COMMON ENTRANCE TEST - 2006

DATE	SUBJECT	TIME
10 - 05 - 2006	PHYSICS	10.30 AM to 11.50 AM

MAXIMUM MARKS	TOTAL DURATION	MAXIMUM TIME FOR ANSWERING
60	80 MINUTES	70 MINUTES

MENTION YOUR CET NUMBER	QUESTION BOOKLET DETAILS	
	VERSION CODE	SERIAL NUMBER
	A - 1	25793

IMPORTANT INSTRUCTIONS TO CANDIDATES

(Candidates are advised to read the following instructions carefully, before answering on the OMR answer sheet.)

1. Ensure that you have entered your Name and CET Number on the top portion of the OMR answer sheet.
2. **ENSURE THAT THE BAR CODES, TIMING AND MARKS PRINTED ON THE OMR ANSWER SHEET ARE NOT DAMAGED / MUTILATED / SPOILED.**
3. This Question Booklet is issued to you by the invigilator after the 2nd Bell. i.e., after 10.35 a.m.
4. Enter the Serial Number of this question booklet on the top portion of the OMR answer sheet.
5. Carefully enter the Version Code of this question booklet on the bottom portion of the OMR answer sheet and SHADE the respective circle completely.
6. As answer sheets are designed to suit the Optical Mark Reader (OMR) system, please take special care while filling and shading the Version Code of this question booklet.
7. **DO NOT FORGET TO SIGN ON BOTH TOP AND BOTTOM PORTION OF OMR ANSWER SHEET IN THE SPACE PROVIDED.**
8. Until the 3rd Bell is rung at 10.40 a.m. :
   - Do not remove the staple present on the right hand side of this question booklet.
   - Do not look inside this question booklet.
   - Do not start answering on the OMR answer sheet.
9. After the 3rd Bell is rung at 10.40 a.m., remove the staple present on the right hand side of this question booklet and start answering on the bottom portion of the OMR answer sheet.
10. This question booklet contains 60 questions and each question will have four different options / choices.
11. During the subsequent 70 minutes :
    - Read each question carefully.
    - Determine the correct answer from out of the four available options / choices given under each question.
    - **Completely darken / shade the relevant circle with a BLUE OR BLACK INK BALLPOINT PEN against the question number on the OMR answer sheet.**

CORRECT METHOD OF SHADING THE CIRCLE ON THE OMR SHEET IS AS SHOWN BELOW :

12. Please note that even a minute unintended ink dot on the OMR sheet will also be recognised and recorded by the scanner. Therefore, avoid multiple markings of any kind.
13. Use the space provided on each page of the question booklet for Rough work AND do not use the OMR answer sheet for the same.
14. After the last bell is rung at 11.50 a.m., stop writing on the OMR answer sheet.
15. Hand over the OMR ANSWER SHEET to the room invigilator as it is.
16. After separating and retaining the top sheet (CET Cell Copy), the invigilator will return the bottom sheet replica (Candidate's copy) to you to carry home for self-evaluation.
17. **Preserve the replica of the OMR answer sheet for a minimum period of One year.**

PHYSICS

1. The twinkling effect of star light is due to

1) total internal reflection
2) high dense matter of star
3) constant burning of hydrogen in the star
4) the fluctuating apparent position of the star being slightly different from the actual position of the star.

2. The width of the diffraction band varies

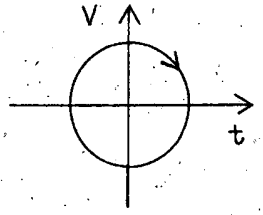
1) inversely as the wavelength
2) directly as the width of the slit
3) directly as the distance between the slit and the screen
4) inversely as the size of the source from which the slit is illuminated.

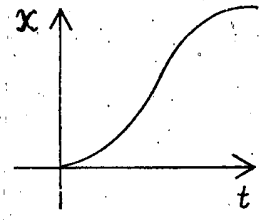
3. An unpolarised beam of intensity I_0 is incident on a pair of nicols making an angle of 60^0 with each other. The intensity of light emerging from the pair is

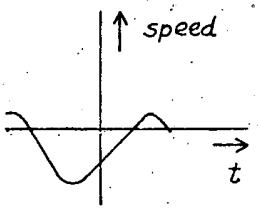
1) I_0 2) $I_{0/2}$

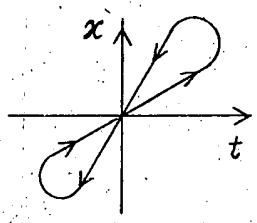
3) $I_{0/4}$ 4) $I_{0/8}$

4. Look at the graph (1) to (4) carefully and indicate which of these possibly represents one dimensional motion of a particle.

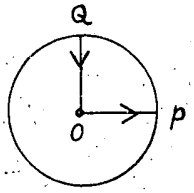
1) 

2) 

3) 

4) 

5. A cyclist starts from the centre O of a circular park of radius one kilometre, reaches the edge P of the park, then cycles along the circumference and returns to the centre along QO as shown in figure. If the round trip takes ten minutes, the net displacement and average speed of the cyclist (in metre and kilometre per hour) is .....



1) 0, 1 2) $\frac{\pi+4}{2}$, 0

3) 21.4, $\frac{\pi+4}{2}$ 4) 0, 21.4

(Space for Rough Work)

6. When a low flying aircraft passes over head, we sometimes notice a slight shaking of the picture on our TV screen. This is due to
   1) diffraction of the signal received from the antenna.
   2) interference of the direct signal received by the antenna with the weak signal reflected by the passing aircraft.
   3) change of magnetic flux occuring due to the passage of aircraft.
   4) vibrations created by the passage of aircraft.

7. A beam of light of wavelength 600 nm from a distant source falls on a single slit 1mm wide and the resulting diffraction pattern is observed on a screen 2m away. The distance between the first dark fringes on either side of the central bright fringe is
   1) 1.2 cm
   2) 1.2 mm
   3) 2.4 cm
   4) 2.4 mm

8. The physical quantity having the dimensions $\left[M^{-1}L^{-3}T^{3}A^{2}\right]$ is
   1) resistance
   2) resistivity
   3) electrical conductivity
   4) electromotive force

9. A battery of emf 10 V and internal resistance 3 ohm is connected to a resistor. The current in the circuit is 0.5 A. The terminal voltage of the battery when the circuit is closed is .....
   1) 10 V
   2) 0 V
   3) 1.5 V
   4) 8.5 V

10. A galvanometer coil has a resistance of 15 ohm and gives full scale deflection for a current of 4 mA. To convert it to an ammeter of range 0 to 6 A,
   1) 10 mΩ resistance is to be connected in parallel to the galvanometer.
   2) 10 mΩ resistance is to be connected in series with the galvanometer.
   3) 0.1 Ω resistance is to be connected in parallel to the galvanometer.
   4) 0.1 Ω resistance is to be connected in series with the galvanometer.

(Space for Rough Work)

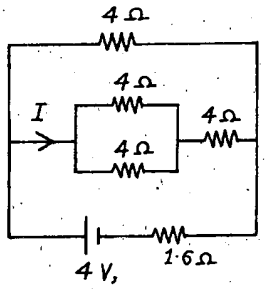
11. The electron drift speed is small and the charge of the electron is also small but still, we obtain large current in a conductor. This is due to

1) the conducting property of the conductor
2) the resistance of the conductor is small
3) the electron number density of the conductor is small
4) the electron number density of the conductor is enormous.

12. A straight wire of mass 200 g and length 1.5 m carries a current of 2 A. It is suspended in mid-air by a uniform horizontal magnetic field B. The magnitude of B (in tesla) is ..... (Assume $g = 9.9\ ms^{-2}$)

1) 2
2) 1.5
3) 0.55
4) 0.66

13. In the circuit shown the value of I in ampere is .....



1) 1
2) 0.60
3) 0.4
4) 1.5

14. A gaussian sphere encloses an electric dipole within it. The total flux across the sphere is ....

1) zero
2) half that due to a single charge
3) double that due to a single charge
4) dependent on the position of the dipole

15. A parallel plate air capacitor has a capacitance C. When it is half filled with a dielectric of dielectric constant 5, the percentage increase in the capacitance will be .....

1) 400 %
2) 66.6 %
3) 33.3 %
4) 200 %

(Space for Rough Work)

16. A comb run through one's dry hair attracts small bits of paper. This is due to
    1) comb is a good conductor
    2) paper is a good conductor
    3) the atoms in the paper get polarised by the charged comb.
    4) the comb possesses magnetic properties

17. The top of the atmosphere is at about 400 kV with respect to the surface of the earth, corresponding to an electric field that decreases with altitude. Near the surface of the earth, the field is about 100 Vm^{-1}. Still, we do not get an electric shock as we step out of our house into the open because (assume the house to be a steel cage so that there is no field inside)
    1) there is a pd between our body and the ground
    2) 100 Vm^{-1} is not a high electric field so that we do not feel the shock.
    3) our body and the ground forms an equipotential surface.
    4) the atmosphere is not a conductor.

18. The specific charge of a proton is 9.6×10^{7} C kg^{-1}. The specific charge of an alpha particle will be .....
    1) 9.6×10^{7} C kg^{-1}
    2) 19.2×10^{7} C kg^{-1}
    3) 4.8×10^{7} C kg^{-1}
    4) 2.4×10^{7} C kg^{-1}

19. When light of wavelength 300 nm falls on a photoelectric emitter, photoelectrons are liberated. For another emitter, light of wavelength 600 nm is sufficient for liberating photoelectrons. The ratio of the work function of the two emitters is
    1) 1 : 2
    2) 2 : 1
    3) 4 : 1
    4) 1 : 4

20. White light is passed through a dilute solution of potassium permanganate. The spectrum produced by the emergent light is
    1) band emission spectrum
    2) line emission spectrum
    3) band absorption spectrum
    4) line absorption spectrum

(Space for Rough Work)

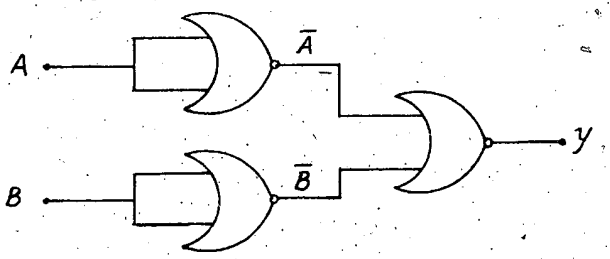
21. If λ_1 and λ_2 are the wavelengths of the first members of the Lyman and Paschen series respectively, then $\lambda_1 : \lambda_2$ is .....

1) 1 : 3
2) 1 : 30
3) 7 : 50
4) 7 : 108

22. Activity of a radioactive sample decreases to $\left(\frac{1}{3}\right)^{rd}$ of its original value in 3 days. Then, in 9 days its activity will become .....

1) $\left(\frac{1}{27}\right)$ of the original value
2) $\left(\frac{1}{9}\right)$ of the original value
3) $\left(\frac{1}{18}\right)$ of the original value
4) $\left(\frac{1}{3}\right)$ of the original value

23. Identify the logic operation performed by the circuit given below.



1) NOT
2) AND
3) OR
4) NAND

24. The working of which of the following is similar to that of a slide projector ?

1) Electron microscope
2) Scanning electron microscope
3) Transmission electron microscope
4) Atomic force microscope.

25. In a transistor the collector current is always less than the emitter current because,

1) collector side is reverse-biased and the emitter side is forward - biased.
2) a few electrons are lost in the base and only remaining ones reach the collector.
3) collector being reverse biased, attracts less electrons
4) collector side is forward-biased and emitter side is reverse-biased.

(Space for Rough Work)

26. A transparent cube of 0.21 m edge contains a small air bubble. Its apparent distance when viewed through one face of the cube is 0.10 m and when viewed from the opposite face is 0.04 m. The actual distance of the bubble from the second face of the cube is

1) 0.06 m 2) 0.17 m
3) 0.05 m 4) 0.04 m

27. White light is incident on one of the refracting surfaces of a prism of angle 5^0. If the refractive indices for red and blue colours are 1.641 and 1.659 respectively, the angular separation between these two colours when they emerge out of the prism is

1) 0.9^0 2) 0.09^0
3) 1.8^0 4) 1.2^0

28. For a given lens, the magnification was found to be twice as large as when the object was 0.15 m distant from it as when the distance was 0.2 m. The focal length of the lens is

1) 0.15 m 2) 0.20 m
3) 0.10 m 4) 0.05 m

29. To a fish under water, viewing obliquely a fisherman standing on the bank of a lake, the man looks

1) taller than what he actually is 2) shorter than what he actually is
3) the same height as he actually is 4) depends on the obliquity

30. A thin prism P_1 with angle 4^0 and made from a glass of refractive index 1.54 is combined with another thin prism P_2 made from glass of refractive index 1.72 to produce dispersion without deviation. The angle of the prism P_2 is

1) 5.33^0 2) 4^0
3) 3^0 4) 2.6^0

(Space for Rough Work)

31. If white light is used in the Newton's rings experiment, the colour observed in the reflected light is complementary to that observed in the transmitted light through the same point. This is due to

1) 90^0 change of phase in one of the reflected waves
2) 180^0 change of phase in one of the reflected waves
3) 145^0 change of phase in one of the reflected waves
4) 45^0 change of phase in one of the reflected waves

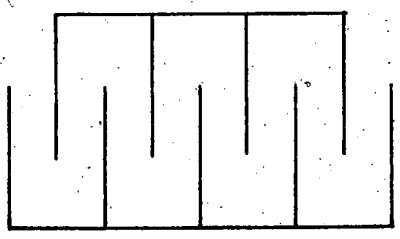
32. Specific rotation of sugar solution is 0.5 deg m^2 kg^{-1}. 200 kgm^{-3} of impure sugar solution is taken in a sample polarimeter tube of length 20 cm and optical rotation is found to be 19^0. The percentage of purity of sugar is .....

1) 20 %
2) 80 %
3) 95 %
4) 89 %

33. A simple pendulum has a length l and the mass of the bob is m. The bob is given a charge q coulomb. The pendulum is suspended between the vertical plates of a charged parallel plate capacitor. If E is the electric field strength between the plates, the time period of the pendulum is given by

1) $2\pi\sqrt{l/g}$
2) $2\pi\sqrt{\frac{l}{\sqrt{g+\frac{qE}{m}}}}$
3) $2\pi\sqrt{\frac{l}{\sqrt{g-\frac{qE}{m}}}}$
4) $2\pi\sqrt{\frac{l}{\sqrt{g^2+\left(\frac{qE}{m}\right)^2}}}$

34. A gang capacitor is formed by interlocking a number of plates as shown in figure. The distance between the consecutive plates is 0.885 cm and the overlapping area of the plates is 5 cm^2. The capacity of the unit is



1) 1.06 *PF*
2) 4 *PF*
3) 6.36 *PF*
4) 12.72 *PF*

35. A satellite in a circular orbit of radius R has a period of 4 hours. Another satellite with orbital radius 3 R around the same planet will have a period (in hours)

1) 16
2) 4
3) $4\sqrt{27}$
4) $4\sqrt{8}$

(Space for Rough Work)

36. The freezer in a refrigerator is located at the top section so that

1) the entire chamber of the refrigerator is cooled quickly due to convection
2) the motor is not heated
3) the heat gained from the environment is high
4) the heat gained from the environment is low.

37. The unit of Stefan's constant is

1) $Wm^{-2}k^{-1}$ 2) Wmk^{-4}
3) $Wm^{-2}k^{-4}$ 4) $Nm^{-2}k^{4}$

38. A monoatomic gas is suddenly compressed to $\left(\frac{1}{8}\right)^{th}$ of its initial volume adiabatically. The ratio of its final pressure to the initial pressure is (given the ratio of the specific heat of the given gas to be 5/3)

1) 32 2) $\frac{40}{3}$
3) $\frac{24}{5}$ 4) 8

39. A Carnot heat engine takes heat from a reservoir at 627^0C and rejects heat to a sink at 27^0C. Its efficiency will be

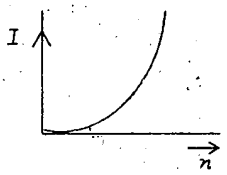
1) $\frac{3}{5}$ 2) $\frac{1}{3}$
3) $\frac{2}{3}$ 4) $\frac{200}{209}$

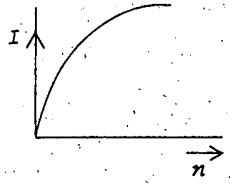
40. A 30 V, 90 W lamp is to be operated on a 120 V D.C. line. For proper glow, a resistor of ..... ohm should be connected in series with the lamp.

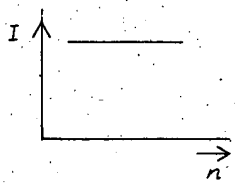
1) 40 2) 10
3) 20 4) 30

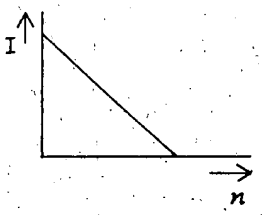
(Space for Rough Work)

41. A battery consists of a variable number (n) of identical cells, each having an internal resistance r connected in series. The terminals of the battery are short-circuited. A graph of current (I) in the circuit verses the number of cells will be as shown in figure.

1) 

2) 

3) 

4) 

42. A tuning fork A produces 4 beats per second with another tuning fork B of frequency 320 Hz. On filing one of the prongs of A, 4 beats per second are again heard when sounded with the same fork B. Then the frequency of the fork A before filing is

1) 328 Hz
2) 316 Hz
3) 324 Hz
4) 320 Hz

43. When the length of the vibrating segment of a sonometer wire is increased by 1 %, the percentage change in its frequency is

1) $\frac{100}{101}$
2) $\frac{99}{100}$
3) 1
4) 2

44. The sprinkling of water reduces slightly the temperature of a closed room because

1) temperature of water is less than that of the room
2) specific heat of water is high
3) water has large latent heat of vapourisation
4) water is a bad conductor of heat

45. The equation of a simple harmonic wave is given by $y = 5Sin\frac{\pi}{2}(100t - x)$ where x and y are in metre and time is in second. The period of the wave in second will be

1) 0.04
2) 0.01
3) 1
4) 5

(Space for Rough Work)

46. The loudness and pitch of a sound note depends on

1) intensity and frequency
2) frequency and number of harmonics
3) intensity and velocity
4) frequency and velocity

47. For ordinary terrestrial experiments, the observer in an inertial frame in the following cases is .....

1) a child revolving in a giant wheel
2) a driver in a sports car moving with a constant high speed of 200 kmh^{-1} on a straight road
3) the pilot of an aeroplane which is taking off
4) a cyclist negotiating a sharp curve.

48. A rectangular vessel when full of water, takes 10 minutes to be emptied through an orifice in its bottom. How much time will it take to be emptied when half filled with water ?

1) 9 minutes
2) 7 minutes
3) 5 minutes
4) 3 minutes

49. If there were no gravity, which of the following will not be there for a fluid ?

1) viscosity
2) surface tension
3) pressure
4) Archimedes' upward thrust

50. In a *LCR* series circuit, the pd between the terminals of the inductance is 60 V, between the terminals of the capacitor is 30 V and that across the resistance is 40 V. Then, the supply voltage will be equal to

1) 50 V
2) 70 V
3) 130 V
4) 10 V

(Space for Rough Work)

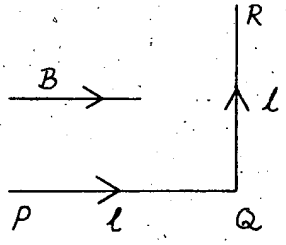
51. When dueterium and helium are subjected to an accelerating field simultaneously then,

1) both acquire same energy
2) dueterium accelerates faster
3) helium accelerates faster
4) neither of them is accelerated

52. A solenoid 1.5 m long and 0.4 cm in diameter possesses 10 turns per cm length. A current of 5 A flows through it. The magnetic field at the axis inside the solenoid is

1) $2\pi\times10^{-3}\,T$
2) $2\pi\times10^{-5}\,T$
3) $4\pi\times10^{-2}\,T$
4) $4\pi\times10^{-3}\,T$

53. A wire PQR is bent as shown in figure and is placed in a region of uniform magnetic field B. The length of $PQ = QR = l$. A current I ampere flows through the wire as shown. The magnitude of the force on PQ and QR will be

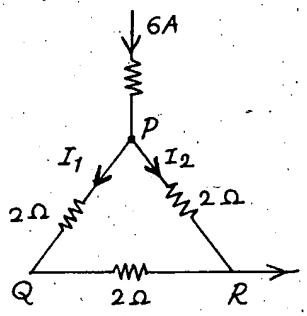


1) BIl, 0
2) $2\,BIl$, 0
3) 0, BIl
4) 0, 0

54. A choke is preferred to a resistance for limiting current in AC circuit because

1) choke is cheap
2) there is no wastage of power
3) choke is compact in size
4) choke is a good absorber of heat

55. A current of 6 A enters one corner P of an equilateral triangle PQR having 3 wires of resistances 2 Ω each and leaves by the corner R. Then the current I_1 and I_2 are



1) 2 A, 4 A
2) 4 A, 2 A
3) 1 A, 2 A
4) 2 A, 3 A

(Space for Rough Work)

56. To a germanium crystal equal number of aluminium and indium atoms are added. Then,

1) it remains an intrinsic semiconductor 2) it becomes a n-type semiconductor

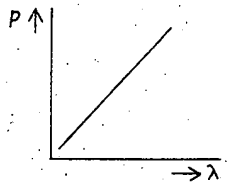
3) it becomes a p-type semiconductor 4) it becomes an insulator

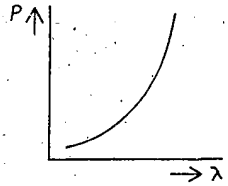
57. Maximum velocity of the photoelectrons emitted by a metel surface is 1.2×10^6 ms^{-1}. Assuming the specific charge of the electron to be 1.8×10^{11} C kg^{-1}, the value of the stopping potential in volt will be

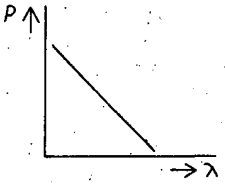
1) 2 2) 3

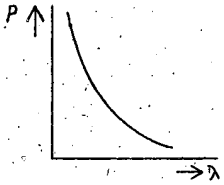
3) 4 4) 6

58. Which of the following figure represents the variation of particle momentum and associated de Broglie wavelength ?

1) 

2) 

3) 

4) 

59. The term liquid crystal refers to a state that is intermediate between

1) crystalline solid and amorphous liquid

2) crystalline solid and vapour

3) amorphous liquid and its vapour

4) a crystal immersed in a liquid

60. If r_1 and r_2 are the radii of the atomic nuclei of mass numbers 64 and 125 respectively, then the ratio $\left(\frac{r_1}{r_2}\right)$ is

1) $\frac{64}{125}$ 2) $\sqrt{\frac{64}{125}}$

3) $\frac{5}{4}$ 4) $\frac{4}{5}$

(Space for Rough Work)

(Space for Rough Work)

A-1

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5. Carefully enter the Version Code of this question booklet on the bottom portion of the OMR answer sheet and SHADE the respective circle completely.
6. As answer sheets are designed to suit the Optical Mark Reader (OMR) system, please take special care while filling and shading the Version Code of this question booklet.
7. **DO NOT FORGET TO SIGN ON BOTH TOP AND BOTTOM PORTION OF OMR ANSWER SHEET IN THE SPACE PROVIDED.**
8. Until the 3rd Bell is rung at 2.40 p.m. :
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17. **Preserve the replica of the OMR answer sheet for a minimum period of One year.**

CHEMISTRY

1. Which of the following is not an ore of magnesium ?
   1) Carnallite
   2) Dolomite
   3) Calamine
   4) Sea water

2. The atomic numbers of Ni and Cu are 28 and 29 respectively. The electron configuration $1s^2\ 2s^2\ 2p^6\ 3s^2\ 3p^6\ 3d^{10}$ represents
   1) Cu^+
   2) Cu^{2+}
   3) Ni^{2+}
   4) Ni

3. In the following, the element with the highest ionisation energy is
   1) $[Ne]3s^2\,3p^1$
   2) $[Ne]3s^2\,3p^3$
   3) $[Ne]3s^2\,3p^2$
   4) $[Ne]3s^2\,3p^4$

4. In the conversion of Br_2 to BrO_3^-, the oxidation number of Br changes from
   1) zero to + 5
   2) + 1 to + 5
   3) zero to – 3
   4) + 2 to + 5

5. Among the alkali metals cesium is the most reactive because
   1) its incomplete shell is nearest to the nucleus
   2) it has a single electron in the valence shell
   3) it is the heaviest alkali metal
   4) the outermost electron is more loosely bound than the outermost electron of the other alkali metals.

(Space for Rough Work)

6. Which of the following represents the Lewis structure of N_2 molecule ?

1) $\overset{\times}{\underset{\times}{}}N \equiv N\overset{\times}{\underset{\times}{}}$
2) $\overset{\times\times\times}{\underset{\times}{}}N \equiv N\overset{\times\times}{\underset{\times}{}}$
3) $\overset{\times\times}{\underset{\times\times}{}}N - N\overset{\times\times}{\underset{\times\times}{}}$
4) $\overset{\times\times}{\underset{\times\times}{}}N = N\overset{\times\times}{\underset{\times\times}{}}$

7. Hydrogen bond is strongest in

1) $S-H$ ------ O
2) $O-H$ ----- S
3) $F-H$ ----- F
4) $O-H$ ----- N

8. The decomposition of a certain mass of $CaCO_3$ gave 11.2 dm^3 of CO_2 gas at STP. The mass of KOH required to completely neutralise the gas is

1) 56 g
2) 28 g
3) 42 g
4) 20 g

9. The density of a gas is 1.964 g dm^{-3} at 273 k and 76 cm Hg. The gas is

1) CH_4
2) C_2H_6
3) CO_2
4) Xe

10. 0.06 mole of KNO_3 solid is added to 100 cm^3 of water at 298 k. The enthalpy of KNO_{3aq} solution is 35.8 $kJmol^{-1}$. After the solute is dissolved the temperature of the solution will be

1) 293 k
2) 298 k
3) 301 k
4) 304 k

(Space for Rough Work)

11. 4 moles each of SO_2 and O_2 gases are allowed to react to form SO_3 in a closed vessel. At equilibrium 25 % of O_2 is used up. The total number of moles of all the gases present at equilibrium is

1) 6.5 2) 7.0

3) 8.0 4) 2.0

12. An example for autocatalysis is

1) oxidation of NO to NO_2

2) oxidation of SO_2 to SO_3

3) decomposition of $KClO_3$ to KCl and O_2

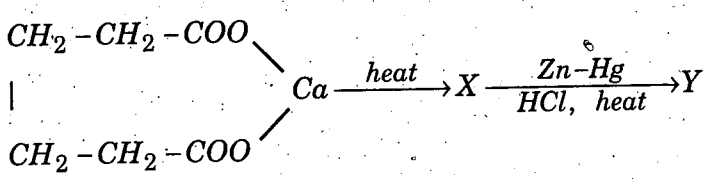
4) oxidation of oxalic acid by acidified $KMnO_4$

13. During the fusion of an organic compound with sodium metal, nitrogen of the compound is converted into

1) $NaNO_2$ 2) $NaNH_2$

3) $NaCN$ 4) $NaNC$

14. Identify the product Y in the following reaction sequence



1) pentane 2) cyclobutane

3) cyclopentane 4) cyclopentanone

15. The reaction $C_2H_5ONa + C_2H_5I \rightarrow C_2H_5OC_2H_5 + NaI$ is known as

1) Kolbe's synthesis 2) Wurtz's synthesis

3) Williamson's synthesis 4) Grignard's synthesis

(Space for Rough Work)

16. ΔG^0 Vs T plot in the Ellingham's diagram slopes downwards for the reaction

1) $Mg + \frac{1}{2}O_2 \rightarrow MgO$ 2) $2Ag + \frac{1}{2}O_2 \rightarrow Ag_2O$

3) $C + \frac{1}{2}O_2 \rightarrow CO$ 4) $CO + \frac{1}{2}O_2 \rightarrow CO_2$

17. Which of the following reaction taking place in the Blast furnace is endothermic ?

1) $CaCO_3 \rightarrow CaO + CO_2$ 2) $2\,C + O_2 \rightarrow 2\,CO$

3) $C + O_2 \rightarrow CO_2$ 4) $Fe_2O_3 + 3CO \rightarrow 2Fe + 3CO_2$

18. Liquor ammonia bottles are opened only after cooling. This is because

1) it is a mild explosive 2) it is a corrosive liquid

3) it is a lachrymatory 4) it generates high vapour pressure

19. The formation of $O_2^+[P_t F_6]^-$ is the basis for the formation of Xenon fluorides. This is because

1) O_2 and Xe have comparable sizes

2) both O_2 and Xe are gases

3) O_2 and Xe have comparable ionisation energies

4) O_2 and Xe have comparable electronegativities

20. The highest magnetic moment is shown by the transition metal ion with the configuration

1) $3d^2$ 2) $3d^5$

3) $3d^7$ 4) $3d^9$

(Space for Rough Work)

21. A transition metal ion exists in its highest oxidation state. It is expected to behave as

1) a chelating agent
2) a central metal in a coordination compound
3) an oxidising agent
4) a reducing agent

22. In which of the following complex ion, the central metal ion is in a state of sp^3d^2 hybridisation ?

1) $[CoF_6]^{3-}$
2) $[Co(NH_3)_6]^{3+}$
3) $[Fe(CN)_6]^{3-}$
4) $[Cr(NH_3)_6]^{3+}$

23. Which of the following can participate in linkage isomerism ?

1) NO_2^-
2) $H_2\ddot{N}CH_2CH_2\ddot{N}H_2$
3) H_2O
4) $:NH_3$

24. Which of the following has the highest bond order ?

1) N_2
2) O_2
3) He_2
4) H_2

25. Which of the following is diamagnetic ?

1) H_2^+
2) O_2
3) Li_2
4) He_2^+

(Space for Rough Work)

26. The concentration of a reactant X decreases from 0.1 M to 0.025 M in 40 minutes. If the reaction follows I order kinetics, the rate of the reaction when the concentration of X is 0.01 M will be

1) $1.73 \times 10^{-4} M \text{ min}^{-1}$ 2) $3.47 \times 10^{-4} M \text{ min}^{-1}$

3) $3.47 \times 10^{-5} M \text{ min}^{-1}$ 4) $1.73 \times 10^{-5} M \text{ min}^{-1}$

27. Chemical reactions with very high E_a values are generally

1) very fast 2) very slow

3) moderately fast 4) spontaneous

28. Which of the following does not conduct electricity ?

1) fused $NaCl$ 2) solid $NaCl$

3) brine solution 4) Copper

29. When a quantity of electricity is passed through $CuSO_4$ solution, 0.16 g of Copper gets deposited. If the same quantity of electricity is passed through acidulated water, then the volume of H_2 liberated at STP will be [Given At.Wt. $Cu = 64$]

1) 4.0 cm^3 2) 56 cm^3

3) 604 cm^3 4) 8.0 cm^3

30. Solubility product of a salt AB is 1×10^{-8} M^2 in a solution in which the concentration of A^+ ions is 10^{-3} M. The salt will precipitate when the concentration of B^- ions is kept

1) between 10^{-8} M to 10^{-7} M 2) between 10^{-7} M to 10^{-6} M

3) $> 10^{-5}$ M 4) $< 10^{-8}$ M

(Space for Rough Work)

31. Which one of the following condition will increase the voltage of the cell represented by the equation : $Cu_{(s)} + 2Ag^{+}{}_{aq} \rightleftharpoons Cu^{2+}{}_{aq} + 2Ag_{(s)}$

1) increase in the dimensions of Cu electrode
2) increase in the dimensions of Ag electrode
3) increase in the concentration of Cu^{2+} ions
4) increase in the concentration of Ag^{+} ions

32. The pH of 10^{-8} M HCl solution is

1) 8
2) more than 8
3) between 6 and 7
4) slightly more than 7

33. The mass of glucose that should be dissolved in 50 g of water in order to produce the same lowering of vapour pressure as is produced by dissolving 1 g of urea in the same quantity of water is

1) 1 g
2) 3 g
3) 6 g
4) 18 g

34. Osmotic pressure observed when benzoic acid is dissolved in benzene is less than that expected from theoretical considerations. This is because

1) benzoic acid is an organic solute
2) benzoic acid has higher molar mass than benzene
3) benzoic acid gets associated in benzene
4) benzoic acid gets dissociated in benzene

35. For a reaction to be spontaneous at all temperatures

1) ΔG and ΔH should be negative
2) ΔG and ΔH should be positive
3) $\Delta G = \Delta S = 0$
4) $\Delta H < \Delta G$

(Space for Rough Work)

36. Which of the following electrolyte will have maximum flocculation value for $Fe(OH)_3$ sol. ?

1) $NaCl$ 2) Na_2S
3) $(NH_4)_3PO_4$ 4) K_2SO_4

37. For a reversible reaction : $X_{(g)} + 3Y_{(g)} \rightleftharpoons 2Z_{(g)}$

$\Delta H = -40\,kJ$ the standard entropies of X, Y and Z are 60, 40 and 50 $JK^{-1}\,mol^{-1}$ respectively. The temperature at which the above reaction attains equilibrium is about

1) 400 K 2) 500 K
3) 273 K 4) 373 K

38. The radii of Na^+ and Cl^- ions are 95 pm and 181 pm respectively. The edge length of $NaCl$ unit cell is

1) 276 pm 2) 138 pm
3) 552 pm 4) 415 pm

39. Inductive effect involves

1) displacement of σ electrons 2) delocalisation of π electrons
3) delocalisation of σ electrons 4) displacement of π electrons

40. The basicity of aniline is less than that of cyclohexylamine. This is due to

1) $+R$ effect of $-NH_2$ group 2) $-I$ effect of $-NH_2$ group
3) $-R$ effect of $-NH_2$ group 4) hyperconjugation effect

(Space for Rough Work)

41. Methyl bromide is converted into ethane by heating it in ether medium with
1) Al 2) Zn
3) Na 4) Cu

42. Which of the following compound is expected to be optically active ?
1) $(CH_3)_2 CH\ CHO$ 2) $CH_3 CH_2 CH_2 CHO$
3) $CH_3 CH_2 CHBr\ CHO$ 4) $CH_3 CH_2 CBr_2 CHO$

43. Which cycloalkane has the lowest heat of combustion per CH_2 group ?
1) cyclopropane 2) cyclobutane
3) cyclopentane 4) cyclohexane

44. The catalyst used in the preparation of an alkyl chloride by the action of dry HCl on an alcohol is
1) anhydrous $AlCl_3$ 2) $FeCl_3$
3) anhydrous $ZnCl_2$ 4) Cu

45. In the reaction
$$R - X \xrightarrow[KCN]{alcoholic} A \xrightarrow[HCl]{dilute} B,$$
the product B is
1) alkyl chloride 2) aldehyde
3) carboxylic acid 4) ketone

(Space for Rough Work)

46. Which of the following compound would not evolve CO_2 when treated with $NaHCO_3$ solution ?

1) salicylic acid
2) phenol
3) benzoic acid
4) 4-nitro benzoic acid

47. By heating phenol with chloroform in alkali, it is converted into

1) salicylic acid
2) salicylaldehyde
3) anisole
4) phenyl benzoate

48. When a mixture of calcium benzoate and calcium acetate is dry distilled, the resulting compound is

1) acetophenone
2) benzaldehyde
3) benzophenone
4) acetaldehyde

49. Which of the following does not give benzoic acid on hydrolysis ?

1) phenyl cyanide
2) benzoyl chloride
3) benzyl chloride
4) methyl benzoate

50. Which of the following would undergo Hoffmann reaction to give a primary amine ?

1) $R-\overset{\overset{O}{\|}}{C}-Cl$
2) $RCONHCH_3$
3) $RCONH_2$
4) $RCOOR$

(Space for Rough Work)

51. Glucose contains in addition to aldehyde group

1) one secondary *OH* and four primary *OH* groups
2) one primary *OH* and four secondary *OH* groups
3) two primary *OH* and three secondary *OH* groups
4) three primary *OH* and two secondary *OH* groups

52. A distinctive and characteristic functional group of fats is

1) a peptide group
2) an ester group
3) an alcoholic group
4) a ketonic group

53. At pH = 4 glycine exists as

1) $H_3\overset{+}{N}-CH_2-COO^-$
2) $H_3\overset{+}{N}-CH_2-COOH$
3) H_2N-CH_2-COOH
4) $H_2N-CH_2-COO^-$

54. Insulin regulates the metabolism of

1) minerals
2) amino acids
3) glucose
4) vitamins

55. The formula mass of Mohr's salt is 392. The iron present in it is oxidised by $KMnO_4$ in acid medium. The equivalent mass of Mohr's salt is

1) 392
2) 31.6
3) 278
4) 156

(Space for Rough Work)

56. The brown ring test for nitrates depends on

1) the reduction of nitrate to nitric oxide
2) oxidation of nitric oxide to nitrogen dioxide
3) reduction of ferrous sulphate to iron
4) oxidising action of sulphuric acid

57. Acrolein test is positive for

1) polysaccharides
2) proteins
3) oils and fats
4) reducing sugars

58. An organic compound which produces a bluish green coloured flame on heating in presence of copper is

1) chlorobenzene
2) benzaldehyde
3) aniline
4) benzoic acid

59. For a reaction $A + B \rightarrow C + D$ if the concentration of A is doubled without altering the concentration of B, the rate gets doubled. If the concentration of B is increased by nine times without altering the concentration of A, the rate gets tripled. The order of the reaction is

1) 2
2) 1
3) $\frac{3}{2}$
4) $\frac{4}{3}$

60. Which of the following solutions will exhibit highest boiling point ?

1) 0.01 M $Na_2SO_{4(aq)}$
2) 0.01 M $KNO_{3(aq)}$
3) 0.015 M urea$_{(aq)}$
4) 0.015 M glucose$_{(aq)}$

(Space for Rough Work)

(Space for Rough Work)

A-1

COMMON ENTRANCE TEST - 2006

DATE	SUBJECT	TIME
09 - 05 - 2006	BIOLOGY	10.30 AM to 11.50 AM

MAXIMUM MARKS	TOTAL DURATION	MAXIMUM TIME FOR ANSWERING
60	80 MINUTES	70 MINUTES

MENTION YOUR CET NUMBER					QUESTION BOOKLET DETAILS	
					VERSION CODE	SERIAL NUMBER
					A - 1	75665

IMPORTANT INSTRUCTIONS TO CANDIDATES

(Candidates are advised to read the following instructions carefully, before answering on the OMR answer sheet.)

1. Ensure that you have entered your Name and CET Number on the top portion of the OMR answer sheet.
2. **ENSURE THAT THE BAR CODES, TIMING AND MARKS PRINTED ON THE OMR ANSWER SHEET ARE NOT DAMAGED / MUTILATED / SPOILED.**
3. This Question Booklet is issued to you by the invigilator after the 2nd Bell. i.e., after 10.35 a.m.
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BIOLOGY

1. Which of the following hormones are produced in the hypothalamus and stored in the posterior pituitary ?
   1) FSH and LH
   2) ADH and Oxytocin
   3) TSH and STH
   4) ACTH and MSH

2. Two pea plants were subjected cross pollination. Of the 183 plants produced in the next generation, 94 plants were found to be tall and 89 plants were found to be dwarf. The genotypes of the two parental plants are likely to be
   1) TT and tt
   2) Tt and Tt
   3) Tt and tt
   4) TT and TT

3. Monoclonal antibodies are produced from hybird cells, called hybridomas. The cells employed to obtain these hybridoma cells, are
   1) B-lymphocytes and myeloma cells 2) Lymphoma cells and bone marrow cells
   3) T-lymphocytes and myeloma cells 4) B-lymphocytes and carcinoma cells

4. Read the two statements A and B.
   - Statement A : Diversity observed in the entire geographical area, is called gamma diversity.
   - Statement B : Biodiversity decreases from high altitude to low altitude.

   Identify the correct choice from those given.
   1) Statement A is correct, B is wrong.
   2) Statement B is correct, A is wrong.
   3) Both the statements A and B are correct.
   4) Both the statements A and B are wrong.

5. The major event that occurs during the anaphase of mitosis, which brings about the equal distribution of chromosomes, is
   1) replication of the genetic material
   2) splitting of the chromatids
   3) splitting of the centromeres
   4) condensation of the chromatin

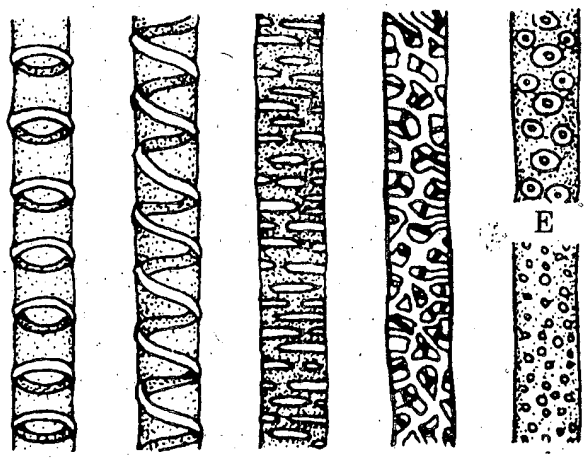
(Space for Rough Work)

6. In the synthesis of which of the following, the DNA molecule is not directly involved ?
   1) mRNA molecule
   2) protein molecule
   3) another DNA molecule
   4) tRNA molecule

7. Chloroplasts without grana are known to occur in
   1) Bundle sheath cells of C_3 plants.
   2) Mesophyll cells of C_4 plants.
   3) Bundle sheath cells of C_4 plants.
   4) Mesophyll cells of all plants.

8. The main function of lacteals in the human small intestine is the absorption of
   1) glucose and vitamins
   2) amino acids and glucose
   3) water and vitamins
   4) fatty acids and glycerol

9. The following diagrams show the types of secondary thickenings in the xylem vessels. Identify the types labelled from A to F. Choose the correct option from those given.



   1) A = Spiral, B = Annular, C = Reticulate, D = Scalariform, E = Pitted with border, F = Pitted, simple
   2) A = Annular, B = Spiral, C = Scalariform, D = Reticulate, E = Pitted with border, F = Pitted, simple
   3) A = Annular, B = Spiral, C = Scalariform, D = Reticulate, E = Pitted, simple, F = Pitted with border.
   4) A = Spiral, B = Annular, C = Scalariform, D = Reticulate, E = Pitted with border, F = Pitted, simple

10. About 1000 ml of air is always known to remain inside the human lungs. It is described as .....
   1) Inspiratory reserve volume
   2) Expiratory reserve volume
   3) Residual volume
   4) Tidal volume

(Space for Rough Work)

11. The chemical nature of gibberellins is that they are
    1) acidic
    2) alkaline
    3) proteinaceous
    4) amines

12. The unit of natural selection is
    1) an individual
    2) a species
    3) a genus
    4) a population

13. Water is lost in a liquid state in some plants through hydathodes. These hydathodes
    1) remain closed at night
    2) remain closed during day
    3) remain always open
    4) do not show any specificity in opening and closing

14. Which of the following are secretions produced by the spermatozoa at the time of fertilization ?
    1) Fertilizin and antifertilizin
    2) Antifertilizin and spermlysin
    3) Fertilizin and spermlysin
    4) only spermlysin

15. Cells obtained from an organism were homogenised and centrifuged. A test indicated that the cells contained glycogen. If you were asked to find out as quickly as possible whether the cells were from a plant or an animal, you would
    1) examine the centrifuge for the presence of extracts of chloroplasts
    2) answer immediately that the cells were from a plant-source
    3) examine the centrifuge for the presence of extracts of centrioles
    4) answer immediately that the cells were from an animal source

(Space for Rough Work)

16. Which of the following plant parts can respire even in the absence of oxygen ?

1) Seeds 2) Roots

3) Stems 4) Leaves

17. Column I lists some disorders associated with brain. Column II lists the causes for these disorders. Match the two columns and identify the correct option from those given

Column I	Column II
A. Epilepsy	p. Degeneration of neurons in the cerebral cortex.
B. Alzheimer's disease	q. Irregular electrical discharge in the neurons
C. Parkinson's disease	r. Decreased production of acetyl choline
D. Huntington's chorea	s. Degeneration of dopamine releasing neurons
	t. Formation of blood clots in the brain

1) A = t, B = s, C = r, D = p 2) A = q, B = r, C = p, D = s

3) A = q, B = r, C = s, D = p 4) A = q, B = s, C = r, D = p

18. The world biodiversity day is celebrated annually on

1) 5th June 2) 29th December

3) 22nd April 4) 16th September

19. The sequence of nitrogen bases in a particular region of the noncoding strand of a DNA molecule was found to be CAT GTT TAT CGC. What would be the sequence of nitrogen bases in the mRNA that is synthesized by the corresponding region of the coding strand in that DNA ?

1) GUA CAA AUA GCC 2) GTA CAA ATA GCC

3) CAU GUU UAU CGG 4) CAA GAA TAU GCC

20. Almost all the aquatic animals excrete ammonia as the nitrogenous waste product. Which of the following statement is not in agreement with this situation ?

1) Ammonia is easily soluble in water

2) Ammonia is released from the body in a gaseous state.

3) Ammonia is highly toxic and needs to be eliminated as and when formed.

4) Ammonia gets converted into a less toxic form called urea.

(Space for Rough Work)

21. In nature, cleistogamous flowers are
    1) self pollinated
    2) insect pollinated
    3) wind pollinated
    4) bird pollinated

22. In the homeostatic control of blood sugar level, which organs function respectively as modulator and effector ?
    1) Liver and islets of Langerhans
    2) Hypothalamus and liver
    3) Hypothalamus and islets of Langerhans
    4) Islets of Langerhans and hypothalamus.

23. Variable number of tandem repeats (VNTRs) in the DNA molecule are highly useful in
    1) Recombinant DNA technology
    2) DNA finger printing
    3) Monoclonal antibody production
    4) Stemcell culture

24. Which of the following represents a condition where the motility of the sperms is highly reduced ?
    1) Oligospermia
    2) Athenospermia
    3) Azoospermia
    4) Polyspermy

25. Identify from the following, the only taxonomic category that has a real existence.
    1) Genus
    2) Species
    3) Phylum
    4) Kingdom

(Space for Rough Work)

26. Which of the following is used as an antitranspirant ?

1) Cobalt chloride
2) Naphthol acetic acid
3) Calcium carbonate
4) Phenyl mercuric acetate

27. Maximum amount of oxygen is lost from the blood in the

1) capillaries surrounding the tissue cells
2) arteries of the body
3) capillaries surrounding the alveoli
4) left auricle of the heart

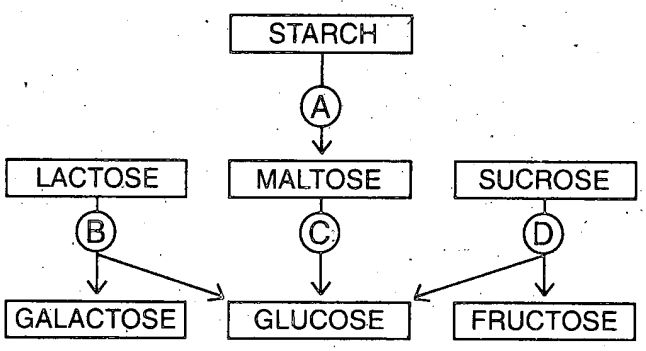
28. In which of the following disorders, blood has a defective hemoglobin ?

1) Hemophilia
2) Hematuria
3) Hematoma
4) Sicklecell anemia

29. The common point of attachment of all the arms of polytene chromosomes, is known as

1) Chromomere
2) Centromere
3) Chromocentre
4) Centrosome

30. The following is a scheme showing the fate of carbohydrates during digestion in the human alimentary canal. Identify the enzymes acting at stages indicated as A, B, C and D. Choose the correct option from those given.



1) A = Amylase, B = Maltase, C = Lactase, D = Invertase
2) A = Amylase, B = Maltase, C = Invertase, D = Lactase
3) A = Amylase, B = Invertase, C = Maltase, D = Lactase
4) A = Amylase, B = Lactase, C = Maltase, D = Invertase

(Space for Rough Work)

31. As secondary growth proceeds, in a dicot stem, the thickness of

1) sapwood increases
2) heartwood increases
3) both sapwood and heartwood increases
4) both sapwood and heartwood remains the same

32. Which of the following animal can successfully reproduce without utilizing the process of mitosis ?

1) Amoeba
2) Hydra
3) Tapeworm
4) Sycon

33. The synthesis of one molecule of glucose during Calvin cycle requires

1) 12 molecules of ATP and 18 molecules of $NADPH_2$
2) 6 molecules of ATP and 12 molecules of $NADPH_2$
3) 18 molecules of ATP and 12 molecules of $NADPH_2$
4) 12 molecules each of ATP and $NADPH_2$

34. Which of the following was likely to have been absent in a free molecular state, in the primitive atmosphere of the earth ?

1) Carbon
2) Oxygen
3) Hydrogen
4) Nitrogen

35. In the members of family Malvaceae, anthers are described as

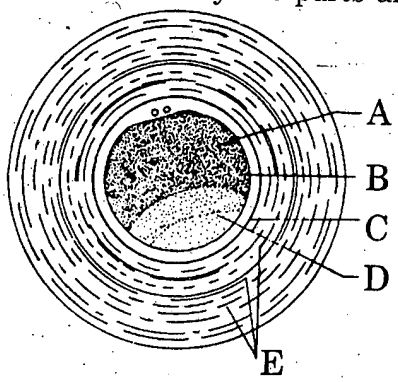
1) Diadelphous and dithecous
2) Diadelphous and monothecous
3) Monadelphous and dithecous
4) Monadelphous and monothecous

(Space for Rough Work)

36. In the operon system, the repressor protein can bind only with the

1) Structural genes
2) Regulator gene
3) Operator gene
4) Promoter gene

37. The following is a diagram of the just spawned frog's egg, with the parts labelled from A to E. Identify the parts and choose the correct option from those given below.



1) A = Cytoplasm, B = Plasma membrane, C = Vitelline membrane, D = Yolk, E = Jelly Coat
2) A = Cytoplasm, B = Vitelline membrane, C = Plasma membrane, D = Yolk, E = Jelly Coat
3) A = Yolk, B = Plasma membrane, C = Vitelline membrane, D = Cytoplasm, E = Jelly Coat
4) A = Yolk, B = Jelly Coat, C = Vitelline membrane, D = Cytoplasm, E = Plasma membrane

38. The rate of transpiration will be very less in a situation where

1) ground water is sufficiently available
2) wind is blowing with a very high velocity
3) environment is very hot and dry
4) relative humidity is very high

39. Column I lists the components of body defense and column II lists the corresponding descriptions. Match the two columns. Choose the correct option from those given.

	Column I		Column II
A.	Active natural immunity	p.	Injection of gamma globulins
B.	First line of defense	q.	Complement proteins and interferons
C.	Passive natural immunity	r.	Direct contact with the pathogens that have entered inside
D.	Second line of defense	s.	Surface barriers
		t.	Antibodies transferred through the Placenta

1) A = s, B = r, C = t, D = q
2) A = r, B = s, C = q, D = t
3) A = r, B = s, C = t, D = q
4) A = t, B = r, C = q, D = p

40. Which of the following is not an influence of auxins ?

1) Apical dominance
2) Parthenocarpy
3) Tropic movements
4) Bolting

(Space for Rough Work)

41. How many double circulations are normally completed by the human heart, in one minute ?
    1) Eight
    2) Sixteen
    3) Seventy two
    4) Thirty six

42. Casparian thickenings are found in the cells of
    1) Pericycle of the root
    2) Endodermis of the root
    3) Pericycle of the stem
    4) Endodermis of the stem

43. Both photosynthesis and respiration require
    1) Mitochondria
    2) Sunlight
    3) Chloroplasts
    4) Cytochromes

44. Which of the following regions of our country are known for their rich biodiversity ?
    1) Western Ghats and Eastern Himalayas
    2) Western Ghats and Deccan Plateau
    3) Eastern Himalayas and Gangetic plane
    4) Trans Himalayas and Deccan Peninsula

45. Restriction endonucleases are most widely used in recombinant DNA technology. They are obtained from
    1) Bacteriophages
    2) Bacterial cells
    3) Plasmids
    4) All prokaryotic cells

(Space for Rough Work)

46. The F_2 generation offspring in a plant showing incomplete dominance, exhibit

1) variable genotypic and phenotypic ratios
2) a genotypic ratio of 1 : 1
3) a phenotypic ratio of 3 : 1
4) similar phenotypic and genotypic ratios of 1 : 2 : 1.

47. Identify the correct statement with reference to transport of respiratory gases by blood.

1) Hemoglobin is necessary for transport of carbondioxide and carbonic anhydrase for transport of oxygen
2) Hemoglobin is necessary for transport of oxygen and carbonic anhydrase for transport of carbondioxide.
3) Only oxygen is transported by blood.
4) Only carbondioxide is transported by blood.

48. In the angiosperm ovule, central cell of the embryosac, prior to the entry of pollen tube, contains

1) a single haploid nucleus
2) one diploid and one haploid nuclei
3) two haploid polar nuclei
4) one diploid secondary nucleus

49. Read the two statements A and B.

- Statement A : The number of mitochondria in a cell do not correspond to the function of the cell.
- Statement B : Mitochondria are common to both plant and animal cells.

Choose the correct option from those given.

1) Statement A is correct, B is wrong.
2) Statement B is correct, A is wrong.
3) Both the statements A and B are correct.
4) Both the statements A and B are wrong.

50. Which of the following birth control measure can be considered as the safest ?

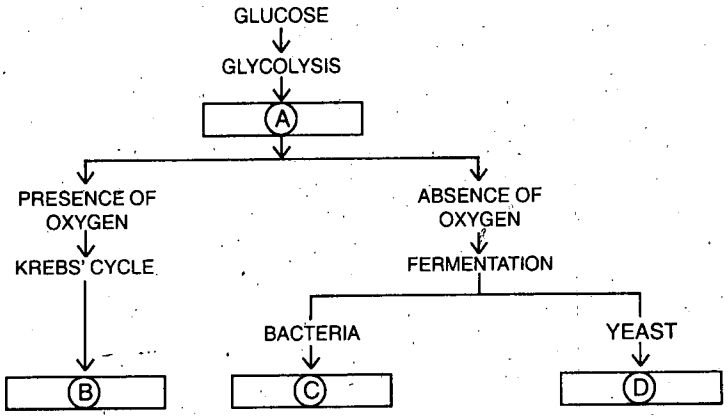
1) The rhythm method
2) The use of physical barriers
3) Termination of unwanted pregnancy.
4) Sterilization techniques

(Space for Rough Work)

51. What is the common point of similarity between DNA and RNA ?

1) Both are double stranded
2) Both have identical sugar molecules
3) Both have identical pyrimidine bases
4) Both are polymers of nucleotides

52. The following is a simplified scheme showing the fate of glucose during aerobic and anaerobic respiration. Identify the end products that are formed at stages indicated as A, B, C and D. Identify the correct option from those given.



1) A = Carbondioxide and water, B = Pyruvic acid, C = Ethyl alcohol and Carbondioxide, D = Lactic acid,
2) A = Pyruvic acid, B = Carbondioxide and water, C = Lactic acid, D = Ethyl alcohol and Carbondioxide,
3) A = Pyruvic acid, B = Carbondioxide and water, C = Ethyl alcohol and Carbondioxide, D = Lactic acid,
4) A = Pyruvic acid, B = Ethyl alcohol and Carbondioxide, C = Lactic acid, D = Carbondioxide and water,

53. Identify the correct relationship with reference to water potential of a plant cell.

1) $\psi_w = \psi_m + \psi_s + \psi_p$
2) $\psi_w = \psi_m + (\psi_s - \psi_p)$
3) $\psi_w = \psi_m - (\psi_s + \psi_p)$
4) $\psi_w = \psi_m - \psi_s - \psi_p$

54. Bioinformatics is an interdisciplinary branch which is concerned with the application of

1) engineering techniques in biological studies
2) chemistry in understanding the biological phenomenon
3) physics in understanding various life processes
4) information science in analysing the biological data.

55. The highly degraded organic matter rich in nitrogen and potassium in particular, resulting from the activity of earthworms, is called

1) Worm castings
2) Vermicompost
3) compost bedding
4) humus

(Space for Rough Work)

56. Identify from the following examples, a fungus which is of medicinal importance.

1) *Agaricus* 2) *Saccharomyces*
3) *Penicillium* 4) *Cercospora*

57. Passive absorption of water by the root system is the result of

1) forces created in the cells of the root
2) increased respiratory activity in root cells
3) Tension on the cell sap due to transpiration
4) Osmotic force in the shoot system.

58. Which of the following character is exclusive to mammals ?

1) Presence of a four chambered heart 2) Homeothermic condition
3) Respiration by lungs 4) Presence of a diaphragm

59. All the terminator codons begin with the nucleotide of

1) Adinine 2) Uracil
3) Guanine 4) Cytosine

60. Column I lists the endocrine structure and Column II lists the corresponding hormones. Match the two columns. Identify the correct option from those given

Column I	Column II
A. Hypothalamus	p. Relaxin
B. Anterior Pituitary	q. Estrogen
C. Testis	r. FSH and LH
D. Ovary	s. Androgens
	t. Gonadotropin releasing hormone

1) A = t, B = r, C = s, D = q 2) A = t, B = r, C = q, D = s
3) A = p, B = q, C = s, D = r 4) A = r, B = t, C = s, D = q

(Space for Rough Work)

(Space for Rough Work)

A-1