



NTPL

ALL INDIA TEST SERIES

CODE - A

TEST ID 001915

AIIMS - 2019

FULL TEST - 8

Time : 3^{1/2} Hours

Maximum Marks : 200

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.

INSTRUCTIONS

1. This booklet is your Question Paper containing **200 questions**.
2. The test is of **3^{1/2} hours** duration. The question paper consists of **4 sections** (Physics, Chemistry, Biology & General Knowledge).
3. Each question carries **1 mark**. For each correct response the candidate will get **1 mark**. For each incorrect response, **-1/3 mark** will be deducted. The maximum marks are **200**.
4. Fill the bubbles completely and properly using a **Blue/Black Ball Point Pen** only.
5. No additional sheets will be provided for rough work.
6. Blank papers, clipboards, log tables, slide rules, calculators, cellular phones, pagers, and electronic gadgets in any form are not allowed to be carried inside the examination hall.
7. The answer sheet, a machine-readable Optical mark recognition sheet (OMR Sheet), is provided separately.
8. **DO NOT TAMPER WITH / MUTILATE THE OMR OR THE BOOKLET.**
9. Do not break the seals of the question-paper booklet before being instructed to do so by the invigilator.

Name of the Candidate (in Capitals) _____

Test Centre _____

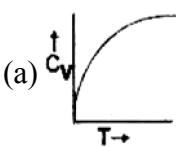
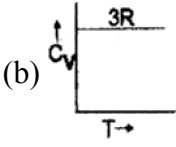
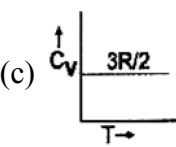
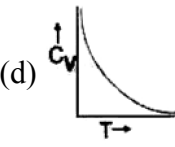
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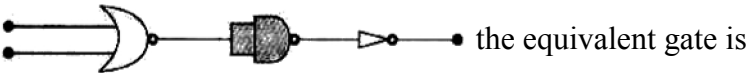
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PHYSICS**SECTION – I**

1. Two solenoids of equal number of turns having their length and the radii in the same ratio 1:2. The ratio of their self-inductance will be:
(a) 1 : 2 (b) 2 : 1 (c) 1 : 1 (d) 1 : 4
2. Given that the mobility of electrons in Ge is $0.4 \text{ m}^2 \text{ V}^{-1} \text{ s}^{-1}$ and electronic charge is $1.6 \times 10^{-19} \text{ C}$. The number of donor atom (per m^3) semiconductor of conductivity 500 mho/m is:
(a) 8×10^{21} (b) 8×10^{15} (c) 5×10^{21} (d) 8×10^{18}
3. In beta plus decay:
(a) Antineutrino is produced with electron (b) Neutrino is produced with positron
(c) Neutron is produced with electron (d) None of these
4. An engine has an efficiency of $1/6$. When the temperature of sink is reduced by 62°C , its efficiency is doubled. The temperature of source will be:
(a) 37°C (b) 62°C (c) 99°C (d) 124°C
5. Ratio of longest wavelength corresponding to Lyman and Balmer series in hydrogen spectrum:
(a) $\frac{7}{29}$ (b) $\frac{9}{31}$ (c) $\frac{5}{27}$ (d) $\frac{3}{23}$
6. If velocity of a particle is three times of that of electron and ratio of de Broglie wavelength of particle to that of electron is 1.814×10^{-4} . The particle will be:
(a) Neutron (b) Deuteron (c) Alpha (d) Tritium
7. A dipole of dipole moment 'p' is placed in non-uniform electric field along x-axis. Electric field is increasing at the rate of 1 Vm^{-1} then the force on dipole is:
(a) 0 (b) 2p (c) p/2 (d) p
8. Dimensional formula of angular momentum is:
(a) MT^2T^{-1} (b) $\text{M}^2\text{L}^2\text{T}^{-2}$ (c) ML^2T^{-3} (d) MLT^4
9. Relation between magnetic moment and angular velocity is:
(a) $M \mu \omega$ (b) $M \mu \omega^2$ (c) $M \mu \sqrt{\omega}$ (d) None of these

10. In an intrinsic semiconductor band gap is 1.2 eV then ratio of number of charge carriers at 600 K and 300 K is:
 (a) 104 (b) 107 (c) 105 (d) 103
11. Gravitational potential of the body of mass m at a height h from surface of earth of radius R is (Take g = acceleration due to gravity at earth's surface):
 (a) $-g(R + h)$ (b) $-g(R - h)$ (c) $g(R + h)$ (d) $g(R - h)$
12. In nuclear fission, which of the following quantity is conserved?
 (a) Energy (b) Mass
 (c) Momentum (d) Both energy and mass
13. In a cyclic process, work done by the system is:
 (a) zero (b) More than the heat given to the system
 (c) equal to heat given to the system (d) independent of heat given to system
14. In a cylinder there are 60 g Ne and 64 g O_2 . If pressure of mixture of gases in cylinder is 30 bar then in this cylinder partial pressure of O_2 is (in bar):
 (a) 30 (b) 20 (c) 15 (d) 12
15. A gas mixture contain one mole O_2 gas and one mole He gas. Find the ratio of specific heat at constant pressure to that at constant volume of the gaseous mixture:
 (a) 2 (b) 1.5 (c) 2.5 (d) 4
16. One mole of oxygen of volume 1 litre at 4 atm pressure attains 1 atm pressure by result of isothermal expansion. Find work done by the gas:
 (a) 155 J (b) 206 J (c) 355 J (d) 552 J
17. Graph of specific heat at constant volume for a monoatomic gas is:
 (a)  (b)  (c)  (d) 
18. Given that force $(5\hat{i} + 7\hat{j} - 3\hat{k})N$ acts on a particle at position $(\hat{i} + \hat{j} - \hat{k})m$. Find torque of this force on the particle about origin:
 (a) $4\hat{i} + 2\hat{j} + 2\hat{k}$ (b) $2\hat{i} - 3\hat{j} + 4\hat{k}$ (c) $5\hat{i} - 2\hat{j} + 3\hat{k}$ (d) $6\hat{i} - 4\hat{j} + 4\hat{k}$
19. Astronomical wavelength increase due to Doppler effect known as:
 (a) Red shift (b) Violet shift (c) UV (d) IR shift

20. Long distance communication between two point on earth is achieved by:
(a) Space wave communication (b) Sky wave communication
(c) Satellite wave communication (d) Line of sight transmission
21. Which of the following is not a state function?
(a) Work-done in adiabatic process (b) Work done in isothermal process
(c) Heat at constant pressure (d) Heat at constant volume
22. In an oscillating system, a restoring force is a must. In an L-C circuit, restoring force is provide by:
(a) capacitor (b) inductance (c) resistance (d) both a and b
23. Polaroid glass is used in sun glasses because:
(a) It reduces the light intensity to half on account of polarisation
(b) It is fashionable
(c) It has good colour
(d) It is cheaper
24. Which of the following statement is incorrect?
(a) Neutron is less stable than proton
(b) Neutron can cause fission in nuclear reactors but proton cannot
(c) A free proton can emit beta particle
(d) A bound proton can emit beta particle
25. Electric field at a distance r from infinitely long conducting sheet is proportional to:
(a) r^{-1} (b) r^{-2} (c) $r^{-3/2}$ (d) Independent of r
26. The frequency of a light wave in a material is 2×10^{14} Hz and wavelength is 5000 Å. The refractive index of material will be:
(a) 1.50 (b) 3.00 (c) 1.33 (d) 1.40
27. In a Young's double slit experiment the spacing between the slits is 0.3 mm and the screen is kept at a distance of 1.5 m. The second bright fringe is found 6 mm from the central fringe. The wavelength of the light used in the experiment is:
(a) 625 nm (b) 600 mm (c) 550 nm (d) 500 nm
28. The molar specific heats of an ideal gas at constant pressure and volume are denoted C_p by and C_v respectively. If $\gamma = \frac{C_p}{C_v}$ and R is the universal gas constant, then C_v is equal to:
(a) $\frac{(\gamma-1)}{R}$ (b) γR (c) $\frac{1+\gamma}{1-\gamma}$ (d) $\frac{R}{(\gamma-1)}$

29. A simple pendulum performs simple harmonic motion about $x = 0$ with an amplitude 'a' and time period 'T'. The speed of the pendulum at $x = a/2$ will be:
- (a) $\frac{\pi a}{T}$ (b) $\frac{3x^2 a}{T}$ (c) $\frac{\pi a \sqrt{3}}{T}$ (d) $\frac{\pi a \sqrt{3}}{2T}$
30. A particle is projected from the ground with an initial speed of 'v' at angle θ with horizontal. The average velocity of the particle between its point of projection and height point of trajectory is:
- (a) $\frac{v}{2} \sqrt{1+2\cos^2 \theta}$ (b) $\frac{v}{2} \sqrt{1+\cos^2 \theta}$ (c) $\frac{v}{2} \sqrt{1+3\cos^2 \theta}$ (d) $v \cos \theta$
31. For satellite communication which wave is used?
- (a) Space wave (b) Sky wave (c) Ground wave (d) Microwave
32. Which of the following is the best method to reduce eddy currents?
- (a) Laminating core (b) Using thick wires
(c) Reducing hysteresis loss (d) None of these
33. A circuit consisting of five resistors each of resistance R, forming a Wheatstone bridge. What is the equivalent resistance of the circuit?
- (a) 2R (b) R (c) 2R/3 (d) R/2
34. The circuit as shown in figure:
- 
- (a) NOR gate (b) OR gate (c) AND gate (d) NAND gate
35. A ball of mass m is tied up with string and rotated along a horizontal circle of radius r. At an instant, its velocity is v, and tension in string is T. The force required for circular motion is:
- (a) $T - \frac{mv^2}{r}$ (b) $T + \frac{mv^2}{r}$ (c) $\frac{mv^2 r}{r}$ (d) zero
36. If a vector $2\hat{i} + 3\hat{j} + 8\hat{k}$ is perpendicular to the vector $4\hat{i} + 4\hat{j} + \alpha\hat{k}$, then value of α is:
- (a) -1 (b) $\frac{1}{2}$ (c) $-\frac{1}{2}$ (d) 1
37. 1g of steam is sent into 1g of ice. At thermal equilibrium, the resultant temperature of mixture is:
- (a) 27°C (b) 230°C (c) 100°C (d) 120°C
38. If modulation index is 1/2 and power of carrier wave is 2 W. Then what will be the total power in modulated wave?
- (a) 0.5 W (b) 1 W (c) 0.25 W (d) 2.25 W

39. When a slow neutron is captured by a U_{92}^{235} nucleus, a fission energy releasing 200 MeV. If power of nuclear reactor is 100W the rate of nuclear fission is:
- (a) $3.6 \times 10^6 \text{ s}^{-1}$ (b) $3.1 \times 10^{12} \text{ s}^{-1}$ (c) $1.8 \times 10^4 \text{ s}^{-1}$ (d) $4.1 \times 10^6 \text{ s}^{-1}$
40. A body of mass m is taken from the earth surface to the height equal to twice the radius (R) of the earth. The change in potential energy of body will be:
- (a) 3 mgR (b) $\frac{1}{3} \text{ mgR}$ (c) 2 mgR (d) $\frac{2}{3} \text{ mgR}$

Directions: In the following questions (41-60), a statement of assertion (A) is followed by a statement of reason (R). Mark the correct choice as:

- (a) If both assertion and reason are true and reason is the correct explanation of assertion.
(b) If both assertion and reason are true but reason is not the correct explanation of assertion.
(c) If assertion is true but reason is false.
(d) If both assertion and reason are false.
41. **Assertion:** Centre of mass of a system does not move under the action of internal forces.
Reason: Internal forces are non conservative forces.
42. **Assertion:** ${}_{27}^{66}\text{Co}$ is a source of gamma radiation.
Reason: Gamma emission is due to nuclear decay.
43. **Assertion:** Magnetic field is useful in producing parallel beam of charged particle.
Reason: Magnetic field inhibits the motion of charged particle moving across it.
44. **Assertion:** If a conductor is given charge then no excess inner charge appears.
Reason: Electric field inside conductor is zero.
45. **Assertion:** Water kept in an open vessel will quickly evaporate on the surface of the moon.
Reason: The temperature at the surface of the moon is much higher than the boiling point of water.
46. **Assertion:** Moment of inertia is always constant.
Reason: Angular momentum is conserved that is why moment of inertia is constant.
47. **Assertion:** Magnetic lines forms closed loops in nature.
Reason: Mono-magnetic pole does not exist in nature.
48. **Assertion:** Gaussian surface is considered carefully.
Reason: The point where electric field to be calculated should be within the surface.

49. **Assertion:** Total current entering a circuit is equal to leaving the circuit by Kirchoff's law.
Reason: It is based on conservation of energy
50. **Assertion:** When light ray is incident at polarising angle on glass, refracted light is partially polarised.
Reason: The intensity of light decreases in polarisation.
51. **Assertion:** A laser beam of 0.2 W power can drill holes through a metal sheet, whereas a 1000 W torchlight cannot.
Reason: The frequency of laser light is much higher than that of torch light.
52. **Assertion:** Electromagnetic radiations exerts pressure.
Reason: Electromagnetic-waves carry both momentum and energy.
53. **Assertion:** Electric appliances with metallic body, e.g., heaters, presses etc., have three pin connections, whereas an electric bulb has a two pin connection.
Reason: Three pin connections reduce heating of connecting cables.
54. **Assertion:** If optical density of a substance is more than that of water then the mass density of substance can be less than water.
Reason: Optical density and mass density are not related.
55. **Assertion:** The sun rises some time before the actual sun-rise.
Reason: Because of the refraction through the different layers of atmosphere.
56. **Assertion:** In a communication system based on amplitude modulation the modulation index is kept < 1 .
Reason: It ensures minimum distortion of signal
57. **Assertion:** Total energy is negative for a bound system.
Reason: Potential energy of a bound system is negative and more than kinetic energy.
58. **Assertion:** A undamped spring-mass system is simplest free vibration system.
Reason: It has three degrees of freedom.
59. **Assertion:** On going away from a point charge or a small electric dipole, electric field decreases at the same rate in both the cases.
Reason: Electric field is inversely proportional to square of distance from the charge or on electric dipole.
60. **Assertion:** Resolving power of a telescope depends only on wavelength.
Reason: This is proportional to square of wavelength.

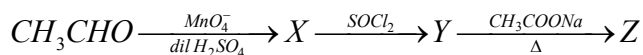
CHEMISTRY

SECTION – II

61. Which of the following is an addition polymer?
 (a) Terylene (b) Bakelite (c) Polyesters (d) Teflon
62. Which one of the following reactions of xenon compounds is not feasible?
 (a) $XeO_3 + 6HF \longrightarrow XeF_6 + 3H_2O$
 (b) $3XeF_4 + 6H_2O \longrightarrow 2Xe + XeO_3 + 12HF + 1.5O_2$
 (c) $2XeF_2 + 2H_2O \longrightarrow 2Xe + 4HF + O_2$
 (d) $XeF_6 + RbF \longrightarrow Rb[XeF_7]$
63. Match the column I with column II and mark the appropriate choice.
- | <i>Column I</i> | <i>Column II</i> |
|-------------------|----------------------|
| (A) Ascorbic acid | (i) Beri-beri |
| (B) Retinol | (ii) Cracked lips |
| (C) Riboflavin | (iii) Scurvy |
| (D) Thiamine | (iv) Night blindness |
- (a) (A) → (ii), (B) → (iii), (C) → (iv), (D) → (i)
 (b) (A) → (iii), (B) → (i), (C) → (ii), (D) → (iv)
 (c) (A) → (i), (B) → (ii), (C) → (iii), (D) → (iv)
 (d) (A) → (iii), (B) → (iv), (C) → (ii), (D) → (i)
64. Four metals and their methods of refinement are given
 (i) Ni, Cu, Zr, Ga
 (ii) electrolysis, van Arkel process, zone refining, Mond's process
 Choose the right method for each.

- (a) Ni: Electrolysis, Cu: van Arkel process,
Zr: Zone refining, Ga : Mond's process
- (b) Ni: Mond's process, Cu : Electrolysis,
Zr: van Arkel process, Ga : Zone refining
- (c) Ni: Mond's process, Cu : van Arkel process,
Zr: Zone refining, Ga : Electrolysis
- (d) Ni: Electrolysis, Cu : Zone refining,
Zr: van Arkel process, Ga: Mond's process
65. If initial concentration is doubled, the time for half reaction is also doubled. The order of reaction is
(a) zero (b) first (c) second (d) third.
66. Which of the following compounds is found in abundance in nature?
(a) Fructose (b) Glucose (c) Starch (d) Cellulose
67. In the following question, a statement of assertion is followed by a statement of reason. Mark the correct choice.
- Assertion:** $[Cu(NH_3)_4]^{2+}$ is coloured while $[Cu(CN)_4]^{3-}$ is colourless
- Reason:** $[Cu(NH_3)_4]^{2+}$ has dsp^2 hybridisation.
- (a) Both assertion and reason are true and reason is the correct explanation of assertion.
(b) Both assertion and reason are true but reason is not the correct explanation of assertion.
(c) Assertion is true but reason is false.
(d) Both assertion and reason are false.
68. Which substance is not present in nucleic acids?
(a) Cytosine (b) Adenine (c) Thymine (d) Guanidine
69. Half-life period of a zero order reaction is
(a) proportional to initial concentrations of reactants
(b) independent of initial concentrations of reactants

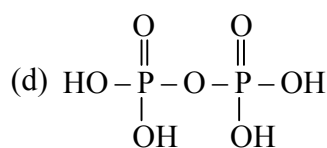
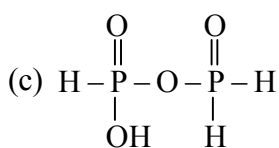
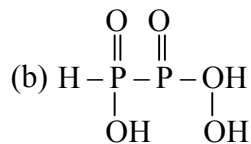
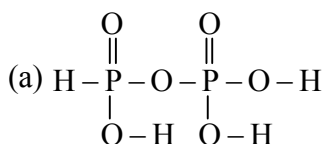
- (c) inversely proportional to initial concentrations of reactants
 (d) inversely proportional to the square of initial concentrations of reactants.
70. Types of drugs that mimic the natural messenger by-switching on the receptor are called
 (a) antagonists (b) chemical messengers (c) receptors (d) agonists.
71. Identify (Z) in the following reaction sequence:



- (a) CH_3COCH_2COONa (b) $(CH_3CO)_2O$
 (c) $CH_3CO-O-COCH_2Cl$ (d) $CH_3CO-O-COCHCl_2$
72. White phosphorus when reacts with nitric acid gives
 (a) $H_4P_2O_6$ (b) H_3PO_2 (c) H_3PO_4 (d) H_3PO_3
73. In the process of extraction of gold, Roasted gold ore
 $+CN_{(aq)}^- + H_2O \xrightarrow{O_2} [X] + [OH^-], [X] + Zn \longrightarrow [Y] + Au$

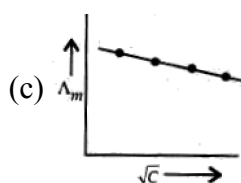
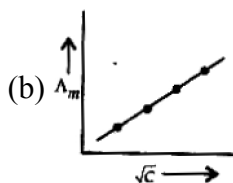
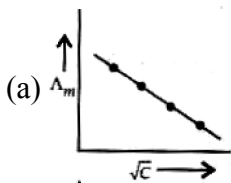
Identify the complexes [X] and [Y].

- (a) $[Au(CN)_2]^-$, $[Zn(CN)_4]^{2-}$ (b) $[Au(CN)_4]^{3-}$, $[Zn(CN)_4]^{2-}$
 (c) $[Au(CN)_2]^{2-}$, $[Zn(CN)_6]^{4-}$ (d) $[Au(CN)_4]^-$, $[Zn(CN)_4]^{2-}$
74. Which of the following represents the isopolyacid of phosphorus?



75. In an antifluorite structure, cations occupy
 (a) octahedral voids (b) centre of cube (c) tetrahedral voids (d) corners of cube.

76. Primary, secondary and tertiary alcohols can be distinguished by
- (a) Baeyer's reagent (b) Fehling's solution
(c) Sulphuric acid (d) Lucas reagent.
77. Which of the following curve gives the variation of Λ_m with \sqrt{C} for CH_3COOH ?



(d) None of these

78. Depression of freezing point of which of the following solutions does represent the cryoscopic constant of water?
- (a) 6% by mass of urea in aqueous solution
(b) 100 g of aqueous solution containing 18 g of glucose
(c) 59 g of aqueous solution containing 9 g of glucose
(d) 1 M KCl solution in water
79. Among the following essential amino acid is
- (a) alanine (b) valine (c) proline (d) serine.
80. Match the column I with column II and mark the appropriate choice.

Column I

Column II

- | | |
|-----------------|---------------|
| (A) Metalloid | (i) Selenium |
| (B) Radioactive | (ii) Silver |
| (C) Transition | (iii) Arsenic |
| (D) Chalcogen | (iv) Uranium |
- (a) (A) \rightarrow (i), (B) \rightarrow (ii), (C) \rightarrow (iii), (D) \rightarrow (iv)
(b) (A) \rightarrow (iii), (B) \rightarrow (iv), (C) \rightarrow (ii), (D) \rightarrow (i)
(c) (A) \rightarrow (iv), (B) \rightarrow (ii), (C) \rightarrow (iii), (D) \rightarrow (i)
(d) (A) \rightarrow (ii), (B) \rightarrow (iii), (C) \rightarrow (iv), (D) \rightarrow (i)

81. The pyrimidine bases present in DNA are
 (a) cytosine and adenine (b) cytosine and guanine
 (c) cytosine and thymine (d) cytosine and uracil.
82. When an acyl chloride is heated with Na salt of a carboxylic acid, the product is
 (a) an aldehyde (b) an alkene (c) an anhydride (d) an ester.
83. Schottky defect is likely to be found in
 (a) AgI (b) NaCl (c) ZnS (d) ZnO
84. The cell in which the following reaction occurs:
 $2Fe_{(aq)}^{3+} + 2I_{(aq)}^- \rightarrow 2Fe_{(aq)}^{2+} + I_{2(s)}$ has $E_{cell}^{\circ} = 0.236V$ at 298 K.
 The equilibrium constant of the cell reaction is
 (a) 6.69×10^{-7} (b) 9.69×10^{-7} (c) 9.69×10^7 (d) 6.69×10^7
85. The two isomers X and Y with the formula $Cr(H_2O)_5ClBr_2$ were taken for experiment on depression in freezing point. It was found that one mole of X gave depression corresponding to 2 moles of particles and one mole of Y gave depression due to 3 moles of particles. The structural formulae of X and Y respectively are
 (a) $[Cr(H_2O)_5Cl]Br_2; [Cr(H_2O)_4Br_2]Cl.H_2O$
 (b) $[Cr(H_2O)_5Cl]Br_2; [Cr(H_2O)_3ClBr_2]2H_2O$
 (c) $[Cr(H_2O)_5Br]BrCl; [Cr(H_2O)_4ClBr.H_2O]$
 (d) $[Cr(H_2O)_4Br_2]Cl.H_2O; [Cr(H_2O)_5Cl]Br_2$
86. A glucose solution is to be injected into the blood stream, it must have the same.....as the blood stream.
 (a) molarity (b) vapour pressure
 (c) osmotic pressure (d) viscosity
87. Which of the following has highest boiling point?
 (a) Benzene (b) Phenol (c) Toluene (d) Ethylbenzene

88. The correct order of equivalent conductance at infinite dilution of LiCl, NaCl and KCl is

- (a) $\text{LiCl} > \text{NaCl} > \text{KCl}$ (b) $\text{KCl} > \text{NaCl} > \text{LiCl}$
 (c) $\text{NaCl} > \text{KCl} > \text{LiCl}$ (d) $\text{LiCl} > \text{KCl} > \text{NaCl}$

89. Match the defects given in column I with statements given in column II and mark the appropriate choice.

Column I

(A) Simple vacancy defect

(B) Simple interstitial defect

(C) Frenkel defect

(D) Schottky defect

Column II

(i) shown by non-ionic solids and increases the density of the solid.

(ii) shown by ionic solids and decreases the density of the solid.

(iii) shown by non-ionic solids and decreases the density of the solid.

(iv) shown by ionic solids and density of the solid remains the same.

- (a) (A) \rightarrow (iv), (B) \rightarrow (iii), (C) \rightarrow (ii), (D) \rightarrow (i)
 (b) (A) \rightarrow (iii), (B) \rightarrow (iv), (C) \rightarrow (i), (D) \rightarrow (ii)
 (c) (A) \rightarrow (iii), (B) \rightarrow (i), (C) \rightarrow (iv), (D) \rightarrow (ii)
 (d) (A) \rightarrow (i), (B) \rightarrow (iii), (C) \rightarrow (iv), (D) \rightarrow (ii)

90. IUPAC name of $K_3[Fe(C_2O_4)_3]$ is

- (a) potassium trioxalatoferrate (I) (b) potassium tetraoxalatoferrate (III)
 (c) potassium trioxalatoferrate (III) (d) potassium trioxalatoferrate (II).

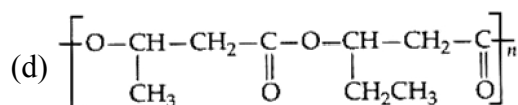
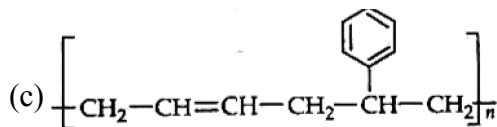
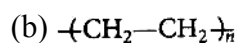
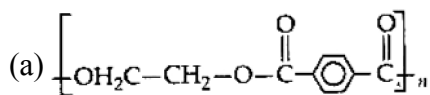
91. Dyeing of fibre involves the process of

- (a) adsorption (b) absorption (c) sorption (d) all of these.

92. The time taken for 90% of a first order reaction to complete is approximately

- (a) 1.1 times that of half-life (b) 2.2 times that of half-life
 (c) 3.3 times that of half-life (d) 4.4 times that of half-life.

93. In which of the following polymers, ethylene glycol is one of the monomer units?



94. Which one of the following statements is incorrect?

- (a) Specific conductivity decreases with dilution.
 (b) Equivalent and molar conductivities increase with dilution.
 (c) Λ_m° for a weak electrolyte cannot be found by extrapolation of Λ_m to zero concentration.
 (d) Molar conductivity of a strong electrolyte increases with dilution because ionization increases with dilution.

95. Pick up the correct statement.

- (a) Boiling points of alkyl halides are greater than those of the corresponding alkanes.
 (b) In water, the solubility decreases as
 $\text{CH}_3\text{OH} > \text{C}_2\text{H}_5\text{OH} > \text{C}_6\text{H}_5\text{OH}$
 (c) Aniline is a weaker base than ammonia.
 (d) All of the above.

96. How many P = O bonds and P — OH bonds (respectively) are present in orthophosphoric acid?

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

97. When phenol is treated with Br₂-water, the product is

- (a) o- and p-bromophenol (b) 2, 3, 4-tribromophenol
 (c) 2, 4, 6-tribromophenol (d) none of these.

98. Match the column I with column II and mark the appropriate choice.

Column I

- (A) Methanol
 (B) Kolbe's reaction
 (C) Williamson's synthesis
 (D) Conversion of 2° alcohol to ketone

Column II

- (i) Conversion of phenol to o-hydroxybenzoic acid
 (ii) Heated copper at 573 K
 (iii) Wood spirit
 (iv) Reaction of alkyl halide with sodium alkoxide

- (a) (A) → (iii), (B) → (iv), (C) → (i), (D) → (ii)
 (b) (A) → (iii), (B) → (i), (C) → (iv), (D) → (ii)
 (c) (A) → (ii), (B) → (iii), (C) → (i), (D) → (iv)
 (d) (A) → (iv), (B) → (i), (C) → (iii), (D) → (ii)

99. Which of the following reactions will not give a primary amine?

- (a) $CH_3CONH_2 \xrightarrow{Br_2/KOH}$ (b) $CH_3CN \xrightarrow{LiAlH_4}$
 (c) $CH_3NC \xrightarrow{LiAlH_4}$ (d) $CH_3CONH_2 \xrightarrow{LiAlH_4}$

100. In the following question, a statement of assertion is followed by a statement of reason. Mark the correct choice.

Assertion: Square planar complexes do not show optical isomerism.

Reason: Optical isomerism is due to the absence of elements of symmetry.

- (a) Both assertion and reason are true and reason is the correct explanation of assertion.
 (b) Both assertion and reason are true but reason is not the correct explanation of assertion.
 (c) Assertion is true but reason is false.
 (d) Both assertion and reason are false.

Directions: In the following questions (101-120), a statement of assertion (A) is followed by a statement of reason (R). Mark the correct choice as:

- (a) If both assertion and reason are true and reason is the correct explanation of assertion.
 (b) If both assertion and reason are true but reason is not the correct explanation of assertion.
 (c) If assertion is true but reason is false.
 (d) If both assertion and reason are false.

101. **Assertion:** The mass of a substance is constant whereas its weight may vary from one place to another.

Reason: Mass of a substance is the amount of matter present in it while weight is the force exerted by gravity on an object.

102. **Assertion:** Temperature below 0°C are possible in Celsius scale but in Kelvin scale, negative temperature is not possible.

Reason: The Kelvin scale is related to Celsius scale as follows: $K = ^\circ C + 273.15$

103. **Assertion:** In electromagnetic spectrum, the small portion around 10^{15} Hz is called visible light.
Reason: Visible region is only a small part of the entire spectrum which our eyes can see.
104. **Assertion:** When an iron rod is heated in a furnace, the radiation emitted goes from a lower frequency to a higher frequency as the temperature increase.
Reason: The energy of a quantum of radiation is proportional to its frequency.
105. **Assertion:** Octet rule is based upon is based upon the chemical inertness of noble gases.
Reason: Octet rule can explain the shape and relative stability of the molecule.
106. **Assertion:** Sodium chloride ($NaCl$) is a stable ionic solid.
Reason: $NaCl$ has high lattice enthalpy
107. **Assertion:** F_2 and O_2^{2-} have bond order 1 while N_2 , CO and NO^+ have bond order 3.
Reason: Higher the bond order, higher is the stability of the molecule.
108. **Assertion:** Molar volume of an ideal gas at 273.15 K and 1 bar is 22.4 L.
Reason: Volume of a gas is inversely proportional to temperature.
109. **Assertion:** In Maxwell – Boltzmann distribution of speeds, the curve broadens at higher temperature.
Reason: At a particular temperature, the individual speed of molecules as well as the distribution of speeds remains the same.
110. **Assertion:** The difference between ΔH and ΔU is not significant for systems consisting of only solids and/or liquids.
Reason: Solids and liquids do not suffer any significant volume change upon heating.
111. **Assertion:** For the change, $H_2O_{(l)} \rightarrow H_2O_{(s)} \Delta H = \Delta U$.
Reason: No enthalpy change is involved in this process.
112. **Assertion:** If reaction quotient, Q_c for a particular reaction is greater than K_c , the reaction will proceed in the direction of reactants.
Reason: Reaction quotient is defined in the same way as the equilibrium constant K_c except that the concentrations in Q_c are not necessarily equilibrium values.
113. **Assertion:** In the dissociation of PCl_5 at constant pressure and temperature addition of helium at equilibrium increases the dissociation of PCl_5 .
Reason: Helium reacts with Cl_2 and hence shifts the equilibrium in forward direction.

114. **Assertion:** Displacement reactions of chlorine, bromine and iodine using fluorine are not generally carried out in aqueous solution.
Reason: Fluorine being highly reactive attacks water and displaces to oxygen of water.
115. **Assertion:** Decomposition of hydrogen peroxide is an example of disproportionation reaction.
Reason: In a disproportionation reaction, an element in one oxidation state is simultaneously oxidised and reduced.
116. **Assertion:** Hydrides of group 13 elements are Lewis acids whereas hydrides of group 15-17 elements are Lewis bases.
Reason: Group 13 hydrides have few electrons whereas group 15-17 hydrides have excess electrons which are present as lone pairs.
117. **Assertion:** Hydrides of N, O and F have lower boiling points than the hydrides of their subsequent group members.
Reason: Boiling point depends upon the molecular mass only.
118. **Assertion:** The melting and boiling points of the alkali metals are low.
Reason: Alkali metals have metallic bonding.
119. **Assertion:** Lithium fluoride is most covalent in nature.
Reason: Small anion can be easily distorted.
120. **Assertion:** Atomic radius of Ga is larger than that of aluminium.
Reason: Atomic radius always increases down the group.

BIOLOGY

SECTION – III

121. Match column I with column II and choose the correct option.

Column-I

- A. Family
- B. Kingdom
- C. Order
- D. Species
- E. Genus

Column-II

- I. *tuberosum*
- II. Polymoniales
- III. *Solanum*
- IV. Plantae
- V. Solanaceae

- (a) A – IV; B – III; C – V; D – II; E – I (b) A – V; B – IV; C – II; D – I; E – III
 (c) A – IV; B – V; C – II; D – I; E – III (d) A – V; B – III; C – II; D – I; E – IV

122. Consider the following statements regarding the major pigments and stored food in the different groups of algae and choose the correct option

- (i) In chlorophyceae, the stored food material is starch and the major pigments are chlorophyll-*a* and *d*.
- (ii) In phaeophyceae, laminarian is the stored food and major pigments are chlorophyll-*a* and *b*.
- (iii) In rhodophyceae, floridean starch is the stored food and the major pigments are chlorophyll-*a*, *d* and phycoerythrin.

- (a) (i) is correct, but (ii) and (iii) are incorrect (b) (i) and (ii) are correct, but (iii) is incorrect
 (c) (i) and (iii) are correct, but (ii) is incorrect (d) (iii) is correct, but (i) and (ii) are incorrect

123. Column-I contains organisms and column-II contains their excretory structures. Choose the correct match form the options given below.

Column- I

(Organism)

- A. Cockroach
- B. Cat fish
- C. Earthworm
- D. *Balanoglossus*
- E. Flatworm

Column -II

(Excretory structures)

- I. Nephridia
- II. Malpighian tubules
- III. Kidneys
- IV. Flame cells
- V. Proboscis gland

- (a) A – I; B – III; C – II; D – IV; E – V (b) A – III; B – I; C – II; D – V; E – IV
 (c) A – II; B – I; C – III; D – V; E – IV (d) A – II; B – III; C – I; D – V; E – IV

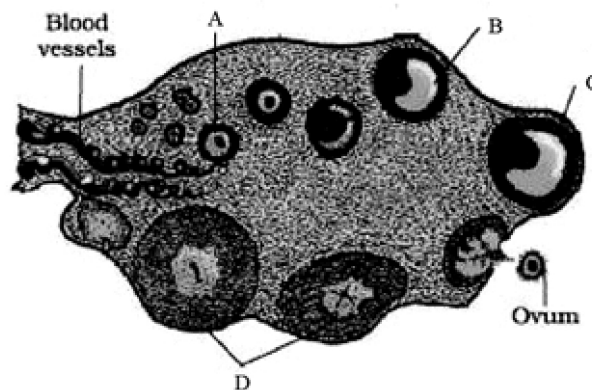
124. Nucleotides are building blocks of nucleic acids. Each nucleotide is a composite molecule formed by
 (a) base-sugar-phosphate (b) base-sugar-OH
 (c) (base-sugar-phosphate)_n (d) sugar-phosphate
125. Match the description (given in column I) with correct stage of prophase I (given column II) and choose the correct option.

Column I

Column II

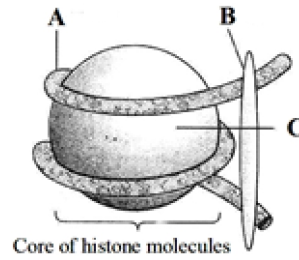
- | | |
|---|---------------|
| A. Chromosomes are moved to spindle equator | I. Pachytene |
| B. Centromere splits and chromatids move apart | II. Zygotene |
| C. Pairing between homologous chromosomes takes place | III. Anaphase |
| D. Crossing between homologous chromosomes | IV. Metaphase |
- (a) A – I; B – II; C – III; D – IV (b) A – II; B – III; C – IV; D – I
 (c) A – IV; B – III; C – II; D – I (d) A – III; B – I; C – IV; D – II

126. In a practical test, a student has to identify the organisms in which syngamy does not occur. In those organisms the female gamete undergoes development to form new organisms without fertilization. This phenomenon is called "X". Identify the organisms and the phenomenon "X".
 (a) Frog, Parthenogenesis (b) Lizards, Gametogenesis
 (c) Rotifers, Embryogenesis (d) Honeybee, Parthenogenesis
127. The figure given below shows the sectional view of ovary. Select the option which gives correct identification of marked structure (A to D) and its feature.



- (a) A : Primary follicle, it is also called gamete mother cell.
 (b) B : Corpus luteum, it cannot be formed and added after birth.
 (c) C : Graafian follicle, mature follicle which ruptures to release secondary oocyte.
 (d) D : Tertiary follicle, a large number of this follicle degenerates during the phase from birth to puberty

128. The given figure shows the structure of nucleosome with their parts labelled as A, B & C. Identify A, B and C.



- (a) A – DNA; B – H₁ histone; C – Histone octamer
 (b) A – H₁ histone; B – DNA; C – Histone octamer
 (c) A – Histone octamer; B – RNA; C – H₁ histone
 (d) A – RNA; B – H₁ histone; C – Histone octamer
129. According to Hardy-Weinberg principle, allele and genotype frequencies in a population will remain constant from generation to generation in the absence of other evolutionary influences. It makes several assumptions which were given below.

- i. Random Mating
- ii. Sexual Reproduction
- iii. Non-overlapping Generations
- iv. Occurrence of Natural Selection
- v. Small size of population

Identify two assumptions which do not meet for a population to reach Hardy-Weinberg Equilibrium?

- (a) iv and v (b) ii and iv (c) iii, iv and v (d) i, ii and iii
130. Biodiversity loss occurs due to the reasons given below.
- (i) Habitat loss and fragmentation (ii) Co-extinction
 (iii) Over-exploitation (iv) Alien species invasion

Identify the correct reasons.

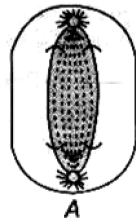
- (a) (i) and (ii) (b) (i), (ii) and (iii)
 (c) (ii), (iii) and (iv) (d) (i), (ii), (iii) and (iv)
131. Euro II norms stipulate that sulphur be controlled at _____ ppm in diesel and _____ ppm in petrol.
- (a) 350; 150 (b) 150; 350 (c) 350; 250 (d) 150; 250

132. Which one of the following statement regarding BOD is true?

- (a) The greater the BOD of waste water, more is its polluting potential
 (b) The greater the BOD of waste water, less is its polluting potential
 (c) The lesser the BOD of waste water, more is its polluting potential
 (d) The lesser the BOD of waste water, less is its polluting potential
133. Which of the following is a modified stem for the protection of plants from browsing animals?
- (a) Tendrils (b) Thorns (c) Rhizome (d) Tuber

143. In stems, the protoxylem lies towards the _____ and the metaxylem lies towards the _____ of the organ.
- (a) centre; periphery (b) periphery; centre
(c) periphery; periphery (d) centre; centre
144. Male cockroach can be identified from the female by the presence of
- (a) long antennae (b) wingless body
(c) elongated abdomen (d) anal styles
145. The sensory papillae in frogs are associated with
- (a) smell (b) hearing (c) respiration (d) touch
146. In earthworms setae are present in all segments except
- (a) first and the last segments (b) first segment and the clitellum
(c) first segment (d) clitellum and last segments
147. Which of the following statements is/are not incorrect?
- (i) Water and minerals, and food are generally moved by a mass or bulk flow system.
(ii) Bulk flow can be achieved either through a positive hydrostatic pressure gradient or a negative hydrostatic pressure gradient.
(iii) The bulk movement of substances through the conducting tissues of plants is called translocation.
(iv) Xylem translocates organic and inorganic solutes, mainly from roots to the aerial parts of the plants.
(v) Phloem translocates water, mineral salts, some organic nitrogen and hormones, from the leaves to other parts of the plants.
- (a) (ii), (iii) and (v) (b) (ii), (iii) and (iv)
(c) (iv) and (v) (d) (ii) and (v)
148. In alcoholic fermentation, NAD^+ is produced during the
- (a) reduction of acetyldehyde to ethanol. (b) oxidation of glucose.
(c) oxidation of pyruvate to acetyl coA. (d) hydrolysis of ATP to ADP.
149. Which of the following statement is true?
- (a) Pepsin cannot digest casein. (b) Trypsin can digest collagen.
(c) Pepsin cannot digest collagen. (d) Chymotrypsin can digest casein.
150. Human immuno deficiency virus (HIV) has a protein coat and a genetic material which is
- (a) Single stranded DNA. (b) Single stranded RNA.
(c) Double stranded RNA. (d) Double stranded DNA.

151. Which one of the following pairs of diseases is viral as well as transmitted by mosquitoes?
 (a) Elephantiasis and dengue (b) Yellow fever and sleeping sickness
 (c) Encephalitis and sleeping sickness (d) Yellow fever and dengue
152. Which variety of rice was patented by a U.S. company even though the highest number of varieties of this rice is found in India ?
 (a) Sharbati Sonara (b) Co-667 (c) Basmati (d) Lerma Roja
153. Which of the following hormone acts upon the renal tubule and blood capillaries ?
 (a) Glucagon (b) Aldosterone (c) Vasopressin (d) Glucocorticoids
154. Select the mismatched pair:
 (a) Microsporangium — Pollen sac (b) Megasporangium — Ovule
 (c) Pollen grain — Male gamete (d) Embryo sac — Female gametophyte.
155. Persistent nucellus is called as _____ and is found in _____:
 (a) perisperm, black pepper (b) perisperm, ground nut
 (c) endosperm, black pepper (d) endosperm, groundnut
156. Which stages of cell division do the following figures A and B represent respectively?



- (a) Metaphase — Telophase (b) Telophase — Metaphase
 (c) Late anaphase — Prophase (d) Prophase — Anaphase.
- 157 Match the following columns.

Column I

- A. Binary fission
- B. Zoospore
- C. Conidium
- D. Budding
- E. Gemmules

Column II

- 1. Algae
- 2. *Amoeba*
- 3. *Hydra*
- 4. *Penicillium*
- 5. Sponge

Codes

	A	B	C	D	E
(a)	1	4	5	3	2
(b)	2	1	4	3	5
(c)	2	4	3	5	1
(d)	1	4	3	2	5

158. A cell plate is laid down during

- (a) cytokinesis (b) karyokinesis (c) interphase (d) None of these.

159. The first movements of the foetus and appearance of hair on its head are usually observed during which month of pregnancy?

- (a) Fourth month (b) Fifth month (c) Sixth month (d) Third month

160. Which part of ovary in mammal acts as an endocrine gland after ovulation?

- (a) Graafian follicle (b) Corpus luteum (c) Corpus albicans (d) None of these.

Directions for Q. No. 161 to 178 : Each of these questions contain two statements, Assertion and Reason. Each of these questions also has four alternative choices, only one of which is the correct answer. You have to select one of the codes (a), (b), (c) and (d) given below.

- (A) Assertion is correct, reason is correct; reason is a correct explanation for assertion.
 (B) Assertion is correct, reason is correct; reason is not a correct explanation for assertion
 (C) Assertion is correct, reason is incorrect
 (D) Assertion is incorrect, reason is correct.

161. **Assertion :** In a DNA molecule, A–T rich parts melt before G–C rich parts.

Reason : In between A and T there are three H–bond, whereas in between G and C there are two H-bonds.

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

162. **Assertion :** Water and electrolytes are almost fully absorbed in the large intestine.

Reason : In large intestine, haustral contractions (slow segmenting movements) roll the forming faeces over and over, causing absorption of water and electrolytes.

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

163. **Assertion :** A cerebellum is related with skillful voluntary movement and involuntary activity like body balance, equilibrium etc.

Reason : It is part of hind brain and it is situated behind the pons.

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

164. **Assertion :** Endosperm is a nutritive tissue and it is triploid.

Reason : Endosperm is formed by fusion of secondary nucleus to second male gamete. It is used by developing embryo.

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

165. **Assertion :** In humans, the gamete contributed by the male determines whether the child produced will be male or female.

Reason : Sex in humans is a polygenic trait depending upon a cumulative effect of some genes on X-chromosome and some on Y-chromosome.

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

166. **Assertion :** Replication and transcription occur in the nucleus but translation takes place in the cytoplasm.

Reason : mRNA is transferred from the nucleus into cytoplasm where ribosomes and amino acids are available for protein synthesis.

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

167. **Assertion :** Communities that comprise of more species tend to be more stable.

Reason : A higher number of species results in less animal variation in total biomass.

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

168. **Assertion :** Eutrophication shows increase in productivity in water.

Reason : With increasing eutrophication, the diversity of the phytoplankton increases.

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

169. **Assertion :** In a food chain, members of successive higher levels are fewer in number.

Reason : Number of organisms at any trophic level depends upon the availability of organisms which serve as food at the lower level.

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

170. **Assertion :** Species are groups of potentially interbreeding natural populations which are isolated from other such groups.

Reason : Distinctive morphological characters are displayed due to reproductive isolation.

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

171. **Assertion :** Insertion of recombinant DNA within the coding sequence of β -galactosidase results in colourless colonies.

Reason : Presence of insert results in inactivation of enzyme β -galactosidase known as insertional inactivation.

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

172. **Assertion :** Artificially acquired passive immunity results when antibodies or lymphocytes produced outside the host are introduced into a host.

Reason : A bone marrow transplant given to a patient with genetic immunodeficiency is an example of artificially acquired passive immunity.

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

173. **Assertion :** A major advantage of tissue culture is protoplast fusion.

Reason : A hybrid is formed by the fusion of naked protoplasts of two plants.

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

174. **Assertion :** Inflammation of a skeletal joint may immobilize the movements of the joint.

Reason : Uric acid crystals in the joint cavity and ossification of articular cartilage lead to this.

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

175. **Assertion :** Auxins help to prevent fruit and leaf drop at early stages.

Reason : Auxins promote the abscission of older mature leaves and fruits.

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

176. **Assertion :** The squamous epithelium is made of a single thin layer of flattened cells with irregular boundaries.

Reason : They are found in walls of blood vessels and air sacs of wings.

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

177. **Assertion** : Ambulacral system plays a major role in locomotion of echinoderm.

Reason : Hydraulic pressure of fluid and contraction of muscle of tube feet make possible movement of echinoderm.

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

178. **Assertion** : TMV is a virus which causes mosaic disease.

Reason : TMV has RNA as genetic material.

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

Directions for Q. No. 179 to 180 Each of the questions given below consists of two statements, an assertion (A) and reason (R). Select the number corresponding to the appropriate response in the answer sheet as follows :

- (A) Both A and R are correct and R is the correct explanation of A
(B) Both A and R are correct, but R is not the correct explanation of A
(C) A is correct, but R is incorrect
(D) Both A and R are incorrect

179. **Assertion (A)** : Due to fragmentation in planaria each part develops the remaining body parts and become a complete animal.

Reason (R) : Differentiated tissue present in each broken part of planaria undergoes dedifferentiation and then differentiation for regeneration.

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

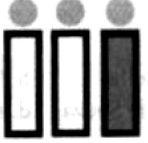
180. **Assertion (A)** : The life cycle of *Funaria* is called diplohaplontic.

Reason (R) : In *Funaria*, there is alternation of haploid gametophytic and diploid sporophytic phase, one becoming parent of the other.

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

GENERAL KNOWLEDGE**SECTION – IV**

181. Who gave the slogan 'Inquilab Zindabad'
- (a) Mahatma Gandhi (b) S.C Bose
(c) Shaheed Bhagat Singh (d) Lok Manya Tilak.
182. 'Sati' was abolished by:
- (a) Lord William Bentinuck (b) Lord Cavin
(c) Lord Mountbatten (d) none of these.
183. The Kaziranga Wild Life Sanctuary is reserved for which animal:
- (a) Great Indian bustard (b) Rhinoceros (c) White elephants (d) White tiger.
184. The first feature film (talkie) to be produced in India was:
- (a) Hatimtai (b) Alam Ara (c) Pundalik (d) Harish Chandra.
185. The first writer to sue Urdu as the medium of poetic expression was:
- (a) Amir Khusru (b) Mirza Ghalib
(c) Faiz (d) Bahadur Shah Zafar.
186. The Alamatti dam is on the river:
- (a) Godavari (b) Krishna (c) Mahanadi (d) Cauvery.
187. Which one of the following dances involves solo performance:
- (a) Bharatnatyam (b) Kuchipudi (c) Mohiniattam (d) Oddissi.
188. Operation "Green Hunt" going to operate by Central Government for which purpose?
- (a) Against Naxals (b) Public awareness for planting
(c) To save crocodile (d) None of these.
189. The soil group which covers the largest area in India is the:
- (a) alluvial soil (b) black soil (c) red soil (d) laterite soil.
190. Study of insects is known as-
- (a) Astrology (b) Emetology (c) Entomology (d) Geology

191. Which Indian Actress has been seen in famous American T.V. show 'Quantico' as a lead role?
 (a) Prianka Chopra (b) Deepika Padukone (c) Aishwarya Roy (d) Katarina Kaif.
192. An atomic pile is used for :
 (a) producing x-rays (b) conducting nuclear fission
 (c) conducting thermonuclear fusion (d) accelerating atoms.
193. A. R. Rahman won the Oscar Award for which film:
 (a) Lagaan (b) Swadesh
 (c) Slumdog Millinair (d) Roja.
194. This logo tool 
 (a) Reserve Bank of India (b) Election Commission of India
 (c) Census (d) Planning Commission of India
195. Which of the following days is celebrated as world food day?
 (a) September 10 (b) August 16 (c) November 4 (d) October 16
196. The exact point where the earthquake actually originates deep inside the earth's crust is called as:
 (a) Epicentre (b) Seismic zone (c) Focus (d) Hyperpoint
197. CAG stands for
 (a) Comptroller and Auditor General (b) Computer Assisted Graphics
 (c) Control Assisted Graphics (d) Comptroller Assisted General
198. The full form of IFSC:
 (a) Indian Financial System Code (b) Indian Fund Systemic Code
 (c) Indian Fund System Corp (d) Indian Finance System Corp
199. UPI stand for
 (a) Union Payments Interface (b) Unified Payments Interchange
 (c) Unified Payments Interface (d) United Payments Interface
200. ISSF world cup is held in which country where Manu Bhakhar won Two Gold Medal in shooting.
 (a) Indonesia (b) Mexico (c) Canada (d) France

ANSWER KEY

PHYSICS

1	2	3	4	5	6	7	8	9	10
A	A	B	C	C	A	D	A	A	C
11	12	13	14	15	16	17	18	19	20
B	D	C	D	B	D	C	A	A	B
21	22	23	24	25	26	27	28	29	30
D	B	A	C	D	B	B	D	C	C
31	32	33	34	35	36	37	38	39	40
A	A	B	A	C	B	A	D	B	D
41	42	43	44	45	46	47	48	49	50
B	B	A	B	C	D	A	C	C	D
51	52	53	54	55	56	57	58	59	60
C	A	C	A	A	A	A	C	D	D

CHEMISTRY

61	62	63	64	65	66	67	68	69	70
D	A	D	B	A	D	B	D	A	D
71	72	73	74	75	76	77	78	79	80
B	C	A	D	C	D	D	C	B	B
81	82	83	84	85	86	87	88	89	90
C	C	B	C	D	C	B	B	C	C
91	92	93	94	95	96	97	98	99	100
D	C	A	D	D	C	C	B	C	B
101	102	103	104	105	106	107	108	109	110
A	C	A	A	C	A	B	D	C	A
111	112	113	114	115	116	117	118	119	120
C	B	C	A	A	A	D	B	D	D

BIOLOGY

121	122	123	124	125	126	127	128	129	130
B	D	D	A	C	D	C	A	A	D
131	132	133	134	135	136	137	138	139	140
A	A	B	D	C	B	B	D	A	C
141	142	143	144	145	146	147	148	149	150
B	A	A	D	D	D	C	A	D	B
151	152	153	154	155	156	157	158	159	160
D	C	C	C	A	C	B	A	B	B
161	162	163	164	165	166	167	168	169	170
C	A	B	A	C	A	A	B	D	B
171	172	173	174	175	176	177	178	179	180
A	B	B	A	B	B	A	A	A	A

GENERAL KNOWLEDGE

181	182	183	184	185	186	187	188	189	190
C	A	B	B	A	B	C	A	A	C
191	192	193	194	195	196	197	198	199	200
A	B	C	B	D	C	A	A	C	B