



the best of creative minds

Margdarshan
for JEE (Main & Advanced), NTSE, KVPY, Olympiad
A Division of SHYAM SAI CLASSES PVT. LTD.



HINDUSTAN MARGDARSHAN SCHOLARSHIP TEST-2017-18
SAMPLE PAPER
FOR
CLASS 12th (Appearing), [MEDICAL]

INSTRUCTIONS

Please read the instructions carefully. You are allotted 5 minutes specifically for this purpose.
You are not allowed to leave the examination hall before the end of the test.

[A] General :

1. Attempt ALL the questions. Answer have to be marked on the **OMR** sheets
2. This question paper contains **180 questions**.
3. The question paper consists of **THREE Parts Physics, Chemistry & Mathematics**
4. Blank spaces are provided at the bottom of each page for rough work. No additional sheets will be provided for rough work.
5. Blank paper, clipboard, log tabs, silde rules, calculators, cellular phones, pagers and electronic gadgets in any form are **NOT** allowed.
6. Do not Tamper / mutilate the **OMR sheet** or this booklet.
7. Do not break the seals of the question-paper booklet before instructed to do so by the invigilator.
8. **SUBMIT** the OMR sheet to the invigilator after completing the test & take away the test paper with you.

[B] Filling of OMR Sheet :

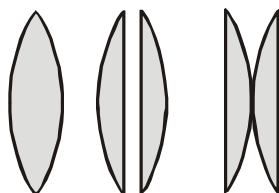
9. In all the parts, each question will have 4 choices out of which **only one choice is correct**
10. Use only Black/Blue ball point pen for filling the OMR sheet.
11. On the OMR sheet, darken the appropriate bubble for each character of your name, Registration No., Phone No. etc.

[C] Marking Scheme :

12. For each right answer you will be **awarded 4 marks** if you darken the bubble corresponding to the correct answer and **zero marks** if no bubble is darkened. In case of bubbling of incorrect answer, **minus one (-1)** mark will be awarded.

PHYSICS

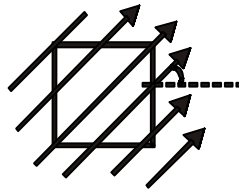
- A boy stands straight in front of a mirror at a distance of 30 cm away from it. He sees his erect image whose height is $\frac{1}{5}$ th of his real height. The mirror he is using is :-
(A) plane mirror (B) convex mirror (C) concave mirror (D) convex lens
- A plane mirror produces a magnification of :-
(A) -1 (B) +1
(C) Zero (D) between 0 and $+\infty$
- A concave mirror is used to form an image of the sun on a white screen. If the lower half of the mirror were covered with an opaque card, the effect on the image on the screen would be-
(A) Negligible
(B) To make the image less bright than before
(C) To make the upper half of the image disappear
(D) To make the lower half of the image disappear
- Focal length of convex lens is 20 cm. Its power will be :-
(A) 5 D (B) 3D (C) 2D (D) None
- An object placed 10 cm in front of a lens has an image 20 cm behind the lens. What is the power of the lens (in diopetre) ?
(A) 1.5 (B) 3.0 (C) - 5.0 (D) +15.0
- A convex lens of focal length 20 cm is cut into two equal parts so as to obtain two parts so as to obtain two plano-convex lenses as shown in figure. The two parts are then put in contact as shown in figure. What is the focal length of the combination ?



- (A) zero (B) 5 cm (C) 10 cm (D) 20 cm
- A convex lens of focal length 40 cm, a concave lens of focal length 40 cm and a concave lens of focal length 15 cm are placed in contact. The power of this combination is :-
(A) + 1.5 D (B) - 1.5 D (C) + 6.67 D (D) - 6.67 D
 - A ray of light is incident normally on one face of an equilateral prism of refractive index 1.5. The angle of deviation is :-
(A) 30° (B) 45° (C) 60° (D) 75°
 - A short linear object of length b lies along the axis of a concave mirror of focal length f , at a distance u from the mirror. The size of the image is ?

(A) $b \left(\frac{u-f}{f} \right)^{1/2}$ (B) $b \left(\frac{f}{f-u} \right)$ (C) $b \left(\frac{u-f}{f} \right)^2$ (D) $b \left(\frac{f}{u-f} \right)^2$

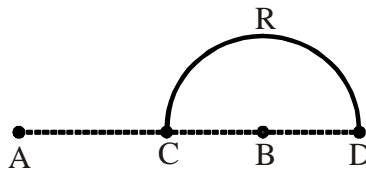
10. A boy of height 1m stands in front of a convex mirror. This distance from the mirror is equal to its focal length. The height of his image is :-
 (A) 0.25 m (B) 0.33 m (C) 0.5 m (D) 0.67 m
11. A thin lens of refractive index 1.5 has a focal length 15 cm in air when the lens is placed in a medium of refractive index $\frac{4}{3}$ its focal length will become :-
 (A) 30 cm (B) 45 cm (C) 60 cm (D) 75 cm
12. Two charged metal spheres of radii R and 2R are temporarily placed in contact and then separated. Which of the following has the greater value at surface for smaller sphere :-
 (a) Charge (b) Charge density (c) Potential (d) Electric field
 (A) b, d (B) a,b,d (C) b, c, d (D) Only b
13. A square surface of side L meter in the plane of the paper is placed in a uniform electric field E (volt/m) acting along the same plane at an angle θ with the horizontal side of the square as shown in figure. The electric flux linked to the surface, in units of volt-m, is :-



- (A) Zero (B) EL^2 (C) $EL^2 \cos \theta$ (D) $EL^2 \sin \theta$
14. Three concentric spherical shells have radii a, b and c ($a < b < c$) and have surface charge densities σ , $-\sigma$ and σ respectively. If V_A , V_B and V_C denote the potentials of the three shells, then, for $c = a + b$, we have
 (A) $V_C = V_B = V_A$ (B) $V_C = V_A^{-1} V_B$ (C) $V_C = V_B^{-1} V_A$ (D) $V_C^{-1} V_B^{-1} V_A$
15. The mean free path of electrons in a metal is 4×10^{-8} m. The electric field which can give on an average 2eV energy to an electron in the metal will be in units of V/m :-
 (A) 5×10^7 (B) 8×10^7 (C) 5×10^{-11} (D) 8×10^{-11}
16. Two positive ions, each carrying a charge q, are separated by a distance d. If F is the force of repulsion between the ions, the number of electrons missing from each ion will be (e being the charge on an electron) :-

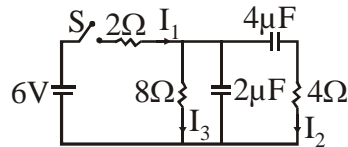
(A) $\frac{4\pi \epsilon_0 Fd^2}{q^2}$ (B) $\frac{4\pi \epsilon_0 Fd^2}{e^2}$ (C) $\sqrt{\frac{4\pi \epsilon_0 Fe^2}{d^2}}$ (D) $\sqrt{\frac{4\pi \epsilon_0 Fd^2}{e^2}}$

17. Charges +q and -q are placed at points A and B respectively which are at distance 2L apart, C is the midpoint between A and B. The work done in moving a charge +Q along the semicircle CRD is :-

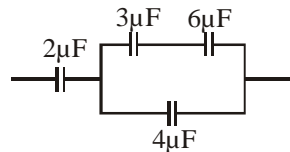


(A) $-\frac{qQ}{6\pi \epsilon_0 L}$ (B) $\frac{qQ}{4\pi \epsilon_0 L}$ (C) $\frac{qQ}{2\pi \epsilon_0 L}$ (D) $\frac{qQ}{6\pi \epsilon_0 L}$

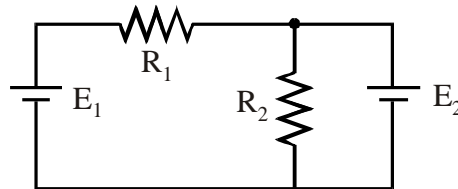
18. A condenser having capacity $2.0 \mu\text{F}$ is charged to 200 volts and then the plates of the capacitor are connected to a resistance wire. Thus, heat produced in joules will be :-
 (A) $2 \times 10^{-2} \text{ J}$ (B) $4 \times 10^{-2} \text{ J}$ (C) $4 \times 10^{10} \text{ J}$ (D) $4 \times 10^4 \text{ J}$
19. Three capacitors each of capacitance C and of breakdown voltage V are joined in series. The capacitance and breakdown voltage of the combination will be :-
 (A) $3C, 3V$ (B) $C/3, V/3$ (C) $3C, V/3$ (D) $C/3, 3V$
20. In the circuit shown in the figure, the switch S is initially open and the capacitor is initially uncharged. I_1, I_2 and I_3 represent the current in the resistance $2\Omega, 4\Omega$ and 8Ω respectively.



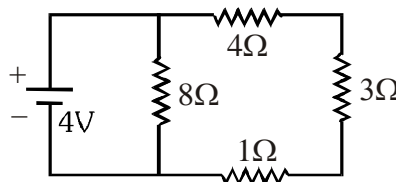
- (A) just after the switch S is closed, $I_1 = 3\text{A}, I_2 = 3\text{A}$ and $I_3 = 0$
 (B) just after the switch S is closed, $I_1 = 3\text{A}, I_2 = 0$ and $I_3 = 0$
 (C) long time after the switch S is closed, $I_1 = 0.6\text{A}, I_2 = 0$ and $I_3 = 0$
 (D) long time after the switch S is closed, $I_1 = I_2 = I_3 = 0.6\text{A}$.
21. Charge on capacitor $2 \mu\text{F}$ is (potential on capacitor $3 \mu\text{F}$ is 6V) :-



- (A) $18 \mu\text{C}$ (B) $36 \mu\text{C}$ (C) $54 \mu\text{C}$ (D) $6 \mu\text{C}$
22. Two resistors R_1 and R_2 are joined as in fig. What is the current in R_1 :-



- (A) $\frac{(E_1 - E_2)}{R_1}$ (B) $\frac{(E_1 - E_2)}{R_1 + R_2}$ (C) $\frac{E_1}{R_1 + R_2}$ (D) None
23. Five very long, straight wires are bound together to form a small cable. Currents carried by the wires are $I_1 = 20\text{A}, I_2 = -6\text{A}, I_3 = 12\text{A}, I_4 = -7\text{A}, I_5 = 18\text{A}$. The magnetic induction at a distance 10 cm from the cable is :-
 (A) $34 \mu\text{T}$ (B) 74mT (C) 34mT (D) $74 \mu\text{T}$
24. An electric circuit is shown in the following diagram. The value of current which flows in the resistance of 8Ω is

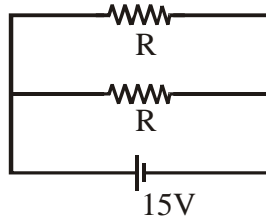


- (A) 2A (B) 1A (C) 0.5A (D) 0.25A

25. A potentiometer consists of a wire of length 4m. and resistance 10Ω . it is connected to a cell of e.m.f. 2V. The potential difference per unit length of the wire will be :-

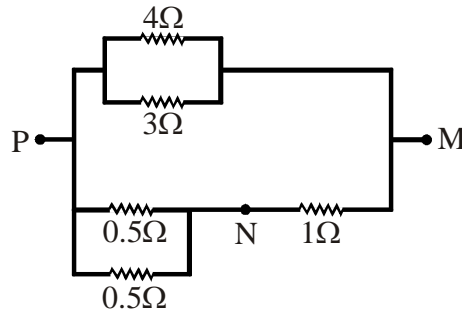
- (A) 0.5 V/m (B) 2 V/m (C) 5 V/m (D) 10 V/m

26. Find R, if power dissipated in the circuit is 150 watt :-



- (A) 2Ω (B) 6Ω (C) 7Ω (D) 3Ω

27. In the circuit shown, the current through the 4Ω resistor is 1 amp when the points P and M are connected to a d.c. voltage source. The potential difference between the points M and N is :-



- (A) 0.5 volt (B) 3.2 volt (C) 1.5 volt (D) 1.0 volt

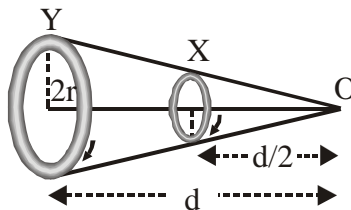
28. An electric motor operates on a 50 volt supply and a current of 12A. If the efficiency of the motor is 30%, what is the resistance of the winding of the motor :-

- (A) 6Ω (B) 4Ω (C) 2.9Ω (D) 3.1Ω

29. Two cells, having the same e.m.f., are connected in series through an external resistance R. Cell have internal resistances r_1 and r_2 ($r_1 > r_2$) respectively. When the circuit is closed, the potential difference across the first cell is zero. The value of R is :-

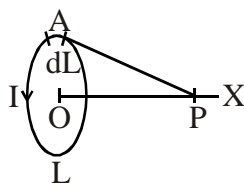
- (A) $r_1 - r_2$ (B) $\frac{r_1 + r_2}{2}$ (C) $\frac{r_1 - r_2}{2}$ (D) $r_1 + r_2$

30. Two circular coils X and Y, having equal number of turns, carry equal currents in the same sense and subtend same solid angle at point O. If the smaller coil, X is midway between O and Y, then if we represent the magnetic induction due to bigger coil Y at O as B_Y and that due to smaller coil X at O as B_X , then :-

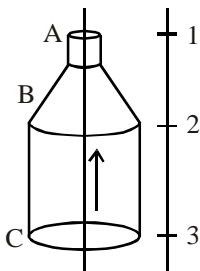


- (A) $\frac{B_Y}{B_X} = 1$ (B) $\frac{B_Y}{B_X} = 2$ (C) $\frac{B_Y}{B_X} = \frac{1}{2}$ (D) $\frac{B_Y}{B_X} = \frac{1}{4}$

31. If the magnetic dipole moment of an atom of diamagnetic material, paramagnetic material and ferromagnetic material are denoted by μ_d , μ_p and μ_f respectively, then
- (A) $\mu_p = 0$ and $\mu_f \neq 0$ (B) $\mu_d \neq 0$ and $\mu_p = 0$
 (C) $\mu_d \neq 0$ and $\mu_f \neq 0$ (D) $\mu_d = 0$ and $\mu_p \neq 0$
32. A vibration magnetometer placed in magnetic meridian has a small bar magnet. The magnet executes oscillations with a time period of 2 sec in earth's horizontal magnetic field of 24 microtesla. When a horizontal field of 18 microtesla is produced opposite to the earth's field by placing a current carrying wire, the new time period of magnet will be :
- (A) 4s (B) 1s (C) 2s (D) 3s
33. A bar magnet having a magnetic moment of $2 \times 10^4 \text{ JT}^{-1}$ is free to rotate in a horizontal plane. A horizontal magnetic field $B = 6 \times 10^{-4} \text{ T}$ exists in the space. The work done in taking the magnet slowly from a direction parallel to the field to a direction 60° from the field is :-
- (A) 2J (B) 0.6 J (C) 12 J (D) 6 J
34. The permeability of a paramagnetic substance is :-
- (A) Slightly more than vacuum (B) Slightly less than vacuum
 (C) Much more than vacuum (D) None of the above
35. L is a circular loop carrying a current. P is a point on its axis OX. dL is an element of length on the loop at a point A on it. The magnetic field at P :

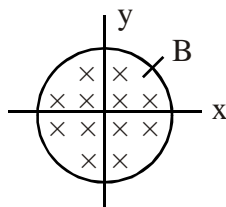


- (1) Due to L is direction along OX (2) Due to dL is directed along OX
 (3) Due to dL is perpendicular to OX (4) Due to dL is perpendicular to AP
- (A) 1, 4 (B) 1, 2 (C) 1, 3 (D) Only 1
36. A long, straight, hollow conductor (tube) carrying a current has two sections A and C of unequal cross-sections joined by conical section B. 1, 2 and 3 are points on a line parallel to the axis of the conductor. The magnetic fields at 1, 2 and 3 have magnitudes B_1 , B_2 and B_3 :



- (A) $B_1 = B_2 = B_3$ (B) $B_1 = B_2 \neq B_3$ (C) $B_1 < B_2 < B_3$
 (D) B_2 cannot be found unless the dimensions of the section B are known

37. A charged particle moves undeflected in a region of crossed electric and magnetic fields. If the electric field is switched off, the particle has an initial acceleration a . If the magnetic field is switched off, instead of the electric field, the particle will have an initial acceleration :-
 (A) Equal to 0 (B) $> a$ (C) Equal to a (D) $< a$
38. A rectangular, a square, a circular and an elliptical loop, all in the $(x - y)$ plane, are moving out of a uniform magnetic field with a constant velocity, $\vec{V} = v\hat{i}$. The magnetic field is directed along the negative z axis direction. The induced emf, during the passage of these loops, out of the field region, will not remain constant for :-
 (A) any of the four loops
 (B) the rectangular, circular and elliptical loops
 (C) the circular and the elliptical loops
 (D) only the elliptical loop
39. A conducting circular loop is placed in a uniform magnetic field, $B = 0.025$ T with its plane perpendicular to the loop. The radius of the loop is made to shrink at a constant rate of 1 mm s^{-1} . The induced e.m.f. when the radius is 2 cm, is :-
 (A) $2 \mu\text{V}$ (B) $2\pi \mu\text{V}$ (C) $\pi \mu\text{V}$ (D) $\pi/2 \mu\text{V}$
40. A long solenoid has 500 turns. When a current of 2 ampere is passed through it, the resulting magnetic flux linked with each turn of the solenoid is 4×10^{-3} Wb. The self-inductance of the solenoid is :-
 (A) 1.0 henry (B) 4.0 henry (C) 2.5 henry (D) 2.0 henry
41. Self-inductances of two coils connected in series are 0.01 and 0.03 H. If the windings in the coils are in opposite sense and $M = 0.01$ H, then the resultant self-inductance will be :-
 (A) 2H (B) 0.2 H (C) 0.02 H (D) Zero
42. A solenoid has a self inductance of 50H and resistance of 25 ohm. If it is connected to a battery of 100 volt, the time during which the current grows from zero to half of its maximum value, will be :-
 (A) 4s (B) 2s (C) 1.4s (D) 1.2s
43. A loop is kept so that its centre lies at the origin of the coordinate system. A magnetic field has the induction B along z -axis as shown in the figure :



- (A) An e.m.f. and current will be induced in the loop if it rotates about the z -axis
 (B) No e.m.f. is induced and no current flows if the loop is a fiber when it rotates about y -axis
 (C) e.m.f. is induced and induced current flows in the loop if the loop is made of copper and is rotated about y -axis
 (D) If the loop moves about z -axis with constant velocity current flows in it

44. Two coils of inductances L_1 and L_2 are linked such that their mutual inductance is M :-

(A) $M = L_1 + L_2$

(B) $M = \frac{1}{2}(L_1 + L_2)$

(C) The maximum value of M is $(L_1 + L_2)$

(D) The maximum value of M is $\sqrt{L_1 L_2}$

45. The magnetic flux linked with the coil varies with time as $\phi = 3t^2 + 4t + 9$. The magnitude of the induced emf at 2s is :-

(A) 9 V

(B) 16 V

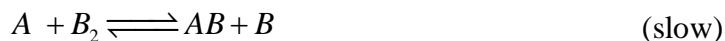
(C) 3 V

(D) 4 V

CHEMISTRY

46. Equimolar solutions in the same solvent have :
(A) same boiling point but different freezing point (B) same freezing point but different boiling point
(C) same boiling and same freezing points (D) different boiling and freezing points
47. Two solutions of a substance (non electrolyte) are mixed in the following manner. 480 ml of 1.5 M first solution + 520 mL of 1.2 M second solution. What is the molarity of the final mixture ?
(A) 1.20 M (B) 1.50 M (C) 1.344 M (D) 2.70 M
48. If the coordination no. of an element in its crystal lattice is 8, then packing is
(A) fcc (B) hcp (C) bcc (D) none of the above
49. In a hexagonal closest packing in two layers one above the other, the coordination number of each sphere will be
(A) 4 (B) 6 (C) 8 (D) 9
50. The maximum proportion of available volume that can be filled by hard spheres in diamond is
(A) 0.52 (B) 0.34 (C) 0.32 (D) 0.68
51. Which of the following reactions is used to make a fuel cell ?
(A) $\text{Cd(s)} + 2\text{Ni(OH)}_3\text{(s)} \longrightarrow \text{CdO(s)} + 2\text{Ni(OH)}_2\text{(s)} + \text{H}_2\text{O(l)}$
(B) $\text{Pb(s)} + \text{PbO}_2\text{(s)} + 2\text{H}_2\text{SO}_4\text{(aq)} \longrightarrow 2\text{PbSO}_4\text{(s)} + 2\text{H}_2\text{O(l)}$
(C) $2\text{H}_2\text{(g)} + \text{O}_2\text{(g)} \longrightarrow 2\text{H}_2\text{O(l)}$
(D) $2\text{Fe(s)} + \text{O}_2\text{(g)} + 4\text{H}^+\text{(aq)} \longrightarrow 2\text{Fe}^{+2}\text{(aq)} + 2\text{H}_2\text{O(l)}$
52. Time required to deposit one milli mole of aluminium metal by the passage of 9.65 amperes through aqueous solution of aluminium ion is :
(A) 30 s (B) 10 s (C) 30,000 s (D) 10,000 s
53. The molar conductances of NaCl, HCl and CH_3COONa at infinite dilution are 126.45, 426.16 and 91 $\text{ohm}^{-1} \text{cm}^2 \text{mol}^{-1}$ respectively. The molar conductance of CH_3COOH at infinite dilution is :
(A) 201.28 $\text{ohm}^{-1} \text{cm}^2 \text{mol}^{-1}$ (B) 390.71 $\text{ohm}^{-1} \text{cm}^2 \text{mol}^{-1}$
(C) 698.28 $\text{ohm}^{-1} \text{cm}^2 \text{mol}^{-1}$ (D) 540.48 $\text{ohm}^{-1} \text{cm}^2 \text{mol}^{-1}$
54. As a lead storage battery is charged.
(A) lead dioxide dissolves
(B) sulphuric acid is regenerated
(C) lead electrode becomes coated with lead sulphate
(D) the concentration of sulphuric acid decreases
55. In electrorefining of copper a mirror percentage of gold accumulates in :
(A) anode mud (B) cathode mud (C) electrolyte (D) cathode
56. 96500 C of electricity liberates from CuSO_4 solution
(A) 63.5 g of Cu (B) 31.75 g of Cu (C) 96500 g of Cu (D) 100 g of Cu
57. In the cell, $\text{Zn}|\text{Zn}^{2+}||\text{Cu}^{2+}|\text{Cu}$, the negative terminal is
(A) Cu (B) Cu^{2+} (C) Zn (D) Zn^{2+}
58. For a zero order reaction :
(A) $t_{1/2} \propto a$ (B) $t_{1/2} \propto \frac{1}{a}$ (C) $t_{1/2} \propto a^2$ (D) $t_{1/2} \propto \frac{1}{a^2}$

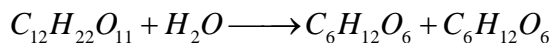
59. The hypothetical reaction, $A_2 + B_2 \longrightarrow 2AB$, follows the following mechanism :



The order of the overall reaction is :

(A) zero (B) 1 (C) 2 (D) 3/2

60. The inversion of the cane sugar is represented by,



It is a reaction of :

(A) second order (B) unimolecular
(C) pseudo-unimolecular (D) zero order

61. The rate for the reaction $A + B \longrightarrow C$ is :

Expt. No.	$[A]_0$	$[B]_0$	Initial rate
1.	0.012	0.035	0.10
2.	0.024	0.070	0.80
3.	0.024	0.035	0.10
4.	0.012	0.070	0.80

The rate law corresponds to the above data is :

(A) $rate = k[B]^3$ (B) $rate = k[B]^4$ (C) $rate = k[A][B]^3$ (D) $rate = k[A]^2[B]^2$

62. Catalyst increases rate of reaction by :

(A) decreasing equilibrium constant (B) decreasing threshold energy
(C) decreasing activation energy (D) none of the above

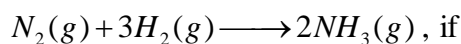
63. The function of catalyst in chemical reaction is to :

(A) increase the product (B) decrease the product
(C) accelerate the rate of reaction (D) increase the reactants

64. For a chemical reaction $A \longrightarrow B$, the rate of reaction doubles when the concentration of A is increased four times. The order of reaction for A is:

(A) zero (B) one (C) two (D) half

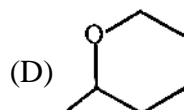
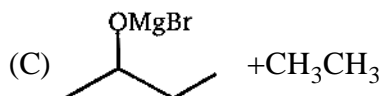
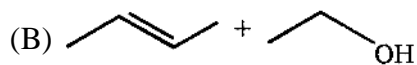
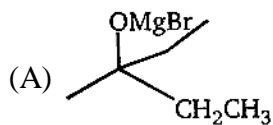
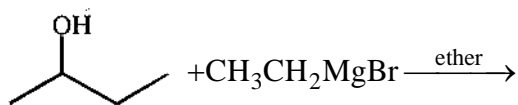
65. For the reaction :



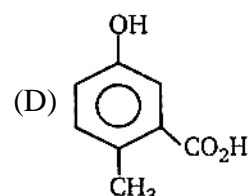
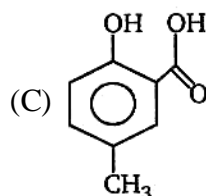
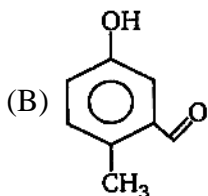
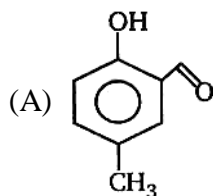
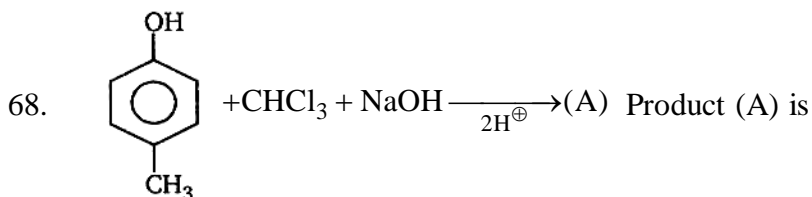
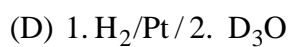
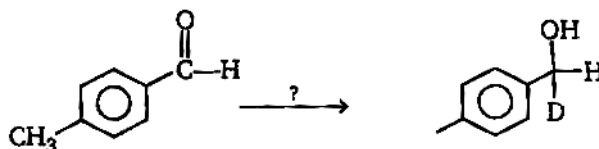
$\frac{d[NH_3]}{dt} = 2 \times 10^{-4} \text{ mol L}^{-1} \text{ S}^{-1}$, the value of $\frac{-d[H_2]}{dt}$ would be :

(A) $1 \times 10^{-4} \text{ mol L}^{-1} \text{ S}^{-1}$ (B) $3 \times 10^{-4} \text{ mol L}^{-1} \text{ S}^{-1}$
(C) $4 \times 10^{-4} \text{ mol L}^{-1} \text{ S}^{-1}$ (D) $6 \times 10^{-4} \text{ mol L}^{-1} \text{ S}^{-1}$

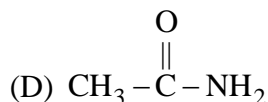
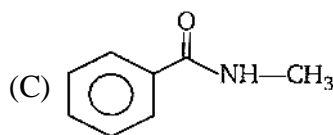
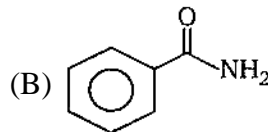
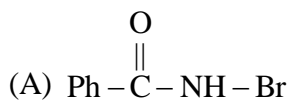
66. The product/s of the following reaction is/are



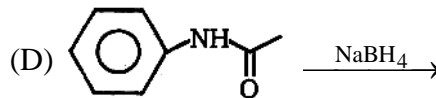
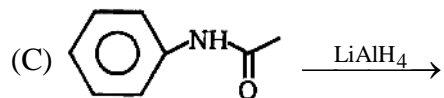
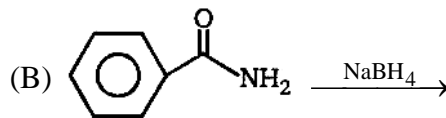
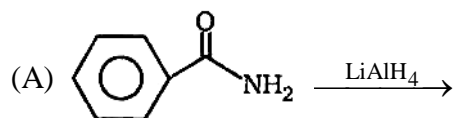
67. Which of the following reagents is best used for the conversion shown below ?



69. Which of the following will not undergo Hoffmann bromamide reaction ?



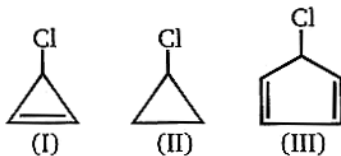
70. Find out a reaction in which product obtained gives positive isocyanide test



71. Which is the best leaving group in a substitution reaction of an alkyl halide ?

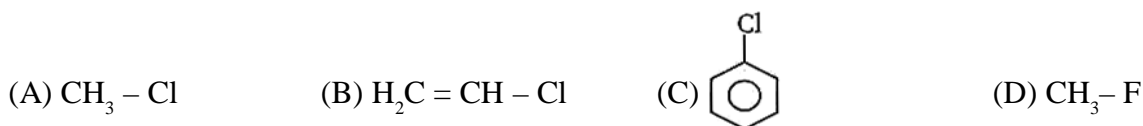
- (A) Cl^- (B) Br^- (C) I^- (D) F^-

72. Order of rate of reaction with AgNO_3 or rate of $\text{S}_{\text{N}}1$



- (A) I > III > II (B) II > III > I (C) I > II > III (D) III > I > II

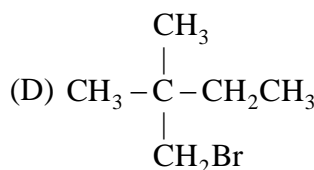
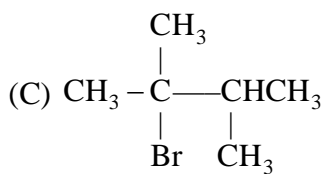
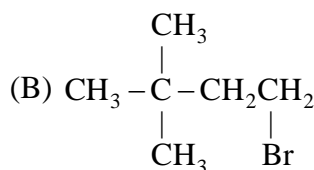
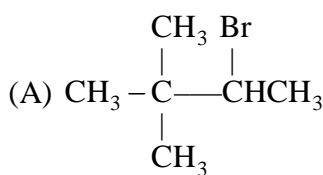
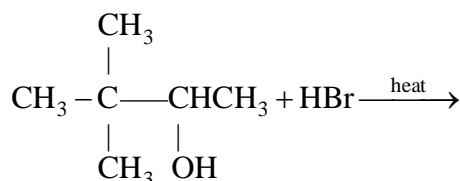
73. Most reactive toward $\text{S}_{\text{N}}2$



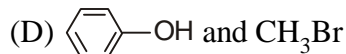
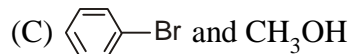
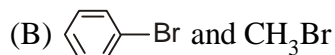
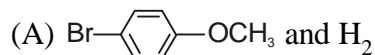
74. Order of nucleophilicity in polar aprotic solvent ?

- (A) $\text{I}^\ominus > \text{Br}^\ominus > \text{Cl}^\ominus > \text{F}^\ominus$ (B) $\text{F}^\ominus > \text{Cl}^\ominus > \text{Br}^\ominus > \text{I}^\ominus$
 (C) $\text{I}^\ominus > \text{Cl}^\ominus > \text{Br}^\ominus > \text{F}^\ominus$ (D) $\text{F}^\ominus > \text{I}^\ominus > \text{Br}^\ominus > \text{Cl}^\ominus$

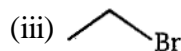
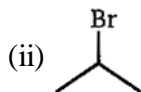
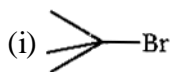
75. What is the major product of the following reaction ?



76. In the reaction c1ccc(OCH3)cc1 >>[HBr] the products are :



77. Identify the rate of dehydrohalogenation in the following compound when allowed to react with alc. KOH



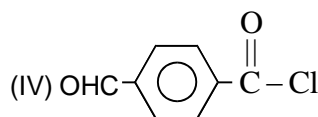
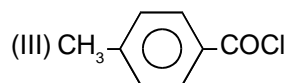
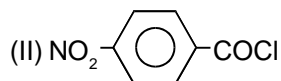
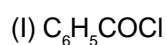
(A) i > ii > iii

(B) ii > i > iii

(C) ii > iii > i

(D) iii > ii > i

78. Arrange following compounds in decreasing order of reactivity for hydrolysis reaction :



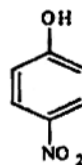
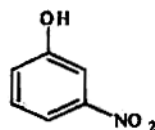
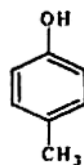
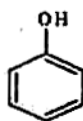
(A) II > IV > I > III

(B) II > IV > III > I

(C) I > II > III > IV

(D) IV > III > II > I

79. In the following compounds



(i)

(ii)

(iii)

(iv)

The order of acidity is

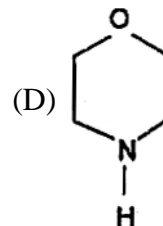
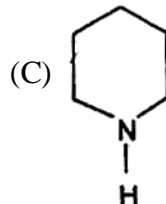
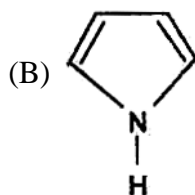
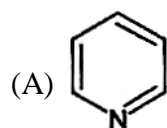
(A) III > IV > I > II

(B) I > IV > III > II

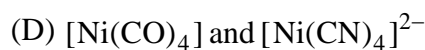
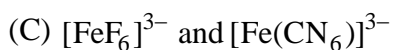
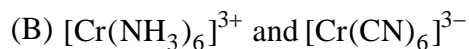
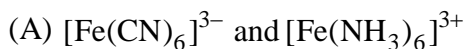
(C) II > I > III > IV

(D) IV > III > I > II

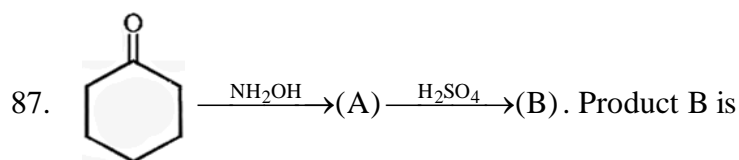
80. The most basic among the following compound is



81. Which of the following pair the EAN of central metal atom is not same ?



82. The IUPAC name of the Wilkinson's catalyst $[\text{RhCl}(\text{PPh}_3)_3]$ is
 (A) Chlorotris (triphenylphosphine) rhodium (I)
 (B) Chlorotris (triphenylphosphine) rhodium (IV)
 (C) Chlorotris (triphenylphosphine) rhodium (0)
 (D) Chlorotris (triphenylphosphine) rhodium (VI)
83. Which is low spin complex ?
 (A) $[\text{Fe}(\text{CN})_6]^{3-}$ (B) $[\text{Co}(\text{NO}_2)_6]^{3-}$ (C) $[\text{Mn}(\text{CN})_6]^{3-}$ (D) All of these
84. Which of the following complex is an outer orbital complex ?
 (A) $[\text{Ni}(\text{NH}_3)_6]^{2+}$ (B) $[\text{Mn}(\text{CN})_6]^{4-}$ (C) $[\text{Co}(\text{NH}_3)_6]^{3+}$ (D) $[\text{Fe}(\text{CN})_6]^{4-}$
85. The geometry of $[\text{Ni}(\text{CO})_4]$ and $[\text{NiCl}_2(\text{PPh}_3)_2]$ are
 (A) both square planar (B) tetrahedral and square planar respectively
 (C) both are tetrahedral (D) square planar and tetrahedral respectively
86. The species with spin only magnetic moment of $\sqrt{24}$ BM is
 (A) $[\text{CoF}_3(\text{H}_2\text{O})_3]$ (B) $[\text{Ni}(\text{CN})_4]^{2-}$ (C) $[\text{NiCl}_4]^{2-}$ (D) $[\text{Ni}(\text{H}_2\text{O})_6]^{2+}$



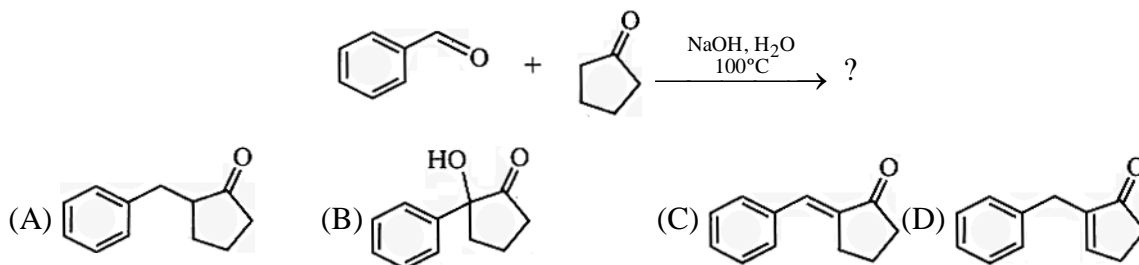
88. Which of the following compounds would give a positive iodoform test ?



89. Which of the following compounds loses carbon dioxide heating to 100°C ?



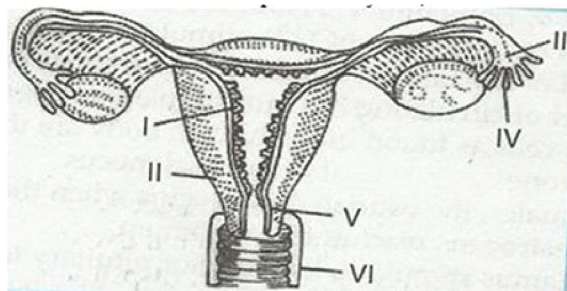
90. What is the major product of the following reaction ?



BIOLOGY

91. Which is incorrect among the following:
(A) In flowering plants, the zygote is formed inside the ovule
(B) The ovary develops into the fruit
(C) The chances of survival of young ones is greater in oviparous organisms.
(D) Embryogenesis refers to the process of development of embryo
92. Seminal plasma in human males is rich in
(A) Ribose and Potassium
(B) Glucose and Calcium
(C) DNA and testosterone
(D) Fructose and Calcium
93. Which of the following is not the feature of internal fertilization
(A) Egg is retained inside the female body where they fuse with the male gamete
(B) The male gamete is motile
(C) Male gametes produced few in numbers
(D) A significant reduction in the number of eggs produced
94. Which of the followings are called dual gland?
(A) Heart and lung
(B) Penis and vulva
(C) Pancreas and liver
(D) Testis and ovary
95. Prostate gland and seminal vehicle perform the function of
(A) Secretion of pregnancy hormone
(B) Penetration of ovum
(C) Nutrition and fluid medium for sperm movement
(D) All of these

96. Corpus spongiosum is found in
(A) Penis (B) Uterine wall
(C) Ovary (D) Testis
97. The glandular tissue of each breast is divided into 15-20
(A) Mammary duct (B) Ampulla
(C) Mammary lobes (D) Lactiferous duct
98. In sectional view of female reproductive system, Label (III) and (IV).



- (A) uterus, ovary respectively
(B) infundibulum, fimbriae respectively
(C) fimbriae, endometrium respectively
(D) infundibulum, perimetrium respectively
99. In angiosperm functional megaspore develops into
(A) embryo sac (B) ovule
(C) endosperm (D) pollan sac
100. Flagellated, motile asexual reproductive structure are called
(A) Megaspores
(B) Zoospores
(C) Microspores
(D) Aplanospores

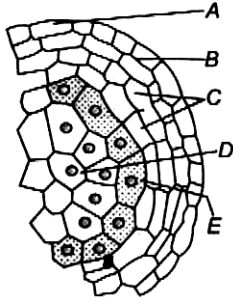
101. What does the filiform apparatus do?
 (A) It brings about opening of the pollen tube
 (B) It guides pollen tube from synergid to egg
 (C) It stops the entry of pollen tube into a synergid
 (D) It prevents entry of more than one pollen tube into embryo sac
102. Example of autogamy/self-pollination is/are
 (A) chasmogamous flowers
 (B) cleistogamous flowers
 (C) geitonogamy
 (D) Both (A) and (B)
103. The diagram given below depicts.



- (A) Wind pollinated plant
 (B) Well exposed stamen
 (C) Compact inflorescence
 (D) All of these
104. The number of female nuclei involved in double fertilisation is
 (A) 2 (B) 3
 (C) 4 (D) 1
105. If stem has $2n = 10$ number of chromosomes than find out
 A - number of chromosome in endosperm.
 B - number of chromosome in egg cell.
 C - number of chromosome in polar nuclei.
 (A) 15,15,20 (B) 10,15,20
 (C) 15,5,10 (D) 10,5,15

106. Double fertilisation involves
 (A) fertilisation of egg by two male gametes
 (B) fertilisation of two egg in same embryo sac by two sperms brought by one pollen tube
 (C) fertilisation of the egg and the central cell by two sperms brought by different pollen tubes
 (D) fertilisation of the egg and central cell by two sperm brought by same pollen tube
107. Cleistogamy is advantageous because
 (A) it leads to greater genetic diversity
 (B) More efficient and widespread seed dispersal
 (C) Seed set is not dependent on pollinators.
 (D) Hundreds of pollen grains are transferred by each visit.
108. What is not true about Hybrid seed ?
 (A) Cultivation of hybrids has increased productivity
 (B) The production of hybrid seed is costly.
 (C) Hybrid seeds don't have to produce every year.
 (D) Transfer of apomictic genes into hybrid varieties will reduce the cost of seed.
109. Ratan Prasad, a farmer from U.P. wants seedless tomatoes, the most applicable method used by him is
 (A) Emasculation of Tomato flower
 (B) Application of hybrid seeds
 (C) Application of Growth Hormone to induce parthenocarpy.
 (D) Vernalization of tomato seeds
110. Non-motile spores produced exogenously by constriction at the tips of special hyphae are called as
 (A) Synzoospores (B) Basidiophores
 (C) Archaeocytes (D) Conidiophores

111. Identify A to E in the following diagram.



(A) A-Tapetum. B-Microspore mother cell, C-Middle layer, D-Endothecium, E-Epidermis

(B) A-Epidermis, B-Middle layer, C-Microspore mother cell, D-Tapetum. E-Endothecium

(C) A-Middle layer. B-Epidermis. C-Tapetum, D-Microspore mother cell, E-Endothecium

(D) A-Epidermis, B-Endothecium C-Middle layer, D-Microspore mother cell, E-Tapetum

112. In embryo sac the number of → synergid → egg cell → central cell → antipodal cell follows the order

(A) 1-1-2-3 (B) 2-1-3-2

(C) 2-1-2-3 (D) 3-2-1-2

113. Approximate diameter of pollen grain is

(A) 25-50 micrometer

(B) 50-75 micrometer

(C) 75-100 micrometer

(D) 25-35 micrometer

114. Which of the following is prevented by unisexuality

(A) Geitonogamy but not xenogamy

(B) Autogamy and geitonogamy

(C) Both xenogamy and geitonogamy

(D) Autogamy but not geitonogamy

115. Pollens are considered as well preserved fossils due to the presence of

(A) exine (B) intine

(C) mexine (D) protein

116. hCG, hPL and relaxin are produced in women

(A) at the time of puberty

(B) only during pregnancy

(C) at the time of menopause

(D) during menstruation

117. In oogenesis haploid egg is fertilized by sperm at which stage ?

(A) Primary oocyte (B) Secondary oocyte

(C) Oogonium (D) Ovum

118. Which kind of embryo is shown in figure below



(A) Globular embryo

(B) Mature embryo

(C) Heart shaped embryo

(D) Pre-embryo

119. Hormones which produced during later phase of pregnancy is

(A) Thyroxine (B) relaxin

(C) hCG (D) hPL

120. The Hormone which played major role during foetal ejection reflex .

(A) oxytocin (B) prolactin

(C) estrogen (D) progesterone

121. Stem cells founds in

(A) Inner cell mass (B) Trophoblast

(C) Placenta (D) Both (A) and (C)

122. Which is not the function of placenta ?

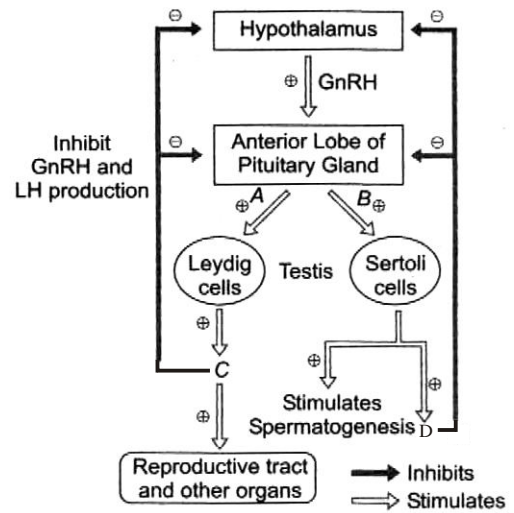
(A) exchange of nutrients / waste

(B) Production of Hormones

(C) Surface of gaseous exchange

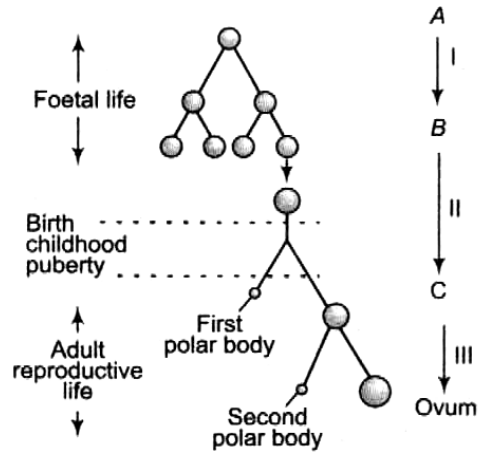
(D) Digestion of food for developing embryo

123. No. of primary follicles left in female at the time of puberty ?
 (A) 60,000 – 80,000
 (B) 40,000 – 50,000
 (C) 30,000 – 40,000
 (D) 1,20,000 – 1,60,000
124. The major approach towards the crop improvement programme is
 (A) Emasculation
 (B) Artificial hybridization
 (C) Bagging
 (D) Double fertilisation
125. The seminiferous tubules of the testis opens into the vasa efferentia by
 (A) vasa deferentia
 (B) rete testis
 (C) epididymis
 (D) seminiferous tubules
126. Androgen Binding Protein (ABP) and inhibin are secreted by
 (A) interstitial cells (B) Leydig cells
 (C) Sertoli cell (D) germinal epithelium
127. Parthenocarpy can be induced by the application of
 (A) Temperature variation
 (B) Growth hormones
 (C) Recombinant DNA
 (D) Duration of light
128. Temporary storage of sperms takes place in
 (A) vasa deferentia (B) vasa efferentia
 (C) epididymis (D) rete testis
129. Given the name of A, B, C and D hormone in the following diagram.



- (A) A-Inhibin, B-FSH. C-Testosterone, D-LH
 (B) A-Testosterone. B-Inhibin. C-LH, -FSH
 (C) A-FSH, B-LH, C-Inhibin, D-Testosterone
 (D) A-LH, B-FSH. C-Testosterone, D-Inhibin
130. Flower with ovaries having only one or few ovules are generally pollinated by
 (A) Wind
 (B) Bees
 (C) Birds
 (D) Butterflies
131. Several mammary ducts joins to form a wider mammary ampulla, which is connected to
 (A) lactiferous duct
 (B) seminiferous duct
 (C) seminiferous tubules
 (D) lactiferous canal
132. Which of the following plants shows apomixes?
 (A) Solanace (B) Gymnosperms
 (C) Liliace (D) Asteraceae

133. Identify A, B and C in the figure given below.



- (A) A-Secondary oocyte, B-Oogonia. C-Primary oocyte
 (B) A-Oogonia, B-Primary oocyte, C-Secondary oocyte
 (C) A-Secondary oocyte, B-Primary oocyte, C-Oogonia
 (D) A-Oogonia, B-Secondary oocyte. C-Primary oocyte

134. Epiblast present in certain monocot embryo represents

- (A) Mesocotyl
 (B) Rudimentary leaves
 (C) Scutellum
 (D) Second cotyledon

135. During menstrual phase, the hormones which show reduction in sufficient quantity are

- (A) progesterone (B) LH
 (C) inhibin (D) Both (A) and (B)

136. Match the hormones in column I with their functions in column II. Choose the answer, which gives the correct combination of the two columns.

Column I	Column II
A. FSH	1 Prepares endometrium wall for implantation
B. LH	2 Develops female secondary sexual
C. Progesterone	3 Contraction of uterine wall
D. Oestrogen	4 Development of corpus luteum
	5 Maturation of Graafian follicle

Codes :

- | | A | B | C | D |
|-----|---|---|---|---|
| (A) | 5 | 4 | 1 | 2 |
| (B) | 4 | 5 | 2 | 1 |
| (C) | 4 | 3 | 2 | 5 |
| (D) | 5 | 1 | 2 | 4 |

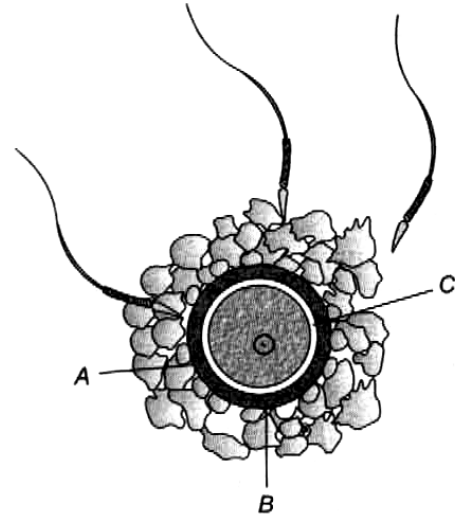
137. The receptor site of an acrosome are exposed and become active to penetrate the egg. This process is called

- (A) activation (B) capacitation
 (C) reactivation (D) deactivation

138. Number of nuclei participating in double fertilisation is

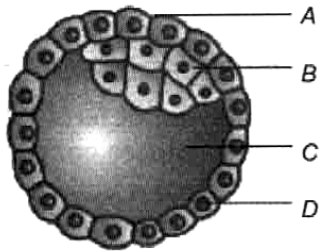
- (A) 3 (B) 5
 (C) 4 (D) 2

139. The given diagram refers to ovum surrounded by few sperms. Identify A, B and C in the diagram



- (A) A-Zona pellucida, B-Perivitelline space, C-Corona reticulata
 (B) A-Zona pellucida, B-Vitelline membrane, C-Corona radiata
 (C) A-Zona pellucida, B-Perivitelline space, C-Corona radiata
 (D) A-Oolemma, B-Perivitelline space, C-Corona radiata

140. Find A to D in figure.



- (A) A-Breaking zona pellucida, B-Inner cell mass, C-Blastocoel. D-Trophoblast
 (B) A-Breaking zona pellucida, B-Inner cell mass, C-Trophoblast, D-Blastocoel
 (C) A-Breaking zona pellucida, B-Blastocoel. C-Inner cell mass, D-Trophoblast
 (D) A-Breaking zona pellucida, B-Trophoblast, C-Inner cell mass, D-Blastocoel

141. Which of the following statements is incorrect regarding the medical termination of pregnancy (MTP) ?

- (A) These help in getting rid of unwanted pregnancies.
 (B) These help in aborting the pregnancies which may be harmful to either the mother or foetus or both the mother and foetus
 (C) These contribute in decreasing the human population
 (D) None of these

142. Who was the first to discover the reverse central dogma?

- (A) Crick (B) Temin
 (C) Baltimore (D) Both (B) and (C)

143. Hydrogen bonds between nitrogen bases of two strands of DNA can break due to

- (A) high temperature (B) high pH
 (C) low pH (D) all of these.

144. Identify the correct sequence of DNA packaging in terms of ascending order of size?

- (A) DNA → Nucleosome → Chromatin fibre → Solenoid → Chromatid → Chromosome

(B) DNA → Nucleosome → Chromatid → Solenoid → Chromatin fibre → Chromosome

(C) DNA → Nucleosome → Solenoid → Chromatin fibre → Chromatid → Chromosome

(D) DNA → Nucleosome → Solenoid → Chromatid → Chromatin fibre → Chromosome

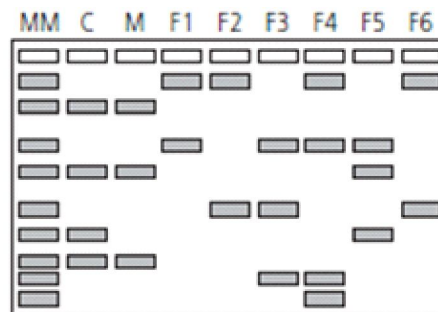
145. What is the amount of cytosine and thymine in a DNA segment of 2000 bp having guanine content of 510 bp?

- (A) 490, 490 respectively
 (B) 510, 490 respectively
 (C) 490, 510 respectively
 (D) 510, 510 respectively

146. Polypeptide synthesis terminates when the mRNA codon

- (A) UAG reaches A site of tRNA
 (B) UGA reaches P site of tRNA
 (C) UGG reaches A site of tRNA
 (D) UGU reaches P site of tRNA.

147. Study the given figure of a gel obtained after completion of gel electrophoresis on a DNA fingerprinting experiment.



MM-Molecular markers, C-Child, M-Mother, F-Father

Is the data sufficient to identify the father of the child?

- (A) Yes, the biological father could be either male 2 or 3.
 (B) Yes, the biological father is male 1.
 (C) Yes, the biological father is male 5.
 (D) No, at least three loci need to be shown.

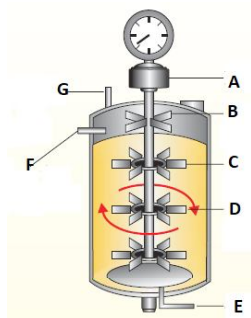
148. In a di-hybrid cross after F₂ generation, A farmer obtained total 6400 pea plants for trait seed shape (round/wrinkled) and seed colour (Yellow/green) what is the number of plants with genotype RrYy, rrYY and RrYY respectively?
- (A) 1200, 200 and 400
 (B) 1200, 500 and 400
 (C) 1600, 400 and 400
 (D) 1600, 400 and 800
149. The gene I of ABO blood group has three alleles as:
- (A) I^A, I^B and I^{AB} (B) I^A, I^B and I^O
 (C) I^A, I^B and i (D) All of the above
150. Ram has blood group of AB type and his wife Shawna has blood group of B type the all possibilities of blood group of their child's are:
- (A) Only AB type
 (B) AB type or O type
 (C) AB type or A type
 (D) A type, AB type or B type
151. Which of the following are good examples of multiple alleles
- (A) ABO blood grouping genes
 (B) MHC/HLA genes
 (C) Incompatibility genes of flowers
 (D) All of the above
152. Replacement of the lighter - coloured variety of peppered moth (*Biston betularia*) to its darker variety (*Biston carbonaria*) in England is the example of
- (A) natural selection (B) regeneration
 (C) genetic isolation (D) temporal isolation
153. An isolated population of humans with approximately equal numbers of blue - eyed and brown - eyed individuals was decimated by an earthquake. Only a few brown - eyed people remained to form the next generation. This kind of change in the gene pool are called
- (A) Hardy - Weinberg equilibrium
 (B) blocked gene flow
 (C) natural selection
 (D) founder effect.
154. The extinct human ancestor, who ate only fruits and hunted with stone weapons was
- (A) Ramapithecus
 (B) Australopithecus
 (C) Dryopithecus
 (D) Homo erectus
155. Stabilising selection favours
- (A) both extreme forms of a trait
 (B) intermediate forms of a trait
 (C) environmental differences
 (D) one extreme form over the other extreme form and over intermediate forms of a trait.
156. The 'Devonian period' is considered to be as
- (A) age of fishes
 (B) age of amphibians
 (C) age of reptiles
 (D) age of mammals
157. Match Column - I with Column - II and select the correct option from the codes given below .
- | Column - I | Column - II |
|-------------------|-------------------------------------------------------------------------|
| A. Mutation | (i) Changes in population's allele frequencies due to chance alone |
| B. Gene flow | (ii) Differences in survival and reproduction among variant individuals |
| C. Natural | (iii) Immigration, emigration selection change allele frequencies |
| D. Genetic drift | (iv) Source of new alleles |
- (A) A - (i) , B - (ii), C - (iii), D - (iv)
 (B) A - (iv), B - (ii), C - (iii), D - (i)

- (C) A - (v), B - (i), C - (iv) , D - (ii)
 (D) A - (iv), B - (iii), C - (ii), D - (i)
158. According to Oparin, which one of the following was not present in the primitive atmosphere of the earth?
 (A) Methane (B) Oxygen
 (C) Hydrogen (D) Water vapour
159. Which one of the following is incorrect about the characteristics of protobionts (coacervates and microspheres) as envisaged in the abiogenic origin of life ?
 (A) They were partially isolated from the surroundings
 (B) They could maintain an internal environment
 (C) They were able to reproduce
 (D) They could separate combinations of molecules from the surroundings.
160. "Himgiri" is disease resistant varieties of:
 (A) Wheat
 (B) Rice
 (C) Mustard
 (D) None of the above
161. RNA interference mainly involves:
 (A) Silencing of a specific mRNA due to a complementary dsDNA
 (B) Silencing of a specific mRNA due to a complementary ssRNA
 (C) Silencing of a specific mRNA due to a complementary dsRNA
 (D) All of the above
162. The mobile genetic elements in eukaryotic genome is known as:
 (A) Transposons
 (B) Jumping genes
 (C) Both A and B
 (D) Neither A nor B
163. The main challenge for production of insulin using rDNA techniques was
 (A) Contamination in final product
 (B) Bacteria unable to survive
 (C) Getting insulin assembled into a mature form
 (D) Downstream failure
164. A single stranded DNA or RNA, tagged with a radioactive molecule is known as
 (A) Protein Probe
 (B) Molecular Probes
 (C) DNA or RNA Probes
 (D) All of the above
165. Which of the following is not true about ELISA
 (A) It is based on principle of Ag-Ab interaction
 (B) Enzymatic reaction is the final step
 (C) ELISA can detect only the antibodies synthesised against the pathogen.
 (D) HRP is an enzyme widely used in ELISA
166. Transgenic animals are used for:
 (A) Testing of newly developed anti-cancer drug
 (B) To test the safety of polio vaccine
 (C) Production of biological products
 (D) All of the above
167. α -1-antitrypsin is used to treat:
 (A) Phenylketonuria
 (B) Emphysema
 (C) Cystic fibrosis
 (D) All of the above
168. The first transgenic cow, Rosie was developed in year:
 (A) 1995 (B) 1987
 (C) 1997 (D) 1990
169. _____ will make decisions regarding the validity of GM research and the safety of introducing GM-organisms for public services in India.
 (A) DBT
 (B) GEAC
 (C) NGT
 (D) All of the above

170. The Indian Parliament has recently cleared the _____ amendment of the Indian Patents Bill that takes such issues into consideration, including patent terms emergency provisions and research and development initiative.

- (A) Third (B) Fourth
(C) Second (D) first

Observe the following figure of bioreactor and answer the questions (Q171-172):



171. Inlet of Acid/Base for pH control:

- (A) B (B) C
(C) G (D) F

172. "Foam breaker" is represented by

- (A) A (B) C
(C) B (D) D

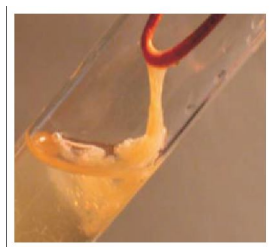
173. Taq polymerase polymerizes the template DNA during which step of PCR cycle

- (A) Denaturation
(B) Annealing
(C) Extension
(D) All of the above

174. _____ is employed to check the progression of a restriction enzyme digestion.

- (A) PCR
(B) ELISA
(C) Agarose gel electrophoresis
(D) Electron Microscopy

175. Name the process by observing the following figure:



- (A) Pulling of DNA
(B) Spooning of DNA
(C) Spooling of DNA
(D) Knotting of DNA

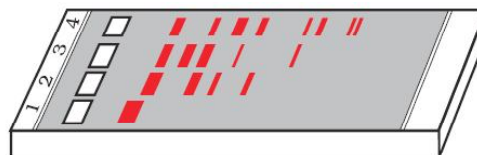
176. Precipitate of DNA is obtained during DNA isolation by

- (A) Ribonuclease
(B) Chitinase
(C) Chilled ethanol
(D) Lysozymes

177. Suitable methods of gene transfer in plant cell is

- (A) Biolistics
(B) Ti Plasmid
(C) Disarmed pathogens
(D) All of the above

Following is the figure of AGE showing restriction digestion of DNA samples with restriction enzyme EcoRI. Answer the Q.178 to Q.180



178. Which lane of AGE shows NO digestion of DNA sample?

- (A) Lane 2 (B) Lane 1
(C) Lane 3 (D) Lane 4

179. Which lane of AGE shows DNA sample with maximum restriction site for enzyme EcoRI

- (A) Lane 3
(B) Lane 4
(C) Lane 2
(D) Not able to determine from AGE

180. Smallest digested product after EcoRI treatment is obtained in which DNA samples?

- (A) Lane 2 DNA
(B) Lane 3 DNA
(C) Lane 4 DNA
(D) Lane 2, 3 and 4 DNA

ANSWER KEY

PHYSICS

1.	B	2.	B	3.	B	4.	A	5.	D	6.	D	7.	D
8.	C	9.	D	10.	C	11.	C	12.	A	13.	A	14.	B
15.	A	16.	D	17.	B	18.	B	19.	D	20.	B	21.	C
22.	B	23.	D	24.	B	25.	A	26.	D	27.	B	28.	C
29.	A	30.	C	31.	D	32.	A	33.	D	34.	A	35.	A
36.	A	37.	C	38.	C	39.	C	40.	A	41.	C	42.	C
43.	C	44.	D	45.	B								

CHEMISTRY

46.	B	47.	A	48.	C	49.	D	50.	B	51.	C	52.	A
53.	B	54.	B	55.	A	56.	B	57.	C	58.	A	59.	D
60.	C	61.	A	62.	C	63.	C	64.	D	65.	B	66.	C
67.	B	68.	A	69.	C	70.	A	71.	C	72.	C	73.	A
74.	B	75.	C	76.	D	77.	A	78.	A	79.	D	80.	C
81.	D	82.	A	83.	D	84.	A	85.	C	86.	A	87.	D
88.	B	89.	C	90.	C								

BIOLOGY

91.	C	92.	D	93.	C	94.	D	95.	C	96.	A	97.	C
98.	B	99.	A	100.	B	101.	B	102.	D	103.	D	104.	B
105.	C	106.	D	107.	C	108.	C	109.	C	110.	D	111.	D
112.	C	113.	A	114.	D	115.	A	116.	B	117.	B	118.	A
119.	B	120.	A	121.	D	122.	D	123.	D	124.	B	125.	B
126.	C	127.	B	128.	C	129.	D	130.	A	131.	A	132.	D
133.	B	134.	D	135.	D	136.	A	137.	B	138.	B	139.	C
140.	A	141.	D	142.	D	143.	D	144.	C	145.	B	146.	A
147.	C	148.	D	149.	C	150.	D	151.	D	152.	A	153.	D
154.	B	155.	B	156.	A	157.	D	158.	B	159.	C	160.	A
161.	C	162.	C	163.	C	164.	C	165.	C	166.	D	167.	B
168.	C	169.	B	170.	C	171.	C	172.	C	173.	C	174.	C
175.	C	176.	C	177.	D	178.	B	179.	B	180.	C		