Aakash BYJU'S

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MM : 720

REVISION TEST SERIES

Time : 3 Hrs. 20 Min.

(*for* NEET-2022)

Test – 10

Complete Syllabus of Class XI & XII

Instructions :

(i) There are two sections in each subject, i.e., Section-A & Section-B. You have to attempt all 35 questions from Section-A & only 10 questions from Section-B out of 15.

(ii) Each question carries 4 marks. For every wrong response 1 mark shall be deducted from the total score. Unanswered / unattempted questions will be given no marks.

(iii) Use blue/black ballpoint pen only to darken the appropriate circle.

(iv) Mark should be dark and completely fill the circle.

(v) Dark only one circle for each entry.

(vi) Dark the circle in the space provided only.

(vii) Rough work must not be done on the Answer sheet and do not use white-fluid or any other rubbing material on the Answer sheet.

PHYSICS

Choose the correct answer:

SECTION-A

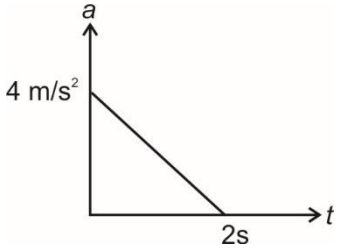
1. A physical quantity x depends on quantities y and z as $x = Ay + B \sin(Cz)$, where A, B, and C are constants.

   Which of the following have same dimensions?

   (1) x and Ay (2) x and B

   (3) C and z^{-1} (4) All of these

2. Acceleration versus time graph for a particle is as shown in the figure. If the particle starts its motion from rest, then the maximum speed of the particle is



   (1) 4 m/s (2) $\frac{1}{2}$ m/s

   (3) 1 m/s (4) 2 m/s

3. A body is dropped under gravity. The ratio of distances covered by the body in first and sixth second of motion is

   (1) 1 : 11 (2) 1 : 6

   (3) 1 : 5 (4) 5 : 12

4. A particle revolving in a circular path completes first one third of circumference in 3 s, while next one third in 2 s. The average angular velocity of the particle is

   (1) $\frac{3\pi}{5}$ rad/s (2) $\frac{\pi}{15}$ rad/s

   (3) $\frac{2\pi}{15}$ rad/s (4) $\frac{4\pi}{15}$ rad/s

CLICK HERE TO JOIN CHANNEL

5. A rope of length 10 m and linear mass density 4 kg/m is lying lengthwise on a horizontal smooth table. One end of the rope is pulled horizontally by a force of 40 N. The tension in the rope at a point 4 m from point of application of force will be

(1) 40 N (2) 24 N

(3) 49 N (4) 15 N

6. A position dependent force $\vec{F} = (y^2 x\hat{i} + x^2 y\hat{j})$ N acts on a particle and displace it from x = 1 m, y = 2 m to x = 2 m, y = 1 m. The work done by the force is

(1) $\frac{10}{3}$ J (2) 10 J

(3) 20 J (4) Zero

7. For a given material, Young's modulus is 3 times the rigidity modulus. The Poisson's ratio of the material is

(1) 0.5 (2) 0.3

(3) 0.1 (4) 0.02

8. Consider the following two statements

(a) Celsius is the smallest unit of temperature

(b) The absorbance of a perfect black body is unity

The correct statement(s) is/are

(1) Only (a) (2) Only (b)

(3) Both (a) and (b) (4) Neither (a) nor (b)

9. 64 charged drops coalesce to form a bigger charged drop. The potential of bigger drop will be n times that of smaller drops, then n is

(1) 4 (2) 16

(3) 64 (4) 8

10. A particle starts oscillating simple harmonically from its equilibrium position. Then ratio of kinetic energy and potential energy of particle at $\frac{T}{12}$ is

(1) 2 : 1 (2) 3 : 1

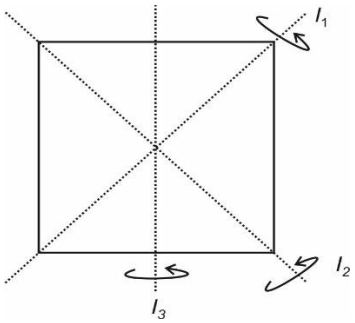
(3) 1 : 1 (4) 1 : 4

11. Suppose the gravitational force varies inversely as the n^{th} power of distance. Then time period of a planet in circular orbit of radius R around the sun will be proportional to

(1) $R^{\left(\frac{n+1}{2}\right)}$ (2) $R^{\left(\frac{n-1}{2}\right)}$

(3) R^n (4) $R^{\left(\frac{n-2}{2}\right)}$

12. *ABCD* represents a uniform square lamina as shown in the figure. The moment of inertia along the corresponding axis are also indicated. The ratio $\frac{I_1 + I_2}{I_3}$ has a value (All axes are in plane of lamina)



(1) 1 : 4 (2) 4 : 3

(3) 1 : 1 (4) 2 : 1

13. If two disturbances represented by equation $y_1 = 4\sin(\omega t)$ and $y_2 = 3\sin\left(\omega t + \frac{\pi}{3}\right)$ interfere at a point. Then the amplitude of the resulting disturbance will be

(1) $\sqrt{37}$ (2) 5

(3) $5\sqrt{2}$ (4) $3\sqrt{2}$

14. The molar specific heat capacity of an ideal monoatomic gas, during a process represented by equation $P\sqrt{T} =$ constant, is

(1) $-3R$ (2) $2.5R$

(3) $3R$ (4) $2R$

15. Rate of emission of a black body at 546°C is E. Then the rate of emission of radiation of body at 0°C will be

(1) $81E$ (2) $3E$

(3) $\frac{E}{3}$ (4) $\frac{E}{81}$

16. A body is rolling without slipping on a horizontal plane. The radius of body is R. If the ratio of rotational to translational kinetic energy is $\frac{9}{25}$ then the radius of gyration of the body is

(1) $\frac{5R}{3}$ (2) $\frac{9R}{25}$

(3) $\frac{3R}{5}$ (4) $\frac{25R}{9}$

17. The ratio of time period of spring mass system with three identical springs if they are first joined in parallel and then in series is (assume same mass is suspended from them)

(1) 1 : 3 (2) 2 : 1

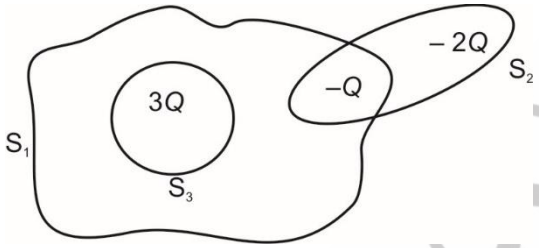
(3) 2 : 3 (4) 9 : 1

18. A man can swim in still water with a speed 2 m/s. The minimum time, in which he can cross a river of width 200 m is

(1) 100 s (2) 200 s

(3) 50 s (4) 75 s

19. Three gaussian surfaces S_1, S_2 and S_3 are as shown in the figure. Match the Gaussian surface with their correct associated magnitude of electric flux.



Gaussian Surface		Electric flux	
(i)	S_1	(a)	$3Q/\varepsilon_0$
(ii)	S_2	(b)	$2Q/\varepsilon_0$
(iii)	S_3	(c)	Q/ε_0
		(d)	$4Q/\varepsilon_0$

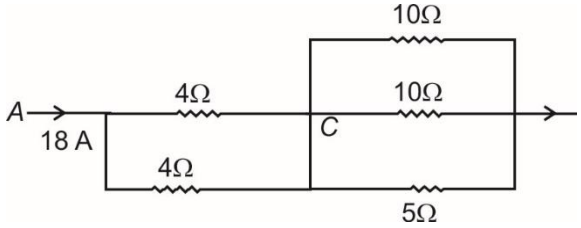
(1) (i) – (b), (ii) – (a), (iii) – (a)

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

(3) (i) – (d), (ii) – (b), (iii) – (a)

(4) (i) – (b), (ii) – (d), (iii) – (c)

20. Five resistors of resistances as indicated in the figure are connected together. If a current of 18 A enters into the resistance network at *A*, then the potential difference across 5 Ω resistor will be



(1) 90 V (2) 25 V

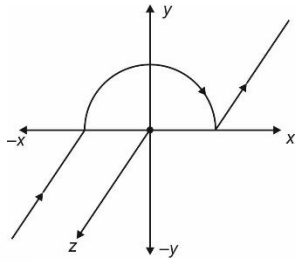
(3) 45 V (4) 20 V

21. By what percent the impedance in an series LCR, AC circuit should be increased so that the power factor changes from $\left(\frac{1}{2}\right)$ to $\left(\frac{1}{4}\right)$? (assume resistance *R* remains constant)

(1) 200% (2) 100%

(3) 50% (4) 400%

22. A wire carrying current *i* is shaped as shown in the figure. The magnetic field at the origin is (*R* : Radius of circular section)



(1) $\frac{\mu_0 i}{4\pi R}$ (2) $\frac{\mu_0 i}{2\pi R}$

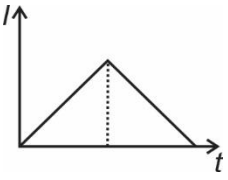
(3) $\frac{\mu_0 i}{4R}$ (4) $\frac{\mu_0 i}{2R}$

23. At temperature T_1, the magnetic susceptibility of a diamagnetic material is χ_1 and at temperature T_2, it is χ_2. Then

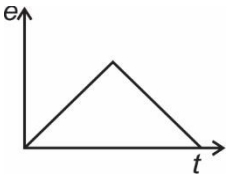
(1) $\chi_1 T_1 = \chi_2 T_2$ (2) $\chi_1 T_2 = \chi_2 T_1$

(3) $\chi_1\sqrt{T_1} = \chi_2\sqrt{T_2}$ (4) $\chi_1 = \chi_2$

24. The current *I* in air inductance coil varies with time *t* according to the graph shown below. The variation of voltage in coil with time is best represented by



(1)



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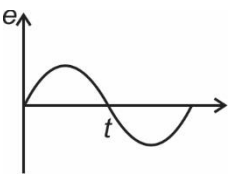

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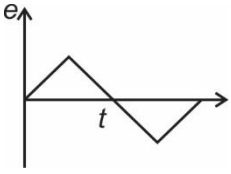

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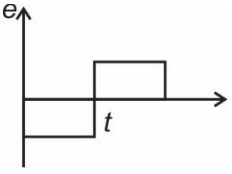


25. For a plane electromagnetic wave, average of which among the following is zero?

(1) Electric field (2) Magnetic energy

(3) Electric energy (4) All of these

26. Consider the following two statements

(a) Virtual image can be photographed

(b) Virtual image can be seen by an observer

The incorrect statement(s) is/are

(1) Only (a) (2) Only (b)

(3) Both (a) and (b) (4) Neither (a) nor (b)

27. A lens of focal length f forms an image of magnification n. The distance of object from the lens in terms of f and n is

(1) $(1+n)f$ (2) $\frac{nf}{(1-n)}$

(3) $\frac{(1-n)f}{n}$ (4) $\frac{f}{n}$

28. In a Young's double slit experiment, the separation between the two slits is $\frac{2}{\pi}$ mm. The distance of the screen from the slits is 50 cm. If the wavelength of light used is 4000 Å, then the angular position of first dark fringe is

(1) 1.21° (2) 0.018°

(3) 0.16° (4) 0.3°

29. A particle of mass M at rest decays into two particles of masses m_1 and m_2 having non-zero velocities. The ratio of the de-Broglie wavelengths of the particles $\lambda_1 : \lambda_2$, is

(1) $m_1 : m_2$ (2) $m_2 : m_1$

(3) 1 : 1 (4) $\sqrt{m_2} : \sqrt{m_1}$

30. Which of the following is true for Lyman series in emission spectra of hydrogen atom?

(1) The series lies in ultra violet region

(2) It involves jump to ground state

(3) The largest wavelength in Lyman series is 400 nm

(4) Both (1) and (2)

31. Consider the following two statements

a. The binding energy per nucleon is practically independent of mass number for nuclei of middle mass number ($30 < A < 170$).

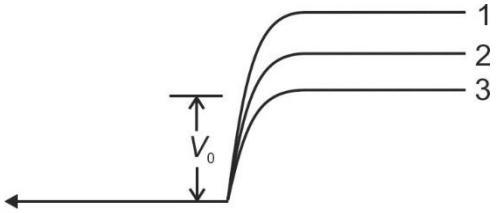
b. Binding energy per nucleon is lower for both light nuclei ($A < 30$) and heavy nuclei ($A > 170$)

The correct statement(s) is/are

(1) Only a (2) Only b

(3) Both a and b (4) Neither a nor b

32. In the figure shown, V_0 is barrier potential across a p-n junction, when no battery is connected across the junction.



(1) 1 and 3 both correspond to forward bias of junction

(2) 1 and 2 both correspond to reverse bias of junction

(3) 1 correspond to forward bias and 3 correspond to reverse bias of junction

(4) 2 correspond to forward bias of junction

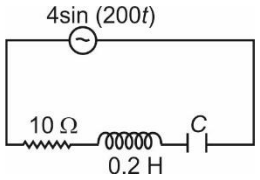
33. When a hydrogen atom, initially at rest emits a photon resulting in transition from $n = 6$ to $n = 1$, its recoil speed will be

(mass of proton = 1.6×10^{-27}kg)

(1) 5 m/s (2) 2 m/s

(3) 10 m/s (4) 4.4 m/s

34. The power factor of the circuit shown in the figure is $\frac{1}{\sqrt{2}}$. The reactance of capacitance of the circuit is



(1) 30 Ω (2) 50 Ω

(3) 40 Ω (4) Either (1) or (2)

35. Two Carnot engines are operated in succession. The first one, receives heat from a source at T_1 = 400 K and rejects to sink at T_2 K. The second engine receives heat rejected by first engine and rejects to another sink at T_3 = 100 K. If the efficiency of both the engines are equal, then T_2 is

(1) 250 K (2) 300 K

(3) 200 K (4) 100 K

SECTION-B

36. A capacitor of capacitance 2 μF is charged to 40 V and another capacitor of capacitance 4 μF is charged to 20 V. If the capacitors are connected together in same polarity, then the energy lost in reorganisation of charge will be

(1) 316.2 μJ (2) 266.67 μJ

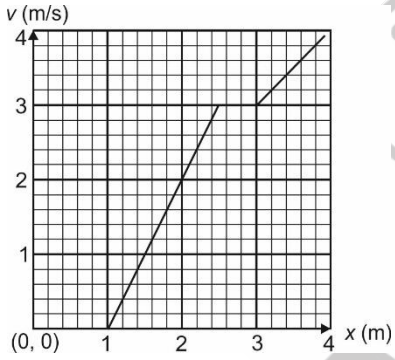
(3) 402 μJ (4) 191.6 μJ

37. An engine of a motor pulls up a 20 kg mass slowly through a height of 10 m in 10 s. The power consumption of the engine, if it works at an efficiency of 60% is (g = 10 m/s^2)

(1) 200 W (2) 666.6 W

(3) 600 W (4) 333.3 W

38. A block of mass 2 kg, moves such that the variation of velocity with position is as represented in the graph. The power delivered to the particle at x = 2 m will be



(1) 8 W (2) 32 W

(3) 4 W (4) 16 W

39. If $\vec{A}, \vec{B}$ and $\vec{C}$ are three vectors of magnitudes 12 units, 5 units and 13 units. And $\vec{A}+\vec{B}+\vec{C}=0$ then angle between $\vec{A}$ and $\vec{B}$ is

(1) $\frac{\pi}{4}$ (2) $\frac{\pi}{2}$

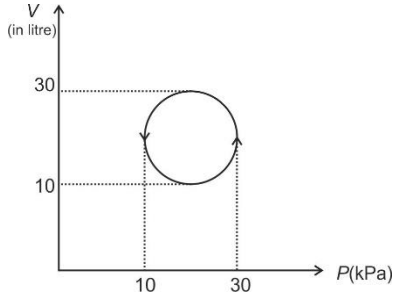
(3) $\frac{\pi}{3}$ (4) $\frac{\pi}{6}$

40. The mass and diameter of a planet are twice those of Earth. What will be the period of oscillation of a pendulum on this planet if it is a seconds, pendulum on earth?

(1) $\sqrt{2}$ s (2) $2\sqrt{2}$ s

(3) $\frac{1}{\sqrt{2}}$ s (4) $\frac{1}{2\sqrt{2}}$ s

41. The heat absorbed by a system in going through a cyclic process shown in figure is



(1) 400 πJ (2) 100 J

(3) 200 πJ (4) 100 πJ

42. A wave is represented by $y = 0.4\sin\left(8t-\frac{x}{4}\right)$. Where all the symbols have their usual meanings and are in SI units. The speed of the wave is

(1) 32 m/s (2) 64 m/s

(3) 20 m/s (4) 15 m/s

43. A particle is moving on a circular path of radius R with uniform speed u. The displacement of the particle when the radius vector rotates by an angle 30° is

(1) R (2) $R\frac{\sqrt{3}}{2}$

(3) $2R\sin(15°)$ (4) $R\sin(15°)$

44. Each side of regular polygon of n sides has a resistance R. The equivalent resistance between any two adjacent vertices is

(1) nR (2) $\frac{R}{n}$

(3) $\frac{(n-1)R}{n}$ (4) $\frac{n}{n-1}R$

45. When a lens of power P (in air) made of material of refractive index 3 is dipped in a liquid of refractive index 4, the new power of lens is

(1) $-\frac{4P}{3}$ (2) $\frac{P}{8}$

(3) $\frac{3P}{4}$ (4) $-\frac{P}{8}$

46. Consider the following two statements

(a) Electric field is always conservative in nature.

(b) In electromagnetic waves the phase difference between oscillating electric and magnetic field is 90°.

The correct statement(s) is/are

(1) Only (a) (2) Only (b)

(3) Both (a) and (b) (4) Neither (a) nor (b)

47. $\vec{A},\vec{B},\vec{C}$ are three coplanar vectors, then

(1) $\left(\vec{A}\cdot\vec{B}\right)\times\vec{C}=0$ (2) $\left(\vec{A}\times\vec{B}\right)\cdot\vec{C}=0$

(3) $\left(\vec{A}\times\vec{B}\right)\times\vec{C}=0$ (4) $\left(\vec{A}\cdot\vec{B}\right)\cdot\vec{C}=0$

48. The length of a metal wire is l_1 when the tension in it is T_1 and l_2 when the tension in it is T_2. The unstretched length of the wire is

(1) $\frac{T_2l_2-T_1l_1}{T_2-T_1}$ (2) $\frac{T_2l_2-T_1l_1}{T_1+T_2}$

(3) $\frac{T_2l_1-T_1l_2}{T_1+T_2}$ (4) $\frac{T_2l_1-T_1l_2}{T_2-T_1}$

49. A charge Q is divided into two charge q_1 and q_2, separated by a distance r. The force of repulsion between them will be maximum when

(1) $q_1=\frac{Q}{4}$ (2) $q_2=\frac{Q}{8}$

(3) $q_1=\frac{Q}{2}$ (4) $q_2=\frac{Q}{6}$

50. A face of a prism of refracting angle 30° is silvered. A ray of light is incident on the other face at angle of incidence 45°. After reflection from the silvered face, the ray retraces its path. The index of refraction of prism will be

(1) 4 (2) 2

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

CHEMISTRY

SECTION-A

51. Which has the maximum number of molecules among the following?

(1) 8 g of H_2

(2) 64 g of O_2

(3) 3 moles of H_2O

(4) 11.2 L of CO_2 at STP

52. The correct order of increasing energies of atomic orbitals in a multi electronic system is

(1) $4p < 3d < 4s < 3p$ (2) $3p < 4s < 3d < 4p$

(3) $3p < 3d < 4s < 4p$ (4) $3d < 3p < 4s < 4p$

53. For the reaction, $N_2(g) + 3H_2(g) \rightleftharpoons 2NH_3(g)$, If the value of equilibrium constant is K, then the equilibrium constant for the reaction, $NH_3(g) \rightleftharpoons \frac{1}{2}N_2(g)+\frac{3}{2}H_2(g)$ will be

(1) $\sqrt{K}$ (2) $\frac{1}{\sqrt{K}}$

(3) $\frac{1}{K^2}$ (4) K^2

54. For a first order reaction, the half life period is 5 minutes. The time required for the concentration of the substance to fall from xM to $\frac{x}{32}$ M is

(1) 25 minutes (2) 5 minutes

(3) 10 minutes (4) 125 minutes

55. The number of bond pairs and lone pairs of electrons around chlorine in ClF_3 respectively are

(1) 1, 4 (2) 2, 3

(3) 5, 0 (4) 3, 2

56. The bond order of O_2^+ is

(1) 2 (2) 2.5

(3) 1.5 (4) 1

57. Equal masses of CH_4 and O_2 are mixed in a container at 25°C. Fraction of total pressure exerted by O_2 is

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

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

58. Average molar kinetic energies of O_2 and SO_2 at same temperature are related as (K_1 is the kinetic energy of O_2 and K_2 is the kinetic energy of SO_2 at same temperature)

(1) $K_1 = 2K_2$ (2) $2K_1 = K_2$

(3) $K_1 = \sqrt{K_2}$ (4) $K_1 = K_2$

59. Which of the following is a path function?

(1) Internal energy

(2) Entropy

(3) Enthalpy

(4) Heat

60. The change in internal energy if 20 J of heat is given to the system at constant pressure and 10 J of work is done by the system is

(1) –30 J (2) –10 J

(3) 10 J (4) 30 J

61. Which of the following set of quantum numbers does not exist?

	n	l	m	s
(1)	3	0	0	+½
(2)	2	1	–1	–½
(3)	4	4	–2	+½
(4)	3	2	–2	–½

62. The conjugate acid of HCO_3^- is

(1) CO_2 (2) $C_2O_4^{2-}$

(3) H_2CO_3 (4) CO_3^{2-}

63. The oxidation state of Cr in CrO_5 is

(1) +10 (2) +5

(3) +6 (4) +3

64. Which of the following is an electron precise hydride?

(1) NH_3 (2) HF

(3) H_2O (4) CH_4

65. The major product P in the following reaction is

$$CH_3 - CH_2NH_2 \xrightarrow[0\text{-}5^\circ C]{NaNO_2, HCl} A \xrightarrow{H_2O} P \text{ (Major)}$$

(1) CH_3–CH_2–OH (2) CH_2–COOH

(3) CH_3–CH_3 (4) CH_3–CH_2–NO_2

66. The correct order of ionisation enthalpy is shown by

(1) Al < Ga < B (2) B < Al < Ga

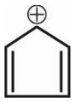
(3) Ga < Al < B (4) B < Ga < Al

67. Neutral oxide among the following is

(1) CO_2 (2) Al_2O_3

(3) CO (4) Na_2O

68. Among the following aromatic species is

(1)  (2) 

(3)  (4) 

69. Consider the following statements regarding calcium carbonate

I. It occurs in the nature in form of limestone and chalk.

II. It is white fluffy powder and almost insoluble in water.

III. It reacts with dilute acid to liberate carbon monoxide.

The correct statements are

(1) I and III only (2) II and III only

(3) I and II only (4) I, II and III

70. In the molecule, $\overset{1}{CH} \equiv \overset{2}{C} - \overset{3}{CH} = \overset{4}{CH} - \overset{5}{CH_3}$, the hybridisation of C_1, C_3 and C_5 respectively are

(1) *sp*, sp^3, sp^2 (2) *sp*, sp^2, sp^3

(3) sp^3, sp^2, *sp* (4) sp^2, *sp*, sp^3

71. During estimation of nitrogen present in an organic compound by Kjeldahl's method, the ammonia evolved from 1 g of the compound is neutralized by 20 mL of 0.5 M H_2SO_4. The percentage of nitrogen in the compound is

(1) 14% (2) 28%

(3) 56% (4) 42%

72. Meta-directing group towards electrophilic substitution reaction in benzene is

(1) –OH (2) $–NH_2$

(3) –CHO (4) $–CH_3$

73. For a reaction $H_2(g) + I_2(g) \longrightarrow 2HI(g)$, ΔH = 37.5 kJ/mol and ΔS = 150 JK^{-1} mol^{-1} the temperature at which the reaction will be at equilibrium is

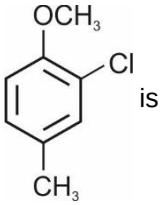
(1) 200 K (2) 250 K

(3) 300 K (4) 350 K

74. Chemical formula of washing soda is

(1) $NaHCO_3$ (2) $Na_2CO_3.10H_2O$

(3) $CaSO_4.2H_2O$ (4) $CaSO_4.½H_2O$

75. The IUPAC name of the compound  is

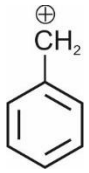
(1) 3-Chloro-1-methyl-4-methoxybenzene

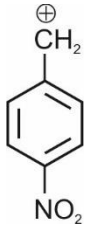
(2) 3-Chloro-4-methoxytoluene

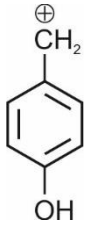
(3) 2-Chloro-4-methylanisole

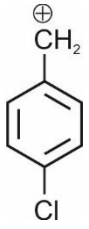
(4) 1-Methoxy-2-chloro-4-methylbenzene

76. The most stable carbocation among the following is

(1) 

(2) 

(3) 

(4) 

77. Mole fraction of the solute in a 1.00 molal aqueous solution is

(1) 0.071 (2) 0.058

(3) 0.0177 (4) 1.72

78. The half life of a first order reaction, if the rate constant $k = 6.93 \times 10^{-6}\ s^{-1}$ is

(1) 1×10^{3} s (2) 1×10^{5} s

(3) 2.4×10^{5} s (4) 2×10^{4} s

79. The unit of a rate constant for a second order reaction is

(1) s^{-1} (2) mol $L^{-1}\ s^{-1}$

(3) L $mol^{-1}\ s^{-1}$ (4) $mol^{-2}\ L^{2}\ s^{-1}$

80. Negatively charged sol is

(1) Ag sol (2) TiO_2 sol

(3) $Al_2O_3.xH_2O$ (4) Haemoglobin

81. The constituent of brass are

(1) Cu, Zn and Ni (2) Cu and Ni

(3) Cu and Zn (4) Zn and Ni

82. The shape of $XeOF_4$ is

(1) Trigonal bipyramidal

(2) Square pyramidal

(3) See - saw

(4) Octahedral

83. Number of moles of MnO_4^- required to oxidize one mole of iodide ion completely in acidic medium is

(1) $\frac{1}{5}$ mole (2) $\frac{2}{5}$ mole

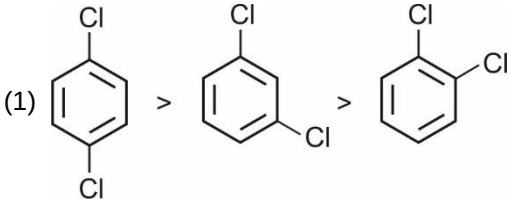
(3) $\frac{1}{3}$ mole (4) $\frac{2}{3}$ mole

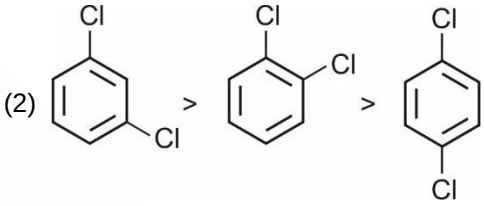
84. The number of ions produced from the complex $Fe_4[Fe(CN)_6]_3$ in an aqueous solution is

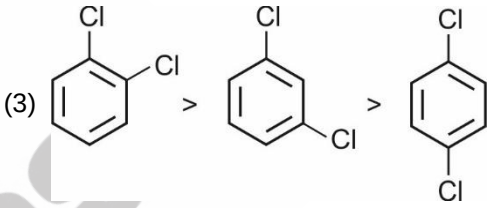
(1) 4 (2) 5

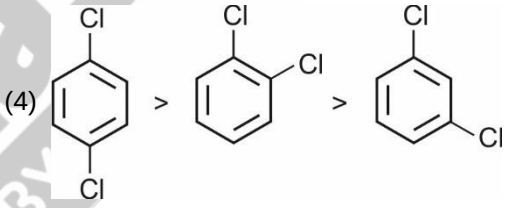
(3) 6 (4) 7

85. The **correct** order of melting point among the following is

(1) 

(2) 

(3) 

(4) 

SECTION-B

86. Consider the following reaction,

$$2CH_3-Cl+Na \xrightarrow{\text{dry ether}} CH_3-CH_3+2NaCl$$

The above reaction is called

(1) Fittig reaction (2) Wurtz reaction

(3) Swarts reaction (4) Finkelstein reaction

87. Consider the following reaction,

$$CH_3CH_2OH \xrightarrow{SOCl_2} A \xrightarrow{KCN} B \xrightarrow{H_2O/H^+} C \xrightarrow[(ii)\ H_2O]{(i)\ \text{Red } P/Br_2} D$$

D is

(1) $CH_3CH_2-\overset{\overset{O}{\|}}{C}-Br$

(2) $CH_3-\underset{\underset{Br}{|}}{CH}-COOH$

(3) $CH_3CH_2CH_2Br$

(4) $CH_3CH_2CH_2OH$

88. In the reaction,

$$CH_3–C\equiv CH+H_2O \xrightarrow{Hg^{2+}/H^+} \underset{\text{Intermediate}}{A} \longrightarrow B$$

The compound B is

(1) Aldehyde (2) Ketone

(3) Carboxylic acid (4) Ester

89. The most acidic compound among the following is

(1) CH_3COOH (2) $C_6H_5CH_2COOH$

(3) HCOOH (4) C_6H_5COOH

90. In the following reaction sequence

$$CH_3CH_2\underset{\displaystyle Cl}{\underset{|}{C}}H–CH_3 \xrightarrow[\Delta]{\text{alc KOH}} A\ (\text{Major}) \xrightarrow[\text{(ii) } Zn/H_2O]{\text{(i) } O_3} B \xrightarrow[\text{(ii) } \Delta]{\text{(i) dil NaOH}} C$$

C is

(1) But-3-enal (2) But-2-enal

(3) Butan-2-one (4) Butanoic acid

91. Which of the following is a non-reducing sugar?

(1) Maltose (2) Sucrose

(3) Lactose (4) Glucose

92. Scurvy is caused by deficiency of

(1) Vitamin B_{12} (2) Vitamin C

(3) Vitamin D (4) Vitamin A

93. Biodegradable polymer among the following is

(1) Polythene (2) Nylon-6

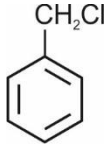
(3) Buna – S (4) PHBV

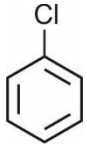
94. Which of the following is an antihistamine?

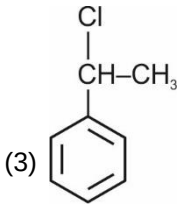
(1) Seldane (2) Cimetidine

(3) Chlordiazepoxide (4) Salvarsan

95. Which of the following is most reactive toward S_N1 reaction?

(1) 

(2) 

(3) 

(4) $CH_3–Cl$

96 The product obtained when 2-methylpropan-2-ol is treated with copper at 573 K is

(1) 2-Methylpropanal (2) Butanal

(3) Propanone (4) 2-Methylpropene

97. The component of photochemical smog which causes irritation to nose and throat is

(1) O_2 (2) CO_2

(3) NO (4) SO_2

98. IUPAC name of an element with atomic number 110 is

(1) Ununnillium (2) Unununium

(3) Unnilennium (4) Unnilunium

99. In the light of below two statements, select the correct option among the following.

Statement-I : Surface tension is defined as the force acting per unit area of the surface of liquid.

Statement-II : The lowest energy state of the liquid will be when surface area is minimum.

(1) Statement I is correct but statement II is incorrect

(2) Both statement I and II are correct

(3) Both statement I and II are incorrect

(4) Statement I is incorrect but statement II is correct

100. $CH_3 – CH_2 – CHO$ and $CH_3 – CO – CH_3$ are

(1) Metamers

(2) Position Isomers

(3) Chain isomers

(4) Functional group isomers

BOTANY

SECTION-A

101. Choose the **wrong** statement.

(1) Botanical garden is an '*ex situ*' conservation strategy

(2) A museum has preserved plants only

(3) Key is analytical in nature

(4) Herbarium has a label which contains information about plant specimen

102. The causal agent of 'mad cow' disease

(1) Contains DNA as genetic material

(2) Are abnormally folded proteins

(3) Are larger than viruses

(4) Do not cause any disease in humans

103. The dead component of phloem is

(1) Phloem parenchyma (2) Phloem fibres

(3) Sieve tube elements (4) Companion cells

104. Select the **correct** difference between monocot stem and dicot stem.

	Monocot stem	Dicot stem
(1)	Parenchymatous endodermis	Collenchymatous endodermis
(2)	Pith is large and well developed	Pith is small and inconspicuous
(3)	Vascular bundles are conjoint and closed	Vascular bundles are conjoint and open
(4)	Cortex is collenchymatous	Cortex is sclerenchymatous

105. Stele is constituted by all given tissues, **except**
(1) Vascular bundles (2) Endodermis
(3) Pericycle (4) Medulla

106. Read the following statements and select the **incorrect** one.
(1) Chloroplast has 70S ribosomes
(2) Nucleolus is not bound by any membrane
(3) RER helps in synthesis of fats and proteins
(4) Lysosome contains hydrolytic enzymes.

107. All of the following constitute endomembrane system, **except**
(1) Endoplasmic reticulum
(2) Golgi apparatus
(3) Peroxisome
(4) Lysosome

108. If a gamete in pollen tube has 12 pg of DNA then what amount of DNA would have been there in its pollen mother cell at G_2 phase?
(1) 12 pg (2) 48 pg
(3) 24 pg (4) 36 pg

109. Vascular cryptogams differ from amphibians of plant kingdom as former
(1) Have multicellular sex organs
(2) Have photosynthetic gametophyte
(3) Have sporophyte as dominant plant body
(4) Show zygotic meiosis

110. Agar-agar is commercially obtained from
(1) *Porphyra* and *Laminaria*
(2) *Gracilaria* and *Gelidium*
(3) *Fucus* and *Volvox*
(4) *Spirogyra* and *Gelidium*

111. Active transport does **not**
(1) Require energy in the form of ATP
(2) Require membrane proteins
(3) Move molecules along the concentration gradient
(4) Show saturation

112. Nitrogenase is required to fix atmospheric nitrogen. It
(1) Catalyses the conversion NO_2^- to NO_3^-
(2) Is Mo–Fe protein
(3) Is found in all prokaryotes
(4) Is synthesized in some leguminous plants

113. Due to deficiency of which element within the plants, the deficiency symptoms tend to first appear in the young tissues?
(1) Nitrogen (2) Calcium
(3) Magnesium (4) Potassium

114. Cyclic photophosphorylation differs from non-cyclic photophosphorylation as later involves
(a) Splitting of H_2O
(b) Formation of NADPH + H^+
(c) Formation of ATP
(d) Requirement of external electron source
(1) Only (a) and (b) (2) (a), (b) and (d)
(3) Only (b) and (c) (4) Only (c)

115. How many chromosomes and DNA content will a cell have in G_2 phase if it has 7 chromosomes and 7 pg DNA in G_1 phase?

	Chromosomes	DNA
(1)	7	7
(2)	14	14
(3)	14	7
(4)	7	14

116. Find the option in which organism is placed in its **wrong** taxonomic category.

	Organism	Taxonomic Category
(1)	Man	- Class : Mammalia
(2)	Mango	- Order : Polymoniales
(3)	Wheat	- Family : Poaceae
(4)	Brinjal	- Division : Angiospermae

117. Select the **incorrect** statement.
(1) Zoological park is an '*ex-situ'* conservation of animals.
(2) Monograph contain information of any one taxon
(3) Key is a taxonomic aid for identification of plants and animals based on similarities and dissimilarities.
(4) Herbarium houses live and conserved plant specimens

118. Read the following statements and select the **correct** option.
Statement A : All fungi possess a purely cellulosic cell wall
Statement B : Morels and truffles are non-edible mushrooms.
(1) Only statement A is incorrect
(2) Only statement B is incorrect
(3) Both statements are incorrect
(4) Both statements are correct

119. The primary CO_2 acceptor in a C_4 plant
(1) Is phosphoenol pyruvate
(2) Is RuBP
(3) Has four carbons
(4) Is found in bundle sheath cells

120. The common feature of a C_3 and a C_4 plant is presence of
(1) Photorespiration
(2) Calvin cycle
(3) Kranz anatomy
(4) Double carboxylation

121. In a typical angiosperm the ploidy level of the cells of the nucellus, MMC, the functional megaspore and female gametophyte is respectively
(1) 2n, n, n and 2n (2) 2n, ,2n, n and n
(3) n, 2n, n and 2n (4) n, n, 2n and 2n

122. A male child has blood group AB and his sister has blood group 'O'. The genotype of his parents could be
(1) I^AI^A and ii (2) I^BI^B and ii
(3) I^Ai and I^Bi (4) I^AI^B and I^AI^B

123. In *lac* operon which gene transcribe mRNA for polypeptide synthesis.
(1) Promoter gene (2) Operator gene
(3) Structural gene (4) Regulator gene

124. Pusa sawani is resistant to shoot and fruit borer. It is a variety of
(1) *Brassica* (2) Flat bean
(3) Okra (4) Cauliflower

125. Which of the following is the most important cause that drives animals and plants to extinction?
(1) Over-exploitation
(2) Alien species invasions
(3) Co-extinctions
(4) Habitat loss and fragmentation

126. The role of stress hormone is to
(1) Promote stem elongation
(2) Promote abscission
(3) Prevent dormancy
(4) Promote transpiration

127. All of the following are the functions of cell wall, **except**
(1) It maintains the shape of the cells
(2) It protects the cells from mechanical injury
(3) It checks macromolecules to pass in and out of the cell
(4) It wards off the attacks of pathogens like viruses, bacteria, fungi, etc.

128. Chromatin contains
(1) DNA and RNA only
(2) DNA, RNA and acidic histone proteins
(3) DNA, RNA, basic histones and some non-histone proteins
(4) DNA, RNA and non-histone proteins only

129. Most common type of endosperm in angiosperms is
(1) Multicellular and diploid
(2) Initially free nuclear
(3) Undergoing both nuclear division and wall formation simultaneously
(4) Persistent and haploid

130. Read the following statements and choose the **correct** ones

a. Colourblindness is a sex-linked recessive disorder.

b. Turner's syndrome develops due to monosomy of chromosome number 21.

c. Chromosome complement of an individual inflicted with Klinefelter's syndrome is 44 + XXY.

d. Cystic fibrosis is a chromosomal disorder.

(1) a, b and c (2) a and c

(3) b, c and d (4) a, c and d

131. Select the **incorrect** statement regarding single cell protein.

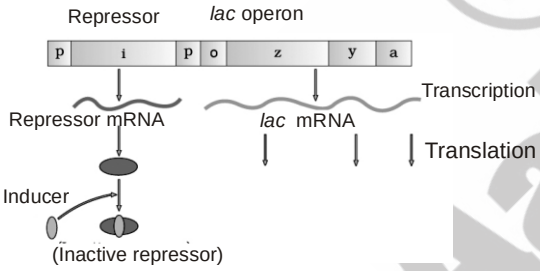
(1) It is not obtained from multicellular micro organisms

(2) It is protein-rich biomass

(3) It is used as food or feed

(4) Can be obtained from *Spirulina*

132. Examine the figure given below and select the **correct** match



(1) 'i' – Constitutive expression

(2) 'z' – Produce transacetylase

(3) 'a' – Codes for permease

(4) 'o' – Binding site for RNA polymerase

133. Blood cholesterol lowering agent is

(1) Cyclosporin A (2) Statin

(3) Streptokinase (4) Amylase

134. Sexual deceit in *Ophrys* is concerned with

a. Pseudocopulation.

b. Mating act by female bees with orchid flower.

c. Mimicry where a male resembles a flower.

d. Entomophily.

(1) a, b and c (2) a and d

(3) a, c and d (4) a, b, c and d

135. Regarding waste water treatment, FOAM represents

(1) Interconnecting system of marshes

(2) Practice of employing bacteria to remove pollutants

(3) Biological and chemical approach of water treatment

(4) A citizen group of Arcata

SECTION-B

136. Carl Woese found that the six kingdoms naturally cluster into three domains on the basis of

(1) Cell membrane composition

(2) Sequence of 16S ribosomal RNA genes

(3) Cell wall composition

(4) Mitochondrial genome

137. Taxonomy includes all of the following, except

(1) Classification (2) Nomenclature

(3) Identification (4) Phylogeny

138. Select **odd** one out w.r.t. ploidy of main plant body.

(1) Pteridophyte (2) Gymnosperm

(3) Angiosperm (4) Bryophyte

139. In Deuteromycetes,

(1) Mycelium is branched and septate

(2) The only asexual spores formed are sporangiospores

(3) All members are parasites

(4) Vegetative or asexual stage is known as perfect stage

140. Select the incorrect match.

(1) *Contagium vivum fluidum* – Beijerinck

(2) Crystals of TMV – Stanley

(3) CFJ disease in humans – Prions

(4) Viroid – Ivanowsky

141. The multicellular female gametophyte is retained within the megasporangium. This statement holds true for

(1) *Chlamydomonas*

(2) *Fucus*

(3) *Volvox*

(4) *Cedrus*

142. Identify A, B and C and select the suitable option.

Structure	Modification of	Examples
Thorn	A	*Bougainvillea*
B	Leaves into sharp pointed structure	Cactus
Tuber	Stem	C

	A	B	C
(1)	Root	Spines	Potato
(2)	Stem	Spines	Potato
(3)	Stem	Tendril	Pineapple
(4)	Leaf	Tendril	*Colocasia*

143. Select the **incorrect** statement w.r.t. racemose inflorescence.
(1) Main axis grows continuously
(2) Young flowers are present towards the apex
(3) Basipetal arrangement of flowers
(4) Observed in mustard plant

144. In a flower, sepals are five in number and are gamosepalous. In floral formula, this conditon is symbolised as
(1) $C_{(5)}$ (2) G_5
(3) S_5 (4) $K_{(5)}$

145. Steller's sea cow was native to
(1) Africa (2) Russia
(3) Australia (4) Mauritus

146. A classical example of point mutation in human is
(1) Colourblindness (2) Sickle cell anaemia
(3) Edwards syndrome (4) Thalassemia

147. Sum total of genotypes and phenotypes if the trait is controlled by three pairs of polygenes, is
(1) 17 (2) 16
(3) 13 (4) 34

148. Effective fungal biocontrol agents of several plant pathogens is
(1) *Aspergillus* (2) *Pseudomonas*
(3) *Bacillus thuringiensis* (4) *Trichoderma*

149. Tropics have maximum biological diversity because of
(1) Frequent glaciation occurred in past
(2) Relatively more constant and predictable environment
(3) Very low productivity
(4) Being more seasonal

150. Choose the **incorrect** statement for a population growing in a habitat with limited resources.
(1) A deceleration phase will not be observed just before the asymptote
(2) A plot of population density (N) in relation to time (t) results in a sigmoid curve
(3) It is described by $\frac{dN}{dt} = rN\left(\frac{K-N}{K}\right)$
(4) Such population growth is more realistic one

ZOOLOGY

SECTION-A

151. In which one of the following, the genus name, its two characters and its phylum are **not** correctly matched?

	Genus name	Two characters	Phylum
(1)	*Gorgonia*	Presence of stinging capsules Central gastro-vascular cavity	Coelenterata
(2)	*Ancylostoma*	Pseudocoelom Often, longer females than males	Aschelminthes
(3)	*Bombyx*	Jointed appendages Metamerism	Arthropoda
(4)	*Cucumaria*	Water canal system Calcareous exoskeleton	Echinodermata

152. Match column I with column II and select the **correct** option.

	Column I		Column II
i.	Oxyntic cells	(a)	Crypts of Lieberkühn
ii.	Bile pigments	(b)	Biliverdin
iii.	Lysozyme	(c)	HCl
iv.	Scurvy	(d)	Ascorbic acid

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

153. The condition in which the food is not properly digested leading to a feeling of fullness is called
(1) Constipation (2) Indigestion
(3) Diarrhoea (4) Vomiting

154. A chronic disorder caused due to excessive cigarette smoking and damage to walls of alveoli resulting in reduced surface area for exchange of gases is called
(1) Asthma (2) Emphysema
(3) Pneumoconiosis (4) Asbestosis

155. In ABO blood grouping, person with blood group O^- can accept blood from
(1) AB^- (2) A^+
(3) O^+ (4) O^-

156. Select the **odd** one w.r.t regulation by Renin-angiotensin system
(1) Aldosterone (2) ANF
(3) Renin (4) Angiotensinogen

157. Select the **incorrect** match.
(1) Cartilaginous joint – Present between adjacent vertebrae of vertebral column
(2) Fibrous joint – Sutures
(3) Saddle joint – Between carpals
(4) Hinge joint – Elbow joint

158. Photoreceptors in the human eye are A during darkness and become B in response to the light stimulus.
Choose the option that represents A and B **correctly**.

	A	**B**
(1)	Hyperpolarised	Depolarised
(2)	Polarised	Repolarised
(3)	Depolarised	Hyperpolarised
(4)	Repolarised	Depolarised

159. A form of hyperthyroidism characterised by enlargement of the thyroid gland, protrusion of the eyeballs, increased BMR and weight loss is called
(1) Exophthalmic goitre (2) Cretinism
(3) Simple goitre (4) Addison's disease

160. Chromosome number in meiocytes and gametes of housefly is respectively
(1) 12 and 6 (2) 46 and 23
(3) 8 and 4 (4) 380 and 190

161. Which of the following hormones is mainly responsible for ovulation and stimulates corpus luteum in menstrual cycle?
(1) FSH (2) Estrogen
(3) LH (4) Progesterone

162. A non-steroidal contraceptive which is a selective estrogen receptor modulator for females is
(1) Gossypol (2) Nirodh
(3) Saheli (4) Norplant

163. Read the following statements.
Statement-A : *Triceratops* was a three horned, quadruped dinosaur.
Statement-B : *Brachiosaurus* had plates on its back and was a flesh eating biped dinosaur.
Choose the **correct** option.
(1) Both statements are correct
(2) Both statements are incorrect
(3) Statement A is correct but statement B is incorrect
(4) Statement A is incorrect but statement B is correct

164. Select the **incorrect** match w.r.t. evolution of man.

		Characteristics	**Brain capacities**
(1)	*Australopithecines*	• Hunted with stone weapons • Essentially ate meat	650-800 cc
(2)	*Homo habilis*	• Probably did not eat meat • First human-like being, the hominid	650-800 cc
(3)	*Homo erectus*	• Probably ate meat • Had erect posture	900 cc
(4)	Neanderthal man	• Used hides to protect their body • Buried their dead	1400 cc

165. Read the following statements and choose the option with only **incorrect** statements.
(a) Typhoid fever can be confirmed by Widal test.
(b) Rhino viruses infect the nose and respiratory passage but not the lungs.
(c) *P. malariae* causes the most serious and fatal malignant malaria.
(d) Sporozoite form of *Plasmodium* are stored in the stomach of female *Aedes* mosquito.
(1) (a) and (b) (2) (a), (c) and (d)
(3) (b), (c) and (d) (4) (c) and (d)

166. Select the **incorrect** match.

(1)	Acid in stomach	–	Physiological barrier
(2)	Natural killer cells	–	Cellular barrier
(3)	IgA in colostrum	–	Passive immunity
(4)	Administration of Anti-toxin	–	Active immunity

167. In MOET, which is used for herd improvement,
(1) A cow is administered hormone with progesterone like activity
(2) Superovulation yields 1 to 2 eggs per cycle
(3) Only one egg is fertilized by natural mating
(4) The fertilized eggs at 8-32 cells stages are transferred to surrogate mothers

168. Select the **correct** option w.r.t. plasmid.
(1) Autonomously replicating, single stranded chromosomal RNA
(2) Autonomously replicating, closed, circular, double stranded, extrachromosomal DNA
(3) A double stranded, linear, chromosomal RNA
(4) A closed circular, single stranded vital gene coding DNA

169. Nowadays, the most commonly used matrix is agarose which is a natural polymer extracted from
(1) Sea weeds (2) *B. thuringiensis*
(3) Bt cotton (4) *Thermus aquaticus*

170. Which among the following is **not** essential in PCR reaction mixture?
(1) DNA template (2) *Taq* polymerase
(3) Primers (4) Agarose

171. Choose the **correct** option w.r.t. cockroach.
(1) Respiration : Tracheal system
(2) Paurometabolous : 12 times moulting
(3) Muscular heart : One-chambered
(4) Excretion : Ammonotelic

172. Mature form of recombinant human insulin lacks
(1) Disulphide bonds
(2) A-peptide chain
(3) B-peptide chain
(4) C-peptide chain

173. Select the **incorrect** match.

	Genus	Character	Taxon
(1)	*Obelia*	• Metagenesis • Cnidoblast cells	Coelenterata
(2)	*Planaria*	• High regeneration capacity • Organ level of organisation	Platyhelminthes
(3)	*Nereis*	• Segmented worm • Closed circulatory system	Annelida
(4)	*Limulus*	• Living fossil • Calcareous endoskeleton	Arthropoda

174. Tendons attach A and is an example of B connective tissue. Choose the option that fills the blanks **correctly**.

	A	B
(1)	Muscles to bone	Dense regular
(2)	Bone to bone	Dense regular
(3)	Muscles to bone	Dense irregular
(4)	Muscle to muscle	Dense regular

175. Smooth muscle fibres differ from skeletal muscle fibres as they
(1) Are unbranched
(2) Lack intercalated discs
(3) Have actin and myosin filaments
(4) Are non-striated in appearance

176. Choose the **odd** one w.r.t homopolysaccharide.
(1) Chitin (2) Cellulose
(3) Inulin (4) Peptidoglycan

177. Increase in which of the following factors will shift the oxygen dissociation curve to the left side?
(1) pCO_2 (2) Temperature
(3) pH (4) H^+ ions

178. Identify the **incorrect** statement.
(1) Basophils secrete histamine, serotonin, heparin and are involved in inflammatory reactions.
(2) Eosinophils resist infections and are associated with allergic reactions.
(3) Megakaryocytes are cell fragments responsible for immune responses of the body.
(4) Neutrophils and monocytes are phagocytic in nature.

179. Normally, the largest amount of urea is carried by which of the given blood vessels in mammals?
(1) Hepatic vein (2) Hepatic portal vein
(3) Hepatic artery (4) Renal vein

180. In counter-current mechanism, the concentration gradient in the medullary interstitium is mainly maintained by
(1) HCO_3^- and K^+ (2) NaCl and H_2O
(3) NaCl and urea (4) K^+ and H^+

181. An autoimmune disorder affecting neuromuscular junction leading to fatigue, weakening and paralysis of skeletal muscle is
(1) Myasthenia gravis (2) Muscular dystrophy
(3) Tetany (4) Arthritis

182. Read the following statements.
(a) Myelinated nerve fibres enveloped with Schwann cells are found in spinal and cranial nerves.
(b) Unmyelinated nerve fibres are enclosed within Schwann cells and are commonly found in autonomous and somatic neural systems.
(c) Mid brain, pons and medulla oblongata together form the brain stem.
(d) Cornea is the outer proteinaceous layer and is the least sensitive part of eye.
How many of the given statements are **wrong**?
(1) Two (2) One
(3) Three (4) Zero

183. Select the **incorrect** match w.r.t. hormone, its source gland and function.

	Hormone	**Source**	**Function**
(1)	Melatonin	Pineal gland	Regulates diurnal rhythm
(2)	Thymosin	Thyroid gland	Regulates basal metabolic rate
(3)	Insulin	Pancreas	Regulates blood glucose level
(4)	CCK	Gastro-intestinal tract	Stimulates secretion of pancreatic enzymes and release of bile juice from gall bladder

184. Complete the analogy
DNA : Thymine :: RNA : _____
(1) Uracil (2) Guanine
(3) Thiamine (4) Adenine

185. The foetus is less susceptible to teratogens after
(1) 4 weeks (2) 5 weeks
(3) 12 weeks (4) 6 weeks

SECTION-B

186. In which of the following options, characteristic features hold **false** for the corresponding group of animals?

(1)	Reptilia	–	Body is covered by dry and cornified skin
(2)	Aves	–	Forelimbs always modified into functional wings for flight
(3)	Mammalia	–	Presence of milk producing glands
(4)	Amphibia	–	Poikilotherms with 3-chambered heart

187. Choose the unisexual animal.
(1) Earthworm (2) Leech
(3) Tapeworm (4) Cockroach

188. Which of the following accessory glands help in the lubrication of the penis?
(1) Prostate gland
(2) Bartholin's gland
(3) Seminal vesicles
(4) Bulbourethral gland

189. Parturition is induced by a complex neuroendocrine mechanism involving
(1) Cortisol, ADH, progesterone
(2) Cortisol, estrogens and oxytocin
(3) FSH, LH and estrogen
(4) Prolactin, oxytocin and cortisol

190. During secretory phase of normal menstrual cycle, which hormone attains peak and is essential for maintenance of endometrium?
(1) LH
(2) FSH
(3) Progesterone
(4) Estrogen

191. Match column I with column II and select the **correct** option.

	Column I		**Column II**
a.	Syphilis	(i)	HPV
b.	Genital herpes	(ii)	*Haemophilus ducrei*
c.	Genital warts	(iii)	*Treponema pallidum*
d.	Chancroid	(iv)	HSV-2

Choose the **correct** option.

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

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

192. Given below are four statements (A-D). Select the option which represents only **correct** statements.

A. Industrial melanism is an example of natural selection.

B. Balancing selection promotes heterozygotes.

C. Analogous structures exhibit divergent evolution.

D. Species occurring in different geographical areas are called sympatric.

(1) A and B (2) A, C and D

(3) B, C and D (4) A and C

193. **Incorrect** match among the following is

(1) Hisardale : Cross breed of sheep

(2) Mule : Interspecific hybridisation

(3) Scout bees : Dancing movements

(4) Pomfrets : Edible fresh water fish

194. Choose the **incorrect** statement w.r.t. gel electrophoresis.

(1) DNA fragments separate according to their size through sieving effect.

(2) Smaller fragments move farther from anode.

(3) DNA samples are loaded in the wells, close to cathode.

(4) Separated fragments can be visualized only after staining with EtBr under UV light.

195. The term used to refer to the use of bio-resources by multinational companies and other organisations without proper authorisation from the countries and people concerned without compensatory payment is

(1) Biopiracy (2) Bioprospecting

(3) Bioexploitation (4) Bio-infringement

196. Select the **incorrect** statement w.r.t. parturition.

(1) Fully developed foetus and placenta induce mild uterine contractions

(2) It is a complex neuroendocrine mechanism

(3) Foetal ejection reflex triggers release of oxytocin from foetal pituitary

(4) The signal for parturition is called foetal ejection reflex

197. A gaseous mixture used in spark chamber of Miller's experiment contained all of the following gases, **except**

(1) Methane (2) Ammonia

(3) Hydrogen (4) Oxygen

198. Breeding methods that helps to overcome inbreeding depression is

(1) Outcrossing

(2) Cross breeding

(3) Inbreeding

(4) Interspecific hybridisation

199. In an ART, the donor ova is transferred into fallopian tube. This technique is __X__ and the fertilisation is then taking place __Y__ .

Choose the **correct** option w.r.t. 'X' and 'Y'

	X	**Y**
(1)	ZIFT;	*in vitro*
(2)	IUT;	*in vitro*
(3)	AI;	*in vivo*
(4)	GIFT;	*in vivo*

200. On the basis of given comparison of chordates and non-chordates, choose the **incorrect** one.

	Non-chordates	**Chordates**
(1)	Post-anal tail absent	Post-anal tail present
(2)	Gill slits absent	Pharyngeal gill slits present
(3)	Heart is ventral	Heart is dorsal
(4)	Notochord absent	Notochord present

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