AIIMS BSc NURSING

Memory Based Paper

2023

100 Questions

Que. 1 When is International Yoga Day observed every year?

1. June 21
2. March 21
3. April 22
4. May 31

Correct Option **- 1**

Que. 2 _____ was the first Chief Election Commissioner of India?

1. Sukumar Sen
2. TN Seshan
3. Sunil Arora
4. MS Gill

Correct Option **- 1**

Que. 3 _____ is the founder of Facebook?

1. Mark Zuckerberg
2. Brian Acton
3. Jimmy Wales
4. Larry Page

Correct Option **- 1**

Que. 4 The Hornbill Festival is celebrated in which state?

1. Assam
2. Meghalaya
3. Nagaland
4. Arunachal Pradesh

Correct Option **- 3**

Que. 5 How many non-permanent members does UN Security Council have?

1. 10
2. 12
3. 7
4. 5

Correct Option - **1**

Que. 6 In which year did Independent India win its first Olympic gold medal ?

1. 2008
2. 1948
3. 1972
4. 1960

Correct Option - **2**

Que. 7 Which city is the capital of Argentina?

1. Rio de Janeiro
2. Santiago
3. Lima
4. Buenos Aires

Correct Option - **4**

Que. 8 Marathon is to race as hibernation is to

1. winter
2. bear
3. dream
4. sleep

Correct Option - **4**

Que. 9 Which word does NOT belong with the others?

1. branch
2. dirt
3. leaf
4. root

Correct Option - **2**

Que. 10 Look at this series: 36, 34, 30, 28, 24, ... What number should come next?

1. 20
2. 22
3. 23
4. 26

Correct Option - **2**

Que. 11 The dimensions of electrical conductivity is

1. $[M^{-2}L^{-1}T^{2}A^{1}]$
2. $[M^{-3}LT^{-2}A^{-1}]$
3. $[M^{-1}L^{-3}T^{3}A^{2}]$
4. $[ML^{-2}A^{-3}T^{2}]$

Correct Option **- 3**

Que. 12 A body starts to fall freely under gravity. The distances covered by it in first, second and third second are in ratio

1. 1 : 3 : 5
2. 1 : 2 : 3
3. 1 : 4 : 9
4. 1 : 5 : 6

Correct Option **- 1**

Que. 13 A projectile is projected at 30° from horizontal with initial velocity 40 ms^{-1}. The velocity of the projectile at t = 2 s from the start will be: (Given g = 10 m/s^2)

1. $20\sqrt{3}\ ms^{-1}$
2. $40\sqrt{3}\ ms^{-1}$
3. $20\ ms^{-1}$
4. Zero

Correct Option **- 1**

Que. 14 A block A of mass 4 kg is placed on another block B of mass 5 kg, and the block B rests on a smooth horizontal table. If the minimum force that can be applied on A so that both the blocks move together is 12 N, the maximum force that can be applied to B for the blocks to move together will be

1. 30N
2. 25N
3. 27N
4. 48 N

Correct Option **- 3**

Que. 15 A bullet of mass 'a' and velocity 'b' is fired into a large block of wood of mass 'c'. The bullet gets embedded into the block of wood. The final velocity of the system is

1. $\frac{b}{a+b} \times c$
2. $\frac{a+b}{c} \times a$

3. $\frac{a}{a+c} \times b$
4. $\frac{a+c}{a} \times b$

Correct Option - **3**

Que. 16 The moment of inertia of a thin uniform rod of mass M and length L about an axis passing through its midpoint and perpendicular to its length is I_0. Its moment of inertia about an axis passing through one of its ends and perpendicular to its length is

1. $I_0 + ML^2/2$
2. $I^0 + ML^2/4$
3. $I_0 + 2ML^2$
4. $I_0 + ML^2$

Correct Option - **2**

Que. 17 Geo-stationary satellite is one which

1. remains stationary at a fixed height from the earth's surface
2. revolves like other satellites but in the opposite direction of earth's rotation
3. revolves round the earth at a suitable height with same angular velocity and in the same direction as earth does about its own axis
4. None of these

Correct Option - **3**

Que. 18 Work done in increasing the size of a soap bubble from a radius of 3 cm to 5 cm is nearly (Surface tension of soap solution = 0.03 Nm^{-1})

1. 0.2πmJ
2. 2πmJ
3. 0.4πmJ
4. 4πmJ

Correct Option - **3**

Que. 19 Two spheres of same size are made of the same metal but one is hollow and the other is solid. They are heated to same temperature, then

1. both spheres will expand equally
2. hollow sphere will expand more than the solid one
3. solid sphere will expand more than the hollow one
4. None of these

Correct Option - **1**

Que. 20 The change in internal energy of a thermodynamical system which has absorbed 2 kcal of heat and done 400 J of work is (1 cal = 4.2 J)

1. 2 kJ
2. 8 kJ
3. 3.5 kJ
4. 5.5 kJ

Correct Option **- 2**

Que. 21 In an isothermal process, the amount of heat given to a ideal gas system is equal to

1. net increase in internal energy
2. net work done by the system
3. net decrease in internal energy
4. net change in volume

Correct Option **- 2**

Que. 22 If E is the translational kinetic energy, then which of the following relation holds good

1. PV = E
2. $PV = \frac{3}{2}E$
3. PV = 3E
4. $PV = \frac{2}{3}E$

Correct Option **- 4**

Que. 23 If one mole of monoatomic gas $\left(\gamma = \frac{5}{3}\right)$ is mixed with one mole of diatomic gas $\left(\gamma = \frac{7}{5}\right)$, the value of y for the mixture is

1. 1.40
2. 1.50
3. 1.53
4. 3.07

Correct Option **- 3**

Que. 24 The displacement of a particle in SHM is x = $10\sin\left(2t - \frac{\pi}{6}\right)$ metre. When its displacement is 6 m, the velocity of the particle (in m s^{-1}) is

1. 8
2. 24
3. 16
4. 10

Correct Option - **3**

Que. 25 The total energy of a particle executing S.H.M. is proportional to

1. displacement from equilibrium position
2. frequency of oscillation
3. velocity in equilibrium position
4. square of amplitude of motion

Correct Option - **4**

Que. 26 A pipe open at both ends has a fundamental frequency fin air. The pipe is dipped vertically in water so that half of it is in water. The fundamental frequency of the air column is now:

1. 2f
2. f
3. $\frac{f}{2}$
4. $\frac{3f}{4}$

Correct Option - **2**

Que. 27 Two parallel plate capacitors X and Y, have the same area of plates and same separation between plates. X has air and Y with dielectric of constant 2 between its plates. They are connected in series to a battery of 12 V. The ratio of electrostatic energy stored in X and Y is

1. 4 : 1
2. 1 : 4
3. 2 : 1
4. 1 : 2

Correct Option - **4**

Que. 28 A hollow metal sphere of radius 5 cm is charged such that the potential on its surface is 10 V. The potential at a distance of 2 cm from the centre of the sphere is

1. zero
2. 10V
3. 4V
4. 10/3 V

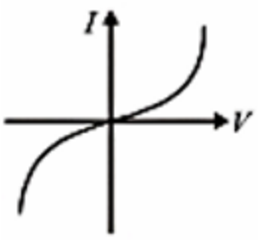
Correct Option - **2**

Que. 29 Suppose the charge of a proton and an electron differ slightly. One of them is -e, the other is (e + Δe). If the net of electrostatic force and gravitational force between two hydrogen atoms placed at a distance d (much greater than atomic size) apart is zero, then Ae is of the order of [Given mass of hydrogen m = 1.67×10^{-27} kg]

1. 10^{-23} C
2. 10^{-37} C
3. 10^{-47} C
4. 10^{-20} C

Correct Option - **4**

Que. 30 The I-V characteristics shown in figure represents



1. ohmic conductors
2. non-ohmic conductors
3. insulators
4. superconductors

Correct Option - **2**

Que. 31 A beam of electrons is moving with constant velocity in a region having simultaneous perpendicular electric and magnetic fields of strength 20 Vm^{-1} and 0.5 T respectively at right angles to the direction of motion of the electrons. Then the velocity of electrons must be

1. 8 m/s
2. 20 m/s
3. 40 m/s
4. $\frac{1}{40}$ m/s

Correct Option - **3**

Que. 32 A solenoid of length 1.5 m and 4 cm diameter possesses 10 turns per cm. A current of 5A is flowing through it, the magnetic induction at axis inside the solenoid is

($\mu 0 = 4\pi \times 10^{-7}$ weber amp^{-1} m^{-1})

1. $4\pi \times 10^{-7}$ gauss
2. $2\pi \times 10^{-7}$ gauss
3. $4\pi \times 10^{-5}$ tesla
4. $2\pi \times 10^{-5}$ tesla

Correct Option - **4**

Que. 33 When the current in a coil changes from 2 amp. to 4 amp. in 0.05 sec., an e.m.f. of 8 volt is induced in the coil. The coefficient of self inductance of the coil is

1. 0.1 henry
2. 0.2 henry
3. 0.4 henry
4. 0.8 henry

Correct Option **- 2**

Que. 34 An AC circuit has R = 100 Ω, C = 2 μF and L = 80 mH, connected in series. The quality factor of the circuit is

1. 2
2. 0.5
3. 20
4. 400

Correct Option **- 1**

Que. 35 A plane electromagnetic wave is incident on a plane surface of area A, normally and is perfectly reflected. If energy E strikes the surface in time t then average pressure exerted on the surface is (c = speed of light)

1. zero
2. E/Ac
3. 2E/Ac
4. E/c

Correct Option **- 3**

Que. 36 In a Young's double slit experiment two slits are separated by 2 mm and the screen is placed one meter away. When a light of wavelength 500 nm is used, the fringe separation will be:

1. 0.25 mm
2. 0.75 mm
3. 0.50 mm
4. 1 mm

Correct Option **- 1**

Que. 37 A glass slab of thickness 4 cm contains the same number of waves as 5 cm of water when both are traversed by the same monochromatic light. If the refractive index of water is 4/3, what is that of glass?

1. 5/3
2. 5/4
3. 16/15
4. 1.5

Correct Option - **1**

Que. 38 A steel ball of mass mis moving with a kinetic energy K. The de Broglie wavelength associated with the ball is

1. $\frac{h}{2mK}$
2. $\sqrt{\frac{h}{2mK}}$
3. $\frac{h}{\sqrt{2mK}}$
4. meaningless

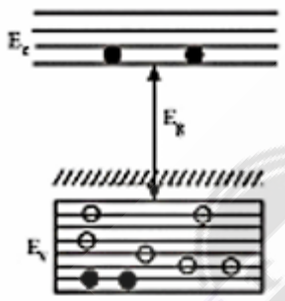
Correct Option - **3**

Que. 39 When the wavelength of radiation falling on a metal is changed from 500 nm to 200 nm, the maximum kinetic energy of the photoelectrons becomes three times larger. The work function of the metal is close to :

1. 0.81 eV
2. 1.02 eV
3. 0.52 eV
4. 0.61 eV

Correct Option - **4**

Que. 40 In the energy band diagram of a material shown below, the open circles and filled circles denote holes and electrons respectively. The material is



1. an insulator
2. a metal
3. an n-type semiconductor
4. a p-type semiconductor

Correct Option - **4**

Que. 41 Find molarity of 10 g NaOH in 200 ml of water.

1. 2.50 M
2. 1.25 M

3. 1 M
4. 3 M

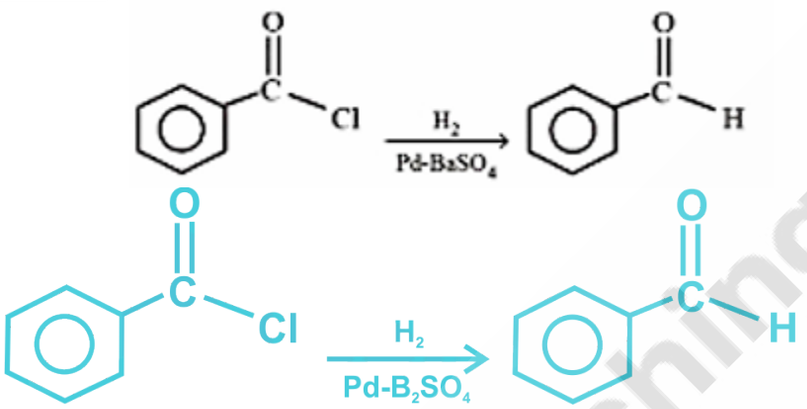
Correct Option - **2**

Que. 42 What is the order of melting point of group 18 elements?

1. He < Ne < Ar < Kr < Xe
2. He < Ar < Ne < Kr < Xe
3. Xe < Kr < Ar < Ne < He
4. Xe < Ar < Ne < Kr < He

Correct Option - **1**

Que. 43 Identify the name of the reaction



1. Rosenmund reduction
2. Cannizzaro reaction
3. Kolbe electrolysis
4. Stephen reaction

Correct Option - **1**

Que. 44 Which is the first artificial sweetening agent?

1. Aspartame
2. Sucralose
3. Saccharin
4. Alitame

Correct Option - **3**

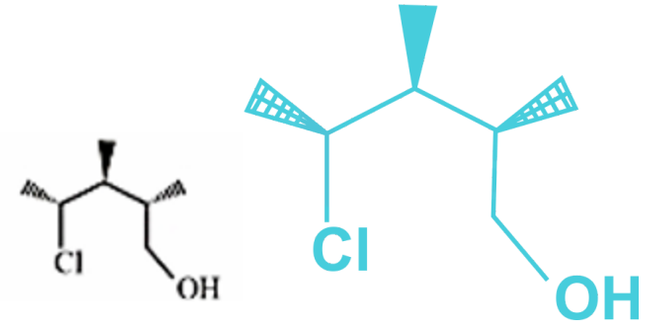
Que. 45 What is the hybridisation of Br in BrF_5 and BrF_3 respectively?

1. sp^2 and sp^3d^2
2. sp^3d^2 and sp^3d

3. sp^3 and d^2sp^3
4. sp^3d^2 and $d^2\ sp^3$

Correct Option - **2**

Que. 46 The IUPAC nomenclature of the following compound



1. 2-Chloro-3,4-dimethyl Penton-1-ol.
2. 4-Chloro-2,3-dimethyl Penton-1-ol
3. 4-Chloro-2,3,4-trimethylbutanol.
4. None of these

Correct Option - **2**

Que. 47 $CH_3CH_2CH_2COONa \xrightarrow[\Delta]{\text{soda lime}}$

1. $CH_3\ CH_2\ CH_2\ CH_3$
2. $CH_3\ CH_2\ CH_3$
3. CH_3-CH_3
4. $CH_3CH_2CH_2COOH$

Correct Option - **2**

Que. 48 The number of lone pair on central atom in BrF_5 and SF_4 are:

1. 1 and 1
2. 1 and 2
3. 2 and 1
4. 2 and 2

Correct Option - **1**

Que. 49 Which of the following is not a property of chemisorption?

1. Highly specific
2. High enthalpy of adsorption

3. Irreversible
4. Lack of specificity

Correct Option - **4**

Que. 50 Which of the following is not an isotope of hydrogen?

1. Protium
2. Dubnium
3. Deutrium
4. Tritium

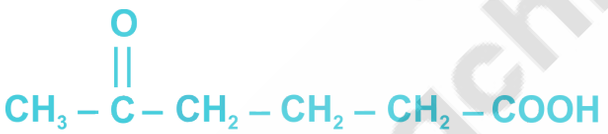
Correct Option - **2**

Que. 51 Which of the following is a chemical property?

1. Melting point
2. Boiling point
3. Density
4. Combustibility

Correct Option - **4**

Que. 52 The IUPAC name of the following compound is



1. 5-oxo Hexanoic acid
2. methyl Butanoic ketone
3. 4-oxo Pentanoic acid
4. None of the above

Correct Option - **1**

Que. 53 The correct order of metallic character is

1. B > Al > Mg > K
2. Al > Mg > B > K
3. Mg > Al > K > B
4. K > Mg > Al > B

Correct Option - **4**

Que. 54 Which of the following is the most stable carbocation?

1. $CH_3CH_2CH_2^+$
2. $CH_3CH^+CH_3$
3. $(CH_3)_3C^+$
4. $CH_3\ CH_2^+$

Correct Option - **3**

Que. 55 The correct order of electronegativity among the following options is:

1. N > P ≃ As > Sb
2. N > P > As > Sb
3. N = P > As > Sb
4. Sb > As > P > N

Correct Option - **2**

Que. 56 How many moles of CH_4 are required to produce 110 gram of CO_2 by combustion?

1. 1.5
2. 3.5
3. 5.5
4. 2.5

Correct Option - **4**

Que. 57 Identify the non reducing sugar among the given options.

1. Glucose
2. Sucrose
3. Fructose
4. Lactose

Correct Option - **2**

Que. 58 Select the correct pair of bond oder.

1. $NO^+ : 1, CO : 3, O_2{}^{2-} : 3$
2. $NO^+ : 3, CO : 3, O_2{}^{2-} : 1$
3. $O_3 : 2, NO^+ : 2, O_2^{2-} : 2$
4. $CO : 2, NO^+ : 3, O_2^{2-} : 4$

Correct Option - **2**

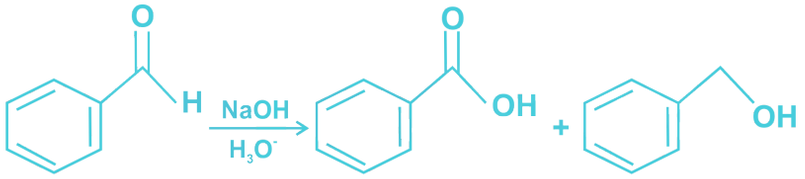
Que. 59 Which of the following option is correct according to its geometry?

1. $CH\ Br_3$-Trigonal planar

2. CO_2-V shape
3. BF_3-Trigonal planar
4. H_2S-Linear

Correct Option - **3**

Que. 60 Identify the following reaction



1. Wurtz reaction
2. Stephen reaction
3. Cannizzaro reaction
4. Sandmeyer's reaction

Correct Option - **3**

Que. 61 Galvanic cell is also known as

1. mercury cell
2. voltaic cell
3. leclanche cell
4. secondary cell

Correct Option - **2**

Que. 62 Write the type of reaction involved in the following chemical equation.

$TiCl_4 + Mg \rightarrow Ti + MgCl_4$

1. Combination reaction
2. Displacement reaction
3. Decomposition reaction
4. Disproportionation reaction

Correct Option - **2**

Que. 63 In which defect equal number of cations and anions are missing from their lattice position?

1. Schottky defect
2. Vacancy defect
3. Impurity defect
4. Frenkel defect

Correct Option - **1**

Que. 64 Write the chemical formula for the complex Iron (III) hexacyanoferrate (II) is

1. $Fe_4(Fe(CN)_6]_3$
2. $Fe[Fe(CN)_6]$
3. $Fe_3[Fe(CN)_6]$
4. $Fe[Fe(CN)_6]_5$

Correct Option - **1**

Que. 65 What is the similarity between diamond and graphite.

1. Both are soft
2. Both are conductors
3. Both are insulators
4. Both are covalent or network solids

Correct Option - **4**

Que. 66 The correct order of configuration of O_2 molecule according to MOT is

1. $\sigma s^2 < \sigma^* 1\ s^2 < \sigma 2\ s^2 < \sigma^* 2\ s^2 < \left(\pi 2p_x^2 = \pi 2p_y^2\right) < \sigma 2p_z^2 < \left(\pi^* 2p_x^1 = \pi^* 2p_y^1\right)$
2. $\sigma 1s^2 < \sigma^* 1s^2 < \sigma 2s^2 < \sigma * 2s^2 < \sigma 2p_z^2 < \left(\pi 2p_x^2 = \pi 2p_y^2\right) < \left(\pi^* 2p_x^1 = \pi^* 2p_y^1\right)$
3. $\sigma 1s^2 < \sigma^* 1s^2 < \sigma 2s^2 < \left(\pi 2p^2 = \pi 2p_y^2\right) < \left(\pi^* 2p_x^2 = \pi^* 2p_y^2\right) < \sigma^* 2s^2$
4. $\sigma 1s^2 < \sigma * 1s^2 < \sigma 2s^2 < \sigma * 2s^2 < \left(\pi 2p_x^2 = \pi 2p_y^2\right) < \left(\pi^* 2p_x^2 = \pi^* 2p_y^2\right)$

Correct Option - **2**

Que. 67 In which type of system, exchange of energy is possible but not exchange of matter?

1. Open system
2. Isolated system
3. Closed system
4. Adiabatic system

Correct Option - **3**

Que. 68 Arrange the following elements in decreasing order of their atomic size.
W, Re, Ir, Os

1. W > Re > Ir > Os
2. W > Re > Os > Ir
3. W > Ir > Os > Re
4. Re > W > Os > Ir

Correct Option - **2**

Que. 69 Which of the following is isoelectronic?

1. CO_2, NO_2
2. NO_2^-, CO_2
3. CN^-, CO
4. SO_2, CO_2

Correct Option - **3**

Que. 70 Bakelite is prepared by the reaction between

1. urea and formaldehyde
2. ethylene glycol
3. phenol and formaldehyde
4. tetramethylene glycol

Correct Option - **3**

Que. 71 Which of the following vitamin is soluble in water?

1. Vitamin-E
2. Vitamin-B
3. Vitamin-D
4. Vitamin-A

Correct Option - **2**

Que. 72 Full form of MOET is

1. Multiple ovulation embryo transfer technology
2. Mutated ovulation embryo transfer technology
3. Multiple ovum embryo transfer technology
4. Mutated ovum embryo transfer technology

Correct Option - **1**

Que. 73 Oestrus cycle is present in

1. Monkey
2. Human
3. Apes
4. Dog

Correct Option - **4**

Que. 74 Sequence of communities that successively change in an area is called:

1. Sere
2. Pioneer species
3. Climax species
4. Ecological succession

Correct Option **- 4**

Que. 75 Which of the following order is correct about the wall layers of microsporangium?

1. Epidermis → Endothecium → Middle layers → Tapetum
2. Tapetum → Epidermis → Middle layers → Endothecium
3. Endothecium → Tapetum → Epidermis → Middle layers
4. Epidermis → Endothecium → Tapetum → Middle layers.

Correct Option **- 1**

Que. 76 Which of the following disease is related to the deficiency of thyroxine hormone?

1. Goiter
2. Arthritis
3. Tuberculosis
4. Acromegaly

Correct Option **- 1**

Que. 77 Semen collected from male and artificially injected into female vagina. This process is called:

1. IUT
2. ICSI
3. GIFT
4. AI

Correct Option **- 4**

Que. 78 DNA fingerprinting is discovered by

1. Thomas Morgan
2. Alec Jeffreys
3. Sutton
4. Meselson

Correct Option **- 2**

Que. 79 Negatively charged DNA is wrapped around histone octamer to form:

1. Chromosomes
2. Nucleosome
3. Chromatin
4. Nucleoid

Correct Option **- 2**

Que. 80 Which of the following is the functional residual volume (FRV) ?

1. TV + RV + IRV
2. ERV + RV
3. TV + ERV
4. TV + RV + ERV

Correct Option **- 2**

Que. 81 Which of the following is the variety of cauliflower?

1. Pusa Sadabahar
2. Pusa Shubhra
3. Himgiri
4. Pusa Komal

Correct Option **- 2**

Que. 82 Which of the following organism produces statins?

1. *Monascus purpureus*
2. *Trichoderma polysporum*
3. *Aspergillus niger*
4. *Clostridium butylicum*

Correct Option **- 1**

Que. 83 Cellulose is polymer of:

1. Maltose
2. Sucrose
3. Glucose
4. Fructose

Correct Option **- 3**

Que. 84 Which type of bond is present in polysaccharides?

1. Sulphonic bond
2. Hydrogen bond

3. Phosphodiester bond
4. Glycosidic bond

Correct Option - **4**

Que. 85 A vascular bundle having both xylem and phloem are arranged in an alternate manner with different radii is known as:

1. Radial
2. Spiral
3. Conjoint
4. Concentric

Correct Option - **1**

Que. 86 Which of the following step does not occur in Calvin cycle?

1. Regeneration
2. Carboxylation
3. Oxidation
4. Reduction

Correct Option - **3**

Que. 87 Which of the following is an example of ciliary movement?

1. Movement of food in
2. Cytoskeletal movement
3. Removal of dust particle from trachea
4. None of them

Correct Option - **3**

Que. 88 Which of the following sequence is correct about the five phases of Prophase I?

1. Zygotene, Diplotene, Leptotene, Pachytene, Diakinesis
2. Leptotene, Zygotene, Pachytene, Diplotene, Diakinesis
3. Leptotene, Zygotene, Pachytene, Diakinesis, Diplotene
4. Diplotene, Diakinesis, Zygotene, Pachytene, Leptotene

Correct Option - **2**

Que. 89 In C_4 plants, the primary CO_2 acceptor is:

1. Phosphoenol pyruvate
2. 3-phosphoglyceric acid
3. RUBICO

4. Oxaloacetic acid

Correct Option - **1**

Que. 90 97% of O_2 transport occurs by:

1. Dissolved state through plasma
2. RBCs
3. Platelets
4. WBCs

Correct Option - **2**

Que. 91 Which of the following is the characteristic of Kingdom Animalia ?

1. Autotrophic nutrition
2. Absence of nuclear membrane
3. Presence of cell wall
4. Absence of cell wall

Correct Option - **4**

Que. 92 Which is not a feature of non-chordates?

1. Central nervous system is ventral
2. Gill slits are absent
3. Heart is dorsal
4. Central nervous system is dorsal

Correct Option - **4**

Que. 93 Mango belongs to which family?

1. Poaceae
2. Anacardiacea
3. Homonidae
4. Muscidae

Correct Option - **2**

Que. 94 In unfavourable condition amoeba secrete 3 layered hard covering around it. This phenomenon is known as:

1. Budding
2. Sporulation
3. Encystation
4. Fission

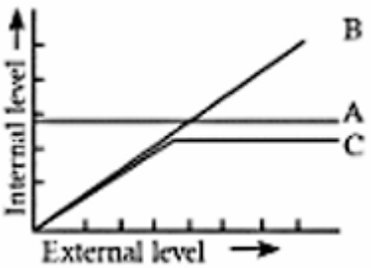
Correct Option **- 3**

Que. 95 Plants growing in swampy areas, come out of the ground and grows vertically. Such roots are known as:

1. Stilt root
2. Fibrous root
3. Tap root
4. Pneumatophores

Correct Option **- 4**

Que. 96 The figure given below is a diagrammatic representation of response of organisms to abiotic factors. What do A, B and C represent respectively?



1. (A) - conformer (B) - regulator (C) - partial regulator
2. (A) - regulator (B) - partial regulator (C) - conformer
3. (A) - partial regulator (B) - regulator (C) - conformer
4. (A) - regulator (B) - conformer (C) - partial regulator

Correct Option **- 4**

Que. 97 _____ rule states that mammals from colder climates generally have shorter ears and limbs to minimise heat loss.

1. Mendel's law
2. Allen's rule
3. Mayer's law
4. Burger's law

Correct Option **- 2**

Que. 98 Bacterial and fungal enzymes degrade detritus into simple inorganic substances. This process is known as:

1. Fragmentation
2. Catabolism
3. Leaching
4. Humification

Correct Option - **2**

Que. 99 In which step of citric acid cycle, a molecule of GTP is synthesised ?

1. Succinic acid to malic acid
2. Acetyl-CoA to citric acid
3. Citric acid to a-ketoglutaric acid
4. Succinyl-CoA to succinic acid

Correct Option - **4**

Que. 100

Identify A,B and C in the above diagram:

1. (A): Troponin (B): F-actin (C): Tropomyosin
2. (A): F-actin (B): Tropomyosin (C): Troponin
3. (A): Tropomyosin (B): F-actin (C): Troponin
4. (A): Troponin (B): Tropomyosin (C): F-actin

Correct Option - **1**