Aakash
+ BYJU'S

Corporate Office : Aakash Tower, 8, Pusa Road, New Delhi-110005, Phone : 011-47623456

MM : 720

Term Exam for NEET – 2023

Time 3 Hr. 20 Min.

Test - 2

Physics	:	Electric Charges & Field, Electrostatic Potential and Capacitance: Introduction, Electrostatic potential, Potential due to a point charge, Potential due to an electric dipole, Potential due to a system of charges, Equipotential surfaces, Calculating field from potential, Potential energy of a system of charges, Potential energy in an external field Electrostatic Potential and Capacitance: Electrostatics of conductors, dielectrics and polarization, Capacitors and capacitance, The parallel plate capacitor, Effect of dielectrics on capacitance, Combination of capacitors, Energy stored in a capacitor, Van de Graaff Generator, Current Electricity, Moving Charges and Magnetism: Introduction, Magnetic force, Motion in a magnetic field, Motion in combined Electric and Magnetic fields.
Chemistry	:	Solid State, Solutions Electrochemistry, Chemical Kinetics, Surface Chemistry
Botany	:	Reproduction in Organisms, Sexual Reproduction in Flowering Principles of Inheritance & Variation, Molecular Basis of Inheritance (upto DNA packaging in prokaryotes)
Zoology	:	Reproduction in Organisms, Human Reproduction Reproductive Health, Evolution

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 :

Choose the correct answer :

1. A charge +2 C and mass 20 g projected in a uniform magnetic field of 4 T with the speed of 8 m/s perpendicular to the magnetic field. The radius of curvature of the path followed by charge is

   (1) 1 cm   (2) 4 cm

   (3) 2 cm   (4) 6 cm

2. A charged particle $+q_0$ is projected with speed v_0 perpendicular to uniform magnetic field as shown in the figure. The time spent by the particle inside the magnetic field is
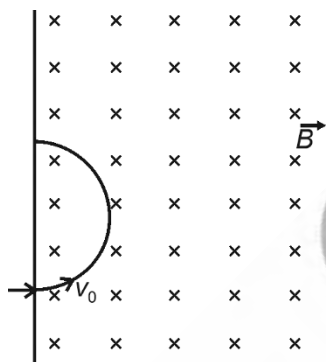
   (1) $\dfrac{2\pi m}{qB}$ (2) $\dfrac{m}{qB}$

   (3) $\dfrac{\pi m}{qB}$ (4) $\dfrac{\pi m}{2qB}$

3. A potentiometer wire of length 2 m and resistance 10 Ω is connected to an ideal cell of e.m.f 5 V. The potential difference per unit length of the wire will be

   (1) 0.5 V/m   (2) 2.5 V/m

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

4. Magnetic field is not produced by

   (1) Charges at rest

   (2) Current carrying wire

   (3) Charge moving with constant speed on a circle

   (4) Both (1) and (3)

5. A simple potentiometer circuit is shown in figure. The internal resistance of 10 V battery is 1 Ω. AC is an uniform wire of length 100 cm and resistance 4 Ω. What would be the length AB for the galvanometer shows zero deflection?
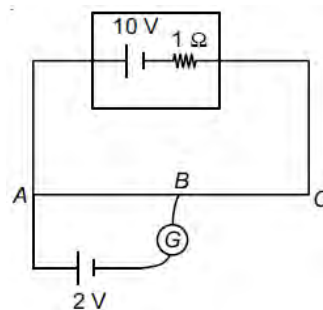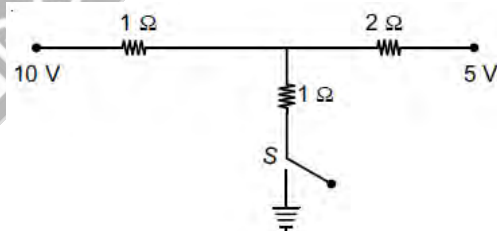

   (1) 50 cm   (2) 75 cm

   (3) 25 cm   (4) 10 cm

6. In the metre bridge the balancing length AC = 40 cm. The unknown resistance y is equal to

   (1) Zero   (2) 1 Ω

   (3) 2 Ω   (4) 3 Ω
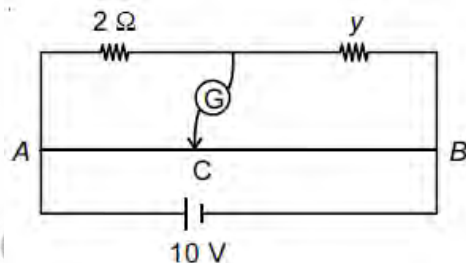
7. In the following circuit, the current through the switch S when it is closed, is

   (1) 2 A   (2) 7 A

   (3) 5 A   (4) 9 A

8. The equivalent resistance between the point A and B of the circuit when switch is closed as shown in figure is

   (1) 2 Ω   (2) 6 Ω

   (3) 4 Ω   (4) 3 Ω
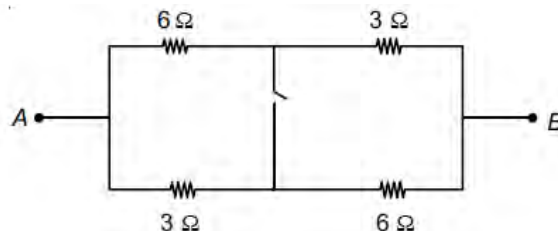
9. Kirchhoff's current law is based on the

(1) Conservation of energy

(2) Conservation of charge

(3) Conservation of momentum

(4) Both (1) and (2)

10. Power consumed by the 4 V battery as shown in figure is
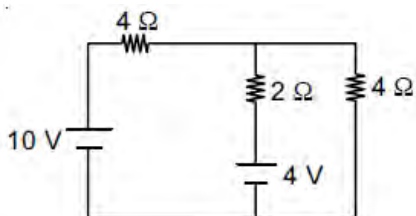
(1) 1 W

(2) 3 W

(3) 5 W

(4) Zero

11. Which one of the following graph follow the Ohm's law?
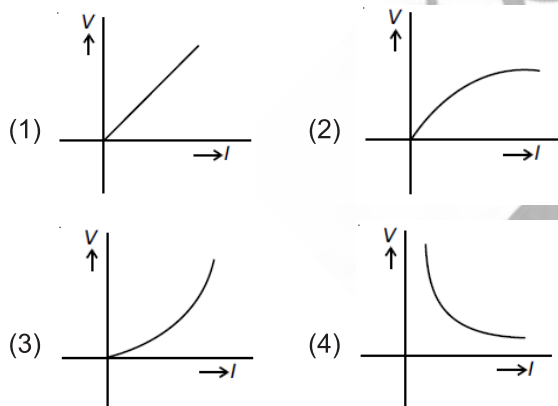
12. Resistivity of a conductor of length l and area of cross-section A is ρ. If length becomes three times and area becomes two times of its original value. Then the new resistivity of the conductor is

(1) 9ρ

(2) $\dfrac{\rho}{9}$

(3) $\dfrac{\rho}{3}$

(4) ρ

13. A 4 ampere current flows through conductor which has 2×10^{25} free electron per unit length. What is their average drift velocity?

(1) 1.25 cm/s

(2) 2.25×10^{-2} cm/s

(3) 1.25×10^{-4} cm/s

(4) 2.25×10^{-4} cm/s

14. Current flowing through the cross-section of a conductor is given by $i = 3t^2 + 2t + 1$. The average current flowing through the cross-section in first 2 second is (where i is in A and t is in s)

(1) 5 A

(2) 2 A

(3) 7 A

(4) 3 A

15. The charge on the capacitor in steady state condition in the following circuit is

(1) 5 μC

(2) 10 μC

(3) 20 μC
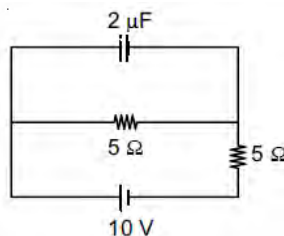
(4) 15 μC

16. Three uncharged capacitors of capacitance $C_1 = 10$ μF, $C_2 = 20$ μC and $C_3 = 30$ μF, are connected to each other as shown in figure. The potential at O will be
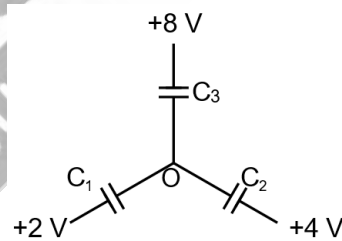
(1) $\dfrac{5}{2}$ V

(2) $\dfrac{40}{9}$ V

(3) $\dfrac{17}{3}$ V

(4) $\dfrac{40}{3}$ V

17. The equivalent capacitance between the points A and B for the following circuit is
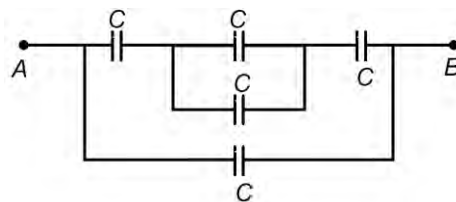
(1) $\dfrac{5C}{7}$

(2) $\dfrac{7C}{5}$

(3) $\dfrac{2C}{3}$

(4) $\dfrac{4C}{3}$

18. A capacitor of capacitance C is charged by the battery of e.m.f V. Then after polarity of battery is reversed. The energy stored by the capacitor is

    (1) CV^2
    (2) $2CV^2$

    (3) $\dfrac{CV^2}{2}$
    (4) $4CV^2$

19. Two concentric shells are of radius R and $2R$ respectively. If inner shell is given a charge $+Q$ and outer shell is earthed, then capacitance of the system will be
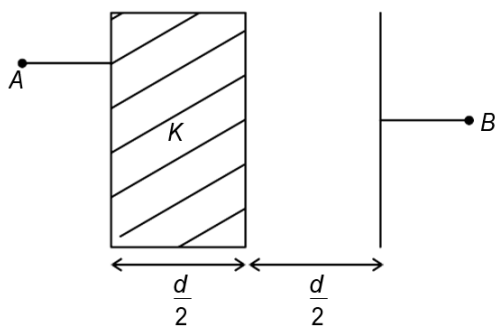
    (1) $4\pi\varepsilon_0 R$
    (2) $2\pi\varepsilon_0 R$

    (3) $8\pi\varepsilon_0 R$
    (4) $\pi\varepsilon_0 R$

20. The capacitance between the point A and B of the given configuration is

    (1) $\dfrac{2A\varepsilon_0}{d}$
    (2) $\dfrac{2A\varepsilon_0}{kd+d}$

    (3) $\dfrac{2A\varepsilon_0}{\dfrac{d}{k}+d}$
    (4) $\dfrac{A\varepsilon_0}{d-\dfrac{d}{k}}$

21. Electric field between the plates of a parallel plate capacitor is E_0 if a dielectric of dielectric constant k is inserted between the plates. Then electric field between the plates becomes(Assume no battery is connected)

    (1) $\dfrac{E_0}{k}$
    (2) kE_0

    (3) E_0
    (4) $(k + 1)E_0$

22. Which of the following is not a dielectric constant of any insulator?

    (1) 4
    (2) 3

    (3) 2
    (4) Infinite

23. If a dielectric is placed inside the uniform external electric field. The dipole moment per unit volume per unit electric field strength is

    (1) Electric susceptibility of the dielectric

    (2) Electric permittivity of the dielectric

    (3) Dielectric constant of the dielectric

    (4) Polarisation vector

24. An electric dipole of dipole moment 5 Cm is placed in a uniform electric field of field strength 10 N/C in the direction of electric field. The work done by the external agent to rotate the dipole slowly in such a way that the angle between electric dipole and electric field becomes 180° is

    (1) −100 J
    (2) −50 J

    (3) +50 J
    (4) +100 J

25. Two charges −5 μC and +10 μC are placed 20 cm apart. The potential energy of the system is

    (1) −2.25 J
    (2) 4.5 J

    (3) +2.25 J
    (4) −4.5 J

26. An electric dipole is placed in a uniform electric field. If dipole is in unstable equilibrium, then angle between the direction of electric dipole and direction of electric field is

    (1) 180°
    (2) 0°

    (3) 90°
    (4) 60°

27. The ratio of electric potential due to a short electric dipole at point A whose position vector w.r.t. centre of dipole makes 60° angle with direction of dipole and at point B on axial position is (Both points are at same distance from the center of the dipole)

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

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

28. The shape of equipotential surface for uniformly distributed infinite linear charge will be

    (1) Spherical
    (2) Cylindrical

    (3) Planar
    (4) Elliptical

29. Three charges $+q$, $+q$, and $-2q$ are placed at the vertices of the equilateral triangle of side a as shown in figure. The net electric potential at the centroid of the triangle is
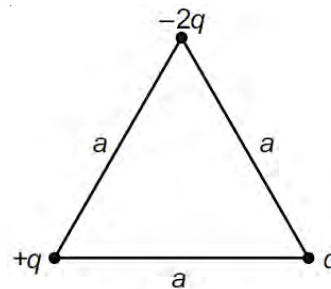

    (1) Zero
    (2) $\dfrac{\sqrt{3}q}{\pi\varepsilon_0 a}$

    (3) $\dfrac{q}{\pi\varepsilon_0 a}$
    (4) $\dfrac{q}{4\pi\varepsilon_0 a}$

30. Electric field due to a point charge q_0 at two points A and B, as shown in figure, are represented by $\vec{E}_A$ and $\vec{E}_B$. Then choose the correct option.
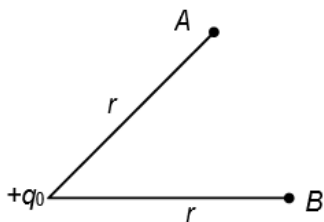

(1) $\vec{E}_A = \vec{E}_B$

(2) $\left|\vec{E}_A\right| > \left|\vec{E}_B\right|$

(3) $\left|\vec{E}_A\right| < \left|E_B\right|$

(4) $\left|\vec{E}_A\right| = \left|\vec{E}_B\right|$

31. Two charges Q_1 and Q_2 separated by a distance d placed in air. If these charges are shifted in another medium of dielectric constant 2 without changing its orientation, then

(1) Force between them increase by factor 2

(2) Force between them decrease by factor 2

(3) Force between them will remains same

(4) Force between them may increase or decrease

32. The number of electrons present in 8 C of charge is

(1) 5.0×10^{18}

(2) 10.0×10^{18}

(3) 5.0×10^{19}

(4) 10.0×10^{19}

33. If a point charge $+q_0$ having mass m is projected inside the magnetic field $\vec{B}$ at an angle of 90° with the direction of magnetic field with velocity v_0. Then kinetic energy of the charge

(1) Increases continuously

(2) Decreases continuously

(3) Remains same

(4) First increases then decreases

34. The equivalent resistance between point A and B as shown in the given circuit is
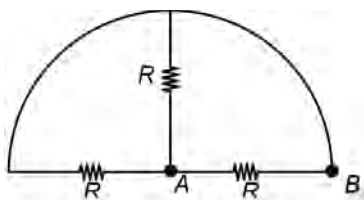
(1) $\dfrac{R}{3}$

(2) $3R$

(3) $\dfrac{2R}{3}$

(4) $\dfrac{4R}{3}$

35. Two battery A and B of e.m.f. $2E$ and E respectively are connected in parallel with their respective internal resistance r and $2r$ respectively as shown in figure. Then potential drop across the point A and B is
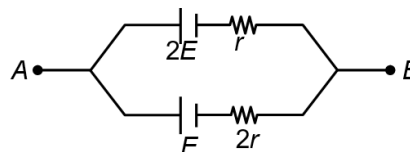
(1) $\dfrac{5E}{3}$

(2) $\dfrac{5E}{2}$

(3) $\dfrac{3E}{2}$

(4) $\dfrac{E}{2}$

SECTION-B

36. A particle of charge 10 μC is at rest in a magnetic field $\vec{B} = -2\hat{k}$ tesla. The magnetic force on the charged particle with respect to an observer moving with velocity $\vec{v} = -2\hat{i}$ m/s, will be

(1) $2 \times 10^{-5}\,\hat{j}$N

(2) $4 \times 10^{-5}\,\hat{j}$N

(3) $2 \times 10^{-6}\,\hat{j}$N

(4) Zero

37. When a charged particle is projected perpendicular to a magnetic field, then

(1) Its velocity and kinetic energy are constant

(2) Its speed and momentum are constant

(3) Its speed and kinetic energy are constant

(4) Its momentum and kinetic energy are constant

38. Which of the following is the correct option regarding Kirchhoff's loop rule?

(1) The algebraic sum of potential drops across all resistors in a circuit is zero

(2) The algebraic sum of potential drops around any closed loop is zero

(3) The algebraic sum of the current across all the resistors in a circuit is zero

(4) The algebraic sum of the currents entering the junction is equal to sum of currents leaving the junction

39. In the following circuit the current through the 5 Ω resistor is
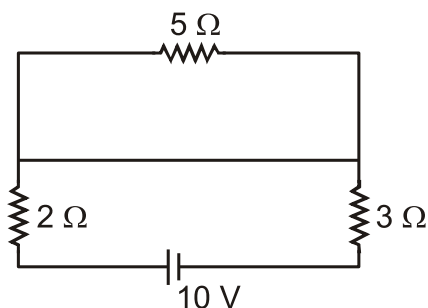
(1) 1 A　　　　　　　(2) 2 A

(3) 0.5 A　　　　　　(4) Zero

40. Figure shows a potentiometer used for determination of internal resistance of a cell of emf 1 V. When key K is open, the balance point is obtained at 70 cm from A and when K is closed, the balance point shifts to 60 cm from A. The internal resistance (r) of the cell is

(1) 0.5 Ω　　　　　　(2) 1 Ω

(3) 1.5 Ω　　　　　　(4) 2 Ω
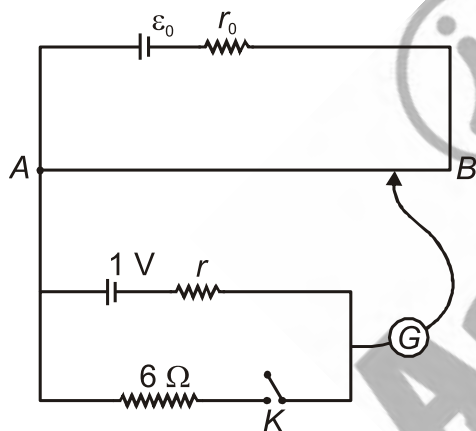
41. What is the S.I. unit of resistivity?

(1) Ω/m　　　　　　(2) Ω/m^2

(3) Ω-m^2　　　　　(4) Ω-m

42. An electric bulb marked 60 W, 100 V, is used in circuit of supply voltage 50 V. Its power is

(1) 60 W　　　　　　(2) 30 W

(3) 10 W　　　　　　(4) 15 W

43. The charge on the plate 1 as shown in configuration is (Capacitance between any two consecutive plate is $\dfrac{A\varepsilon_0}{d}$)
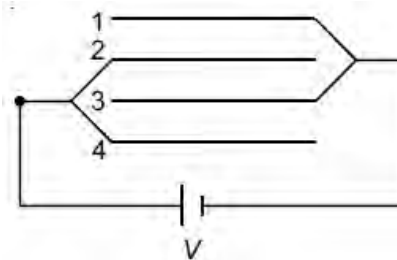
(1) $-\dfrac{A\varepsilon_0 V}{3d}$　　　　(2) $+\dfrac{A\varepsilon_0 V}{3d}$

(3) $\dfrac{3A\varepsilon_0 V}{d}$　　　　(4) $\dfrac{-A\varepsilon_0 V}{d}$

44. A charge $-3C$ is projected with velocity $\vec{v} = (2\hat{i} - \hat{j} + 2\hat{k})$ m/s inside the magnetic field $\vec{B} = (\hat{i} + 3\hat{j} + \hat{k})$ T. The magnitude of magnetic force acting on the charge is

(1) $21\sqrt{2}$ N

(2) 21 N

(3) $7\sqrt{2}$ N

(4) 7 N

45. If a positive charge is released inside the perpendicular electric field and magnetic field at any time t after releasing the charge

(1) Only electric force will act

(2) Both electric force and magnetic force will act.

(3) Only magnetic force will act

(4) Neither electric force nor magnetic force will act

46. Choose the correct statement about the circuit given below.
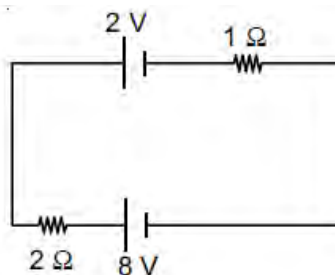
(1) Power delivered by 8 V battery is 16 W

(2) Power consumed by 2 V battery is 8 W

(3) Power dissipated in 1 Ω resistance is 4 W

(4) Both (1) and (3)

47. In the circuit as shown in figure equivalent resistance of the circuit between the point P and Q is
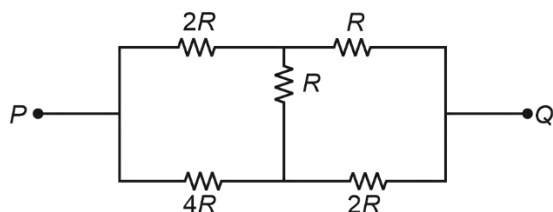
   (1) $2R$

   (2) $\dfrac{13R}{5}$

   (3) $4R$

   (4) $\dfrac{R}{5}$

48. If two identical charges A and B are projected with speed v_1 and v_2 in the same uniform magnetic field perpendicular to the magnetic field B, then (If $v_1 > v_2$)

   (1) Frequency of A is greater than B

   (2) Frequency of A is less than B

   (3) Both have same frequency

   (4) Can't be determined

49. Two identical charges A and B are projected with same speed in same uniform magnetic field at angle of 30° and 60° respectively with the direction of magnetic field. The ratio of respective pitch of the charges will be

   (1) $3 : 1$

   (2) $\sqrt{3} : 1$

   (3) $1 : 2$

   (4) $1 : \sqrt{2}$

50. A charge $+q_0$ starts moving with velocity $\vec{v}_0$ in the presence of uniform electric field $\vec{E}$ and magnetic field $\vec{B}$. Choose the correct relation between $\vec{v}_0, \vec{E}$ and $\vec{B}$ such that charge continuously move with velocity v_0

   (1) $\vec{E} = -(\vec{v}_0 \times \vec{B})$

   (2) $\vec{E} = \vec{v}_0 \times \vec{B}$

   (3) $|\vec{E}| = |\vec{v}_0 \cdot \vec{B}|$

   (4) $|\vec{E}| = |\vec{B}|$

CHEMISTRY

SECTION-A

51. If the activation energy for the forward reaction is 80 kJ/mole and activation energy for the backward reaction is 120 kJ/mol, then enthalpy of reaction will be

   (1) 40 kJ/mole

   (2) –40 kJ/mole

   (3) 200 kJ/mole

   (4) –200 kJ/mole

52. Standard electrode potential for Cr^{3+}/Cr couple is –0.74 V and that for Fe^{3+}/Fe^{2+} couple is 0.77 V. These two couples in their standard states are connected to make a cell. The cell potential will be

   (1) 0.81 V

   (2) 0.03 V

   (3) 1.51 V

   (4) 1.21 V

53. The Osmotic pressure of 0.1 M solution of glucose at 27°C is

   (1) 1.5 atm

   (2) 0.75 atm

   (3) 3.5 atm

   (4) 2.46 atm

54. Which ionic compound shows both Schottky as well as Frenkel defect?

   (1) AgBr

   (2) ZnS

   (3) AgCl

   (4) CsCl

55. Which is an incorrect statement about order of a reaction?

   (1) It is an experimental quantity.

   (2) It can be zero but cannot be a fraction.

   (3) It is applicable to elementary reaction.

   (4) It is applicable to complex reaction.

56. Gold sol is most easily coagulated by

   (1) Ba^{2+}

   (2) PO_4^{3-}

   (3) Al^{3+}

   (4) SO_4^{2-}

57. Which among the following is a ferrimagnetic substance?

   (1) CrO_2

   (2) $ZnFe_2O_4$

   (3) MnO

   (4) Co

58. If the specific conductance of 0.4 M HNO_3 is 15×10^{-2} S cm^{-1} then its molar conductance will be

   (1) 2.25×10^{-2} S cm^2 mol^{-1}

   (2) 3.75×10^{2} S cm^2 mol^{-1}

   (3) 1.15×10^{-2} S cm^2 mol^{-1}

   (4) 4.25×10^{-2} S cm^2 mol^{-1}

59. Which of the following will evolve hydrogen gas on reaction with dilute H_2SO_4 solution?

    (1) Au   (2) Cu

    (3) Ag   (4) Mg

60. The correct equation for Freundlich adsorption isotherm is

    (1) $\dfrac{x}{m} = k + \dfrac{1}{n}P$

    (2) $\log \dfrac{x}{m} = k - \dfrac{1}{n}\log P$

    (3) $\log \dfrac{x}{m} = k + \dfrac{1}{n}P$

    (4) $\log \dfrac{x}{m} = \log k + \dfrac{1}{n}\log P$

61. Select the incorrect statement about physisorption.

    (1) It is reversible in nature

    (2) It arises because of van der Waals force of attraction

    (3) It results into unimolecular layer under high pressure

    (4) No appreciable activation energy is needed

62. The rate constant for the reaction, $NH_4NO_2 \rightarrow N_2 + 2H_2O$ is 2.5×10^{-3} s^{-1}. If the rate of the reaction is 7.5×10^{-3} mol $L^{-1}s^{-1}$, then concentration of NH_4NO_2 (in mol L^{-1}) is

    (1) 1.5   (2) 2.5

    (3) 3   (4) 4.5

63. The overall order of a reaction which has the rate expression; rate = k $[A]^{1/2} [B]^1$ will be

    (1) 2   (2) 1.5

    (3) 0   (4) 1

64. If 0.3 molal weak monobasic acid is 30% ionised in an aqueous solution, then the freezing point of the solution will be (Given K_f of water = 1.86 Km^{-1})

    (1) −1.52°C

    (2) −0.73°C

    (3) −1.1°C

    (4) −0.25°C

65. If E^0_{cell} for a given cell reaction has a positive value, then which of the following represents the correct relationships for the value of $\Delta G°$ and K_{eq}?

    (1) $\Delta G° > 0$; $K_{eq} > 1$

    (2) $\Delta G° > 0$; $K_{eq} < 1$

    (3) $\Delta G° < 0$; $K_{eq} > 1$

    (4) $\Delta G° < 0$; $K_{eq} < 1$

66. Unit of rate constant of second order reaction is

    (1) $MolL^{-1}s^{-1}$

    (2) s^{-1}

    (3) $Mol^{-1}L^{-1}s^{-1}$

    (4) $Mol^{-1}Ls^{-1}$

67. Which among the following is an example of gel?

    (1) Butter

    (2) Cheese

    (3) Paints

    (4) Hair cream

68. Which enzyme converts sucrose into glucose and fructose?

    (1) Zymase   (2) Invertase

    (3) Maltase   (4) Diastase

69. In the Ostwald's process for the manufacture of nitric acid, the catalyst used is

    (1) Molybdenum

    (2) Platinised asbestos

    (3) V_2O_5

    (4) Finely divided iron

70. For zero order reaction, which is correct relation between $t_{1/2}$ and initial reactant concentration $[R]_0$?

    (1) $t_{1/2} \propto [R]_0$

    (2) $t_{1/2} \propto \dfrac{1}{[R]_0}$

    (3) $t_{1/2} \propto [R]_0^{\frac{3}{2}}$

    (4) $t_{1/2}$ is independent of $[R]_0$

71. Correct equation for calculating α for weak electrolyte using molar conductivity is

    (1) $\alpha = \dfrac{\Lambda_m^2}{\Lambda_m^0}$ (2) $\alpha = \dfrac{\sqrt{\Lambda_m}}{\Lambda_m^0}$

    (3) $\alpha = \dfrac{\Lambda_m}{\Lambda_m^0}$ (4) $\alpha = \dfrac{\Lambda_m + \Lambda_m^0}{\Lambda_m^0}$

72. The quantity of electricity required to convert 0.2 mol of MnO_4^{2-} to MnO_4^- is

    (1) 9650 C

    (2) 19300 C

    (3) 96500 C

    (4) 965 C

73. If resistance of a conductivity cell filled with 0.01 M KCl is 90 Ω and conductivity is 1.41×10^{-3} S cm^{-1} then cell constant of the conductivity cell will be

    (1) 2.3 cm^{-1}

    (2) 4.5 cm^{-1}

    (3) 0.82 cm^{-1}

    (4) 0.13 cm^{-1}

74. Number of Faradays of electricity required to deposit 127 g of copper from copper sulphate solution is (Atomic weight of Cu = 63.5)

    (1) 2   (2) 3

    (3) 4   (4) 5

75. If a solution contains 320 g of methyl alcohol, 230 g of ethyl alcohol and 180 g of water, then the mole fraction of ethyl alcohol in the solution is

    (1) 0.2   (2) 0.1

    (3) 0.4   (4) 0.05

76. Molar conductivity of which ion is highest at infinite dilution?

    (1) H$^+$ (2) OH$^-$

    (3) Na$^+$ (4) Cl$^-$

77. 32 g of methyl alcohol is present in 132 g of an aqueous solution. The molality of methyl alcohol in the solution is

    (1) 5 m   (2) 8 m

    (3) 12 m   (4) 10 m

78. If 160 g of NaOH is present in 500 ml of the aqueous solution, then the molarity of the solution will be

    (1) 2 M   (2) 8 M

    (3) 6 M   (4) 5 M

79. The rate constant of the reaction A $\rightarrow$ B is 2×10^{-2} s^{-1}. If concentration of A is 10 M then the time in which A will become 1 M is nearly

    (1) 120 s   (2) 180 s

    (3) 115 s   (4) 200 s

80. The incorrect statement about a catalyst is

    (1) A small amount of catalyst can catalyse a large amount of reactants.

    (2) A catalyst does not alter Gibbs energy, ΔG of a reaction.

    (3) A catalyst catalyses both spontaneous and non-spontaneous reactions.

    (4) A catalyst catalyses the forward as well as the backward reactions to the same extent.

81. If $t_{1/2}$ of a first order reaction in 8 minutes, then the fraction remained unreacted after 24 minutes will be

    (1) $\dfrac{1}{4}$ (2) $\dfrac{1}{6}$

    (3) $\dfrac{1}{16}$ (4) $\dfrac{1}{8}$

82. Which among the following is a semiconductor?

    (1) Iron

    (2) Silver

    (3) Silicon

    (4) Graphite

83. Percentage of total volume occupied by atoms in a simple cubic lattice is

    (1) 68%   (2) 52.4%

    (3) 48.5%   (4) 74%

84. Among the following, most unsymmetrical crystal system is

    (1) Tetragonal

    (2) Orthorhombic

    (3) Hexagonal

    (4) Triclinic

85. Total number of tetrahedral voids present in the unit cell of face centred cubic lattice is

    (1) 4   (2) 6

    (3) 8   (4) 10

SECTION-B

86. Inverse of resistance is called

    (1) Conductivity

    (2) Conductance

    (3) Resistivity

    (4) Cell constant

87. The standard reduction potential at 298 K for the following half cell reactions are given

    Co^{3+}(aq) + e $\longrightarrow$ Co^{2+}(aq),   E° = 1.81 V

    Ag$^+$(aq) + e $\longrightarrow$ Ag(s),   E° = 0.80 V

    Fe^{3+}(aq) + e $\longrightarrow$ Fe^{2+}(aq),   E° = 0.77 V

    Na$^+$(aq) + e $\longrightarrow$ Na(s),   E° = –2.71 V

    Which is the strongest reducing agent?

    (1) Fe^{2+}(aq)   (2) Na(s)

    (3) Ag(s)   (4) Co^{3+}(aq)

88. A dilute aqueous solution of Na$_2$SO$_4$ is electrolysed using platinum electrode. The product obtained at cathode is

    (1) $S_2O_8^{2-}$ (2) H$_2$

    (3) O$_2$ (4) Na

89. Half-life period of a radioactive sample is 16 days. After 64 days, 1 g of the sample will reduce to

    (1) $\dfrac{1}{8}$ g

    (2) $\dfrac{1}{32}$ g

    (3) $\dfrac{1}{64}$ g

    (4) $\dfrac{1}{16}$ g

90. Which among the following is an example of zero order reaction?

    (1) Hydrogenation of ethene

    (2) Decomposition of N_2O_5

    (3) Natural radioactive decay

    (4) Decomposition of gaseous ammonia on a hot platinum surface at high pressure

91. The method which is not employed in the purification of colloidal solution is

    (1) Dialysis

    (2) Electro-dialysis

    (3) Peptization

    (4) Ultrafiltration

92. For soaps, the critical micelle concentration is

    (1) 10^{-4} to 10^{-3} mol L^{-1}

    (2) 10^{-6} to 10^{-5} mol L^{-1}

    (3) 10^{-2} to 10^{-1} mol L^{-1}

    (4) 10^{-8} to 10^{-6} mol L^{-1}

93. In Haber's process of manufacture of ammonia the promoter used is

    (1) Cobalt

    (2) MnO_2

    (3) Molybdenum

    (4) V_2O_5

94. For the given cell, the emf of the cell at 25°C is

    (given; $E^{\circ}_{Zn^{2+}/Zn} = -0.76\,V$; $E^{\circ}_{Cu^{2+}/Cu} = 0.34\,V$)

    $Zn(s) + Cu^{2+}(0.001\,M) \longrightarrow Zn^{2+}(0.01\,M) + Cu(s)$

    (1) 0.91 V

    (2) 1.07 V

    (3) 1.21 V

    (4) 0.85 V

95. In lead storage battery, the electrolyte used is

    (1) Paste of KOH and ZnO

    (2) 38% solution of H_2SO_4

    (3) Paste of NH_4Cl and $ZnCl_2$

    (4) 40% solution of KOH

96. Hydrolysis of cane sugar in acidic medium is

    (1) Third order reaction

    (2) Zero order reaction

    (3) Pseudo first order reaction

    (4) Second order reaction

97. The equilibrium constant of the reaction

    $Ni(s) + Cu^{2+}(aq) \rightarrow Cu(s) + Ni^{2+}(aq)$

    at 298 K is

    $\left(E^{\circ}_{Cu^{2+}/Cu} = 0.34\,V \text{ and } E^{\circ}_{Ni^{2+}/Ni} = -0.25\,V\right)$

    (1) 2×10^{10}

    (2) 1×10^{30}

    (3) 1×10^{40}

    (4) 1×10^{20}

98. If Λ°_m for NaCl, HCl and CH_3COONa are x, y and z S cm^2 mol^{-1} respectively then Λ°_m for CH_3COOH in S $cm^2 mol^{-1}$ will be

    (1) x + y – z

    (2) z + x – y

    (3) z + y – x

    (4) z – y – x

99. For Arrhenius plot of ln k vs $\dfrac{1}{T}$ slope is given by

    (1) ln A

    (2) $\dfrac{E_a}{R^2}$

    (3) $-\dfrac{E_a}{R}$

    (4) –ln A

100. Which among the following is a positively charged sol?

    (1) Copper sol

    (2) Gold sol

    (3) Haemoglobin

    (4) As_2S_3 sol

BOTANY

SECTION-A

101. Adenine & guanine are

    (1) Heterocyclic

    (2) Have nitrogen only at position 1 and 3

    (3) 6-membered double ring structures

    (4) Pyrimidines

102. Select the **mis-matched** pair.

    (1) φ X 174 bacteriophage　　5386 bases

    (2) *E.coli*　　Linear DNA

    (3) *E.coli*　　ds DNA

    (4) Human genome　　3.3×10^9 bp

103. Select the **incorrect** statement.

    (1) DNA is genetic material in all organisms except some viruses

    (2) RNA is genetic material in riboviruses.

    (3) Term 'factor' was used by Mendel

    (4) DNA is a basic substance which was first identified by Altmann.

104. Study the given pedigree chart and choose the **correct** option.
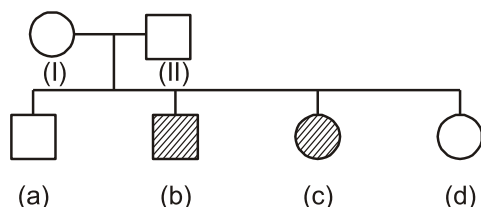
    (1) Genotype of (I) cannot be Aa

    (2) (a) shows genotype 'aa'

    (3) Trait can be autosomal recessive

    (4) The trait is sex linked

105. Which among the following is an autosomal dominant trait?

    (1) Myotonic dystrophy

    (2) Sickle cell anaemia

    (3) Phenylketonuria

    (4) Colour blindness

106. In a virus, the percentage of thymine was 21%, adenine 32%, cytosine 23% and guanine 24% in its genetic material. The nature of genetic material is

    (1) ds DNA   (2) ss DNA

    (3) ss RNA   (4) ds RNA

107. Read the given statements and select the **correct** option.

    Statement A : Mendel's law of independent assortment is not true for the genes that are linked.

    Statement B : In incomplete dominance, F_1 phenotype does not resemble either of the two parents.

    (1) Only A is incorrect

    (2) Only B is incorrect

    (3) Both A and B are correct

    (4) Both A and B are incorrect

108. In prokaryotes, DNA is found in

    (1) Nucleolus   (2) Nucleus

    (3) Mitochondria   (4) Cytoplasm

109. Reverse of central dogma was reported by

    (1) Watson and Baltimore

    (2) Crick and Watson

    (3) Temin and Baltimore

    (4) Mendel and Morgan

110. What will be the number of phosphodiester bonds in a circular DNA molecule if it contains 500 bp?

    (1) 2000   (2) 1000

    (3) 998   (4) 999

111. Select the **incorrect** statement about lambda phage.

    (1) Has ds DNA

    (2) Has 5386 nucleotides

    (3) DNA is linear

    (4) It is a virus

112. Select the **incorrect** statement among the following about DNA.

    (1) The plane of one base pair stacks over the other in a double helix of DNA.

    (2) The pitch of the DNA double helix is 3.4 nm.

    (3) H-bonds confer additional stability to the helical structure.

    (4) Two nucleotides in a single strand are linked through H-bonds to form a dinucleotide.

113. The ability to taste the chemical PTC is an autosomal dominant trait. If a taster woman with taster mother (who is heterozygous for the trait) and non-taster father, marries a non-taster man then the probability of getting taster male children will be

    (1) $\dfrac{3}{4}$ (2) $\dfrac{1}{8}$

    (3) $\dfrac{1}{4}$ (4) $\dfrac{3}{8}$

114. Identify the given pedigree symbols and choose the **correct** option w.r.t. consanguineous mating.
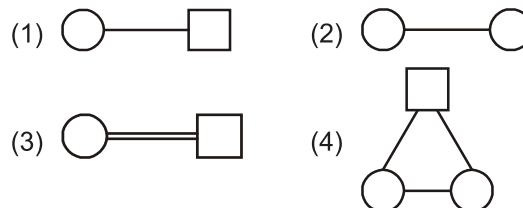
115. Consider if a man whose mother was colourblind marries a woman whose father was also colourblind but mother was absolutely normal. Calculate what percentage of their male progeny will have colourblindness?

    (1) 0%   (2) 25%

    (3) 50%   (4) 75%

116. Read the following statements and select the **correct** option.

     Statement A : Substitution of a purine base with a pyrimidine base is transversion.

     Statement B : The backbone of polynucleotide chain (DNA) is formed to sugar and phosphate.

     (1) Only A is incorrect

     (2) Only B is incorrect

     (3) Both A and B are incorrect

     (4) Both A and B are correct

117. Mendelian disorder are mainly determined by

     (1) Deletion of one arm of chromosome

     (2) Disruption in structure of chromosome

     (3) Mutation in sex chromosome only

     (4) Mutation in the single gene

118. How many chromosome are present in the diploid honeybee?

     (1) 5   (2) 16

     (3) 32   (4) 64

119. Select the **correct** statements out of the following and mark the correct option.

     A : The sex determination in honey bee is based on the number of sets of chromosomes an individual receives.

     B : In human beings, Y is a sex chromosome.

     C : In human males, all sperms contain same number and type of autosomes and sex chromosome.

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

     (3) Only C   (4) C and A

120. Females and males are heterogametic in _____(i)_____ and _____(ii)_____ respectively.

     Select the correct option for (i) and (ii).

	(i)	(ii)
(1)	Grasshopper	Birds
(2)	Birds	Grasshopper
(3)	*Drosophila*	Butterflies
(4)	Moth	Birds

121. A cross was made between two individuals. Some offsprings obtained were parental and some were recombinants. The maximum percentage of recombinants and parental types in any cross can be respectively

     (1) 50%   100%

     (2) 100%   50%

     (3) 70%   70%

     (4) 80%   80%

122. Which of the following traits do not show quantitative inheritance?

     (1) Corolla length in tobacco

     (2) Skin colour in man

     (3) Phenylketonuria

     (4) Kernel colour in wheat

123. In Mendel's dihybrid cross, the probability of getting plants in F_2 generation which are heterozygous for both seed shape and seed colour is

     (1) $\dfrac{1}{16}$ (2) $\dfrac{2}{9}$

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

124. Find the **incorrect** match.

	Blood group of Parent 1	Blood group of Parent 2	Possible blood types of offspring
(1)	A	B	O
(2)	O	A	A
(3)	B	O	B
(4)	AB	O	O

125. A gene which controls starch synthesis shows incomplete dominance for the character. The genotype 'Bb' shows

     (1) Large sized starch grains

     (2) Small sized starch grains

     (3) Intermediate sized starch grains

     (4) Tiny sized starch grains

126. When a cross was made between pink flowered and white flowered snapdragon plants, what will be the percentage of white flowered plants in progeny?

     (1) 0%   (2) 25%

     (3) 50%   (4) 100%

127. "A gamete carries only one factor of a character". Above statement justifies

     (1) Law of dominance

     (2) Incomplete dominance

     (3) Law of segregation

     (4) Law of independent assortment

128. Consider violet flower colour is dominant over white flower colour. To determine the genotype of violet flowered pea plant of F_1 generation, it should be crossed with

     (1) White flowered pea plant

     (2) Homozygous dominant parent

     (3) Heterozygous recessive parent

     (4) Pure violet flowered pea plant

129. How many maximum different types of gametes can be formed by a diploid organism if it is homozygous for one locus and heterozygous for three loci?

    (1) 2
    (2) 4
    (3) 6
    (4) 8

130. Which of the following traits expresses itself only in homozygous condition?

    (1) Yellow seed colour
    (2) Violet flower colour
    (3) Green pod colour
    (4) Terminal flower position

131. If both angiospermic male and female plants are tetraploid then what will be the ploidy level of PEN and zygote respectively?

    (1) 6n and 4n
    (2) 2n and 3n
    (3) 3n and 2n
    (4) 4n and 6n

132. Consider the following statements related to anther walls and choose the **correct** option.

    A : Epidermis is outermost, single layer which is protective in function.

    B : Cells of middle layer are ephemeral and degenerate at maturity.

    (1) Only A is incorrect
    (2) Only B is incorrect
    (3) Both A and B are incorrect
    (4) Both A and B are correct

133. Asexual reproduction may involve all, **except**

    (1) Formation of gametes
    (2) Only one parent
    (3) Fusion of gametes
    (4) Formation of clones

134. Find the **incorrect** match.

    (1) *Chlamydomonas*   Zoospores
    (2) Yeast   Sporangiospore
    (3) *Penicillium*   Conidia
    (4) *Chara*   Jacketed sex organs

135. The common features found between *Chara* and *Marchantia* are

    a. Motile male gametes
    b. Internal fertilisation
    c. Haploid gametophyte
    d. Diploid zygote
    e. Presence of embryo

    (1) a, b and d only
    (2) a and e only
    (3) c, d and e
    (4) All except e

SECTION-B

136. In a Mendelian dihybrid cross, out of 16 progenies, how many are parental type?

    (1) Four
    (2) Ten
    (3) Three
    (4) Nine

137. Who gave Chromosomal Theory of Inheritance?

    (1) Sutton and Boveri
    (2) T.H. Morgan
    (3) G.J. Mendel
    (4) Bateson

138. What is the probability of getting plants with genotype 'rrYy' in F_2 generation of Mendel's dihybrid cross between a pure round yellow seeded pea plant with wrinkled green seeded pea plant?

    (1) $\dfrac{1}{16}$
    (2) $\dfrac{3}{8}$
    (3) $\dfrac{1}{8}$
    (4) $\dfrac{4}{9}$

139. State the given statements as true (**T**) or false (**F**) and select the correct option.

    A. Haplodiploid sex determination system is seen in honey bee.

    B. Drones do not have father but have grandfather.

    C. Males of honey bees are diploid with 8 chromosomes.

	A	B	C
(1)	T	F	F
(2)	F	T	T
(3)	T	T	F
(4)	F	F	T

140. Read the following statements and select the **correct** ones.

    a. In moths, females are heterogametic.
    b. All the normal haploid ova produced by human females have same number of 'X' chromosomes.
    c. Birds show ZO – ZZ type of sex determination.
    d. Male *Drosophila* is homogametic.

    (1) a and b
    (2) b and c
    (3) c and d
    (4) d and a

141. A normal woman whose father was colour blind but mother was normal, marries a normal man. What percentage of female progeny will be colour blind?

    (1) 0%　　　　　　　　(2) 25%

    (3) 50%　　　　　　　(4) 100%

142. Read the given statements and select the **correct** option.

    Statement A : Thalassemia is autosomal recessive disorder.

    Statement B : Thalassemia are a group of disorders caused by defects in the synthesis of globin polypeptide in RBC.

    (1) Only A is incorrect

    (2) Only B is incorrect

    (3) Both A and B are incorrect

    (4) Both A and B are correct

143. For how many years, Mendel worked on *Pisum sativum* and proposed the law of inheritance?

    (1) Seven　　　　　　(2) Nine

    (3) Four　　　　　　(4) Seventeen

144. If the length of DNA is 2.2 m in a human diploid cell, then calculate the number of bp in that DNA?

    (1) 6.6×10^9　　　　(2) 46×10^6

    (3) 4.6×10^6　　　　(4) 66×10^9

145. Mark the **odd** one w.r.t. Chargaff's rule.

    (1) A + G = T + C

    (2) A + T / C + G = 0.92 for *E.coli*

    (3) Guanine is equimolar to cytosine

    (4) Applicable for both single as well as double stranded DNA

146. The egg apparatus is

    (1) 7 celled and 8 nucleated

    (2) 3 celled and 3 nucleated

    (3) 8 celled and 7 nucleated

    (4) 3 celled and 6 nucleated

147. The progenitor of next generation inside the mature seed is

    (1) Endosperm

    (2) Embryo

    (3) Perisperm

    (4) Nucellus

148. Apomixis is formation of

    (1) Seeds without fertilisation

    (2) Fruits without fertilisation

    (3) Female gamete from MMC

    (4) Male gamete in pollen grain

149. The ovule found in 82% angiospermic families is

    (1) Orthotropous

    (2) Anatropous

    (3) Amphitropous

    (4) Campylotropous

150. All given are characteristics of water pollinated flowers, **except**

    (1) Long, sticky stigma

    (2) Unwettable stigma

    (3) Unwettable pollen grains

    (4) Sticky pollen grains but non-sticky stigma

ZOOLOGY

SECTION-A

151. Select the incorrect statement.

    (1) The first mammals were like shrews.

    (2) Due to continental drift pouched mammals of Australia survived.

    (3) Snakes are the closest living relatives of crocodiles.

    (4) Whales, dolphins, seals and sea cows are examples of mammals.

152. Select the **correct** sequence of evolutionary history of vertebrates.

    (1) Early reptiles → Synapsids → Pelycosaurs → Therapsids

    (2) Sauropsids → Thecodonts → Therapsids → Pelycosaurs

    (3) Synapsids → Sauropsids → Thecodonts → Pelycosaurs

    (4) Synapsids → Sauropsids → Pelycosaurs → Therapsids

153. Read the given statements and select the **correct** option.

Statement A: Lobefins evolved into the first amphibians that lived on both land and water.

Statement B: The first organisms that invaded land were plants.

(1) Both statements are incorrect

(2) Only statement A is correct

(3) Only statement B is correct

(4) Both statements are correct

154. According to Darwin, variations are

(1) Random and directionless

(2) Small and directional

(3) Large and directional

(4) Small and directionless

155. Wombat and bandicoot are examples of

(1) Adaptive radiation

(2) Convergent evolution

(3) Adaptive convergence

(4) Anthropogenic selection

156. Choose the **odd** one w.r.t. copper releasing IUD.

(1) CuT   (2) Cu7

(3) LNG-20   (4) Multiload 375

157. Chemical contraceptives like jellies and foam are used along with all of the given contraceptives **except**

(1) Vaults   (2) Diaphragm

(3) Cervical caps   (4) Lippes loop

158. Statutory raising of marriageable age of the males to __(A)__ years and that of females to __(B)__ years is one of the measures taken to tackle the problem of rapid population growth.

Select the option that correctly identifies (A) and (B).

	A	B
(1)	18	16
(2)	21	18
(3)	19	18
(4)	20	19

159. The probable reasons for population explosion include all **except**

(1) Increase in number of people in reproducible age

(2) Rapid decline in death rate

(3) Decrease in IMR

(4) Increase in MMR

160. Saheli, a new oral contraceptive for the females was developed by the scientists at CDRI which is located in

(1) Hyderabad   (2) Lucknow

(3) Bangalore   (4) Delhi

161. When were the 'family planning' programmes initiated in India?

(1) 1951   (2) 1972

(3) 1945   (4) 1961

162. Select the odd one w.r.t. male sex accessory ducts.

(1) Rete testis   (2) Vas deferens

(3) Seminiferous tubule (4) Epididymis

163. All of the following takes place under favourable conditions in *Amoeba,* **except**

(1) Sporulation

(2) Multiple fission

(3) Formation of pseudopodiospores

(4) Encystation

164. Which one of the following scientists is **not** correctly matched with the theory/concept put forth by them?

(1)	Hugo deVries	–	Mutation Theory
(2)	Darwin	–	Natural selection
(3)	Ernst Haeckel	–	Biogenetic law
(4)	Louis Pasteur	–	Theory of chemical evolution

165. Homologous structures observed in nature indicate

(1) Shared ancestry

(2) Convergent evolution

(3) Parallel evolution

(4) Stabilizing selection

166. In Hardy-Weinberg equation, the frequency of homozygous dominant individuals is represented by
    (1) p^2
    (2) $2pq$
    (3) q^2
    (4) pq

167. Darwin found that different varieties of finches on Galapagos island evolved from
    (1) Insect-eating ancestor bird
    (2) Cactus-eating ancestor bird
    (3) Fruit-eating ancestor bird
    (4) Seed-eating ancestor bird

168. Darwin's theory does **not** include which of the following ideas?
    (1) Struggle for existence
    (2) Gradual and small variations
    (3) Low rate of reproduction irrespective of species
    (4) Survival of the fittest

169. Phenomenon **not** associated with Darwin's finches is
    (1) Divergent evolution
    (2) Convergent evolution
    (3) Adaptive radiation
    (4) Speciation

170. Choose the option which does not disturb Hardy-Weinberg equilibrium.
    (1) Presence of genetic drift
    (2) Presence of mutation
    (3) Presence of gene migration
    (4) Presence of random mating

171. Select the **incorrect** statement.
    (1) Dominant land plants in present era are gymnosperms.
    (2) Lycopods are the descendants of *Zosterophyllum.*
    (3) Modern ferns and seed plants evolved from *Psilophyton.*
    (4) *Zosterophyllum* was dominant in Silurian and Devonian period.

172. Which of the following has maximum average life span among the given animals?
    (1) Crow
    (2) Parrot
    (3) Crocodile
    (4) Butterfly

173. The closest fossil link between the genus *Homo* and ape was
    (1) *Australopithecus*
    (2) *Ramapithecus*
    (3) *Dryopithecus*
    (4) Neanderthal man

174. The process of evolution of different species in an isolated geographical area and their radiation to other habitats is known as
    (1) Natural selection
    (2) Mutation
    (3) Adaptive radiation
    (4) Convergent evolution

175. The biggest land reptile which was 20 feet in height and had huge fearsome dagger-like teeth was
    (1) *Tyrannosaurus*
    (2) *Archaeopteryx*
    (3) *Ichthyosaurs*
    (4) *Brachiosaurus*

176. Read the given statements.
    a   About 2000 mya, the first cellular forms of life appeared on earth.
    b. About 500 mya, invertebrates were formed and were active on earth.
    c. Probably around 320 mya, sea weeds and few plants existed.
    d. Fish-like reptiles such as crocodiles evolved probably 200 mya.
    Choose the option with **correct** statements only.
    (1) a and b only
    (2) c and d
    (3) a, b and c
    (4) a, b and d

177. Choose the **incorrect** statement w.r.t human population explosion.
    (1) In 1947, Indian population was approximately 350 million.
    (2) According to the 2011 census report, the population growth rate was more than 2.7%.
    (3) In year 2000, population in India reached close to one billion mark.
    (4) In 2000, world population reached close to about 6 billion.

178. Foetal sex determination test which is based on the chromosomal pattern obtained from a sample of amniotic fluid surrounding the developing embryo is known as
    (1) Electrocardiograph
    (2) Amniocentesis
    (3) Gravindex test
    (4) Haemodialysis

179. Read the following statements A and B.

    A.: Vasectomy and tubectomy are highly effective contraceptive measures but their reversibility is very poor.

    B.: Contraceptives are regular requirements for the maintenance of reproductive health.

    Choose the **correct** option.

    (1) Both statements are correct

    (2) Both statements are incorrect

    (3) Statement A is correct but B is incorrect

    (4) Statement A is incorrect but B is correct

180. Which one is an **incorrect** match?

    (1) GIFT - Genome inter fallopian transfer

    (2) ICSI - Intra cytoplasmic sperm injection

    (3) AI – Artificial insemination

    (4) IVF – *In vitro* fertilisation

181. The chromosome number in meiocyte of fruit fly is 8. What is the chromosome number in a gamete of housefly?

    (1) 16

    (2) 12

    (3) 6

    (4) 4

182. On which day of a normal menstrual cycle of 28 days does ovulation occur in female primates?

    (1) 10th day   (2) 12th day

    (3) 14th day   (4) 16th day

183. In human beings_____undergoes meiosis II.

    Select the option that fills the blank **correctly**.

    (1) Primary spermatocyte

    (2) Secondary oocyte

    (3) 2nd polar body

    (4) Primary oocyte

184. Milk produced during the initial few days of lactation is called

    (1) Amniotic fluid   (2) Serum

    (3) Colostrum   (4) Seminal fluid

185. Choose the **odd** one w.r.t structures of female reproductive system.

    (1) Vagina   (2) Clitoris

    (3) Cervix   (4) Foreskin

SECTION-B

186. All of the following contraceptives affect the reproductive hormonal cycle of females, **except**

    (1) Mala D   (2) Nirodh

    (3) Progestastert   (4) Implants

187. Which one of the following contraceptives protects the user from STIs?

    (1) Oral pills

    (2) Intrauterine devices

    (3) Injectable contraceptives

    (4) Barrier contraceptives like condoms

188. Whales, bats, cheetahs and humans share similarities in

    (1) Total number of bones in body

    (2) Pattern of bones of forelimbs

    (3) Habitat

    (4) Feeding habit

189. What were the two main points of difference between various Darwin's finches?

    (1) Body colour and size

    (2) Colour of eye and flying capacity

    (3) Feeding habits and shape of beak

    (4) Body colour and ancestor

190. Which one of the following contraceptive methods has the highest success rate to control unwanted pregnancies?

    (1) Natural rhythm method

    (2) Implants

    (3) Barrier methods

    (4) Chemical contraceptives

191. Find the odd one out, with respect to the characteristics of an ideal contraceptive.

    (1) User friendly

    (2) Absence of side-effects

    (3) Irreversible

    (4) Easily available

192. Complete the analogy and select the correct option.

    Lemur : Spotted cuscus : : Anteater : _____

    (1) Numbat

    (2) Tasmanian tiger cat

    (3) Marsupial mole

    (4) Flying phalanger

193. Read the given statements and select the correct option.

     Statement A: Evolution is a directed process in the sense of determinism.

     Statement B: Evolution is based on chance events in nature and chance mutation in the organisms.

     (1) Both statements (A) and (B) are correct

     (2) Both statements (A) and (B) are incorrect

     (3) Only statement (A) is correct

     (4) Only statement (B) is correct

194. Sweet potato and potato are examples of

     (1) Homologous structures and represent divergent evolution

     (2) Analogous structures and represent divergent evolution

     (3) Homologous structures and represent convergent evolution

     (4) Analogous structures and represent convergent evolution

195. About how much temperature was maintained by S.L. Miller in a closed flask containing gases and water vapour?

     (1) 900°C   (2) 800°F

     (3) 800°C   (4) 900°F

196. Transfer of embryos with more than 8 blastomeres into the uterus is called

     (1) ZIFT   (2) IUT

     (3) IUI   (4) GIFT

197. The contraceptive method that can prevent conception but has a high failure rate among the following is

     (1) OCPs   (2) Vasectomy

     (3) Coitus interruptus (4) IUDs

198. STIs like hepatitis-B and HIV can be transmitted by all of the following **except**

     (1) Sharing of injection needles with an infected person

     (2) Transfusion of blood from an infected person

     (3) From infected mother to foetus

     (4) Sharing of clothes and food with an infected person

199. Which layer of uterus is the site for implantation of the fertilised ovum?

     (1) Endometrium   (2) Myometrium

     (3) Perimetrium   (4) Endothelium

200. All of the given hormones are produced in women only during pregnancy **except**

     (1) hCG   (2) hPL

     (3) Relaxin   (4) Estrogen

□ □ □