MedicNEET

NEET 2018 — Previous Year Question Paper

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Physics · 45 Qs

1. A student measured the diameter of a small steel ball using a screw gauge of least count 0.001 cm. The main scale reading is 5 mm and zero of circular scale division coincides with 25 divisions above the reference level. If the screw gauge has a zero error of -0.004 cm, the correct diameter of the ball is:

   (1) 0.053 cm
   (2) 0.525 cm
   (3) 0.521 cm
   (4) 0.529 cm

2. Which one of the following statements is incorrect?

   (1) Frictional force opposes the relative motion.
   (2) Limiting value of static friction is directly proportional to normal reaction.
   (3) Rolling friction is smaller than sliding friction.
   (4) Coefficient of sliding friction has dimensions of length.

3. The electrostatic force between the metal plates of an isolated parallel plate capacitor C having a charge Q and area A, is

   (1) Proportional to the square root of the distance between the plates
   (2) Linearly proportional to the distance between the plates
   (3) Independent of the distance between the plates
   (4) Inversely proportional to the distance between the plates

4. A toy car with charge q moves on a frictionless horizontal plane surface under the influence of a uniform electric field E. Due to the force qE, its velocity increases from 0 to 6 m/s in one second duration. At that instant the direction of the field is reversed. The car continues to move for two more seconds under the influence of this field. The average velocity and the average speed of the toy car between 0 to 3 seconds are respectively:

   (1) 2 m/s, 4 m/s
   (2) 1 m/s, 3 m/s
   (3) 1.5 m/s, 3 m/s
   (4) 1 m/s, 3.5 m/s

5. The moment of the force $\vec{F} = 4\hat{i} + 5\hat{j} + 6\hat{k}$ acting at the point $(2, 0, -3)$, about the point $(2, -2, -2)$, is given by:

(1) $7\hat{i} - 8\hat{j} - 4\hat{k}$

(2) $-4\hat{i} - \hat{j} - 8\hat{k}$

(3) $-8\hat{i} - 4\hat{j} - 7\hat{k}$

(4) $-7\hat{i} - 4\hat{j} - 8\hat{k}$

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6. A moving block of mass m collides with a stationary block of mass 4m. The lighter block comes to rest after the collision. If the initial velocity of the lighter block is v, the coefficient of restitution (e) is:

(1) 0.8

(2) 0.25

(3) 0.5

(4) 0.4

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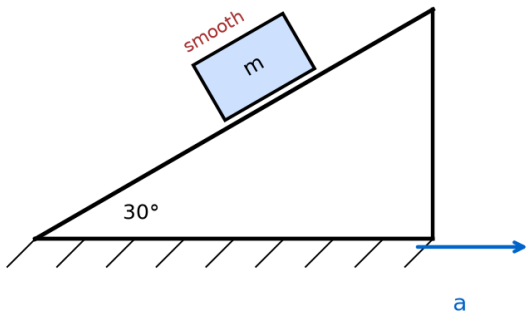
7. A block of mass m is placed on a smooth inclined wedge ABC of inclination θ. The wedge is given a horizontal acceleration 'a' towards the right. The relation between a and θ for the block to remain stationary on the wedge is:



(1) a = g cosθ

(2) a = g/sinθ

(3) a = g cosecθ

(4) a = g tanθ

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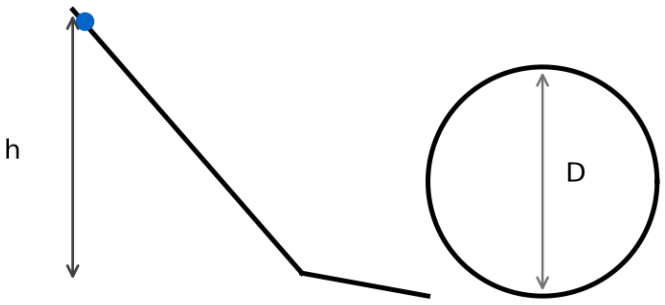
8. A body, initially at rest, slides down a frictionless track from a height h (as shown) and just completes a vertical circle of diameter AB = D. The height h is equal to:



(1) 7D/5

(2) D

(3) 3D/2

(4) 5D/4

9. A metallic rod of mass per unit length 0.5 kg m^{-1} is lying horizontally on a smooth inclined plane which makes an angle of 30° with the horizontal. The rod is not allowed to slide down by flowing a current through it when a magnetic field of induction 0.25 T is acting on it in the vertical direction. The current flowing in the rod to keep it stationary is:

(1) 14.76 A

(2) 5.98 A

(3) 7.14 A

(4) 11.32 A

10. Current sensitivity of a moving coil galvanometer is 5 div/mA and its voltage sensitivity (angular deflection per unit voltage applied) is 20 div/V. The resistance of the galvanometer is:

(1) 250 Ω

(2) 25 Ω

(3) 40 Ω

(4) 500 Ω

11. A thin diamagnetic rod is placed vertically between the poles of an electromagnet. When the current is switched on, the diamagnetic rod is pushed up, out of the horizontal magnetic field, gaining gravitational potential energy. The work required to do this comes from:

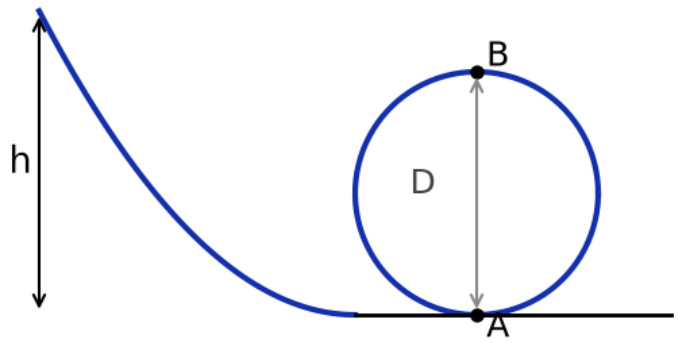
(1) the lattice structure of the material of the rod

(2) the magnetic field

(3) the current source

(4) the induced electric field due to the changing magnetic field

12. A body initially at rest, sliding along a frictionless track from a height h, just completes a vertical circle of diameter AB=D. The height h is equal to



(1) 7D/5

(2) D

(3) 3D/2

(4) 5D/4

13. A moving block of mass m collides with another stationary block of mass 4m. The lighter block comes to rest after the collision. When the initial velocity of the lighter block is v, the value of the coefficient of restitution (e) is

(1) 0.8

(2) 0.25

(3) 0.5

(4) 0.4

14. The magnetic potential energy stored in a certain inductor is 25 mJ, when the current in the inductor is 60 mA. This inductor is of inductance

(1) 1.389 H

(2) 138.88 H

(3) 0.138 H

(4) 13.89 H

15. The moment of the force $F = 4\hat{i} + 5\hat{j} + 6\hat{k}$ acting at the point (2, 0, -3), about the point (2, -2, -2), is:

(1) $-7\hat{i} + 8\hat{j} - 4\hat{k}$ **(2)** $-4\hat{i} - \hat{j} - 8\hat{k}$

(3) $-8\hat{i} - 4\hat{j} - 7\hat{k}$ **(4)** $17\hat{i} - 4\hat{j} - 8\hat{k}$

16. A solid sphere rotates freely about its symmetry axis in free space. Its radius is increased keeping the mass constant. Which quantity stays constant?

(1) rotational kinetic energy **(2)** moment of inertia

(3) angular velocity **(4)** angular momentum

17. Three bodies A (solid sphere), B (disc), C (ring), each of mass M and radius R, spin about their symmetry axes with the same angular speed. The work needed to stop them satisfies:

(1) $W_B > W_A > W_C$ **(2)** $W_A > W_B > W_C$

(3) $W_C > W_B > W_A$ **(4)** $W_A > W_C > W_B$

18. An inductor 20 mH, a capacitor 50 μF and a resistor 40 Ω are connected in series across a source of emf V = 10 sin 340 t. The power loss in A.C. circuit is :

(1) 0.51 W **(2)** 0.67 W

(3) 0.76 W **(4)** 0.89 W

19. An inductor 20 mH, a capacitor 100 μF and a resistor 50 Ω are connected in series across a source of emf, V = 10 sin 314 t. The power loss in the circuit is

(1) 2.74 W **(2)** 0.43 W

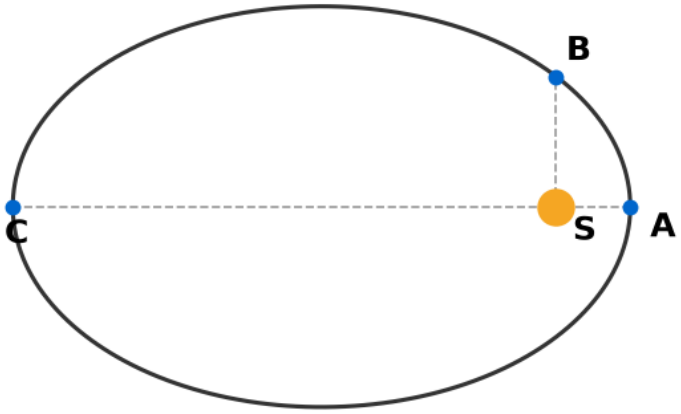
(3) 0.79 W **(4)** 1.13 W

20. If the mass of the Sun were ten times smaller and the universal gravitational constant G ten times larger, which statement is NOT correct?

(1) Time period of a simple pendulum on Earth would decrease **(2)** Walking on the ground would become more difficult

(3) Raindrops will fall faster **(4)** 'g' on the Earth will not change

21. The kinetic energies of a planet in an elliptical orbit about the Sun at positions A, B and C are K_A, K_B and K_C. AC is the major axis and SB ⊥ AC at the Sun S (see figure). Then:



(1) K_B < K_A < K_C

(2) K_A > K_B > K_C

(3) K_A < K_B < K_C

(4) K_B > K_A > K_C

22. An EM wave is propagating in a medium with velocity V = V î (along +x). The instantaneous oscillating electric field of this EM wave is along the +y axis. Then the direction of the oscillating magnetic field of the EM wave will be along

(1) –y direction

(2) +z direction

(3) –z direction

(4) –x direction

23. Two wires are made of the same material and have the same volume. The first wire has cross-sectional area A and the second wire has cross-sectional area 3A. If the length of the first wire is increased by Δl on applying a force F, how much force is needed to stretch the second wire by the same amount?

(1) 4 F

(2) 6 F

(3) 9 F

(4) F

24. A carbon resistor of (47 ± 4.7) kΩ is to be marked with rings of different colours for its identification. The colour code sequence will be:

(1) Yellow–Green–Violet–Gold

(2) Yellow–Violet–Orange–Silver

(3) Violet–Yellow–Orange–Silver

(4) Green–Orange–Violet–Gold

25. A set of 'n' equal resistors (R each) in series with a battery (emf E, internal resistance R) draws current I. In parallel they draw 10I. The value of n is:

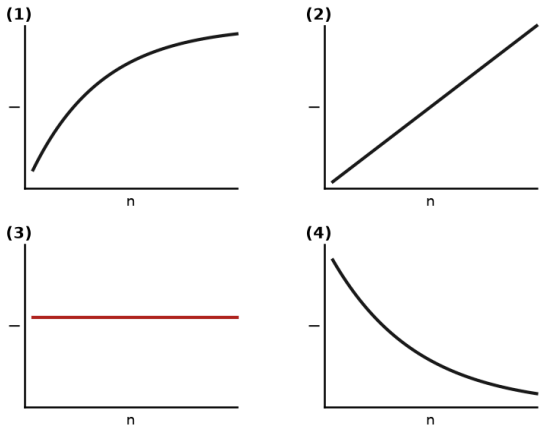
(1) 20

(2) 11

(3) 10

(4) 9

26. A battery of n identical cells (each internal resistance r) in series is short-circuited and the current I measured. Which graph shows I vs n?



(1) rising, saturating curve

(2) straight line through origin

(3) horizontal line (constant)

(4) decaying curve

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27. A small sphere of radius 'r' falls from rest in a viscous liquid. As a result, heat is produced due to the viscous force. The rate of production of heat, when the sphere attains its terminal velocity, is proportional to:

(1) r^5

(2) r^2

(3) r^3

(4) r^4

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28. The refractive index of the material of a prism is $\sqrt{2}$ and the angle of the prism is 30°. One of the two refracting surfaces of the prism is made a mirror inwards by silver coating. A beam of monochromatic light entering the prism from the other face will retrace its path (after reflection from the silvered surface) if its angle of incidence on the prism is

(1) 30°

(2) 45°

(3) 60°

(4) Zero

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29. An astronomical refracting telescope will have large angular magnification and high angular resolution when it has an objective lens of

(1) Large focal length and large diameter

(2) Large focal length and small diameter

(3) Small focal length and large diameter

(4) Small focal length and small diameter

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30. An object is placed at a distance of 40 cm from a concave mirror of focal length 15 cm. If the object is displaced through a distance of 20 cm towards the mirror, the displacement of the image will be

(1) 30 cm towards the mirror

(2) 36 cm away from the mirror

(3) 30 cm away from the mirror

(4) 36 cm towards the mirror

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31. The power radiated by a black body is P and it radiates maximum energy at wavelength λ_0. If the temperature is changed so that it now radiates maximum energy at wavelength $(3/4)\lambda_0$, the power radiated becomes nP. The value of n is:

(1) 256/81

(2) 4/3

(3) 3/4

(4) 81/256

32. Unpolarised light is incident from air on a plane surface of a material of refractive index μ. At a particular angle of incidence i, it is found that the reflected and refracted rays are perpendicular to each other. Which of the following options is correct for this situation?

(1) $i = \sin^{-1}(1/\mu)$

(2) Reflected light is polarised with its electric vector perpendicular to the plane of incidence

(3) Reflected light is polarised with its electric vector parallel to the plane of incidence

(4) $i = \tan^{-1}(1/\mu)$

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33. In Young's double slit experiment the separation d between the slits is 2 mm, the wavelength λ of the light used is 5896 Å and distance D between the screen and slits is 100 cm. It is found that the angular width of the fringes is 0.20°. To increase the fringe angular width to 0.21° (with same λ and D) the separation between the slits needs to be changed to

(1) 2.1 mm

(2) 1.9 mm

(3) 1.8 mm

(4) 1.7 mm

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34. When the light of frequency $2v_0$ (where v_0 is the threshold frequency) is incident on a metal plate, the maximum velocity of electrons emitted is v_1. When the frequency of the incident radiation is increased to $5v_0$, the maximum velocity of electrons emitted from the same plate is v_2. The ratio of v_1 to v_2 is:

(1) 4 : 1

(2) 1 : 4

(3) 1 : 2

(4) 2 : 1

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35. An electron of mass m with an initial velocity $v = v_0 \hat{i}$ ($v_0 > 0$) enters an electric field $E = -E_0 \hat{i}$ (E_0 = constant > 0) at t = 0. If λ_0 is its de Broglie wavelength initially, then its de Broglie wavelength at time t is:

(1) $\lambda_0 t$

(2) $\lambda_0(1 + eE_0t/mv_0)$

(3) $\lambda_0/(1 + eE_0t/mv_0)$

(4) λ_0

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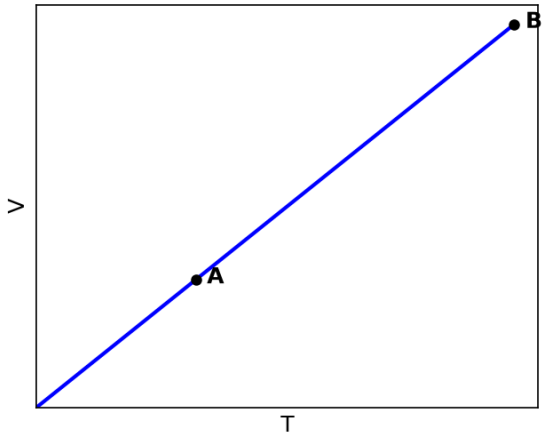
36. The volume (V) of a monatomic gas varies with its temperature (T), as shown in the graph (a straight line through the origin, from A to B, i.e. an isobaric process). The ratio of the work done by the gas to the heat absorbed by it, when it goes from A to B, is



(1) $\frac{1}{3}$

(2) $\frac{2}{3}$

(3) $\frac{2}{5}$

(4) $\frac{2}{7}$

37. The efficiency of an ideal heat engine working between the freezing point and boiling point of water is

(1) 6.25% **(2)** 20%

(3) 26.8% **(4)** 12.5%

38. 0.1 g of water at $100\,^{\circ}$C and normal pressure (1.013×10^5 N/m^2) requires 54 cal to convert into steam at $100\,^{\circ}$C. If the volume of the steam produced is 167.1 cc, the change in internal energy is

(1) 42.2 J **(2)** 208.7 J

(3) 104.3 J **(4)** 84.5 J

39. The ratio of kinetic energy to the total energy of an electron in a Bohr orbit of the hydrogen atom is:

(1) 2 : –1 **(2)** 1 : –1

(3) 1 : 1 **(4)** 1 : –2

40. At what temperature will the rms speed of oxygen molecules become just sufficient for escaping from the Earth's atmosphere? (Given: mass of an oxygen molecule m = 2.76×10^{-26} kg, Boltzmann constant k_B = 1.38×10^{-23} J K^{-1}, escape speed = 11200 ms^{-1})

(1) 5.016×10^4 K **(2)** 8.360×10^4 K

(3) 2.508×10^4 K **(4)** 1.254×10^4 K

41. For a radioactive material, the half-life is 10 minutes. If initially there are 600 nuclei, the time taken (in minutes) for the disintegration of 450 nuclei is: (Out of syllabus)

(1) 30 **(2)** 10

(3) 20 **(4)** 15

42. A pendulum hung from the roof of a tall building moves freely to and fro as a simple harmonic oscillator. The acceleration of the bob is 20 m/s^2 at a distance of 5 m from the mean position. The time period of oscillation is

(1) 2 s **(2)** π s

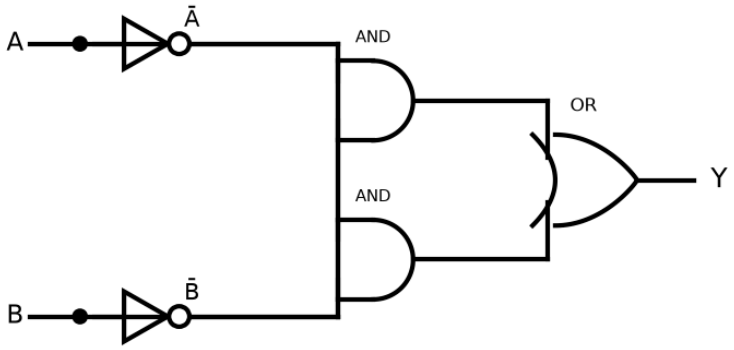
(3) 2π s **(4)** 1 s

43. In a p-n junction diode, change in temperature due to heating:

(1) Does not affect resistance of p-n junction **(2)** Affects only forward resistance

(3) Affects only reverse resistance **(4)** Affects the overall V–I characteristics of p-n junction

44. In the combination of the following gates, the output Y can be written in terms of inputs A and B as:



(1) $(A\cdot\bar{B} + \bar{A}\cdot B)^{-}$

(2) $A\cdot\bar{B} + \bar{A}\cdot B$

(3) $(A\cdot B)^{-}$

(4) $(A + B)^{-}$

45. The fundamental frequency of an open organ pipe equals the third harmonic of a closed organ pipe. If the length of the closed pipe is 20 cm, the length of the open pipe is:

(1) 12.5 cm

(2) 8 cm

(3) 13.2 cm

(4) 16 cm

Chemistry · 45 Qs

46. A mixture of 2.3 g formic acid ($HCOOH$) and 4.5 g oxalic acid ($(COOH)_2$) is treated with conc. H_2SO_4. The evolved gaseous mixture is passed through KOH pellets. The weight (in g) of the remaining gas is

(1) 2.8

(2) 3.0

(3) 1.4

(4) 4.4

47. In which of the following is the number of water molecules maximum?

(1) 0.00224 L of water vapour at 1 atm and 273 K

(2) 0.18 g of water

(3) 18 mL of water

(4) 10^{-3} mol of water

48. Consider the change in oxidation state of bromine corresponding to the standard reduction (electrode) potentials shown for each successive step:

$$BrO_4^- \xrightarrow{+1.82\ V} BrO_3^- \xrightarrow{+1.50\ V} HBrO \xrightarrow{+1.595\ V} Br_2 \xrightarrow{+1.0652\ V} Br^-$$

Then the species undergoing disproportionation is

(1) Br_2

(2) BrO_4^-

(3) BrO_3^-

(4) $HBrO$

49. Which one is the wrong statement?

(1) de Broglie's wavelength is given by $\lambda = \frac{h}{mv}$, where m = mass of the particle and v = group velocity of the particle

(2) The uncertainty principle is $\Delta E \cdot \Delta t \geq \frac{h}{4\pi}$

(3) Half-filled and fully filled orbitals have greater stability due to greater exchange energy, greater symmetry and more balanced arrangement

(4) The energy of the $2s$ orbital is less than the energy of the $2p$ orbital in case of hydrogen-like atoms

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50. Magnesium reacts with an element X to form an ionic compound. If the ground-state electronic configuration of X is $1s^2\,2s^2\,2p^3$, the simplest formula for this compound is:

(1) $\mathrm{Mg_2X}$

(2) $\mathrm{MgX_2}$

(3) $\mathrm{Mg_2X_3}$

(4) $\mathrm{Mg_3X_2}$

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51. Which one is a wrong statement?

(1) The electronic configuration of the N atom is $1s^2\,2s^2\,2p_x^1\,2p_y^1\,2p_z^1$

(2) An orbital is designated by three quantum numbers while an electron in an atom is designated by four quantum numbers

(3) Total orbital angular momentum of an electron in an s orbital is equal to zero

(4) The value of m for d_{z^2} is zero

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52. Which one of the following statements correctly describes the difference between a first-order and a second-order reaction?

(1) A first-order reaction can be catalysed; a second-order reaction cannot be catalysed

(2) The half-life of a first-order reaction does not depend on $[A]_0$; the half-life of a second-order reaction does depend on $[A]_0$

(3) The rate of a first-order reaction does not depend on reactant concentrations; the rate of a second-order reaction does depend on reactant concentrations

(4) The rate of a first-order reaction does depend on reactant concentrations; the rate of a second-order reaction does not depend on reactant concentrations

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53. When the initial concentration of the reactant is doubled, the half-life period of a zero order reaction

(1) Is tripled

(2) Is doubled

(3) Is halved

(4) Remains unchanged

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54. The correct order of N-compounds in its decreasing order of oxidation states is

(1) $\mathrm{HNO_3}$,\ce{NH4Cl},\ce{NO},\ce{N2}$$

(2) $\mathrm{HNO_3}$,\ce{NO},\ce{NH4Cl},\ce{N2}$$

(3) $\mathrm{HNO_3}$,\ce{NO},\ce{N2},\ce{NH4Cl}$$

(4) $\mathrm{NH_4Cl}$,\ce{N2},\ce{NO},\ce{HNO3}$$

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55. Which one of the following elements is unable to form $\mathrm{MF_6}^{3-}$ ion?

(1) B

(2) Al

(3) Ga

(4) In

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56. The correct order of atomic radii in group 13 elements is

(1) $\mathrm{B} < \mathrm{Ga} < \mathrm{Al} < \mathrm{Tl} < \mathrm{In}$

(2) $\mathrm{B} < \mathrm{Al} < \mathrm{Ga} < \mathrm{In} < \mathrm{Tl}$

(3) $\mathrm{B} < \mathrm{Al} < \mathrm{In} < \mathrm{Ga} < \mathrm{Tl}$

(4) $\mathrm{B} < \mathrm{Ga} < \mathrm{Al} < \mathrm{In} < \mathrm{Tl}$

57. Which of the following oxides is most acidic in nature?

(1) BaO **(2)** BeO

(3) MgO **(4)** CaO

58. Among $\mathrm{CaH_2}$,\ce{BeH2},\ce{BaH2}$$, the order of ionic character is

(1) $\mathrm{BeH_2}$ <\ce{BaH2}<\ce{CaH2}$$ **(2)** $\mathrm{CaH_2}$ <\ce{BeH2}<\ce{BaH2}$$

(3) $\mathrm{BeH_2}$ <\ce{CaH2}<\ce{BaH2}$$ **(4)** $\mathrm{BaH_2}$ <\ce{BeH2}<\ce{CaH2}$$

59. Magnesium reacts with an element (X) to form an ionic compound. If the ground state electronic configuration of (X) is $1s^2\ 2s^2\ 2p^3$, the simplest formula for this compound is

(1) $\mathrm{Mg_2X}$ **(2)** $\mathrm{MgX_2}$

(3) $\mathrm{Mg_2X_3}$ **(4)** $\mathrm{Mg_3X_2}$

60. In the structure of $\mathrm{ClF_3}$, the number of lone pairs of electrons on the central atom Cl is:

(1) Four **(2)** Two

(3) One **(4)** Three

61. Which of the following molecules represents the order of hybridisation sp^2, sp^2, sp, sp from left to right atoms?

(1) $\mathrm{CH_2{=}CH{-}CH{=}CH_2}$ **(2)** $\mathrm{CH_2{=}CH{-}C{\equiv}CH}$

(3) $\mathrm{CH{\equiv}C{-}C{\equiv}CH}$ **(4)** $\mathrm{CH_3{-}CH{=}CH{-}CH_3}$

62. Carboxylic acids have higher boiling points than aldehydes, ketones and even alcohols of comparable molecular mass. This is due to their:

(1) More extensive association of carboxylic acid via van der Waals force of attraction **(2)** Formation of carboxylate ion

(3) Formation of intramolecular H-bonding **(4)** Formation of intermolecular H-bonding

63. Consider the following species: $\mathrm{CN^+}$, $\mathrm{CN^-}$, NO and CN. Which of these will have the highest bond order?

(1) $\mathrm{CN^+}$ **(2)** $\mathrm{CN^-}$

(3) NO **(4)** CN

64. Match the metal ions given in Column I with the spin magnetic moments of the ions given in Column II and assign the correct code:

Column I
(a) Co^{3+}
(b) Cr^{3+}
(c) Fe^{3+}
(d) Ni^{2+}

Column II
(i) $\sqrt{8}$ BM
(ii) $\sqrt{35}$ BM
(iii) $\sqrt{3}$ BM
(iv) $\sqrt{24}$ BM
(v) $\sqrt{15}$ BM

Choose the correct answer:

(1) a-iv, b-i, c-ii, d-iii
(2) a-i, b-ii, c-iii, d-iv
(3) a-iv, b-v, c-ii, d-i
(4) a-iii, b-v, c-i, d-ii

65. Which one of the following ions exhibits d-d transition and paramagnetism as well?

(1) MnO_4^-
(2) $Cr_2O_7^{2-}$
(3) CrO_4^{2-}
(4) MnO_4^{2-}

66. Match the metal ions given in Column I with the spin magnetic moments of the ions given in Column II and assign the correct code:

Column I
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(d) Ni^{2+}

Column II
(i) $\sqrt{8}$ BM
(ii) $\sqrt{35}$ BM
(iii) $\sqrt{3}$ BM
(iv) $\sqrt{24}$ BM
(v) $\sqrt{15}$ BM

Choose the correct option:

(1) a-iv, b-i, c-ii, d-iii
(2) a-i, b-ii, c-iii, d-iv
(3) a-iv, b-v, c-ii, d-i
(4) a-iii, b-v, c-i, d-ii

67. Iron carbonyl, $Fe(CO)_5$, is:

(1) Trinuclear
(2) Mononuclear
(3) Tetranuclear
(4) Dinuclear

68. The type of isomerism shown by the complex $[CoCl_2(en)_2]$ is:

(1) Ionization isomerism

(2) Coordination isomerism

(3) Geometrical isomerism

(4) Linkage isomerism

69. The geometry and magnetic behaviour of the complex $[Ni(CO)_4]$ are:

(1) Square planar geometry and paramagnetic

(2) Tetrahedral geometry and diamagnetic

(3) Square planar geometry and diamagnetic

(4) Tetrahedral geometry and paramagnetic

70. The compound A on treatment with Na gives B, and with PCl_5 gives C. B and C react together to give diethyl ether. A, B and C, in order, are:

(1) C_2H_5Cl, \ce{C2H6}, \ce{C2H5OH}$$

(2) C_2H_5OH, \ce{C2H5Cl}, \ce{C2H5ONa}$$

(3) C_2H_5OH, \ce{C2H6}, \ce{C2H5Cl}$$

(4) C_2H_5OH, \ce{C2H5ONa}, \ce{C2H5Cl}$$

71. The compound C_7H_8 undergoes the following reactions:

$C_7H_8 \xrightarrow{Cl_2} A \xrightarrow{Br_2/Fe} B \xrightarrow{Zn/HCl} C$

The product C is:

(1) 3-bromo-2,4,6-trichlorotoluene

(2) o-bromotoluene

(3) m-bromotoluene

(4) p-bromotoluene

72. Hydrocarbon A reacts with bromine by substitution to form an alkyl bromide, which by the Wurtz reaction is converted to a gaseous hydrocarbon containing less than four carbon atoms. A is:

(1) CH_3-CH_3

(2) $CH_2=CH_2$

(3) $CH\equiv CH$

(4) CH_4

73. The bond dissociation energies of X_2, Y_2 and XY are in the ratio of $1 : 0.5 : 1$. ΔH for the formation of XY is $-200\ kJ\ mol^{-1}$. The bond dissociation energy of X_2 will be

(1) $800\ kJ\ mol^{-1}$

(2) $100\ kJ\ mol^{-1}$

(3) $200\ kJ\ mol^{-1}$

(4) $400\ kJ\ mol^{-1}$

74. Identify the major products P, Q and R in the following sequence of reactions:

\ce{C6H6 + CH3CH2CH2Cl ->[\text{anhyd. } AlCl3] P}

$P \xrightarrow[(ii)\ H_3O^+/\Delta]{(i)\ O_2} Q + R$

(1) P: $CH_3CH(OH)CH_3$, Q: acetone, R: phenol

(2) P: $C_6H_5CH_2CH_2CH_3$, Q: benzaldehyde, R: benzoic acid

(3) P: $C_6H_5CH_2CH_2CH_3$, Q: benzaldehyde, R: CH_3CH_2OH

(4) P: cumene $C_6H_5CH(CH_3)_2$, Q: phenol C_6H_5OH, R: acetone CH_3COCH_3

75. The compound A on treatment with Na gives B, and with PCl_5 gives C. B and C react together to give diethyl ether. A, B and C are, in order,

(1) C_2H_5Cl, C_2H_6, C_2H_5OH

(2) C_2H_5OH, C_2H_5Cl, C_2H_5ONa

(3) C_2H_5OH, C_2H_6, C_2H_5Cl

(4) C_2H_5OH, C_2H_5ONa, C_2H_5Cl

76. In the reaction

$$C_6H_5OH + CHCl_3 + NaOH \longrightarrow \text{salicylaldehyde}$$

the electrophile involved is

(1) Dichloromethyl anion $^{-}CHCl_2$

(2) Formyl cation ^{+}CHO

(3) Dichloromethyl cation $^{+}CHCl_2$

(4) Dichlorocarbene : CCl_2

---

77. Compound A, $C_8H_{10}O$, reacts with $NaOI$ (produced by reacting Y with $NaOH$) to yield a yellow precipitate with a characteristic smell. A and Y are respectively

(1) $C_6H_5CH(OH)CH_3$ (1-phenylethanol) and I_2

(2) $C_6H_5CH_2CH_2OH$ (2-phenylethanol) and I_2

(3) p-$CH_3C_6H_4CH_2OH$ (4-methylbenzyl alcohol) and I_2

(4) p-Cresol (4-methylphenol) and I_2

---

78. Identify the major products P, Q and R in the following sequence of reactions:
\ce{C6H6 + CH3CH2CH2Cl ->[{anhydrous AlCl3}] P}
\ce{P ->[{(i) O2}][{(ii) H3O+}] Q + R}

(1) $P = C_6H_5CH(OH)CH_3$, Q = phenol, $R = C_6H_5CH(CH_3)_2$

(2) $P = C_6H_5CH_2CH_2CH_3$, $Q = C_6H_5CHO$, $R = C_6H_5COOH$

(3) $P = C_6H_5CH_2CH_2CH_3$, $Q = C_6H_5CHO$, $R = CH_3CH_2OH$

(4) $P = C_6H_5CH(CH_3)_2$ (cumene), $Q = C_6H_5OH$ (phenol), $R = CH_3COCH_3$ (acetone)

---

79. A mixture of 2.3 g formic acid ($HCOOH$) and 4.5 g oxalic acid ($(COOH)_2$) is treated with conc. H_2SO_4. The evolved gaseous mixture is passed through KOH pellets. The weight (in g) of the remaining gas at STP will be

(1) 2.8

(2) 3.0

(3) 1.4

(4) 4.4

---

80. Carboxylic acids have higher boiling points than aldehydes, ketones and even alcohols of comparable molecular mass. It is due to their:

(1) More extensive association of carboxylic acid via van der Waals force of attraction

(2) Formation of carboxylate ion

(3) Formation of intramolecular H-bonding

(4) Formation of intermolecular H-bonding

---

81. Compound A, $C_8H_{10}O$, reacts with NaOI (produced by reacting Y with NaOH) and yields a yellow precipitate with characteristic smell. A and Y are respectively:

(1) $C_6H_5CH(OH)CH_3$ and I_2

(2) $C_6H_5CH_2CH_2OH$ and I_2

(3) $H_3C-C_6H_4-CH_2OH$ and I_2

(4) $(CH_3)_2C_6H_3OH$ and I_2

---

82. The correct order of N-compounds in their decreasing order of oxidation states is

(1) HNO_3, NH_4Cl, NO, N_2

(2) HNO_3, NO, NH_4Cl, N_2

(3) HNO_3, NO, N_2, NH_4Cl

(4) NH_4Cl, N_2, NO, HNO_3

83. Consider the change in oxidation state of bromine corresponding to different E° values as shown in the Latimer diagram below:

$$BrO_4^- \xrightarrow{1.82\ V} BrO_3^- \xrightarrow{1.5\ V} HBrO \xrightarrow{1.595\ V} Br_2 \xrightarrow{1.0652\ V} Br^-$$

Then the species undergoing disproportionation is

(1) Br_2

(2) BrO_4^-

(3) BrO_3^-

(4) $HBrO$

84. For the redox reaction $MnO_4^- + C_2O_4^{2-} + H^+ \longrightarrow Mn^{2+} + CO_2 + H_2O$, the correct coefficients of the reactants for the balanced equation are (MnO_4^-, $C_2O_4^{2-}$, H^+ respectively)

(1) 2, 16, 5

(2) 2, 5, 16

(3) 16, 5, 2

(4) 5, 16, 2

85. Nitration of aniline in strong acidic medium also gives m-nitroaniline because

(1) in absence of substituents the nitro group always goes to the m-position.

(2) in electrophilic substitution reactions the amino group is meta directing.

(3) inspite of substituents the nitro group always goes to only the m-position.

(4) in strong acidic medium aniline is present as the anilinium ion.

86. Which of the following compounds can form a zwitterion?

(1) Benzoic acid

(2) Acetanilide

(3) Aniline

(4) Glycine

87. The difference between amylose and amylopectin is:

(1) Amylose is a branched polymer with α-$(1 \rightarrow 4)$ and α -$(1 \rightarrow 6)$ glycosidic linkages

(2) Amylose has both α-$(1 \rightarrow 4)$ and α-$(1 \rightarrow 6)$ linkages while amylopectin is linear

(3) Amylopectin is branched, having both α-$(1 \rightarrow 4)$ and α-$(1 \rightarrow 6)$ linkages, whereas amylose is linear with only α-$(1 \rightarrow 4)$ linkages

(4) Amylose is a copolymer made up of glucose and galactose units

88. In which of the following molecules is the order of hybridisation sp^2, sp^2, sp, sp for the carbon atoms from left to right?

(1) $CH_2{=}CH{-}CH{=}CH_2$

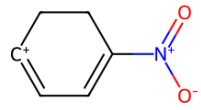
(2) $CH_2{=}CH{-}C{\equiv}CH$

(3) $CH{\equiv}C{-}C{\equiv}CH$

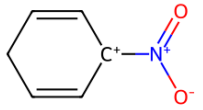
(4) $CH_3{-}CH{=}CH{-}CH_3$

89. Which of the following carbocations is expected to be the most stable? (Each is a cyclohexadienyl-type cation bearing an $-NO_2$ substituent on the ring, with the positive charge located at varying ring positions relative to the $-NO_2$ group.)

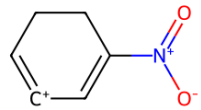
(A)



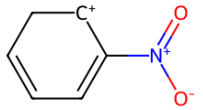
(B)



(C)



(D)



(1) (A)

(2) (B)

(3) (C)

(4) (D)

90. Which of the following is correct with respect to the $-I$ effect of the substituents? (R = alkyl)

(1) $-NH_2 > -OR > -F$

(2) $-NR_2 < -OR < -F$

(3) $-NH_2 < -OR < -F$

(4) $-NR_2 > -OR > -F$

Biology · 82 Qs

91. Which one of the following plants shows a very close relationship with a species of moth, where none of the two can complete its life cycle without the other?

(1) Banana

(2) Yucca

(3) Hydrilla

(4) Viola

92. Double fertilization is

(1) Fusion of two male gametes with one egg

(2) Fusion of one male gamete with two polar nuclei

(3) Fusion of two male gametes of a pollen tube with two different eggs

(4) Syngamy and triple fusion

93. Which of the following has proved helpful in preserving pollen as fossils?

(1) Oil content

(2) Cellulosic intine

(3) Pollenkitt

(4) Sporopollenin

94. Pollen grains can be stored for several years in liquid nitrogen having a temperature of

(1) -196°C

(2) -80°C

(3) -120°C

(4) -160°C

95. Match the items given in Column I with those in Column II and select the correct option: (Out of syllabus, but asked in NEET earlier)

Column I
A. Herbarium
B. Key
C. Museum
D. Catalogue

Column II
(i) It is a place having a collection of preserved plants and animals
(ii) A list that enumerates methodically all the species found in an area with brief description aiding identification
(iii) Is a place where dried and pressed plant specimens mounted on sheets are kept
(iv) A booklet containing a list of characters and their alternates which are helpful in identification of various taxa

Choose the correct option:

(1) A-(ii), B-(iv), C-(iii), D-(i)
(2) A-(iii), B-(ii), C-(i), D-(iv)
(3) A-(i), B-(iv), C-(iii), D-(ii)
(4) A-(iii), B-(iv), C-(i), D-(ii)

96. Which of the following is not a prokaryote?

(1) Bacteria
(2) Blue green algae
(3) Mycoplasma
(4) Fungi

97. Select the wrong statement :

(1) Pseudopodia are locomotory and feeding structures in Sporozoans
(2) Mushrooms belong to Basidiomycetes
(3) Cell wall is present in members of Fungi and Plantae
(4) Mitochondria are the powerhouse of the cell in all kingdoms except Monera

98. Which among the following is not a prokaryote?

(1) Nostoc
(2) Mycobacterium
(3) Saccharomyces
(4) Oscillatoria

99. Which of the following organisms are known as chief producers in the oceans?

(1) Cyanobacteria
(2) Diatoms
(3) Dinoflagellates
(4) Euglenoids

100. Ciliates differ from all other protozoans in

(1) using pseudopodia for capturing prey
(2) having a contractile vacuole for removing excess water
(3) using flagella for locomotion
(4) having two types of nuclei

101. After karyogamy followed by meiosis, spores are produced exogenously in

(1) Agaricus
(2) Alternaria
(3) Neurospora
(4) Saccharomyces

102. [NEET 2017 · NEET 2018 · NEET 2019 · NEET 2019 Odisha · NEET 2020 · NEET 2021 · NEET 2023 Phase 1] Which of the following statements is correct

(1) Lichens do not grow in polluted areas.

(2) Algal component of lichens is called mycobiont.

(3) Fungal component of lichens is called phycobiont

(4) Lichens are not good pollution indicators.

103. The difference between spermiogenesis and spermiation is

(1) In spermiogenesis spermatozoa from sertoli cells are released into the cavity of seminiferous tubules, while in spermiation spermatozoa are formed.

(2) In spermiogenesis spermatozoa are formed, while in spermiation spermatids are formed.

(3) In spermiogenesis spermatids are formed, while in spermiation spermatozoa are formed.

(4) In spermiogenesis spermatozoa are formed, while in spermiation spermatozoa are released from sertoli cells into the cavity of seminiferous tubules.

104. The amnion of mammalian embryo is derived from

(1) mesoderm and trophoblast

(2) endoderm and mesoderm

(3) ectoderm and mesoderm

(4) ectoderm and endoderm

105. Match the items given in Column I with those in Column II and select the correct option given below :

Column I

a. Proliferative Phase

b. Secretory Phase

c. Menstruation

Column II

i. Breakdown of endometrial lining

ii. Follicular Phase

iii. Luteal Phase

(1) a-ii, b-iii, c-i

(2) a-i, b-iii, c-ii

(3) a-iii, b-ii, c-i

(4) a-iii, b-i, c-ii

106. Hormones secreted by the placenta to maintain pregnancy are

(1) hCG, hPL, progestogens, estrogens

(2) hCG, hPL, estrogens, relaxin, oxytocin

(3) hCG, hPL, progestogens, prolactin

(4) hCG, progestogens, estrogens, glucocorticoids

107. [NEET 2016 Phase 1 · NEET 2018 · NEET 2019 Odisha · NEET 2020] Select the correct statement:

(1) Gymnosperms are both homosporous and heterosporous

(2) Salvinia, ginkgo and pinus all are gymnosperms

(3) Sequoia is one of the tallest trees

(4) The leaves of gymnosperms are not well adapted to extremes of climate

108. Winged pollen grains are present in

(1) Mango

(2) Cycas

(3) Mustard

(4) Pinus

109. Which one is wrongly matched?

(1) Gemma cups – Marchantia

(2) Biflagellate zoospores – Brown algae

(3) Uniflagellate gametes – Polysiphonia

(4) Unicellular organism – Chlorella

110. The contraceptive 'SAHELI'

(1) is an IUD.

(2) increases the concentration of estrogen and prevents ovulation in females.

(3) blocks estrogen receptors in the uterus, preventing eggs from getting implanted.

(4) is a post-coital contraceptive.

111. Identify the vertebrate group of animals characterized by crop and gizzard in its digestive system

(1) Aves

(2) Reptilia

(3) Amphibia

(4) Osteichthyes

112. Which of the following animals does not undergo metamorphosis?

(1) Moth

(2) Tunicate

(3) Earthworm

(4) Starfish

113. Which one of these animals is not a homeotherm?

(1) Camelus

(2) Chelone

(3) Macropus

(4) Psittacula

114. Select the correct match.

(1) Sickle cell anaemia - Autosomal recessive trait, chromosome-11

(2) Thalassemia - X linked

(3) Haemophilia - Y linked

(4) Phenylketonuria - Autosomal dominant trait

115. A woman has an X-linked condition on one of her X chromosomes. This chromosome can be inherited by

(1) Only grandchildren

(2) Only sons

(3) Only daughters

(4) Both sons and daughters

116. Which of the following characteristics represent 'Inheritance of blood groups' in humans?

a. Dominance
b. Co-dominance
c. Multiple allele
d. Incomplete dominance
e. Polygenic inheritance

(1) b, d and e

(2) a, b and c

(3) b, c and e

(4) a, c and e

117. Which of the following pairs is wrongly matched?

(1) XO type sex determination : Grasshopper

(2) ABO blood grouping : Co-dominance

(3) Starch synthesis in pea : Multiple alleles

(4) T.H. Morgan : Linkage

118. Many ribosomes may associate with a single mRNA to form multiple copies of a polypeptide simultaneously. Such strings of ribosomes are termed as

(1) Plastidome

(2) Polyhedral bodies

(3) Polysome

(4) Nucleosome

119. AGGTATCGCAT is a sequence from the coding strand of a gene. What will be the corresponding sequence of the transcribed mRNA?

(1) ACCUAUGCGAU
(2) UGGTUTCGCAT
(3) AGGUAUCGCAU
(4) UCCAUAGCGUA

120. The experimental proof for semiconservative replication of DNA was first shown in a

(1) Plant
(2) Bacterium
(3) Fungus
(4) Virus

121. Select the correct match.

a. Matthew Meselson and F. Stahl - Pisum sativum
b. Alfred Hershey and Martha Chase - TMV
c. Alec Jeffreys - Streptococcus pneumoniae
d. Francois Jacob and Jacques Monod - Lac operon

(1) Matthew Meselson and F. Stahl - Pisum sativum
(2) Alfred Hershey and Martha Chase - TMV
(3) Alec Jeffreys - Streptococcus pneumoniae
(4) Francois Jacob and Jacques Monod - Lac operon

122. All of the following are part of an operon except

(1) an enhancer
(2) structural genes
(3) an operator
(4) a promoter

123. Sweet potato is a modified

(1) Tap root
(2) Adventitious root
(3) Stem
(4) Rhizome

124. Pneumatophores occur in

(1) Carnivorous plants
(2) Free-floating hydrophytes
(3) Halophytes
(4) Submerged hydrophytes

125. Stomatal movement is not affected by

(1) O2 concentration
(2) Light
(3) Temperature
(4) CO2 concentration

126. Stomata in grass leaf are

(1) Rectangular
(2) Kidney shaped
(3) Dumb-bell shaped
(4) Barrel shaped

127. (Out of syllabus but asked in last 3 years) Secondary xylem and phloem in dicot stem are produced by

(1) Phellogen
(2) Vascular cambium
(3) Apical meristems
(4) Axillary meristems

128. Casparian strips occur in

(1) Cortex
(2) Pericycle
(3) Epidermis
(4) Endodermis

129. (Out of syllabus but asked in last 3 years) Plants having little or no secondary growth are

(1) Conifers
(2) Deciduous angiosperms
(3) Grasses
(4) Cycads

130. Among the following sets of examples for divergent evolution, select the incorrect option :

(1) Brain of bat, man and cheetah
(2) Heart of bat, man and cheetah
(3) Forelimbs of man, bat and cheetah
(4) Eye of octopus, bat and man

131. According to Hugo de Vries, the mechanism of evolution is

(1) Phenotypic variations
(2) Saltation
(3) Multiple step mutations
(4) Minor mutations

132. The similarity of bone structure in the forelimbs of many vertebrates is an example of

(1) Convergent evolution
(2) Analogy
(3) Homology
(4) Adaptive radiation

133. Which part of poppy plant is used to obtain the drug “Smack”?

(1) Roots
(2) Latex
(3) Flowers
(4) Leaves

134. In which disease does mosquito transmitted pathogen cause chronic inflammation of lymphatic vessels?

(1) Ringworm disease
(2) Ascariasis
(3) Elephantiasis
(4) Amoebiasis

135. Which of the following is not an autoimmune disease?

(1) Alzheimer's disease
(2) Rheumatoid arthritis
(3) Psoriasis
(4) Vitiligo

136. Nissl bodies are mainly composed of

(1) Nucleic acids and SER
(2) DNA and RNA
(3) Proteins and lipids
(4) Free ribosomes and RER

137. Which of the following features is used to identify a male cockroach from a female cockroach?

(Out of syllabus but asked in last 3 years)

(1) Forewings with darker tegmina
(2) Presence of caudal styles
(3) Presence of a boat shaped sternum on the 9th abdominal segment
(4) Presence of anal cerci

138. Which of the following events does not occur in rough endoplasmic reticulum?

(1) Cleavage of signal peptide
(2) Protein glycosylation
(3) Protein folding
(4) Phospholipid synthesis

139. Which of the following is true for nucleolus?

(1) It takes part in spindle formation
(2) It is a membrane-bound structure
(3) Larger nucleoli are present in dividing cells
(4) It is a site for active ribosomal RNA synthesis

140. The Golgi complex participates in

(1) Respiration in bacteria
(2) Formation of secretory vesicles
(3) Fatty acid breakdown
(4) Activation of amino acid

141. Conversion of milk to curd improves its nutritional value by increasing the amount of

(1) Vitamin B12
(2) Vitamin A
(3) Vitamin D
(4) Vitamin E

142. The two functional groups characteristic of sugars are

(1) Carbonyl and phosphate
(2) Carbonyl and methyl
(3) Hydroxyl and methyl
(4) Carbonyl and hydroxyl

143. Which of the following is commonly used as a vector for introducing a DNA fragment in human lymphocytes?

(1) λ phage
(2) Ti plasmid
(3) Retrovirus
(4) pBR 322

144. The correct order of steps in Polymerase Chain Reaction (PCR) is

(1) Denaturation, Extension, Annealing
(2) Annealing, Extension, Denaturation
(3) Extension, Denaturation, Annealing
(4) Denaturation, Annealing, Extension

145. Use of bioresources by multinational companies and organisations without authorisation from the concerned country and its people is called

(1) Biodegradation
(2) Biopiracy
(3) Bio-infringement
(4) Bioexploitation

146. A 'new' variety of rice was patented by a foreign company, though such varieties have been present in India for a long time. This is related to

(1) Lerma Rojo
(2) Sharbati Sonora
(3) Co-667
(4) Basmati

147. In India, the organisation responsible for assessing the safety of introducing genetically modified organisms for public use is

(1) Research Committee on Genetic Manipulation (RCGM)
(2) Council for Scientific and Industrial Research (CSIR)
(3) Indian Council of Medical Research (ICMR)
(4) Genetic Engineering Appraisal Committee (GEAC)

148. The stage during which separation of the paired homologous chromosomes begins is

(1) Diakinesis
(2) Diplotene
(3) Pachytene
(4) Zygotene

149. Natality refers to

(1) Number of individuals leaving the habitat
(2) Birth rate
(3) Death rate
(4) Number of individuals entering a habitat

150. Niche is

(1) the range of temperature that the organism needs to live
(2) the physical space where an organism lives
(3) all the biological factors in the organism's environment
(4) the functional role played by the organism where it lives

151. (Out of NEET 2026 syllabus — rationalised 'adaptations' topic)

Which one of these animals is not a homeotherm?

(1) Camelus
(2) Chelone
(3) Macropus
(4) Psittacula

152. Which one of the following population interactions is widely used in medical science for the production of antibiotics?

(1) Parasitism
(2) Mutualism
(3) Commensalism
(4) Amensalism

153. In a growing population of a country,

(1) reproductive and pre-reproductive individuals are equal in number.
(2) reproductive individuals are less than the post-reproductive individuals.
(3) pre-reproductive individuals are more than the reproductive individuals.
(4) pre-reproductive individuals are less than the reproductive individuals.

154. Which of the following is not a product of light reaction of photosynthesis?

(1) NADPH
(2) NADH
(3) ATP
(4) Oxygen

155. Oxygen is not produced during photosynthesis by

(1) Cycas
(2) Nostoc
(3) Green sulphur bacteria
(4) Chara

156. What type of ecological pyramid would be obtained with the following data? Secondary consumer : 120 g; Primary consumer : 60 g; Primary producer : 10 g

(1) Upright pyramid of numbers
(2) Pyramid of energy
(3) Inverted pyramid of biomass
(4) Upright pyramid of biomass

157. Which of these statements is incorrect?

(1) Glycolysis operates as long as it is supplied with NAD that can pick up hydrogen atoms

(2) Glycolysis occurs in cytosol

(3) Enzymes of TCA cycle are present in mitochondrial matrix

(4) Oxidative phosphorylation takes place in outer mitochondrial membrane

158. What is the role of NAD+ in cellular respiration?

(1) It is a nucleotide source for ATP synthesis.

(2) It functions as an electron carrier.

(3) It functions as an enzyme.

(4) It is the final electron acceptor for anaerobic respiration.

159. All of the following are included in 'ex-situ conservation' except

(1) Botanical gardens

(2) Sacred groves

(3) Wildlife safari parks

(4) Seed banks

160. Which of the following is an occupational respiratory disorder?

(1) Botulism

(2) Silicosis

(3) Anthracis

(4) Emphysema

161. Match the items given in Column I with those in Column II and select the correct option given below:

Column I
a. Tidal volume
b. Inspiratory Reserve volume
c. Expiratory Reserve volume
d. Residual volume

Column II
i. 2500 - 3000 mL
ii. 1100 - 1200 mL
iii. 500 - 550 mL
iv. 1000 - 1100 mL

Choose the correct answer from the options given below:

(1) a-i, b-iv, c-ii, d-iii

(2) a-iii, b-i, c-iv, d-ii

(3) a-iii, b-ii, c-i, d-iv

(4) a-iv, b-iii, c-ii, d-i

162. Which of the following options correctly represents the lung conditions in asthma and emphysema, respectively?

(1) Increased respiratory surface; Inflammation of bronchioles

(2) Increased number of bronchioles; Increased respiratory surface

(3) Inflammation of bronchioles; Decreased respiratory surface

(4) Decreased respiratory surface; Inflammation of bronchioles

163. Match the items given in Column I with those in Column II and select the correct option given below :

Column I
a. Fibrinogen
b. Globulin
c. Albumin
Column II
(i) Osmotic balance
(ii) Blood clotting
(iii) Defence mechanism

(1) a-(i), b-(iii), c-(ii)
(2) a-(i), b-(ii), c-(iii)
(3) a-(iii), b-(ii), c-(i)
(4) a-(ii), b-(iii), c-(i)

164. Match the items given in Column I with those in Column II and select the correct option given below :

Column I
a. Tricuspid valve
b. Bicuspid valve
c. Semilunar valve
Column II
i. Between left atrium and left ventricle
ii. Between right ventricle and pulmonary artery
iii. Between right atrium and right ventricle

(1) a-i, b-ii, c-iii
(2) a-i, b-iii, c-ii
(3) a-iii, b-i, c-ii
(4) a-ii, b-i, c-iii

165. Match the items given in Column I with those in Column II and select the correct option given below:

Column I (Function)
a. Ultrafiltration
b. Concentration of urine
c. Transport of urine
d. Storage of urine

Column II (Part of Excretory system)
i. Henle's loop
ii. Ureter
iii. Urinary bladder
iv. Malpighian corpuscle
v. Proximal convoluted tubule

(1) a-v, b-iv, c-i, d-ii
(2) a-iv, b-i, c-ii, d-iii
(3) a-iv, b-v, c-ii, d-iii
(4) a-v, b-iv, c-i, d-iii

166. Match the items given in Column I with those in Column II and select the correct option given below :

Column I
a. Glycosuria
b. Gout
c. Renal calculi
d. Glomerular nephritis

Column II
i. Accumulation of uric acid in joints
ii. Mass of crystallised salts within the kidney
iii. Inflammation in glomeruli
iv. Presence of glucose in urine

(1) a-ii, b-iii, c-i, d-iv

(2) a-i, b-ii, c-iii, d-iv

(3) a-iii, b-ii, c-iv, d-i

(4) a-iv, b-i, c-ii, d-iii

167. Calcium is important in skeletal muscle contraction because it

(1) Detaches the myosin head from the actin filament.

(2) Activates the myosin ATPase by binding to it.

(3) Binds to troponin to remove the masking of active sites on actin for myosin.

(4) Prevents the formation of bonds between the myosin cross bridges and the actin filament.

168. Which of the following structures or regions is incorrectly paired with its functions?

(1) Hypothalamus : production of releasing hormones and regulation of temperature, hunger and thirst.

(2) Limbic system : consists of fibre tracts that interconnect different regions of brain; controls movement.

(3) Medulla oblongata : controls respiration and cardiovascular reflexes.

(4) Corpus callosum : band of fibers connecting left and right cerebral hemispheres.

169. Which of the following hormones can play a significant role in osteoporosis?

(1) Estrogen and Parathyroid hormone

(2) Progesterone and Aldosterone

(3) Aldosterone and Prolactin

(4) Parathyroid hormone and Prolactin

170. Which of the following is an amino acid derived hormone?

(1) Estradiol

(2) Ecdysone

(3) Epinephrine

(4) Estriol

171. Which one of the following statements is incorrect?

(1) α-cells of pancreas secrete glucagon

(2) α-cells of pancreas secrete insulin

(3) Glucagon stimulates glycogenolysis

(4) β-cells of pancreas secrete insulin

172. Match the items given in Column I with those in Column II and select the correct option: (Out of syllabus, but asked in NEET earlier)

Column I
A. Herbarium
B. Key
C. Museum
D. Catalogue

Column II
(i) It is a place having a collection of preserved plants and animals
(ii) A list that enumerates methodically all the species found in an area with brief description aiding identification
(iii) Is a place where dried and pressed plant specimens mounted on sheets are kept
(iv) A booklet containing a list of characters and their alternates which are helpful in identification of various taxa

Choose the correct option: (NEET-2018)

(1) A-(ii), B-(iv), C-(iii), D-(i)

(2) A-(iii), B-(ii), C-(i), D-(iv)

(3) A-(i), B-(iv), C-(iii), D-(ii)

(4) A-(iii), B-(iv), C-(i), D-(ii)

Answer Key

1.D	**2**.D	**3**.C	**4**.B	**5**.D	**6**.B	**7**.D	**8**.D	**9**.D	**10**.A	**11**.C
12.D	**13**.B	**14**.D	**15**.D	**16**.D	**17**.C	**18**.A	**19**.C	**20**.D	**21**.B	**22**.B
23.C	**24**.B	**25**.C	**26**.C	**27**.A	**28**.B	**29**.A	**30**.B	**31**.A	**32**.B	**33**.B
34.C	**35**.C	**36**.C	**37**.C	**38**.B	**39**.B	**40**.B	**41**.C	**42**.B	**43**.D	**44**.B
45.C	**46**.A	**47**.C	**48**.D	**49**.D	**50**.D	**51**.A	**52**.B	**53**.B	**54**.C	**55**.A
56.D	**57**.B	**58**.C	**59**.D	**60**.B	**61**.B	**62**.D	**63**.B	**64**.C	**65**.D	**66**.C
67.B	**68**.C	**69**.B	**70**.D	**71**.C	**72**.D	**73**.A	**74**.D	**75**.D	**76**.D	**77**.A
78.D	**79**.A	**80**.D	**81**.A	**82**.C	**83**.D	**84**.B	**85**.D	**86**.D	**87**.C	**88**.B
89.A	**90**.C	**91**.B	**92**.D	**93**.D	**94**.A	**95**.D	**96**.D	**97**.A	**98**.C	**99**.B
100.D	**101**.A	**102**.A	**103**.D	**104**.C	**105**.A	**106**.A	**107**.C	**108**.D	**109**.C	**110**.C
111.A	**112**.C	**113**.B	**114**.A	**115**.D	**116**.B	**117**.C	**118**.C	**119**.C	**120**.B	**121**.D
122.A	**123**.B	**124**.C	**125**.A	**126**.C	**127**.B	**128**.D	**129**.C	**130**.D	**131**.B	**132**.C
133.B	**134**.C	**135**.A	**136**.D	**137**.B	**138**.D	**139**.D	**140**.B	**141**.A	**142**.D	**143**.C
144.D	**145**.B	**146**.D	**147**.D	**148**.B	**149**.B	**150**.D	**151**.B	**152**.D	**153**.C	**154**.B
155.C	**156**.C	**157**.D	**158**.B	**159**.B	**160**.B	**161**.B	**162**.C	**163**.D	**164**.C	**165**.B
166.D	**167**.C	**168**.B	**169**.A	**170**.C	**171**.B	**172**.D				