz (d) 500 Hz

1. Which of the following types of instrument is an integrating instrument?

a. power factor meter
b. energy meter
c. wattmeter
d. frequent meter

- Which of the material is used for the ’swamping’ resistance that is connected in series with the working coil of a voltmeter?

a. Constantan
b. Manganin
c. Eureka
d. Nichrome

- What are used to increase the range of ammeters.

a. Multipliers
b. Shunts

c. Control Springs
d. Potential transformers

- Which voltmeter do you select for measuring 50KV DC?

a. Moving Coil Voltmeter
b. Hot wire voltmeter
c. Electro Dynamo meter
d. Electrostatic Voltmeter

- Which of the following you will prefer to extend the range of an ac voltmeter?

a. Low series resistance
b. high resistance in parallel
c. CT
d. PT

- High AC voltages are usually measured with

a. magnetic voltmeter
b. inductive voltmeter
c. potential transformers with voltmeters
d. current transformers and voltmeters

- Creeping is the phenomena occurs in

a. voltmeter
b. wattmeter
c. energy meter
d. ammeter

1. An open loop control system has its

(a) control action independent of the output or desired quantity

(b) controlling action, depending upon human judgment

(c) internal system changes automatically taken care of

(d) both (a) and (b)

(e) all (a),(b) and (c)

2. A servo system must have

(a) feedback system

(b) power amplifier to amplify error

(c) capacity to control position or its derivative

(d) all of these

(e) none of these

3. The major disadvantage of a feedback system may be

(a) Inaccuracy

(b) inefficiency

(c) Unreliability

(d) instability

(e) Insensitivity

4. Properties of a transfer function

(a) It is ratio of two polynomials is S and assumes zero initial conditions

(b) It depends on system elements and not input and output of the system

(c) Coefficients of the powers of S in denominator and numerator are all real constant. The order of denominator is usually greater than or equal to the order of numerator

(d) All of these

(e) It is a function which transfer one physical system into another physical system.

5. The classical analogous of a simple lever is

(a) Capacitor bridge

(b) transformer

(c) mutual inductor

(d) either of these

6. Two blocks G1(s) and G2(s) can be cascaded to get resultant transfer function as

(a) G1(s) + G2(s)

(b) G1(s) / G2(s)

(c) G1(s) G2(s)

(d) 1+G1(s) G2(s)

(e) 1-G1(s)G2(s)

(f) two blocks cannot be cascaded

7. The principles of homogeneity and super position can be applied to

(a) linear time invariant system

(b) non-linear time invariant system

(c) digital control system

(d) both (a) and (b)

8. Pick up the nonlinear system

(a) automatic voltage regulator

(b) d.c. servomotor with high field excitation

(c) temperature control of a furnaces using thermistor

(d) speed control using SCR

(e) all of these

9. Signal flow graph (SFG) is a

(a) polar graph

(b) semi log graph

(c) log log graph

(d) a special type of graph for analyzing modem control system

(e) a topological representation of a set of differential equations

10. Disadvantages of magnetic amplifier

(a) time lag, less flexible, non-sinusoidal waveform

(b) low power consumption and isolation of the active circuit

(c) saturation of the core

(d) all of these

11. Pick up false statement regarding magnetic amplifiers

(a) The gate coil of an ideal magnetic amplifier has either zero or infinite inductance

(b) Resistance of control and gate winding is very small

(c) Magnetic amplifier gas dropping load characteristics

(d) Magnetic amplifiers are not used to control the speed of d.c. shunt motor

(e) Magnetic amplifiers can be used in automatic control of electric drivers of higher rating.

12. High power amplification is achieved by using

(a) push pull amplifier

(b) amplidyne

(c) magnetic amplifier

(d) DC amplifier

(e) D.C. generator

13. Pick up false statement regarding servomotors

(a) The d.c. servomotors are lighter than equivalent a.c. servomotors

(b) The d.c. servomotors develops higher starting and reversing torque than equivalent a.c. servomotor.

(c) A drag cup a.c. servomotor has one windings on stator and other on rotor

(d) Output power of servomotors varies from 1/20 W to 100 W

14. To reduce steady state error

(a) decrease natural frequency

(b) decrease damping

(c) increase damped frequency

(d) increase time constant

(f) increase gain constant of the system

15. A good factor for Mp should be

(a) less than 1

(b) lying between 1.1 and 1.5

(c) more than 2.2

(d) zero

(e) infinity

16. Pick up false statement. Routh-Hurwitz criterion

(a) is used for determining stability of a system

(b) is an algebraic procedure

(c) gives the exact location of roots of the characteristic equation

(d) does not indicate relative degree of stability or instability

17. Which of the following is the time domain method of determining stability of a control system

(a) Bode plot

(b) Nyquist plot

(c) Nicholos chart

(d) Routh-Hurwitz array

(e) Constant M and (fy) locus

(f) Root locus technique

18. The technique which gives transient response quickly as well as stability information is

(a) Nyquist plot

(b) Routh-Hurwitz criteria

(c) Bode plot

(d) Root locus plot

(e) Nichols plot

19. The bandwidth can be increased by use of

(a) phase lag network

(b) phase lead network

(c) both (a) and (b) in cascade

(d) both (a) and (b) in parallel

(e) none of these

20. Nyquist plot is drawn on

(a) semi log graph paper

(b) log log graph paper

(c) polar graph paper

(d) centimeter graph paper

21. If the gain margin is positive and the phase margin is negative the system is

(a) stable

(b) unstable

(c) indeterminist

22. The Bode plot is applicable to

(a) all phase network

(b) minimum phase network

(c) maximum phase network

(d) lag lead network

(e) none of these

23. The valid relation between setting time ts and rise time tr is

(a) tr>ts

(b) ts>tr

(c) ts=tr

(d) none of these

24. As a root moves further away from imaginary axis the stability

(a) increases

(b) decreases

(c) not affected

(d) none of these

25. Flat frequency response means that the magnitude ratio of output to input over the bandwidth is

(a) variable

(b) zero

(c) constant

(d) none of above

26. How many octaves are between 200 Hz and 800 Hz

(a) Two octave

(b) One octave

(c) Four octave

(d) None of above

27. Human system can be considered as

(a) open loop system

(b) close loop system with single feedback

(c) close loop system with multivariable feedback

(d) none of these

28. In a feedback system the transient response

(a) Decays at constant rate

(b) gets magnified

(c) decays slowly

(d) decays more quickly

29. Transfer function of a system is used to calculate

(a) the steady state gain

(b) the main constant

(c) the order of system

(d) the output for any given input

(e) all of the above

30. Transfer function of a system is defined as the ratio of output to input in

(a) Laplace transform

(b) Z-transform

(c) Fourier transform

(d) Simple algebraic form

31. Introduction of feedback decreases the effect of

(a) disturbances

(b) noise signals

(c) error signals

(d) all the above

32. The system response of a system can be best tested with

(a) unit impulse input signal

(b) ramp input signal

(c) sinusoidal input signal

(d) exponentially decaying input signal

33. Which of the following is a closed loop system

(a) electric switch

(b) car starter

(c) de generator

(d) auto-pilot for an aircraft

34. Which of the following is used as an error detector

(a) potentiometer

(b) field controlled ac motor

(c) amplidyne

(d) armature controlled ac motor

35. The break away point of root loci are

(a) open loop poles

(b) closed loop poles

(c) open loop zeros

(d) closed loop zeros

36. Noise in a control system can be kept low by

(a) reducing the bandwidth

(b) attenuating such frequencies at which external signals get coupled into the system

(c) both (a) and (b)

(d) none of these

37. Main cause of absolute instability in the control system is

(a) parameters of controlling system

(b) parameters of controlled system

(c) parameters of feedback system

(d) error detector where the two signals are compared

38. Basically a controller is

(a) a amplifier

(b) a clipper

(c) a comparator

(d) a summer

39. A system with gain margin close to unity or a phase margin close to zero is

(a) highly stable

(b) highly oscillatory

(c) relatively stable

(d) none of these

40. Which of following elements is not used in an automatic control system

(a) sensor

(b) error detector

(c) oscillator

(d) final control element

41. AC systems are usually preferred to the DC systems in control applications because

(a) AC systems are cheaper

(b) AC systems are more stable

(c) AC systems have better performance characteristics and smaller in size

(d) all of these

42. A system has the transfer function (1-s)/(1+s); It is known as

(a) low pass system

(b) high pass system

(c) all pass system

(d) none of the above

43. In control systems, excessive bandwidth should be avoided because

(a) noise is proportional to bandwidth

(b) it leads to low relative stability

(c) it leads to slow speed of response

(d) none of these

44. In most systems, an increase in gain leads to

(a) larger damping ratio

(b) smaller damping ratio

(c) constant damping ratio

(d) none of these

45. A step function is applied to the input of a system and output is of the form y = t, the system is

(a) stable

(b) unstable

(c) not necessarily stable

(d) conditionally stable

46. Which of the following can be magnified by magnetic amplifier

(a) voltage

(b) current

(c) power

(d) none of above

47. The inductance is not used in lag network because of

(a) big size

(b) time delay and hysteresis losses

(c) high reactance

(d) none of these

48. Saturation in a stable control system can cause

(a) conditional stability

(b) over damping

(c) low level oscillations

(d) high level oscillations

49. Excessive noise in control systems can cause

(a) reduction in bandwidth

(b) reduction in gain

(c) saturation in amplifying stages

(d) oscillations

50. The type-0 system has

(a) net pole at the origin

(b) no pole at the origin

(c) simple at one origin

(d) two poles at the origin

Q.A wave will not experience any reflection when impedance of line is equal to

a surge impedance
b load impedance
c >surge impedance
d

Ans: surge impedance

Q.if the length of a wire is increased what happens to its resistance

a increases linearly
b increases exponentially

Q.for a current carrying coil if the current is doubled then the field strength is

a doubled
b halved
c increased 4 times

Q.a capacitor of 10 micro farads is charged thruogh a resistor of 10 ohms and a 6 V battery. Calculate the time taken by the capacitor to charge to its maxm value.

a 1 sec
b 100 sec
c 0.1 sec
d 10 sec

Q.what current is drawn by a 10 W lamp connected to a 220 V,60 Hz source.

a 1 A
b 0.5 A
c 0.045 A
d 0.01 A

Ans: 0.045

Q.At present how many HVDC lines are there in india?

a none
b one
c two
d more than two

Q.What is the distance between the EHV lines and earth?

a 8m
b 11m
c 18m
d 15m

Q.On no load in EHV lines what is the relation between receinving and sending end voltage?

a receiving end voltage > sending end voltage
b receiving end voltage < voltage =" sending"> sending end voltage

Q.What is the surge impedance loading of 400kv line?

a 400 MW
b 400 KW
c 1600 MW
d 1600 KW

Ans: 400 MW

Q.What is the surge impedance loading of 400kv line with surge impedance given as 160 ohms

a 1000 MW
b 1000 KW
c 256 MW
d 256 KW

Ans: 1000 MW

Q.Where is the hydel power plant located in following places?

a Raamagundam
b Tarapur
c Kalpakam
d Srisailam

Ans: Raamagundam

Q.self GMD is used in the calculation of_____

a inductance only
b inductance and capacitance
c capacitance only
d none

Ans: inductance only

Q.What is the GMD if the distance between the lines are 6m,6m,12m?

a 7.55m
b 6m
c 12m
d 8.56m

Ans: 7.55m

Q.Zero sequence currents doesn't exist in the following fault

a L-G
b L-L
c L-L-G
d L-L-L-G

Ans: L-L

Q.To avoid arcing connect sutable value of _____ in earthing.

a capacitance
b indunctance
c resistance
d susceptance

Ans: indunctance

Q.In the following type of conductors the corona is minimum

a circular
b stranded
c helical
d rectamgular

Ans:circular

Q.At what frequency corona loss is more?

a 50Hz
b 60Hz

c 25Hz
d 100Hz

Ans: 100HZ

Q.What is the line current of a circuit when the current transformer of 1000:5 rating measures 4Amperes?

a 5000 A
b 1000 A
c 400 A
d 800A

Ans: 800A

Q.If the time delay of relay with TMS setting 0.1 is 10 sec, then what is the time delaty when the TMS setting is changed to 0.5

a 2 sec
b 20 sec
c 100 sec
d 5 sec

Ans: 5 sec

Q.In distribution lines_____

a X/R<0.1>10
c X/R<1 style="">Q.In EHV lines _____

a X/R=10
b X/R=100
c X/R>3
d X/R<3>3

Q.In wind mills the frequent problems occur in_____

a mechanical system
b blades
c electrodynamic system
d electric system

Q.The machine used in windmills is_____

a Alternator
b Induction generator
c Synchronous generator
d All

Ans: Induction generator

Q.Insulators in EHV lines are designed based on_____

a switching voltages
b peak voltages
c corona
d lightning voltages

Ans: switching voltages

Q.The value of restriking voltage depends on_____

a inductance of line
b capacitance of line
c both
d none

Ans: both

Q.HRC fuse and circuit-breaker combination is used CB operates for

a low over-load currents
b high over-load currents
c combination is never used

Ans: low over-load currents

Q. SIL of 400 KV lines is

a 400 MW
b 400 KW
c 1600 MW
d 1600 KW

Ans: 400 MW

Q. SIL of 100 KV cable is

a 400 MW
b 400 KW
c 250 MW
d 250 KW

Ans: 250 MW

Q.reflection coefficent of current of an open ended line.

a 1
b -1
c 2
d -2

Ans: -1

Q.Positive sequence terminal voltage is zero in

a L-L
b L-L-G
c L-G
d L-L-L

Ans: L-L-L

Q.Most economical load in underground cable is

a less than surge impedance
b equal to surge impdance
c more than surge impedence
d any load

Ans: less than surge impedance

Q.The impedance of a lossless transmission line is

a v(L/C)
b L/C
c 1/vLC
d 1/LC

Q.Zsc =100? Zoc =1? then Zo is

a 1
b 10
c 100
d 0.1

Ans: 10

Q.Normal PH value of water used in thermal power station is

a 7
b 2
c 5
d Slightly >7

Ans: Slightly >7

Q.Maximum power transfer through line V1= 110 kv, V2= 100kv, X=22 ohm is

a 500 MW
b 500 KW
c 250 MW
d 250 KW

Ans: 500 MW

Q.Which type of power plant requires maximum expenditure

a Hydel power plants
b Nuclear power plants
c Thermal power plants
d Gas based power plants

Q.Base load of a power station stands for

a 2-4 hours/day
b 4-8 hours/day
c 8-12 hours/day
d 12-24hours/day

Ans: 12-24hours/day

Q.A wire is placed on the top of a transmission line to protect from

a surge high voltage
b Direct lightning strocks
c indirect lightnin strocks
d Switching over voltages

Ans: Direct lightning strocks

Q.A wire is placed on the top of a transmission line acts as

a acts as a phase wire
b acts as neutral
c acts as a transmission wire
d acts as ground wire

1. In order for a 30 volt, 90 watt lamp to work properly in a 120 volt supply the required series resister in ohm is

(A) 10 (B) 20
(C) 30 (D) 40

2. According to Theremin's theorem, any linear active network can be replaced by a single voltage source

(A) in series with a single impedance
(B) in parallel with a single impedance
(C) in series with two impedances
(D) in parallel with two impedances

3. The internal resistance of ammeter is

(A) very small (B) very high
(C) infinite (D) zero

4. Hay bridge is used mainly for the measurement of

(A) resistance (B) inductance
(C) conductance (D) capacitance

5. Which of the following is true about series resonance

(A) The reactance becomes zero and impedance becomes equal to resistance
(B) The current in the circuit becomes maximum
(C) The voltage drop across inductance and capacitance cancels each other
(D) All of the above statements are correct

6. A 3-Φ, 4 wire, 400/230 v feeder supplies 3-phase motor and an unbalanced lighting load. In this system

(A) all four wires will carry equal current
(B) neutral wire will carry no current
(C) neutral wire will carry both motor current and lighting load current
(D) neutral wire will carry current only when lighting load is switched on

7. Equalizing connections are required when paralleling two

(A) alternators
(B) compound generators
(C) series generators
(D) both (B) and (C)

8. An ideal transformer is one which

(A) has a common core for its primary and secondary windings
(B) has no losses and magnetic leakage
(C) has core of stainless steel and windings of pure copper metal
(D) has interleaved primary and secondary windings

9. The principle of operation of a 3-phase induction motor is most similar to that of a

(A) synchronous motor
(B) repulsion-start induction motor
(C) transformer with a shorted secondary
(D) capacitor-start, induction-run motor

10. In the forward region of its characteristic, a diode appears as

(A) an OFF switch
(B) a high resistance
(C) a capacitor
(D) an ON switch

11. The common-emitter forward amplification factor βdc is given by

(A) IC/IE (B) IC/Ib
(C) IE/IC (D) IB/IF

12. A common emitter amplifier is characterized by

(A) low voltage gain
(B) moderate power gain
(C) signal phase reversal
(D) very high output impedance

13. After VDS reaches pinch-off value VP in a JFET, drain current IO becomes

(A) zero (B) low
(C) saturated (D) reversed

14. An electronic oscillator

(A) needs an external input
(B) provides its own input
(C) is nothing but an amplifier
(D) is just a dc/ac converter

15. In an SCR, the function of the gate is to

(A) switch it off
(B) control its firing
(C) make it unidirectional
(D) reduce forward breakdown voltage

16. NAND and NOR gates are called ‘universal’ gates primarily because they

(A) are available everywhere
(B) are widely used in IC packages
(C) can be combined to produce AND, OR and NOT gates
(D) are the easiest to manufacture

17. Registers and counters are similar in the sense that they both

(A) count pulses
(B) store binary information
(C) are made from an array of flip-flops and gates integrated on a single chip
(D) are in fact shift register

18. A flip-flop

(A) is a sequential logic device
(B) is a combinational logic device
(C) remembers what was previously stored in it
(D) both (A) and (C)

19. An operational amplifier

(A) can be used to sum two or more signals
(B) can be used to subtract two or more signals

(C) uses to principle of feed back
(D) all of the above

20. TTL logic is preferred to DRL logic because

(A) greater fan-out is possible
(B) greater logic levels are possible
(C) greater fan-in is possible
(D) less power consumption is possible

An electron rising through a potential of 250 V will acquire an energy of :

(A) 250 eV

(B) 800 eV

(C) 250 J

(D) 800 J

If the amount of impurity, either donor type or acceptor type added to the intrinsic

semiconductor is controlled to 1 part in one million, the conductivity of the sample :

(A) increases by a factor 103

(B) reduces by a factor 10–3

(C) increases by a factor 106

(D) reduces by a factor 10–6

4. Laplace transform and Fourier integrals are related through :

(A) frequency domain

(B) time domain

(C) both frequency and time domain

(D) none

A clamper circuit :

(i) adds or subtracts a dc voltage to or from a waveform

(ii) does not change the shape of the waveform

(iii) amplifies the waveform

(A) (i) and (ii) are correct

(B) (i) and (iii) are correct

(C) (ii) and (iii) are correct

(D) (i), (ii) and (iii) are correct

A ring counter consisting of five flip flop will have :

(A) 5 states

(B) 10 states

(C) 32 states

(D) infinite states

Which one of the following can be used as parallel to series converter ?

(A) Decoder

(B) Encoder

(C) Digital counter

(D) Multiplexer

An interrupt in which the external device supplies its address as well as the interrupt

request, is known as :

(A) vectored interrupt

(B) maskable interrupt

(C) polled interrupt

(D) non-maskable interrupt

An instruction that can be recognized and used without translation must be written

in :

(A) Source code

(B) Machine code

(C) Basic language

(D) Assembly code

The angle for which there is no reflection and the incident wave is vertically polarized

is known as :

(A) Steradian angle

(B) Reflection angle

(C) Brewster’s angle

(D) Critical angle

A PLL can be used to demodulate :

(A) PAM signals

(B) PCM signals

(C) PM signals

(D) DSB-SC signals

The main function of balanced modulator is to :

(A) produce balanced modulation of a carrier wave

(B) produce 100 percent modulation

(C) suppress carrier signal in order to create a single side band or double side band

(D) limit noise picked up a receiver

An SCR can be termed as :

(A) DC switch

(B) AC switch

(C) Both DC and AC switch

(D) Square wave switch

Fiber optics communication offers the largest bandwidth in the range of :

(A) 1010 Hz

(B) 106 Hz

(C) 1014 Hz

(D) 1020 Hz

Silicon photosensors have their maximum spectral response in the :

(A) infrared region

(B) ultraviolet region

(C) visible region

(D) X-ray region

Q1 Which of the following has high electrical resistivity

(a) Copper (b) Gold (c) Carbon (d) Silver

Q2 The resistance of 200 m. long circular copper wire is 21Ω.If its thickness is 0.44mm,What is the resistivity(ohm-m) of the copper is

(a) 1.597*10-8 (b) 2.507*10-8 (c) 5.597*10-6 (d) None of these

Q3 Metals have temperature coefficient of resistance

(a) Positive (b) negative (c) May be positive or Negative (d) None of

these

Q4 The resistance of two wire is 25Ω when connected in series and 6Ω when connected in parallel.The resistance of each wire is

(a) 12 &13Ω (b) 15&10Ω (c) 20& 5 Ω (d) 24&1Ω

Q5 A current of 3A flows through 10Ω resistor. The energy dissipated in 5sec.is

(a) 450J (b) 150J (c) 250J (d) None of these

Q6 Ideal current source has its internal resistance equal to

(a)1Ω. (b)2Ω. (c) 0Ω (d) InfiniteΩ

Q7 If resistance of all three branches of star connected load is 1Ω each, then the resistance of each branch of equivalent delta load would be

(a) 3Ω (b) 9Ω (c) 0.3Ω (d) 1/3Ω

Q8 A p.d. of 300V is maintained across the terminals of the capacitor. The electric field strength(kV/m) between the plate gap of (0.3mm) is

(a) 1000 (b) 2000 (c) 3000 (d) 4000

Q9 An 8micro-farad capacitor is connected in series with 0.5MΩ resistor. The time constant of the RC circuit is

(a) 16sec. (b) 6sec (c) 5sec (d) 4sec

Q10 An 8micro-farad capacitor is charged from a 100V supply. The energy stored in the capacitor is

(a) 0.004J (b) 0.0016J (c) 0.008 J (d) None of these

Q11 A conductor carries a current of 100A at right angle to a magnetic field having density of 0.5 T. The force on per unit lengh of the conductor is

(a) 50N (b) 500N (c) 150N (d) 5.0N

Q12 A magnetic flux of 200μwb passing through a coil of 1200

turns is reversed in 0.2sec.The induced emf in the coil is

(a) 12V (b) 2.4V (c) 2.2V (d) 1.2V

Q13 The value of 1/√(μ0 ε0) is equal to

(a) Speed of light (b) 1/ Speed of light (c) (Speed of light)2 (d) None of these

(a) NΦ/I (b) NI/Φ (c) I /ΦN (d) None of these

Q15 A coil of 200 turns is wound on a non-magnetic circular core of area 500mm2& the mean circumference of 400mm.The inductance of coil is

(a) 628H (b) 6.28μH (c) 62.8μH (d) None of these

Q16 An alternating voltage is given by the equation v = 200Sin 314t the rms value of the voltage is

(a) 141.42V (b) 282.82V (c) 14.142V (d) None of these

Q17 In a transformer the induced emf in the winding is given by (notation used have their usual meaning)

(a) E = 1.11 N f Φm (b) E = 2.22 N f Φm (c) E = 4.44 N f Φm (d) None of these

Q18 A dc motor takes an armature current of 10A at 220V.The armature resistance of the machine is 0.2Ω, flux per pole is . 01wb, the no of poles are 6,and the armature has wave wound 480 conductors. The torque developed in armature is

(a) 100Nm (b) 25Nm (c) 44Nm (d) 22.91Nm

Q19 A,3-phase, synchronous generator has 4 pairs of pole is running with the speed of 900 rpm.The frequency of the supply would be

(a) 50Hz (b) 60Hz (c) 25Hz (d) 150Hz

Q20 The advantage of permanent magnet moving coil(PMMC) instrument is

(a)Low power consumption (b) No hysteresis loss

(c) Efficient eddy current damping (d) All of the above

Q21 The majority charge carrier in p-type semiconductor are

(a) Electrons (b) Holes (c) Both Electrons and Holes (d) None of these

Q22 An n-type semiconductor as a whole is

(a) Electrically +ve (b) Electrically –ve (c) Electrically neutral (d) None of these

Q23 The out put of the logic gate is one, only when all the inputs are one. Then logic gate is

(a) AND (b) OR (c) NAND (d) NOR

Q24 In a transistor which of the following region is very lightly doped

(a) Emitter (b) Collector (c) Base (d) None of these

Answers

1 c
2
3 a
4 b
5 a
6 d
7 a
8
9 d
10 d
11 a
12 d
13 a
14 a
15
16 a
17 c
18 d
19 b
20
21 b
22 c

23 a
24 c