

NEET GRAND TEST

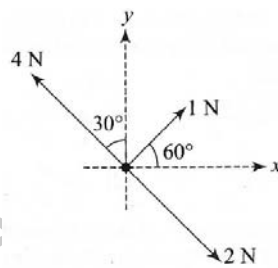
No. of Questions: 180

Maximum Marks: 720

Time: 3 hours

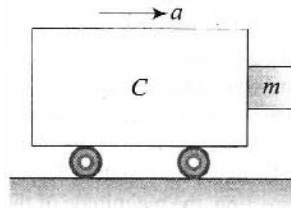
PHYSICS

- The dimensional formula for Young's modulus is
 a) $ML^{-1}T^{-2}$ b) M^0LT^{-2} c) MLT^{-2} d) ML^2T^{-2}
- A man drops a ball downside from the roof of a tower of height 400 meters. At the same time another ball is thrown upside with a velocity 50 meter / sec from the surface of the tower, then they will meet at which height from the surface of the tower
 a) 100 meters b) 320 meters c) 80 meters d) 240 meters
- A car moves from X to Y with a uniform speed v_u and returns to Y with a uniform speed v_d . The average speed for this round trip is
 a) $\frac{2v_d v_u}{v_d + v_u}$ b) $\sqrt{v_u v_d}$ c) $\frac{v_d v_u}{v_d + v_u}$ d) $\frac{v_u + v_d}{2}$
- A particle of unit mass undergoes one dimensional motion such that its velocity varies according to $v(x) = \beta x^{-2n}$
 Where β and n are constants and x is the position of the particle. The acceleration of the particle as a function of x is given by
 a) $-2n\beta^2 x^{-2n-1}$ b) $-2n\beta^2 x^{-4n-1}$ c) $-2n\beta^2 x^{-2n+1}$ d) $-2n\beta^2 x^{-4n+1}$
- The vector sum of two forces is perpendicular to their vector differences. In that case, the force
 a) cannot be predicted b) are equal to the each other
 c) are equal to each other in magnitude d) are not equal to each other in magnitude
- Three forces acting on a body are shown in the figure. To have the resultant force only along the y-direction, the magnitude of the minimum additional force needed is



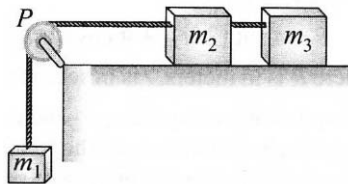
- 0.5 N
 - 1.5 N
 - $\frac{\sqrt{3}}{4}$ N
 - $\sqrt{3}$ N
- The position vector of a particle \vec{R} as a function of time is given by $\vec{R} = 4 \sin(2\pi t)\hat{i} + 4 \cos(2\pi t)\hat{j}$ Where R is in meters, t is in seconds and \hat{i} and \hat{j} denote unit vectors along x-and y directions, respectively. Which one of the following statements is wrong for the motion of particle?
 a) Path of the particle is a circle of radius 4 meter
 b) Acceleration vectors is along $-\vec{R}$
 c) Magnitude of acceleration vector is $\frac{v^2}{R}$ where v is the velocity of particle
 d) Magnitude of the velocity of particle is 8 meter / second

8. A lift of mass 1000 kg is moving with an acceleration of 1 m/s^2 in upward direction. Tension developed in the string, which is connected to the lift, is
- a) 9,800 N b) 10,000 N c) 10,800 N d) 11,000 N
9. A block of mass m is in contact with the cart C as shown in the figure.

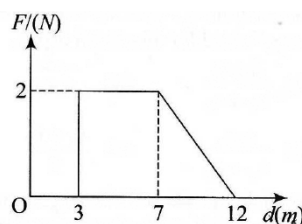


The coefficient of static friction between the block and the cart is μ . The acceleration a of the cart that will prevent the block from falling satisfies

- a) $a > \frac{mg}{\mu}$ b) $a > \frac{g}{\mu m}$ c) $a \geq \frac{g}{\mu}$ d) $a < \frac{g}{\mu}$
10. A system consists of three masses m_1 , m_2 and m_3 connected by a string passing over a pulley P. The mass m_1 hangs freely and m_2 and m_3 are on a rough horizontal table (the coefficient of friction = μ). The pulley is frictionless and of negligible mass. The downward acceleration of mass m_1 is (Assume $m_1 = m_2 = m_3 = m$)



- a) $\frac{g(1 - g\mu)}{9}$ b) $\frac{2gu}{3}$ c) $\frac{g(1 - 2\mu)}{3}$ d) $\frac{g(1 - 2\mu)}{2}$
11. The mass of two substances are 4 gm and 9 gm respectively. If their kinetic energies are the same, then the ratio of their momenta will be
- a) 4 : 9 b) 9 : 4 c) 3 : 2 d) 2 : 3
12. A vertical spring with force constant k is fixed on a table. A ball of mass m at a height h above the free upper end of the spring falls vertically on the spring, so that the spring is compressed by a distance d . The net work done in the process is
- a) $mg(h + d) + \frac{1}{2} kd^2$ b) $mg(h + d) - \frac{1}{2} kd^2$
- c) $mg(h - d) - \frac{1}{2} kd^2$ d) $mg(h - d) + \frac{1}{2} kd^2$
13. Force F on a particle moving in a straight line varies with distance d as shown in the figure. The work done on the particle during its displacement of 12 m is

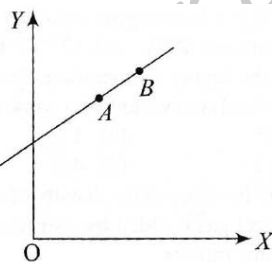


- a) 21 J b) 26 J c) 13 J d) 18 J

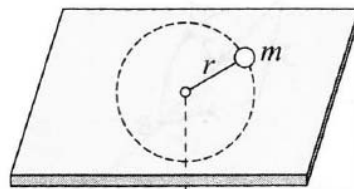
14. The heart of a man pumps 5 litres of blood through the arteries per minute at a pressure of 150 mm of mercury. If the density of mercury be 13.6×10^3 and $g = 10 \text{ m/s}^2$ then the power of heart in watt is
 a) 1.50 b) 1.70 c) 2.35 d) 3.0

15. A composite disc is to be made using equal masses of aluminium and iron so that it has as high a moment of inertia as possible. This is possible when
 a) the surface of the discs are made of iron with aluminium inside
 b) the whole iron at the outer rim of the disc
 c) the whole of the iron is kept in the core and the aluminium at the outer rim of the disc
 d) the whole disc is made with thin alternate sheets of iron and aluminium

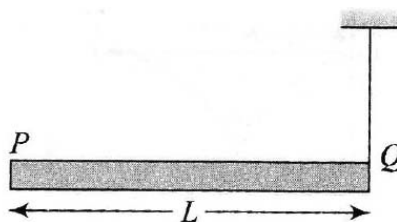
16. A particle of mass m moves in the XY plane with a velocity v along the straight line AB. If the angular momentum of the particle with respect to origin O is L_A when it is at A and L_B when it is at B, then



- a) $L_A > L_B$
 b) $L_A = L_B$
 c) the relationship between L_A and L_B depends upon the slope of the line AB
 d) $L_A < L_B$
17. A small mass attached to a spring rotates on frictionless table top as shown. If the tension of the string is increased by pulling the string causing the radius of the circular motion to decrease by a factor of 2, the kinetic energy of the mass will be

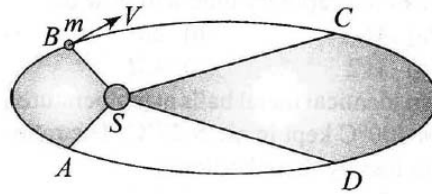


- a) remain constant b) increase by a factor of 2
 c) increase by a factor of 4 d) decrease by a factor of 2
18. A rod PQ of mass M and length L is hinged at end P. The rod is kept horizontal by a mass less string tied to point Q as shown in the figure. When string is cut, the initial angular acceleration of the rod is

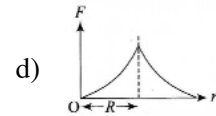
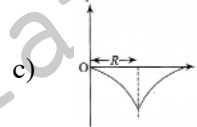
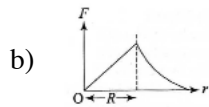
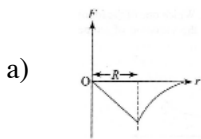


- a) $\frac{3g}{2L}$ b) $\frac{g}{L}$ c) $\frac{2g}{L}$ d) $\frac{2g}{3L}$

19. The figure shows elliptical orbit of a planet m about the sun S . The shaded area SCD is twice the shaded area SAB . If t_1 is the time for the planet to move from C to D and t_2 is the time to move from A to B , then



- a) $t_1 > t_2$ b) $t_1 = t_2$ c) $t_1 = 2t_2$ d) $t_1 < t_2$
20. Dependence of intensity of gravitational field (E) of earth with distance (r) from centre of earth is correctly represented by



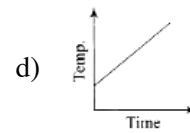
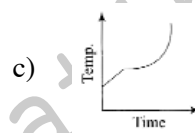
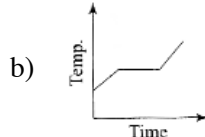
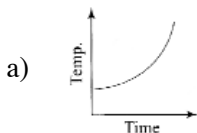
21. A capillary tube of radius R is immersed in water and water rises in it to a height H . Mass of water in the capillary tube is M . If the radius of the tube is doubled, mass of water that will rise in the capillary tube will now be

- a) M b) $2M$ c) $\frac{M}{2}$ d) $4M$

22. Two identical metal balls at temperature 200°C and 400°C kept in air at 27°C . The ratio of net heat loss by these bodies is

- a) $\frac{1}{4}$ b) $\frac{1}{2}$ c) $\frac{1}{16}$ d) $\frac{473^4 - 300^4}{673^4 - 300^4}$

23. Liquid oxygen at 50 K is heated to 300 K at constant pressure of 1 atm . The rate of heating is constant. Which one of the following graphs represents the variation of temperature with time?



24. An ideal gas heat engine operate in a Carnot cycle between 127°C and 227°C . It absorbs 6 kcal at the higher temperature. The amount of heat (in kcal) converted into work is equal to

- a) 3.5 b) 1.6 c) 1.2 d) 4.8

25. At 10°C the value of the density of a fixed mass of an ideal gas divided by its pressure is x . At 110°C this ratio is

- a) x b) $\frac{383}{283}x$ c) $\frac{10}{110}x$ d) $\frac{283}{383}x$

26. The magnetic field of the earth can be modeled by that of a point dipole placed at the centre of the earth. The dipole axis makes an angle of 11.3° with the axis of the earth. At Mumbai, declination is nearly zero. Then

- a) the declination varies between 11.3° W to 11.3° E
 b) the least declination is 0°
 c) the place defined by dipole axis and the earth axis passes through Greenwich
 d) declination averaged over the earth must be always negative

27. In the magnetic field, perpendicular to that of earth, the magnetic needle oscillates with a frequency 'f' and the deflection produced is 45° . If the bar magnet is removed find the frequency of oscillation of that needle?

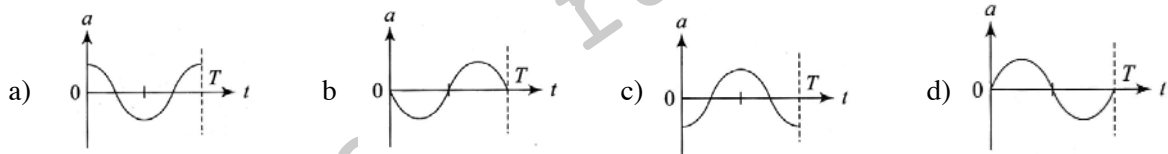
- a) $\frac{f}{\sqrt{2}}$ b) $\frac{f}{\sqrt{\sqrt{2}}}$ c) f d) $\sqrt{2}f$

28. A frog can be deviated in a magnetic field produced by a current in a vertical solenoid placed below the frog. This is possible because the body of the frog behaves as

- a) Paramagnetic b) Diamagnetic
c) Ferromagnetic d) Antiferromagnetic

29. The oscillation of a body on a smooth horizontal surface is represented by the equation, $X = A \cos(\omega t)$ where X = displacement at time t. ω = frequency of oscillation

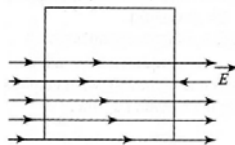
Which one of the following graphs shows correctly the variation a with t?



30. A source and an observer move away from each other with a velocity of 10 m/s with respect to ground. If the observer finds the frequency of sound coming from the source as 1950 Hz, then actual frequency of the source is (velocity of sound in air = 340 m/s)

- a) 1950 Hz b) 2068 Hz c) 2132 Hz d) 2486 Hz

31. A square surface of side L m is in the plane of the paper. A uniform electric field \vec{E} (V/m), also in the plane of the paper, is limited only to the lower half of the square surface (see figure). The electric flux in SI units associated with the surface is

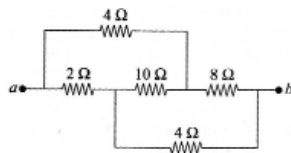


- a) $\frac{EL^2}{2(\epsilon_0)}$ b) $\frac{EL^2}{2}$ c) zero d) EL^2

32. If identical charges (-q) are placed at each corner of a cube of side b, then electric energy of charge (+q) which is placed at centre of the cube will be

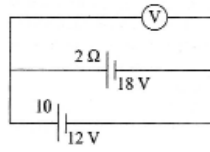
- a) $\frac{8\sqrt{2}q^2}{4\pi\epsilon_0 b}$ b) $\frac{-8\sqrt{2}q^2}{\pi\epsilon_0 b}$ c) $\frac{-4\sqrt{2}q^2}{\pi\epsilon_0 b}$ d) $\frac{-4q^2}{\sqrt{3}\pi\epsilon_0 b}$

33. Find the equivalent resistance between the points a and b

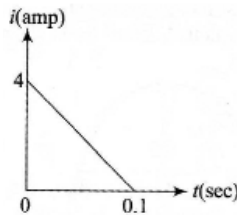


- a) 2 Ω b) 4 Ω c) 8 Ω d) 16 Ω

34. Two batteries, one of emf 18 V and internal resistance 2Ω and the other of emf 12 V and internal resistance 1Ω , are connected as shown. The voltmeter V will record a reading of

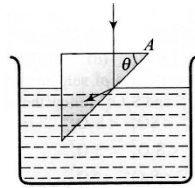


- a) 15 V b) 30 V c) 14 V d) 18 V
35. An electron enters a magnetic field whose direction is perpendicular to the velocity of the electron. Then
- a) The speed of the electron will increase
 b) The speed of the electron will decrease
 c) The speed of the electron will remain the same
 d) The velocity of the electron will remain the same
36. A diamagnetic material in a magnetic field moves
- a) From weaker to the stronger parts of the field
 b) perpendicular to the field
 c) From stronger to the weaker parts of the field
 d) In none of the above direction
37. In a coil of resistance 10Ω , the induced current developed by changing magnetic flux through it, is shown in figure as function of time. The magnitude of change in flux through the coil in weber is

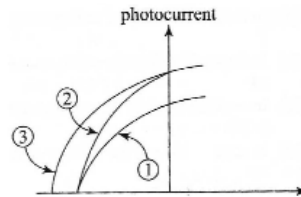


- a) 8 b) 2 c) 6 d) 4
38. In a circuit, L, C and R are connected in series with an alternating voltage source of frequency f. The current leads the voltage by 45° . The value of C is
- a) $\frac{1}{2\pi f (2\pi fL + R)}$ b) $\frac{1}{\pi f (2\pi fL + R)}$
 c) $\frac{1}{2\pi f (2\pi fL - R)}$ d) $\frac{1}{\pi f (2\pi fL - R)}$
39. The electric and magnetic field of an electro magnetic wave is
- a) in phase and parallel to each other
 b) in opposite phase and perpendicular to each other
 c) in opposite phase and parallel to each other
 d) in phase and perpendicular to each other

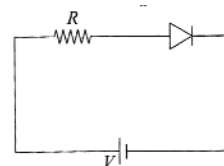
40. The refractive indices of the material of the prism and liquid are 1.56 and 1.32 respectively. What will be the value of θ for the following refraction?



- a) $\sin \theta \geq \frac{13}{11}$ b) $\sin \theta \geq \frac{11}{13}$ c) $\sin \theta \geq \frac{\sqrt{3}}{2}$ d) $\sin \theta \geq \frac{1}{\sqrt{2}}$
41. A parallel beam of fast moving electrons is incident normally on a narrow slit. A fluorescent screen is placed at a large distance from the slit. If the speed of the electrons is increased, which of the following statements is correct ?
- a) Diffraction pattern is not observed on the screen in the case of electrons
 b) The angular width of the central maximum of the diffraction pattern will increase
 c) The angular width of the central maximum will decrease
 d) The angular width of the central maximum will be unaffected
42. The figure shows a plot of photo current versus anode potential for a photosensitive surface for three different radiations. Which one of the following is a correct statement?



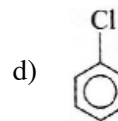
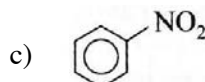
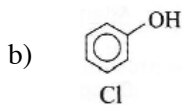
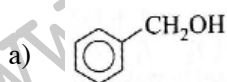
- a) Curves a and b represent incident radiations of different frequencies and different intensities
 b) Curves a and b represent incident radiations of the same frequency but of different intensities
 c) Curves b and c represent incident radiations of different frequencies and different intensity
 d) Curves b and c represent incident radiations of the same frequency having the same intensity
43. Electron in hydrogen atom first jumps from third excited state to second excited state and then from second excited state to first excited state. The ratio of wavelength $\lambda_1 : \lambda_2$ emitted in two cases is
- a) $\frac{7}{5}$ b) $\frac{27}{20}$ c) $\frac{27}{5}$ d) $\frac{20}{7}$
44. During mean life of a radioactive element, the fraction that disintegrates is
- a) e b) $\frac{1}{e}$ c) $\frac{e-1}{e}$ d) $\frac{e}{e-1}$
45. For the given circuit of p-n junction diode, which of the following statement is correct?
- a) In forward biasing the voltage across R is V
 b) In forward biasing the voltage across R is 2V
 c) In reverse biasing the voltage across R is V
 d) In reverse biasing the voltage across R is 2V



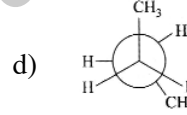
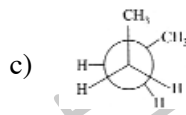
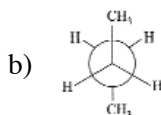
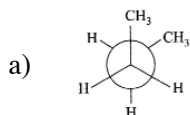
CHEMISTRY

46. The maximum number of molecules is present in
- a) 15 L of H₂ gas at STP
 b) 5 L of N₂ gas at STP
 c) 0.5 g of H₂ gas
 d) 10 g of O₂ gas
47. If uncertainty in position and momentum are equal, then uncertainty in velocity is
- a) $\sqrt{\frac{h}{2\pi}}$
 b) $\frac{1}{m} \sqrt{\frac{h}{\pi}}$
 c) $\sqrt{\frac{h}{\pi}}$
 d) $\frac{1}{2m} \sqrt{\frac{h}{\pi}}$
48. Among the following series of transition metals ions, the one where all metal ions have 3d² electronic configuration is
- a) Ti³⁺, V²⁺, Cr³⁺, Mn⁴⁺
 b) Ti⁺, V⁴⁺, Cr⁶⁺, Mn⁷⁺
 c) Ti⁴⁺, V³⁺, Cr²⁺, Mn³⁺
 d) Ti²⁺, V³⁺, Cr⁴⁺, Mn⁵⁺
49. Which of the following two are isostructural?
- a) XeF₂, IF₂⁻
 b) NH₃, BF₃
 c) CO₃²⁻, SO₃²⁻
 d) PCl₅, ICl₅
50. Vander Waal's real gas acts as an ideal gas at which conditions?
- a) High temperature, low pressure
 b) Low temperature, high pressure
 c) High temperature, high pressure
 d) Low temperature, low pressure
51. Change in enthalpy for reaction
- $$2 \text{H}_2\text{O}_2(l) \rightarrow 2 \text{H}_2\text{O}(l) + \text{O}_2(g)$$
- If heat of formation of H₂O₂(l) and H₂O(l) are -188 and -286 kJ/mol respectively is
- a) -196 kJ/mol
 b) +196 kJ/mol
 c) +948 kJ/mol
 d) -948 kJ/mol
52. For the reaction,
- $$\text{CH}_4(g) + 2 \text{O}_2(g) \rightleftharpoons \text{CO}_2(g) + 2 \text{H}_2\text{O}(l)$$
- $$\Delta_r H = -170.8 \text{ kJ mol}^{-1}$$
- Which of the following statements is not true?
- a) Addition of CH₄(g) or O₂(g) at equilibrium will cause a shift to the right
 b) The reaction is exothermic
 c) At equilibrium, the concentrations of CO₂(g) and H₂O(l) are not equal
 d) The equilibrium constant for the reaction is given by $K_p = \frac{[\text{CO}_2]}{[\text{CH}_4][\text{O}_2]}$
53. Ionisation constant of CH₃COOH is 1.7×10^{-5} and concentration of H⁺ ions is 3.4×10^{-4} . Then, find out initial concentration of CH₃COOH molecules.
- a) 3.4×10^{-4}
 b) 3.4×10^{-3}
 c) 6.8×10^{-4}
 d) 6.8×10^{-4}
54. The oxidation states of sulphur in the anions SO₃²⁻, S₂O₄²⁻ and S₂O₆²⁻ follow the order
- a) S₂O₄²⁻ < SO₃²⁻ < S₂O₆²⁻
 b) SO₃²⁻ < S₂O₄²⁻ < S₂O₆²⁻
 c) S₂O₄²⁻ < S₂O₆²⁻ < SO₃²⁻
 d) S₂O₆²⁻ < S₂O₄²⁻ < SO₃²⁻

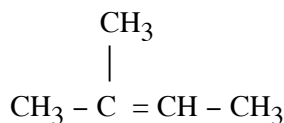
55. The dielectric constant of H_2O is 80. The electrostatic force of attraction between Na^+ and Cl^- will be
- reduced to $1/80$ in water than in air
 - reduced to $1/40$ in water than in air
 - will be increased to 80 in water than in air
 - will remain unchanged
56. Which one of the alkali metals forms only the normal oxide, M_2O , on heating in air?
- Li
 - Na
 - Rb
 - K
57. The straight chain polymer is formed by
- hydrolysis of $(CH_3)_2SiCl_2$ followed by condensation
 - hydrolysis of $(CH_3)_3SiCl$ followed by condensation
 - hydrolysis of CH_3SiCl_3 followed by condensation polymerization
 - hydrolysis of $(CH_3)_4Si$ by addition polymerization
58. Lassaigne's test for the detection of nitrogen will fail in case of
- NH_2CONH_2
 - $H_2NCONHNH_2 \cdot HCl$
 - $H_2N \cdot NH_2 \cdot 2 HCl$
 - $C_6H_5NHNH_2 \cdot 2 HCl$
59. Which one of the following is the most reactive towards electrophilic attack ?



60. In the following the most stable conformation of n-butane is

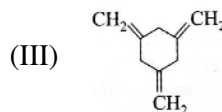
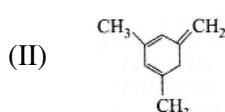
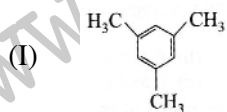


61. The compound



on reaction with $NaIO_4$ in the presence of $KMnO_4$ gives

- $CH_3CHO + CO_2$
 - CH_3COCH_3
 - $CH_3COCH_3 + CH_3COOH$
 - $CH_3COCH_3 + CH_3CHO$
62. Given



The enthalpy of the hydrogenation of these compounds will be in the order as

- $III > II > I$
- $II > III > I$
- $II > I > III$
- $I > II > III$

63. The half-life for radioactive decay of C – 14 is 5730 years. An archaeological artifact containing wood had only 80% of the C – 14 found in a living tree. The age of the sample is
 a) 1485 years b) 1845 years c) 530 years d) 4767 years
64. CsBr crystallizes in a body centred cubic lattice. The unit cell length is 436.6 pm. Given that the atomic mass of Cs = 133 and that of Br = 80 amu and Avogadro number being $6.02 \times 10^{23} \text{ mol}^{-1}$, the density of CsBr is
 a) 8.25 g/cm³ b) 4.25 g/cm³ c) 42.5 g/cm³ d) 0.425 g/cm³
65. A 0.5 molal aqueous solution of a weak acid (HX) is 20 percent ionized. The lowering in freezing point of this solution is ($K_f = 1.86 \text{ K/m}$ for water)
 a) 1.12 K b) –0.56 c) 0.56 K d) –1.12 K
66. An electric current is passed through silver nitrate solution using silver electrodes. 10.79 g of silver was found to be deposited on the cathode if the same amount of electricity is passed through copper sulphate solution using copper electrodes, the weight of copper deposited on the cathode is
 a) 6.4 g b) 2.3 g c) 12.8 g d) 3.2 g
67. The electrode potential for $\text{Cu}^{2+}(\text{aq}) + \text{e}^{-} \rightarrow \text{Cu}^{+}(\text{aq})$ and $\text{Cu}^{+}(\text{aq}) + \text{e}^{-} \rightarrow \text{Cu}(\text{s})$ are + 0.15 V and +0.50 V respectively. The value of $E_{\text{Cu}^{2+}/\text{Cu}}^0$ will be
 a) 0.150 V b) 0.325 V c) 0.500 V d) 0.650 V
68. Aqueous solution of which of the following compounds is the best conductor of electric current?
 a) Ammonia, NH_3 b) Fructose, $\text{C}_6\text{H}_{12}\text{O}_6$
 c) Acetic acid, $\text{C}_2\text{H}_4\text{O}_2$ d) Hydrochloric acid, HCl
69. For the reaction; $2 \text{N}_2\text{O}_5 \rightarrow 4\text{NO}_2 + \text{O}_2$, rate and rate constant $1.02 \times 10^{-4} \text{ M sec}^{-1}$ and $3.4 \times 10^{-5} \text{ sec}^{-1} \text{ M}$ respectively, then concentration of N_2O_5 , at that time will be
 a) 1.732 M b) 3 M
 c) $1.02 \times 10^{-4} \text{ M}$ d) $3.5 \times 10^5 \text{ M}$
70. The equality relationship between $\frac{d[\text{NH}_3]}{dt}$ and $-\frac{d[\text{H}_2]}{dt}$ is
 a) $+\frac{d[\text{NH}_3]}{dt} = -\frac{3}{2}\frac{d[\text{H}_2]}{dt}$
 b) $\frac{d[\text{NH}_3]}{dt} = -\frac{d[\text{H}_2]}{dt}$
 c) $\frac{d[\text{NH}_3]}{dt} = -\frac{1}{3}\frac{d[\text{H}_2]}{dt}$
 d) $+\frac{d[\text{NH}_3]}{dt} = -\frac{2}{3}\frac{d[\text{H}_2]}{dt}$
71. For the reaction, $\text{N}_2 + 3 \text{H}_2 \rightarrow 2 \text{NH}_3$, if $\frac{d[\text{NH}_3]}{dt} = 2 \times 10^{-4} \text{ mol L}^{-1}\text{s}^{-1}$, the value of $-\frac{d[\text{H}_2]}{dt}$ would be
 a) $1 \times 10^{-4} \text{ mol L}^{-1}\text{s}^{-1}$ b) $3 \times 10^{-4} \text{ mol L}^{-1}\text{s}^{-1}$
 c) $4 \times 10^{-4} \text{ mol L}^{-1}\text{s}^{-1}$ d) $6 \times 10^{-4} \text{ mol L}^{-1}\text{s}^{-1}$

72. Activation energy (E_a) and rate constants (k_1 and k_2) of a chemical reaction at two different temperatures (T_1 and T_2) are related by
- $\ln \frac{k_2}{k_1} = + \frac{E_a}{R} \left(\frac{1}{T_1} - \frac{1}{T_2} \right)$
 - $\ln \frac{k_2}{k_1} = - \frac{E_a}{R} \left(\frac{1}{T_2} - \frac{1}{T_1} \right)$
 - $\ln \frac{k_2}{k_1} = - \frac{E_a}{R} \left(\frac{1}{T_2} + \frac{1}{T_1} \right)$
 - $\ln \frac{k_2}{k_1} = - \frac{E_a}{R} \left(\frac{1}{T_1} - \frac{1}{T_2} \right)$
73. In Freundlich adsorption isotherm, the value of $1/n$ is
- 1 in case of physical adsorption
 - 1 in case of chemisorptions
 - between 0 and 1 in all cases
 - between 2 and 4 in all cases
74. Sulphide ores of metals are usually concentrated by froth floatation process. Which one of the following sulphide ores offers an exception and is concentrated by leaching ?
- Argenitite
 - Copper pyrite
 - Sphalerite
 - Galena
75. Each of the following is true for white and red phosphorus except that they
- are both soluble in CS_2
 - can be oxidised by heating in air
 - consists of same kind of atoms
 - can be converted into one another
76. Bleaching action of SO_2 is due to
- Reduction
 - Oxidation
 - Hydrolysis
 - Its acidic nature
77. Which of the statements given below is incorrect?
- ONF is isoelectronic with O_2N^-
 - OF_2 is an oxide of fluorine
 - Cl_2O_7 is an anhydride of perchloric acid
 - O_3 molecule is bent
78. Br^- is converted into Br_2 by using
- Cl_2
 - Conc. HCl
 - Hbr
 - H_2S
79. Acid strength of oxy acids of chlorine follows the order
- $HClO < HClO_2 < HClO_3 < HClO_4$
 - $HClO_4 < HClO_3 < HClO_2 < HClO$
 - $HClO_4 < HClO_3 < HClO < HClO_2$
 - None of these
80. Among the fluorides below, the one which does not exist is
- XeF_4
 - HeF_4
 - SF_4
 - CF_4

81. The temperature of blast furnace to produce iron from its ore Fe_2O_3 varies from 500°C at the top of the furnace to about 1900°C at the bottom of the furnace. The reaction between the ore Fe_2O_3 and CO at the lowest temperature ($\sim 500^\circ\text{C}$) is

- a) $3 \text{Fe}_2\text{O}_3 + \text{CO} \rightarrow 2 \text{Fe}_3\text{O}_4 + \text{CO}_2$
 b) $\text{Fe}_2\text{O}_3 + \text{CO} \rightarrow 2 \text{FeO} + \text{CO}_2$
 c) $\text{Fe}_2\text{O}_3 + 3 \text{CO} \rightarrow 2 \text{Fe} + 3 \text{CO}_2$
 d) $\text{Fe}_2\text{O}_3 + \text{CO} \rightarrow 2 \text{Fe} + \text{CO}_2 + \frac{1}{2} \text{O}_2$

82. The oxidation number of Cr in $[\text{Cr}(\text{NH}_3)_6]\text{Cl}_3$ is

- a) 8 b) 6 c) 4 d) 3

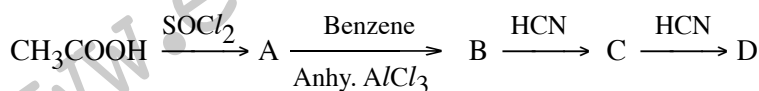
83. Phenol reacts with CHCl_3 and NaOH (at 340 K) to give

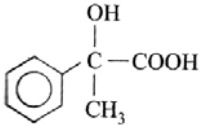
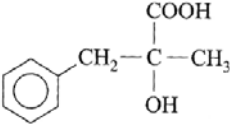
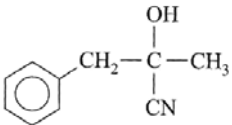
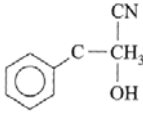
- a) 0-chlorophenol b) salicylaldehyde
 c) benzaldehyde d) chlorobenzene

84. Which of the following reagents convert the propene to 1-propanol

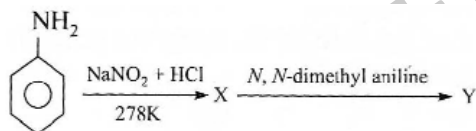
- a) H_2O , H_2SO_4 b) Aqueous KOH
 c) MgSO_4 , $\text{NaBH}_4/\text{H}_2\text{O}$ d) B_2H_6 , H_2O_2 , OH^-

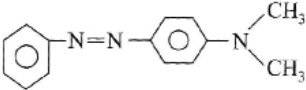
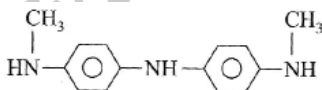
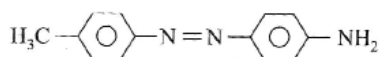
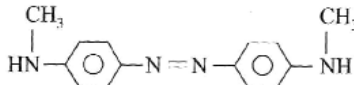
85. In a set reactions acid yielded a product D



- a) 
- b) 
- c) 
- d) 

86. Aniline in a set of the following reactions yielded a coloured compound Y

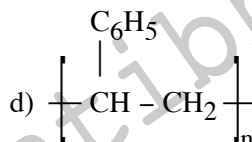
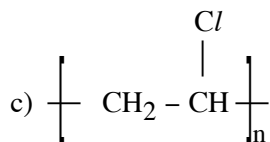
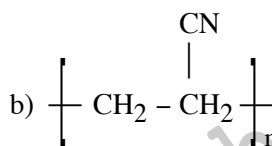
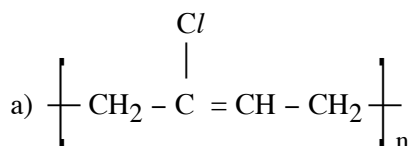


- a) 
- b) 
- c) 
- d) 

87. The pair in which both species have iron is

- a) nitrogenase, cytochromes
 b) carboxypeptidase, haemoglobin
 c) haemocyanin, nitrogeenase
 d) haemoglobin, cytochromes

88. Which of the following represents neoprene polymer?



89. Glycerol is not used in

- a) explosive
 b) cosmetics
 c) soaps
 d) matches

90. 0.45 g of an acid (mol wt. = 90) required 20 ml of 0.5 N KOH for complete neutralization. Basicity of acid is

- a) 1
 b) 2
 c) 3
 d) 4

BIOLOGY

91. Angiosperms have dominated the land flora primarily because of their

- a) Property of producing large number of seeds
 b) Nature of self-pollination
 c) Domestication by man
 d) Power of adaptability in diverse habitat

92. Biological organization starts with

- a) Organ system level
 b) Submicroscopic
 c) Cellular level
 d) Organismic level

93. The living organisms can be unexceptionally distinguished from the non-living things on the basis of their ability for

- a) Growth and movement
 b) Responsiveness to touch and growth
 c) Interaction with the environment and progressive evolution and growth
 d) Reproduction

94. Which one of the following animals is correctly matched with its particular named taxonomic category?

- a) Housefly – Musca, an order
 b) Tiger – tigris, the species
 c) Cuttlefish – Mollusca, a class
 d) Humans – Primata, the family

95. Plant decomposers are

- a) Monera and fungi
 b) Fungi and plants
 c) Protista and Animalia
 d) Anibalialia and Mognna

96. The chief advantage of encystment to an amoeba is
- The ability to survive during adverse physical conditions
 - The ability to live for sometime without ingesting food
 - Protection from parasites and predators
 - The chance to get rid of accumulated waste products
97. Which antibiotic inhibits interaction between tRNA and mRNA during bacterial protein synthesis?
- Erythromycin
 - Neomycin
 - Streptomycin
 - Tetracycline
98. Ringworm in humans is caused by
- Bacteria
 - Fungi
 - Nematodes
 - Viruses
99. Which one of the following matches is correct?
- Agaricus Parasitic fungus Basidiomycetes
 - Phytophthora Aseptate mycelium Basidiomycetes
 - Alternaria Sexual reproduction absent Deuteromycetes
 - Mucor Reproduction by conjugation Ascomycetes
100. Which of the following plants produces seeds but not flowers?
- Maize
 - Mint
 - Peepal
 - Pinus
101. Which one of the following is hetero sporous?
- Adiantum
 - Equisetum
 - Dryopteris
 - Salvinia
102. Read the following five statements (A – E) and answer as asked next to them.
- In Equisetum the female gametophyte is retained on the parent sporophyte
 - In Ginkgo male gametophyte is not independent
 - The sporophyte in Riccia is more developed than that in Polytrichum
 - Sexual reproduction in Volvox is isogamous
 - The spores of slime molds lack cell walls
- How many of the above statements are correct?
- Three
 - Four
 - One
 - Two
103. In which of the following haemocyanin pigment is found?
- Annelida
 - Echinodermata
 - Crustacea
 - Lower chordate
104. Which of the following pairs are correctly matched?
- | <i>Animals</i> | <i>Morphological features</i> |
|----------------|-------------------------------|
| A) Crocodile | 4 – chambered heart |
| B) Sea Urchin | Parpodia |
| C) Obelia | Metagenesis |
| D) Lemur | The codont |
- Only A and B
 - A, C and D
 - B, C and D
 - Only A and D

105. One example of animals having a single opening to the outside that serves both as mouth and as anus is

- a) Octopus b) Asterias c) Ascidia d) Fasciola

106. In which one of the following the genus name, its two characters and its class / phylum are correctly matched?

Genus name	Two characters	Class Phylum
a) Aurelia	a) Cnidoblasts b) Oran level of organization	Coelenterata
b) Ascaris	a) Body segmented b) Males and females distinct	Annelida
c) Salamandra	a) A tympanum represents b) Fertilization is external	Amphibia
d) Pteropus	a) Skin possesses hair b) Oviparous	Mammalia

107. Which of the following represents the correct combination without any exception?

Characteristics	Class
a) Body covered with feathers; skin moist and glandular; forelimbs form wings; lungs with air sacs	Aves
b) Mammary gland; hair on body: pinnae; two pairs of limbs	Mammalia
c) Mouth ventral; gills without operculum; skin with placoid scales; persistent notochord	Chondrichthyes
d) Sucking and circular mouth; jaws absent, integument without scales; paired appendages	Cyclostomata

108. Roots of which plant contains a red pigment which have affinity for oxygen

- a) Carrot b) Soyabean c) Mustard d) Radish

109. Ovary is half – inferior in the flowers of

- a) Guava b) Plum c) Brinjal d) Cucumber

110. Placentation in tomato and lemon is

- a) Marginal b) Axile c) Parietal d) Free central

111. Flowers are unisexual in

- a) Onion b) Pea c) Cucumber d) China rose

112. Four radial VB are found in

- a) Dicot root b) Monocot root c) Dicot stem d) Monocot stem

113. Vascular tissues in flowering plants develop from

- a) periblem b) dermatogens c) phellogen d) plerome

114. The chief water conducting elements of xylem in gymnosperms are
 a) Vessels b) Fibres c) Transfusion tissue d) Tracheids
115. Interfascicular cambium develops from the cells of
 a) Medullary rays b) Xylem parenchyma
 c) Endodermis d) Pericycle
116. A column of water within xylem vessels of tall trees does not break under its weight because of
 a) Positive root pressure b) Dissolved sugars in water
 c) Tensile strength of water d) Lignification of xylem vessels
117. ATPase enzyme needed for muscle contraction is located in
 a) Troponin b) Myosin c) Actin d) Actinin
118. The guts of cow and buffalo possess
 a) Cyanobacteria b) Fucus spp c) Chlorella spp. d) Methanogens
119. Which of the following occurs more than one and less than five in a chromosome ?
 a) Chromatid b) Chromomere c) Centromere d) Telomere
120. Keeping in view the fluid mosaic model for the structure of cell membrane, which one of the following statements is correct with respect to the movement of lipids and proteins from one lipid monolayer to the other (described as flip flop movement) ?
 a) While proteins can flip-flop, lipids cannot
 b) neither lipids and proteins can flip-flop
 c) Both lipids and proteins can flip-flop
 d) While lipids can rarely flip-flop proteins cannot
121. Peptide synthesis inside a cell takes place in
 a) Ribosomes b) Chloroplast c) Mitochondria d) Chromoplast
122. Match the following and select the correct answer
 a) Centriole i) Infoldings in mitochondria
 b) Chlorophyll ii) Thylakoids
 c) Cristae iii) Nucleic acids
 d) Ribozymes iv) Basal body cilia or flagella
- | | A | B | C | D |
|-----|------|-------|------|-------|
| (a) | (iv) | (ii) | (i) | (iii) |
| (b) | (i) | (ii) | (iv) | (iii) |
| (c) | (i) | (iii) | (ii) | (iv) |
| (d) | (iv) | (iii) | (i) | (ii) |
123. Balbiani rings are sites of
 a) RNA and protein synthesis b) Lipid synthesis
 c) Nucleotide synthesis d) Polysaccharide synthesis

124. Collagen is

- a) Fibrous protein b) Globular protein c) Lipid d) Carbohydrate

125. Which one out of A – D given below correctly represents the structural formula of the basic amino acid?

A	B	C	D
$ \begin{array}{c} \text{NH}_2 \\ \\ \text{H}-\text{C}-\text{COOH} \\ \\ \text{CH}_2 \\ \\ \text{CH}_2 \\ \\ \text{C} \\ // \quad \backslash \\ \text{O} \quad \text{OH} \end{array} $	$ \begin{array}{c} \text{NH}_2 \\ \\ \text{H}-\text{C}-\text{COOH} \\ \\ \text{CH}_2 \\ \\ \text{OH} \end{array} $	$ \begin{array}{c} \text{CH}_2\text{OH} \\ \\ \text{CH}_2 \\ \\ \text{CH}_2 \\ \\ \text{NH}_2 \end{array} $	$ \begin{array}{c} \text{NH}_2 \\ \\ \text{H}-\text{C}-\text{COOH} \\ \\ \text{CH}_2 \\ \\ \text{CH}_2 \\ \\ \text{CH}_2 \\ \\ \text{CH}_2 \\ \\ \text{CH}_2 \\ \\ \text{NH}_2 \end{array} $

Options:

- a) A b) B c) C d) D

126. Which one of the following precedes reformation of the nuclear envelope during M phase of the cell cycle

- a) Transcription from chromosomes and reassembly of the nuclear lamina
 b) Formation of the contractile ring and formation of the phragmoplast
 c) Formation of the contractile ring and transcription from chromosomes
 d) Decondensation from chromosomes and reassembly of the nuclear lamina

127. Guard cells help in

- a) Fighting against infection b) Protection against grazing
 c) Transpiration d) Guttation

128. Enzyme first used for nitrogen fixation

- a) Nitrogenase b) Nitroreductase c) Transferase d) Transaminase

129. Best defined function of manganese in green plants is

- a) Nitrogen fixation b) Water absorption
 c) Photolysis of water d) Calvin cycle

130. Roots play insignificant role in the absorption of water in

- a) Wheat b) Sunflower c) Pistia d) Pea

131. In photosynthesis energy from light reaction to dark reaction is transferred in the form of

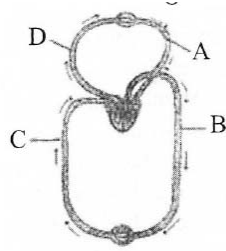
- a) ADP b) ATP c) RuDP d) Chlorophyll

132. Photoperiodism was first characterized in

- a) Tobacco b) Potato c) Tomato d) Cotton

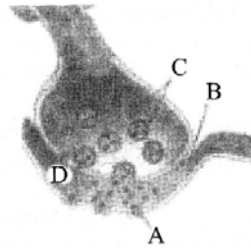
133. In photosynthesis, the light-independent reactions take place at
- a) Stromal matrix
 - b) Thylakoid lumen
 - c) Photosystem I
 - d) Photosystem II
134. Chemiosmotic theory of ATP synthesis in the chloroplasts and mitochondria is based on
- a) Membrane potential
 - b) Accumulation of K ions
 - c) Proton gradient
 - d) Accumulation of Na ions
135. In which one of the following processes CO₂ is not released?
- a) Aerobic respiration in plants
 - b) Aerobic respiration in animals
 - c) Alcoholic fermentation
 - d) Lactate fermentation
136. Which breaks dormancy of potato tuber ?
- a) Gibberellin
 - b) IAA
 - c) ABA
 - d) Zeatin
137. Typical growth curve in plants is
- a) Parabolic
 - b) Sigmoid
 - c) Linear
 - d) Stair-steps shaped
138. During prolonged fasting, in what sequence are the following organic compounds used up by the body
- a) First carbohydrates, next fats and lastly proteins
 - b) First fats, next carbohydrates and lastly proteins
 - c) First carbohydrates, next proteins and lastly lipids
 - d) First proteins, next lipids and lastly carbohydrates
139. Carrier ions like Na⁺ facilitate the absorption of substances like
- a) amino acids and glucose
 - b) glucose and fatty acids
 - c) fatty acids and glycerol
 - d) fructose and some amino acids
140. Fructose is absorbed into the blood through mucosa cells of intestine by the process called
- a) active transport
 - b) facilitated transport
 - c) simple diffusion
 - d) co-transport mechanism
141. Which one of the following mammalian cells is not capable of metabolizing glucose to carbon dioxide aerobically ?
- a) Red blood cells
 - b) White blood cells
 - c) Unstrained muscle cells
 - d) Liver cells
142. Examination of blood of a person suspected of having anemia shows large, immature, nucleated erythrocytes without haemoglobin. Supplementing his diet with which of the following is likely to alleviate his symptoms?
- a) Thiamine
 - b) Folic acid and cobalamin
 - c) Riboflavin
 - d) Iron compounds

143. Figure shows schematic plant of blood circulation in humans with labels A to D. Identify the label and give its function/s



- a) A – Pulmonary vein – taken impure blood from body parts, $PO_2 = 60$ mm Hg
 b) B-Pulmonary artery – takes blood from heart to lungs, $PO_2 = 90$ mm hg
 c) C – Vena Cava – takes blood from body parts to right auricle, $PCO_2 = 45$ mm Hg
 d) D – Dorsal aorta – takes blood from heart to body parts, $PO_2 = 95$ mm Hg
144. Doctors use stethoscope to hear the sound; produced during each cardiac cycle. The second sound is heard when
- a) AV node receives signal from SA node
 b) AV valves open up
 c) Ventricular walls vibrate due to gushing of blood from atria
 d) Semilunar valves close down after the blood flows into vessels from ventricles
145. When a fresh water protozoan possessing a contractile vacuole is placed in a galas containing marine water, the vacuole will
- a) Disappear
 b) Increase in size
 c) Decrease in size
 d) Increase in number
146. Which one of the following correctly explains the function of a specific part of a human nephron?
- a) Afferent arteriole: carries the blood away from the glomerulus towards renal vein
 b) Podocytes; Create minute spaces (slitpores) for the filtration of blood into the Bowman's capsule
 c) Henle's loop: most reabsorption of the major substances from the glomerular filtrate
 d) Distal convoluted tubule: re-absorption of K^+ ions into the surrounding blood capillaries
147. Removal of proximal convoluted tubule from the nephron will result in
- a) No urine formation
 b) More diluted urine
 c) More concentrated urine
 d) No change in quality and quantity of urine
148. What used to be described as Nissl granules in a nerve cell are now identified as ?
- a) Cell metabolites
 b) Fat granules
 c) Ribosomes
 d) Mitochondria

149. A diagram showing axon terminal and synapse is given. Identify correctly at least two of A – D



- a) A Receptor; C-Synaptic vesicles
b) B-Synaptic connection; D- K^+
c) A-Neurotransmitter; B-Synaptic cleft
d) C-Neurotransmitter; D- Ca^{++}
150. In mammalian eye, the 'fovea' is the centre of the visual field, where:
a) more rods than cones are found
b) high density of cones occur, but has no rods
c) the optic nerve leaves the eye
d) only rods are present
151. When both the ovaries of rat are removed, then which hormone is decreased in blood?
a) Oxytocin
b) Prolactin
c) Estrogen
d) Gonadotrophic releasing factor
152. Which one of the following pairs correctly matches a hormone with a disease resulting from its deficiency
a) Insulin - Diabetes insipidus
b) Thyroxine - Tetany
c) Parathyroid hormone - Diabetes mellitus
d) Luteinizing hormone - Failure of ovulation
153. Low Ca^{++} in the body fluid may be the cause of
a) Tetany
b) Anaemia
c) Angina pectoris
d) Gout
154. Fight - or - flight reaction causes activation of
a) the parathyroid glands, leading to increased metabolic rate
b) the kidney, leading to suppression of rennin angiotension - aldosterone pathway.
c) the adrenal medulla, leading to increased secretion of epinephrine and norepinephrine
d) the pancreas leading to a reduction in the blood sugar levels.
155. In angiosperms pollen tube liberate their male gametes into the
a) Central cell
b) Antipodal cells
c) Egg cell
d) Synergids
156. The fruit is chambered, developed from inferior ovary and has seeds with succulent testa in
a) guava
b) cucumber
c) pomegranate
d) orange
157. Transfer of pollen grains from the anther to the stigma of another flower of the same plant is called
a) Xenogamy
b) Geitonogamy
c) Karyogamy
d) Autogamy

158. Even in the absence of pollinating agents seed setting is assured in
a) Salvia b) Fig c) Commellina d) Zostera
159. Which of the following are the important floral rewards to the animal pollinators?
a) Protein pellicle and stigmatic exudates
b) Colour and large size of flower
c) Nectar and pollen grains
d) Floral fragrance and calcium crystals
160. Which one of the following fruits is parthenocarpic?
a) Banana b) Brinjal c) Apple d) Jackfruit
161. Which one of the following statements is incorrect about menstruation?
a) At menopause in the female, there is especially abrupt increase in gonadotropic hormones
b) The beginning of the cycle of menstruation is called menarche
c) During normal menstruation about 40 ml blood is lost
d) The menstrual fluid can easily clot
162. The second maturation division of the mammalian ovum occurs
a) Shortly after ovulation before the ovum makes entry into the fallopian tube
b) Until after the ovum has been penetrated by a sperm
c) Until the nucleus of the sperm has fused with that of the ovum
d) in the Graafian follicle following the first maturation division
163. Vasa efferentia are the ducts leading from
a) Testicular lobules to rete testis b) Rete testis to epididymis
c) Vas deferens to epididymis d) Epididymis to urethra
164. Signals for parturition originate from
a) Placenta only
b) Fully developed foetus only
c) Both placenta and fully developed foetus
d) Oxytocin released from maternal pituitary
165. Ectopic pregnancies are referred to as
a) Pregnancies terminated due to hormonal imbalance
b) Pregnancies with genetic abnormality
c) Implantation of embryo at site other than uterus
d) Implantation of defective embryo in the uterus
166. A childless couple can be assisted to have a child through a technique called GIFT. The full form of this technique is
a) germ cell internal fallopian transfer
b) gametic insemination fallopian transfer
c) gamete intra fallopian transfer
d) gamete internal fertilization and transfer

167. When two dominant alleles express themselves in the presence of the each other, it is called
- Codominance
 - Dominance
 - Amphidominance
 - Pseudodominance
168. Genes for cytoplasmic male sterility in plants are generally located in
- Chloroplast genome
 - Mitochondrial genome
 - Nuclear genome
 - Cytosol
169. Haemophilia is more commonly seen in human males than in human females because
- This disease is due to a Y-linked recessive mutation
 - This disease is due to an X-linked recessive mutation
 - This disease is due to an X-linked dominant mutation
 - A greater proportion of girls die in infancy
170. Both sickle cell anemia and Huntington's chorea are
- Bacteria - related diseases
 - Congenital disorders
 - Pollutant - induced disorders
 - Virus - related diseases
171. A common test to find the genotype of a hybrid is by
- Crossing of one F_1 progeny with male parent
 - Crossing of one F_2 progeny with maleparent
 - Crossing of one F_2 progeny with femaleparent
 - Studying the sexual behavior of F_1 progenies
172. Which one of the following cannot be explained on the basis of Mendel's Law of Dominance?
- The discrete unit controlling a particular character is called a factor
 - Out of one pair of factors one is dominant, and the other recessive
 - Alleles do not show any blending and both the characters recover as such in F_2 generation
 - Factors occur in pairs
173. Which of the following statements is not true of two genes that show 50% recombination frequency?
- The genes may be on different chromosomes
 - The genes are tightly linked
 - The genes show independent assortment
 - If the gens are present on the same chromosome, they undergo more than one crossovers in every meiosis
174. A colour blind man marries a woman with normal sight who has no history of colour blindness in her family. What is the probability of their grandson being colour blind ?
- 0.25
 - 0.5
 - 1
 - Nil
175. In a DNA percentage of thymine is 20% then what is the percentage of guanine
- 20%
 - 40%
 - 30%
 - 60%

176. What would happen if in a gene encoding a polypeptide of 50 amino acids, 25th codon (UAU) is mutated to UAA
- A polypeptide of 25 amino acids will be formed
 - Two polypeptides of 24 and 25 amino acids will be formed
 - A polypeptide of 49 amino acids will be formed
 - A polypeptide of 24 amino acids will be formed
177. Crossing over that results in genetic recombination in higher organisms occurs between
- Non - sister chromatids of a bivalent
 - Two daughter nuclei
 - Two different bivalents
 - Sister chromatids of a bivalent
178. During transcription holoenzyme RNA polymerase binds to a DNA sequence and the DNA assumes a saddle like structure at the point. What is the sequence called
- CAAT box
 - GGTT box
 - AAAT box
 - TATA box
179. Haploids are more suitable form mutation studies than the diploids, This is because
- haploids are more abundant in nature than diploids
 - all mutations, whether dominant or recessive, are expressed in haploids
 - haploids are reproductively more stable than diploids
 - mutagens penetrate in haploids more effectively than in diploids
180. Which one of the following does not follow the central dogma of molecular biology?
- Pea
 - Mucor
 - Chlamydomonas
 - HIV

KEY

1-a; 2-c; 3-a; 4-b; 5-b; 6-a; 7-d; 8-c; 9-c; 10-c; 11-d; 12-b; 13-c; 14-b; 15-b; 16-b; 17-c; 18-a; 19-c; 20-a; 21-b; 22-d; 23-b; 24-c; 25-d; 26-a; 27-b; 28-b; 29-c; 30-b; 31-c; 32-d; 33-b; 34-c; 35-c; 36-c; 37-b; 38-c; 39-d; 40-b; 41-c; 42-b; 43-d; 44-c; 45-a; 46-a; 47-d; 48-d; 49-a; 50-a; 51-a; 52-d; 53-d; 54-a; 55-a; 56-a; 57-a; 58-c; 59-b; 60-b; 61-c; 62-a; 63-b; 64-b; 65-a; 66-d; 67-b; 68-d; 69-b; 70-d; 71-b; 72-d; 73-c; 74-a; 75-a; 76-a; 77-b; 78-a; 79-a; 80-b; 81-c; 82-d; 83-b; 84-b; 85-a; 86-a; 87-d; 88-a; 89-d; 90-b; 91-d; 92-b; 93-d; 94-b; 95-a; 96-a; 97-b; 98-b; 99-c; 100-d; 101-d; 102-d; 103-c; 104-b; 105-d; 106-d; 107-b; 108-b; 109-b; 110-b; 111-c; 112-a; 113-d; 114-d; 115-a; 116-c; 117-b; 118-d; 119-d; 120-d; 121-a; 122-a; 123-a; 124-a; 125-d; 126-a; 127-c; 128-a; 129-c; 130-c; 131-b; 132-a; 133-a; 134-c; 135-d; 136-a; 137-c; 138-a; 139-a; 140-b; 141-a; 142-b; 143-c; 144-d; 145-c; 146-b; 147-b; 148-c; 149-a; 150-b; 151-c; 152-d; 153-a; 154-c; 155-d; 156-c; 157-b; 158-c; 159-c; 160-a; 161-d; 162-b; 163-b; 164-c; 165-c; 166-c; 167-a; 168-b; 169-b; 170-b; 171-a; 172-c; 173-b; 174-a; 175-c; 176-a; 177-a; 178-d; 179-b; 180-d.

(ఈ నమూనా ప్రశ్నపత్రాన్ని శ్రీ గాయత్రి విద్యాసంస్థలకు చెందిన నిపుణులు రూపొందించారు)