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PHOTON CAREER ACADEMY

6. Candidates are advised to read all 15 questions in each subject of Section-B before they start attempting the question paper. In the event of a candidate attempting more than ten questions, the first ten questions answered by the candidate shall be evaluated.
7. Use Blue/Black Ball Point Pen only for writing particulars/markings/responses on OMR Sheet.
8. Do not fold or make any stray marks on the Answer Sheet. Rough work is to be done on the space provided for this purpose.

Parts	Questions		To Attempt		Total	
	Section A	Section B	Section A	Section B	Section A	Section B
Physics	35	15	35	10	35	10
Chemistry	35	15	35	10	35	10
Botany	35	15	35	10	35	10
Zoology	35	15	35	10	35	10
	140	60	140	40	180	

1. Immediately fill in the particulars on this page of the Test Booklet with Blue/Black Ball Point Pen only.
2. The test is of 3 hours 20 minutes duration and the test booklet contains 200 Multiple choice questions. Which have four options with a single correct answer.
3. This test consists of Physics, Chemistry, Botany and Zoology questions with equal weightage of 180 marks.
4. Each question is of 4 marks. For each correct response the candidate will get 4 marks. For each incorrect response, 1 mark will be deducted from the total score. The maximum marks are 720.
5. There are four parts in the question paper, consisting Part-I-Physics (Q.no.1 to 50), Part-II-Chemistry (Q.no. 51 to 100), Part-III Botany (Q. no. 101 to 150) and Part-IV Zoology (Q. no.151 to 200). Each part is divided into two Sections, Section-A consists of 35 multiple choice questions & Section-B consists of 15 Multiple choice questions, out of these 15 questions candidates can choose to attempt any 10 questions.

INSTRUCTIONS

PHYSICS : Complete Syllabus; CHEMISTRY : Complete Syllabus
BOTANY : Complete Syllabus; ZOOLOGY : Complete Syllabus

Syllabus

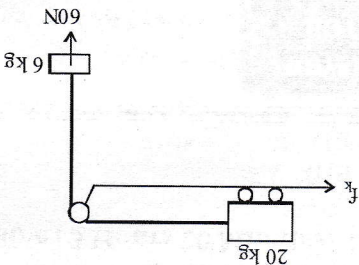
FULL TEST - 06
 Name of the Candidate: _____
 Roll No. _____
 Maximum Marks : 720
 Date: _____
TEST CODE FT - 06

TEST SERIES - NEET

PART-I: PHYSICS

Section-A

6. Consider a block and trolley system as shown in figure. If the coefficient of kinetic friction between the trolley and the surface is 0.04, the acceleration of the system in ms^{-2} is: (Consider that the string is massless and unstretchable and the pulley is also massless and frictionless) [NCERT-XI, Page 60, 61]



7. A circular coil of wire consisting of 100 turns each of radius 9 cm carries a current of 0.4 A. The magnitude of magnetic field at the centre of the coil is [NCERT-XII, Page 116]

8. A current flowing in a step down transformer (220V to 22V) having impedance 220π , is [NCERT-XII, Page 195]

9. Photoelectric effect is the phenomenon in which [NCERT-XII, Page 277, 278]

10. **Statement I :** In Young's experiment, the fringe width for dark fringes is different from that for white fringes. **Statement II :** In Young's double slit experiment, if a source of white light is used, then only black and bright fringes are observed. [NCERT-XII, Page 265, 266]

11. A block of 200 g mass moves with a uniform speed in a horizontal circular groove, with vertical side walls of radius 20 cm. If the block takes 40 s to complete one round, the normal force by the side walls of the groove is : [NCERT-XI, Page 63]

6.

7.

8.

9.

10.

11.

1. In the Young's Double slit experiment, when we place a converging lens after the slits and place the screen at the focus of the lens, it [NCERT-XII, Page 265, 266]

(1) introduces an extra path difference in the parallel beam.
 (2) introduces no path difference in the parallel beam.
 (3) introduces an extra phase difference in the parallel beam.
 (4) introduces an extra fringe in the diffraction pattern.

2. Under what condition will the strength of current in a wire of resistance R be the same for connection in series and in parallel of n identical cells each of the internal resistance r? [NCERT-XII, Page 95, 96]

- (1) $R = nr$
- (2) $R = r/n$
- (3) $R = r$
- (4) $R \rightarrow \infty, r \rightarrow 0$

3. If a bar magnet of pole strength m and magnetic moment M is cut perpendicular to its axis in two equal halves then its new pole strength m' and magnetic moment M' are respectively [NCERT-XII, Page 139, 140]

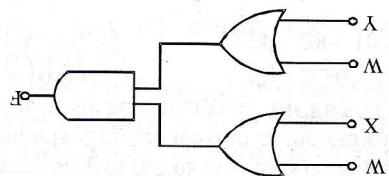
- (1) $m' = m$ and $M' = M$
- (2) $m' = m$ and $M' = \frac{M}{2}$
- (3) $m' = \frac{m}{2}$ and $M' = 2M$
- (4) $m' = 2m$ and $M' = \frac{M}{2}$

4. The electric resistance of a certain wire of iron is R. If its length and radius are both doubled, then

- (1) the resistance and the specific resistance, will both remain unchanged
- (2) the resistance will be doubled and the specific resistance will be halved
- (3) the resistance will be halved and the specific resistance will remain unchanged
- (4) the resistance will be halved and the specific resistance will be doubled

5. While measuring the speed of sound by performing a resonance column experiment, a student gets the first resonance condition at a column length of 18 cm during winter. Repeating the same experiment during summer, she measures the column length to be x cm for the second resonance. Then

- (1) $18 > x$
- (2) $x > 54$
- (3) $54 > x > 36$
- (4) $36 > x > 18$



12. The diagram of a logic circuit is given below. The output F of the circuit is represented by

- (1) $W \cdot (X + Y)$
- (2) $W \cdot (X \cdot Y)$
- (3) $W + (X \cdot Y)$
- (4) $W + (X + Y)$

13. The amount of heat required to raise the temperature of 40g of oxygen at room temperature by 60°C at constant volume is ($R = 8.3 \text{ J mol}^{-1}\text{K}^{-1}$) [NCERT-XI, Page 231, 232]

- (1) 1.52 kJ
- (2) 1.56 kJ
- (3) 1.62 kJ
- (4) 1.63 kJ

14. A thin spherical conducting shell of radius R has a charge q. Another charge Q is placed at the centre of the shell. The electrostatic potential at a point P, a distance $\frac{R}{2}$ from the centre of the shell is

- (1) $\frac{2Q}{4\pi\epsilon_0 R}$
- (2) $\frac{2Q}{4\pi\epsilon_0 R} - \frac{4\pi\epsilon_0 R}{2q}$
- (3) $\frac{2Q}{4\pi\epsilon_0 R} + \frac{4\pi\epsilon_0 R}{q}$
- (4) $\frac{4\pi\epsilon_0 R}{(q+Q)2}$

15. When a positively charged particle enters a region of uniform magnetic field, its trajectory can be

- I a straight line.
- II a circle.
- III a helix.
- (1) Only I
- (2) II or III
- (3) I or II
- (4) Anyone of I, II or III

16. Which statements are correct about degrees of freedom? [NCERT-XI, Page 253]

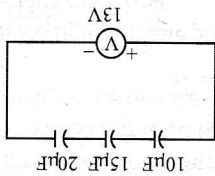
- A. A molecule with n degrees of freedom has n^2 different ways of storing energy.
- B. Each degree of freedom is associated with $\frac{2}{1} RT$ average energy per mole.
- C. A monoatomic gas molecule has 1 rotational degree of freedom where as diatomic molecule has 2 rotational degrees of freedom.
- D. CH_4 has a total to 6 degrees of freedom

Choose the correct answer from the option given below:

- (1) B and C only
- (2) B and D only
- (3) A and B only
- (4) C and D only

18.

The charge on capacitor of capacitance 15 μF in the figure given below is :



- (1) +2V
- (2) -3V
- (3) 2V
- (4) -2V

The forward biased diode connection is: [NCERT-XII, Page 335]

19.

The distance travelled by an object in time t is given by $s = (2.5)t^2$. The instantaneous speed of the object at $t = 5$ s will be:

- (1) 12.5 ms^{-1}
- (2) 62.5 ms^{-1}
- (3) 5 ms^{-1}
- (4) 25 ms^{-1}

20.

A stone of mass m is tied to one end of a wire of length L. The diameter of the wire is D and it is suspended vertically. The stone is now rotated in a horizontal plane and makes an angle θ with the vertical. If Young's modulus of the wire is Y, then the increase in the length of the wire is

- (1) $\frac{4mgL}{\pi D^2 Y \sin \theta}$
- (2) $\frac{\pi D^2 Y \sin \theta}{4mgL}$
- (3) $\frac{4mgL}{\pi D^2 Y \cos \theta}$
- (4) $\frac{\pi D^2 Y \tan \theta}{4mgL}$

21.

The inductance of a closed-packed coil of 400 turns is 8 mH. A current of 5 mA is passed through it. The magnetic flux through each turn of the coil is

- (1) $\frac{4\pi}{1} \mu_0 \text{Wb}$
- (2) $\frac{2\pi}{1} \mu_0 \text{Wb}$
- (3) $\frac{3\pi}{1} \mu_0 \text{Wb}$
- (4) $0.4 \mu_0 \text{Wb}$

22.

Two equal point masses are separated by a distance d_1 . The force of gravitation acting between them is F_1 . If the separation is decreased to d_2 , then the new force of gravitation F_2 is given by [NCERT-XI, Page 130]

- (1) $F_2 = F_1$
- (2) $F_2 = F_1 \left(\frac{d_1}{d_2}\right)^2$
- (3) $F_2 = F_1 \left(\frac{d_1}{d_2}\right)^2$
- (4) $F_2 = F_1 \left(\frac{d_2}{d_1}\right)^2$

[NCERT-XII, Page 168]

23. Two projectiles are thrown with same initial velocity making an angle of 45° and 30° with the horizontal respectively. The ratio of their respective ranges will be

- (1) $1 : \sqrt{2}$ (2) $\sqrt{2} : 1$
 (3) $2 : \sqrt{3}$ (4) $\sqrt{3} : 2$

24. When unpolarised light is incident on a plane glass plate of refractive index μ , it is found that reflected and refracted rays are perpendicular to each other. Then which of the following statements is correct?

- (1) Reflected and refracted rays are completely polarised with their planes of polarization parallel to each other
 (2) Reflected and refracted rays are completely polarised with their planes of polarization perpendicular to each other
 (3) Reflected light is plane polarised but transmitted light is partially polarised
 (4) Reflected light is partially polarised but refracted light is plane polarised

25. Match the entries given in Column I to their analogue entries of electrostatics given in Column II.

- Column I**
 (A) Ampere's circuital law
 (B) Biot-Savart's law
 (C) Planar current loop
 (D) Coulomb's law
- Column II**
 (1) Electric dipole
 (2) Gauss's law in electrostatics
 (3) Planar current loop
 (4) Ampere's circuital law

26. A particle of mass m with an initial velocity u collides perfectly elastically with a mass $3m$ at rest. It moves with a velocity v after collision, then, v is given by :

- (1) $v = \sqrt{\frac{3}{2}}u$ (2) $v = \frac{\sqrt{3}}{n}$
 (3) $v = \frac{\sqrt{2}}{n}$ (4) $v = \frac{\sqrt{6}}{n}$

27. Assume that a neutron breaks into a proton and an electron. The energy released during this process is : (mass of neutron = 1.6725×10^{-27} kg, mass of proton = 1.6725×10^{-27} kg, mass of electron = 9×10^{-31} kg).

- (1) 0.511 MeV (2) 7.10 MeV
 (3) 6.30 MeV (4) 5.4 MeV

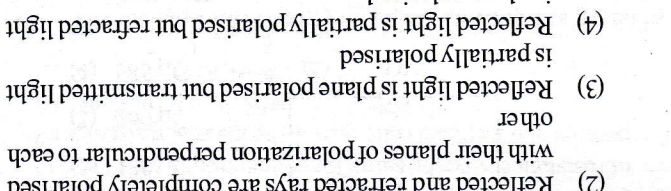
28. A particle executes simple harmonic motion between $x = -A$ and $x = +A$. If time taken by particle to go from $x = 0$ to $\frac{A}{2}$ is $2s$; then time taken by particle in going from $x = \frac{A}{2}$ to A is:

- (1) 4 (2) -8 (3) +8 (4) -2

29. A mercury drop of radius 10^{-3} m is broken into 125 equal size droplets. Surface tension of mercury is 0.45 Nm^{-1} . The gain in surface energy is: [NCERT-XI, Page 193, 194]

- (1) $5 \times 10^{-5} \text{ J}$ (2) $2.26 \times 10^{-5} \text{ J}$
 (3) $17.5 \times 10^{-5} \text{ J}$ (4) $28 \times 10^{-5} \text{ J}$

30. Identify the logic operation carried out.



- (1) OR (2) AND
 (3) NOR (4) NAND

31. **Assertion :** When a magnetic dipole is placed in a non-uniform magnetic field, only torque acts on the dipole. **Reason :** Force would also act on dipole if magnetic field were uniform.

- (1) If both Assertion and Reason are correct and the Reason is a correct explanation of the Assertion.
 (2) If both Assertion and Reason are correct but Reason is not a correct explanation of the Assertion.
 (3) If the Assertion is correct but Reason is incorrect.
 (4) If the Assertion is incorrect and Reason is correct.

32. Consider a uniform square plate of side 'a' and mass 'M'. The moment of inertia of this plate about an axis perpendicular to its plane and passing through one of its corners is

- (1) $\frac{5}{12}Ma^2$ (2) $\frac{1}{12}Ma^2$
 (3) $\frac{7}{12}Ma^2$ (4) $\frac{3}{2}Ma^2$

33. The oscillating electric and magnetic vectors of an electromagnetic wave are oriented along

- (1) the same direction but differ in phase by 90°
 (2) the same direction and are in phase
 (3) mutually perpendicular directions and are in phase
 (4) mutually perpendicular directions and differ in phase by 90°

34. A string is clamped at both the ends and it is vibrating in its 4th harmonic. The equation of the stationary wave is $y = 0.3 \sin(0.157x) \cos(200\pi t)$. The length of the string is: (All quantities are in SI units.) [NCERT-XI, Page 290, 291]

- (1) 20 m (2) 80 m (3) 40 m (4) 60 m

35. The focal length of the objective and the eyepiece of a telescope are 50 cm and 5 cm respectively. If the telescope is focussed for distinct vision on a scale distant 2 m from its objective, then its magnifying power will be:

- (1) -4 (2) -8 (3) +8 (4) -2

[NCERT-XI, Page 244, 245]

[NCERT-XI, Page 84, 85]

[NCERT-XII, Page 311]

[NCERT-XI, Page 266]

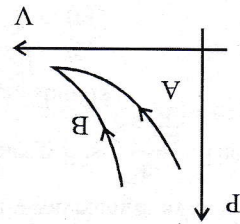
Section-B

36. A wire of radius r and another wire of radius $2r$, both of

same material and length are connected in series to each other. The combination is connected across a battery. The ratio of the heats produced in the two wires will be

- (1) 4.00 (2) 2.00 (3) 0.50 (4) 0.25
[NCERT-XII, Page 92, 93]

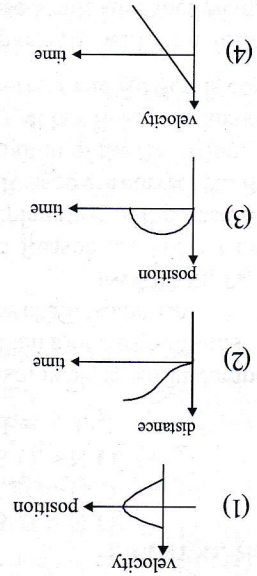
37. Choose the correct statement for processes A & B shown in figure.



- (1) $PV^\gamma = k$ for process B and $PV = k$ for process A.
 (2) $PV = k$ for process B and A.
 (3) $\frac{P}{T} = k$ for process B and $T = k$ for process A.
 (4) $\frac{P}{T^\gamma} = k$ for process A and $PV = k$ for process B.

38. All the graphs below are intended to represent the same motion. One of them does it incorrectly. Pick it up.

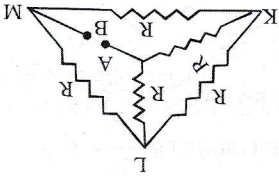
[NCERT-XI, Page 14, 16]



39. Statement I : The photon behaves like a particle.
 Statement II : If E and P are the energy and momentum of the photon, then $P = E/c$.
 (1) Both statement I and II are correct.
 (2) Both statement I and II are incorrect.
 (3) Statement I is correct but statement II is incorrect.
 (4) Statement II is correct but statement I is incorrect.

40.

Each of the resistance in the network shown in fig. is equal to R. The resistance between the terminals A and B is



41. Displacement of a particle in periodic motion is expressed as $x(t) = 20 \cos \omega t$. If the time period of particle is 4s, then displacement of the particle in 1 s will be

- (1) 10 m (2) 15 m (3) 0 (4) 20 m
[NCERT-XI, Page 261, 262]

42. Match List-I with List-II

EM-Wave	List-I
(A) Infra-red	(I) $< 10^{-3}$ nm
(B) Ultraviolet	(II) 400 nm to 1 nm
(C) X-rays	(III) 1 mm to 700 nm
(D) Gamma rays	(IV) 1 nm to 10^{-3} nm

Choose the correct answer from the options given below:
 [NCERT-XII, Page 211]

- (1) (A)-(II), (B)-(I), (C)-(IV), (D)-(III)
 (2) (A)-(III), (B)-(II), (C)-(IV), (D)-(I)
 (3) (A)-(IV), (B)-(III), (C)-(II), (D)-(I)
 (4) (A)-(I), (B)-(III), (C)-(II), (D)-(IV)

43. If R , X_L and X_C represent resistance, inductive reactance and capacitive reactance. Then which of the following is dimensionless:
 [NCERT-XI, Page 7]

- (1) $R X_L X_C$ (2) $\frac{\sqrt{X_L X_C}}{R}$
 (3) $\frac{X_L X_C}{R}$ (4) $R \frac{X_C}{X_L}$

44. A heavy box of mass 50 kg is moving on a horizontal surface. If co-efficient of kinetic friction between the box and horizontal surface is 0.3 then force of kinetic friction is:
 [NCERT-XI, Page 60, 61]

- (1) 147 N (2) 147 N
 (3) 147 N (4) 1470 N

45. Read the following statements:
 [NCERT-XII, Page 309]

- (A) Volume of the nucleus is directly proportional to the mass number.
 (B) Volume of the nucleus is independent of mass number.
 (C) Density of the nucleus is directly proportional to the mass number.
 (D) Density of the nucleus is directly proportional to the cube root of the mass number.
 (E) Density of the nucleus is independent of the mass number.
 Choose the correct option from the following options.
 (1) (A) and (D) only (2) (A) and (E) only
 (3) (B) and (E) only (4) (A) and (C) only

PART-II: CHEMISTRY

Section-A

46. The instantaneous values of alternating current and voltages in a circuit are given as

$$i = \frac{\sqrt{2}}{1} \sin(100\pi t) \text{ A}, e = \frac{\sqrt{2}}{1} \sin(100\pi t + \pi/3) \text{ volt}$$
 The average power in watt consumed in the circuit is
 (1) $\frac{4}{1}$ (2) $\frac{4}{\sqrt{3}}$ (3) $\frac{2}{1}$ (4) $\frac{8}{1}$
47. The specific heat of water = $4200 \text{ J kg}^{-1} \text{ K}^{-1}$ and the latent heat of ice = $3.4 \times 10^5 \text{ J kg}^{-1}$. 100 grams of ice at 0°C is placed in 200 g of water at 25°C . The amount of ice that will melt as the temperature of water reaches 0°C is close to (in grams)
 [NCERT-XI, Page 208, 209, 210, 212 213]
 (1) 61.7 (2) 63.8 (3) 69.3 (4) 64.6
48. A bar magnet of magnetic moment M , is placed in magnetic field of induction B . The torque exerted on it is
 [NCERT-XII, Page 139]
 (1) $M\bar{B}$ (2) $-\bar{M}\bar{B}$ (3) $M \times \bar{B}$ (4) $-\bar{B} \times \bar{M}$

51. Which of the following statements are correct?
 I. The shape of the orbitals is given by magnetic quantum number.
 II. In an atom, all electrons travel with the same velocity.
 III. If the value of $l = 0$, the electron distribution is spherical.
 IV. Angular momentum of $1s, 2s, 3s$ electrons are equal.
 Choose the most appropriate answer from the options given below.
 (1) II and IV (2) I and III (3) I and II (4) III and IV
 [NCERT-XI, Page 57]
52. The electrophile involved in the above reaction is
 [NCERT-XII, Page 213]
-
- (1) trichloromethyl anion CCl_3^-
 (2) formyl cation CHO^+
 (3) dichloromethyl cation CHCl_2^+
 (4) dichlorocarbene ($:\text{CCl}_2$)
53. In which of the following, entropy decreases?
 [NCERT-XI, Page 159]
 (1) Crystallization of sucrose solution
 (2) Rusting of iron
 (3) Melting of ice
 (4) Vaporization of camphor

49. Select the incorrect statements about electric field lines.
 I. Two electric field lines can never cross each other.
 II. They start from positive charge and end at negative charge.
 III. Electric field lines form closed loops.
 IV. The electric field at a point is always continuous.
 [NCERT-XII, Page 19, 20, 21]
50. The de-Broglie wavelength associated with a particle of mass m and energy E is $\frac{\sqrt{2mE}}{h}$. The dimensional formula for Planck's constant is :
 [NCERT-XI, Page 7, 8]
 (1) $[\text{ML}^{-1}\text{T}^{-2}]$ (2) $[\text{ML}^2\text{T}^{-1}]$ (3) $[\text{MLT}^{-2}]$ (4) $[\text{M}^2\text{L}^2\text{T}^{-2}]$
54. The test to differentiate between pentan-2-one and pentan-3-one is
 (1) Fehling's test (2) Iodoform test (3) Baeyer's test (4) Benedict's test
 The correct order of decreasing acidic nature of oxides
 [NCERT-XI, Page 94]
 (1) $\text{Li}_2\text{O} > \text{BeO} > \text{CO}_2 > \text{B}_2\text{O}_3 > \text{N}_2\text{O}_3$
 (2) $\text{CO}_2 > \text{N}_2\text{O}_3 > \text{B}_2\text{O}_3 > \text{Li}_2\text{O} > \text{BeO}$
 (3) $\text{CO}_2 > \text{BeO} > \text{Li}_2\text{O} > \text{B}_2\text{O}_3 > \text{N}_2\text{O}_3$
 (4) $\text{N}_2\text{O}_3 > \text{CO}_2 > \text{B}_2\text{O}_3 > \text{BeO} > \text{Li}_2\text{O}$
56. Assertion : Chain isomerism is observed in compounds containing four or more than four carbon atoms
 Reason : Only alkanes show chain isomerism
 [NCERT-XI, Page 270]
 (1) If both Assertion and Reason are correct and the Reason is a correct explanation of the Assertion.
 (2) If both Assertion and Reason are correct but Reason is not a correct explanation of the Assertion.
 (3) If the Assertion is correct but Reason is incorrect.
 (4) If the Assertion is incorrect and Reason is correct.
57. Acetamide is treated separately with the following reagents. Which one of these would give methylamine?
 [NCERT-XII, Page 264]
 (1) PCl_5 (2) $\text{NaOH} + \text{Br}_2$ (3) Sodalime (4) Hot conc. H_2SO_4

53. In which of the following, entropy decreases?
 [NCERT-XI, Page 159]

[NCERT-XII, Page 213]

[NCERT-XI, Page 57]

[NCERT-XII, Page 264]

[NCERT-XI, Page 270]

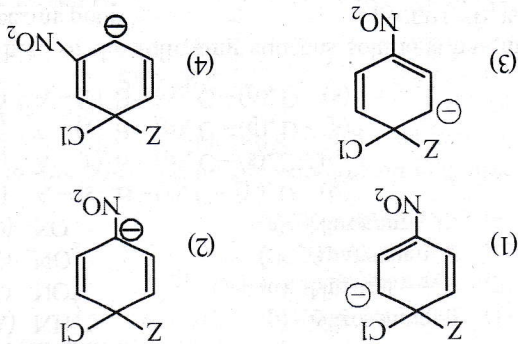
[NCERT-XI, Page 94]

[NCERT-XII, Page 240]

[NCERT-XII, Page 190, 191]

58. Which of the following structure is more stable?

[NCERT-XII, Page 273]



59. Acetic acid reacts with PCl_5 to form

- (1) CH_3ClCOOH (2) CHCl_2COOH (3) CH_3COCl (4) CH_3COOCl

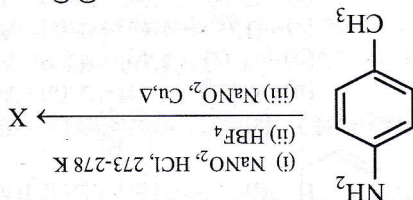
60. The anomeric carbon atom in glucose and fructose is

- (1) C_1 in both (2) C_2 in both (3) C_5 in glucose and C_1 in fructose (4) C_1 in glucose and C_2 in fructose.

61. **Statement I:** Presence of electron withdrawing group in benzoic acid increases the acidic strength.
Statement II: CF_3COOH is stronger acid than CH_3COOH .

- (1) Both statement I and II are correct.
(2) Both statement I and II are incorrect.
(3) Statement I is correct but statement II is incorrect.
(4) Statement II is correct but statement I is incorrect.

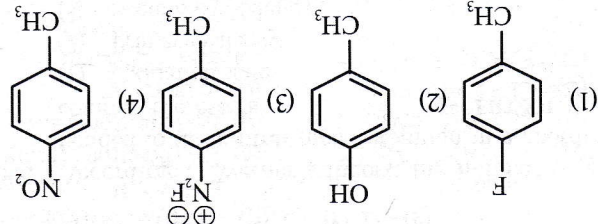
62. Identify X in the following.



63. Which one of the following has the same number of atoms as are in 6g of H_2O ? [NCERT-XI, Page 18]

- (1) 0.4 g He (2) 22 g CO_2 (3) 1 g H_2 (4) 12 g CO

64. The structure of protein that is unaffected by heating is : [NCERT-XII, Page 294]



72. Match the column-I with column-II and mark the appropriate choice. [NCERT-XII, Page 129]

- (A) $[\text{Ag}(\text{NH}_3)_2]^+$ (B) $[\text{Ni}(\text{CN})_4]^{2-}$ (C) $[\text{Ni}(\text{CO})_4]$ (D) $[\text{Fe}(\text{CN})_6]^{3-}$
(1) d_{sp^3} , octahedral (2) d_{sp^2} , square planar (3) sp , linear (4) sp^3 , tetrahedral

71. Aluminium is usually found in +3 oxidation state. In contrast, thallium exists in +1 and +3 oxidation states. This is due to:

- (1) inert pair effect (2) diagonal relationship (3) lattice effect (4) lanthanoid contraction

70. In the Friedel Craft's acylation reaction, the effective electrophile is

- (1) RCOCl (2) AlCl_3 (3) RCOCl (4) RCO^+

69. A pair of compound which have odd electrons in the group NO , CO , ClO , N_2O , SO_2 and O_3 are [NCERT-XI, Page 105]

- (1) +2 and +3 (2) +3 and +4 (3) -3 and -4 (4) +2, +3 and +4

68. The common oxidation states of Ti are

- (1) HCl (2) $\text{Na}_2\text{S}_2\text{O}_3$ (3) KI (4) K_2SO_4

67. Which of the following cannot be used in the Iodine-Clock reaction?

- (1) A-(s), B-(r), C-(p), D-(q) (2) A-(p), B-(q), C-(r), D-(s) (3) A-(p), B-(r), C-(s), D-(q) (4) A-(s), B-(p), C-(r), D-(q)

66. Match Column-I with Column-II. [NCERT-XII, Page 240]

- (A) Xanthate test (B) Schiff's reagent (C) Azo-Dye test (D) Iodoform test
(1) Aldehyde (2) Methyl ketone (3) 1° atomatic amine (4) Alcohol

65. Which of the following compound cannot be used in preparation of iodoform?

- (1) secondary structure (2) tertiary structure (3) primary structure (4) quaternary structure

73. Half life periods for a reaction at initial concentrations of 0.1 M and 0.01 M are 5 and 50 minutes, respectively. The order of reaction is

- (1) 3
(2) 2
(3) 1
(4) 0

74. 200 g of 20% w/w urea solution is mixed with 400 g of 40% w/w urea solution. What is the weight percentage (w/w %) of resultant solution?

- (1) 30.33
(2) 33.33
(3) 36.33
(4) 28.33

75. **Statement I:** During isothermal expansion of an ideal gas, there is no change in the internal energy.
Statement II: During isothermal expansion of an ideal gas, as temperature remains constant, no heat enters or leaves the system.

- (1) Both statement I and II are correct.
(2) Both statement I and II are incorrect.
(3) Statement I is correct but statement II is incorrect.
(4) Statement II is correct but statement I is incorrect.

76. Which of the following reagent is used to find out carbon-carbon multiple bonds?

- (1) Grignard reagent
(2) Bayer's reagent
(3) Sandmeyer's reagent
(4) Gattermann reagent

77. Which of the following statement is correct?

- (1) Conductivity of an electrolyte decreases on dilution
(2) On dilution number of ions per unit volume increases
(3) Conductivity of electrolyte increases on dilution
(4) Conductance in metal increases with temperature.

78. Which one has the highest and lowest boiling point?

- (1) H_2O, H_2S
(2) H_2O, H_2Se
(3) H_2S, H_2O
(4) H_2S, H_2Se

79. If the longest wavelength of spectral line of Paschen series of Li^{2+} ion spectrum is λ , then the longest wavelength (in \AA) of Lyman series of hydrogen spectrum is

- (1) $\frac{12}{7x}$
(2) $\frac{12}{7x}$
(3) $\frac{20x}{27}$
(4) $\frac{20}{27x}$

80. **Statement I:** In rate $\propto [A]^x [B]^y$, x and y are equal to stoichiometric coefficient of the reactant.
Statement II: $x + y$ gives order of the reaction.

- (1) Both statement I and II are correct.
(2) Both statement I and II are incorrect.
(3) Statement I is correct but statement II is incorrect.
(4) Statement II is correct but statement I is incorrect.

[NCERT-XII, Page 68]

[NCERT-XI, Page 48]

[NCERT-XII, Page 188]

[NCERT-XI, Page 313]

[NCERT-XI, Page 140]

[NCERT-XII, Page 2]

[NCERT-XII, Page 77]

84. Match the columns.

- Column-I**
- (1) $4H_3PO_3 \rightarrow 3H_3PO_4 + PH_3$
(2) $2H_2O_2 \rightarrow 2H_2O + O_2$
(3) $P_4 + 3NaOH + 3H_2O \rightarrow 3NaH_2PO_2 + PH_3$
(4) $P_4 + 8SOCl_2 \rightarrow 4PCl_3 + 2S_2Cl_2 + 4SO_2$

83. Which of the following is only a redox reaction but not a disproportionation reaction?

- (1) 0.1 molal $Al_2(SO_4)_3$
(2) 0.1 molal $BaCl_2$
(3) 0.1 molal $AlCl_3$
(4) 0.1 molal NH_4Cl

82. Which of the following aqueous solutions has highest freezing point?

- (1) A-(s), B-(r), C-(p), D-(q)
(2) A-(r), B-(p), C-(s), D-(q)
(3) A-(r), B-(p), C-(q), D-(s)
(4) A-(r), B-(q), C-(p), D-(s)

- Column-I (Ligand)**
- (A) NH_4^+ Nitrosonium
(B) NO^+ Nitrosyl
(C) NO_2^+ Ammonium
(D) NO Nitronium

81. Match the columns

[NCERT-XII, Page 123]

Column-II (Name)

- (p) Nitrosonium
(q) Nitrosyl
(r) Ammonium
(s) Nitronium

85. According to Werner's theory, the number of groups bonded to the central metal atom/ion in a coordination complex represents:

[NCERT-XII, Page 119]

- (1) Oxidation state
(2) Primary Valency
(3) Secondary Valency
(4) Polyhedron

Section-B

86. The ether that undergoes electrophilic substitution reactions is

- (1) $CH_3OC_2H_5$
(2) $C_6H_5OCH_3$
(3) CH_3OCH_3
(4) $C_2H_5OC_2H_5$

[NCERT-XII, Page 215]

97.

The delocalization of σ electrons of C-H bond of an alkyl group with the π electrons of benzene is observed in

[NCERT-XI, Page 277]

- (1) Inductive effect
- (2) Hyperconjugation effect
- (3) Resonance effect
- (4) Electromeric effect

98.

Which of the products indicates the presence of sulphur atom in an organic compound, in qualitative elemental analysis?

[NCERT-XII, Page 289]

- (1) Fe_2SO_4
- (2) ZnS
- (3) MgS
- (4) PbS

99.

Match the following.

[NCERT-XI, Page 190]

Column-I

- (A) Lewis base
- (B) Produce H_3O^+ ion in aqueous solution.
- (C) Arthenius base
- (D) Bronsted - Lowry base

- (1) A - (s), B - (r), C - (p), D - (q)
- (2) A - (r), B - (p), C - (s), D - (q)
- (3) A - (s), B - (r), C - (q), D - (p)
- (4) A - (q), B - (p), C - (r), D - (s)

90.

Which of the following correctly represents Nernst equation? [P = products, R = reactants]

[NCERT-XII, Page 38, 40]

(1) $\Delta G = \Delta G^\circ + 2.303RT \log \frac{[P]}{[R]}$

(2) $\Delta G = \Delta G^\circ - 2.303RT \log \frac{[R]}{[P]}$

(3) $\Delta G^\circ = \Delta G + 2.303RT \ln \frac{[R]}{[P]}$

(4) $\Delta G^\circ = \Delta G - 2.303RT \log \frac{[R]}{[P]}$

91.

Match the Column-I with Column-II and choose the correct option using the options given below.

[NCERT-XI, Page 87]

Column-I

- (A) $Li^+ < Al^{3+} < Mg^{2+} < K^+$ (Electron affinity)
- (B) $Li^+ > Al^{3+} < Mg^{2+} > K^+$ (Electronegativity)
- (C) $Cl > F > Br > I$ (Ionic radii)
- (D) $F > Cl > Br > I$ (Effective nuclear charge)

- (1) A - (r), B - (q), C - (p), D - (s)
- (2) A - (r), B - (p), C - (s), D - (q)
- (3) A - (r), B - (s), C - (p), D - (q)
- (4) A - (q), B - (p), C - (r), D - (s)

92.

The reaction/method that does not give an alkane is

[NCERT-XI, Page 300]

93.

Relative stability orders of +1, +3 oxidation states of Ga, In, Tl are respectively

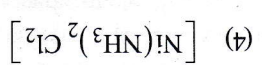
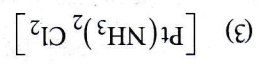
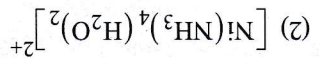
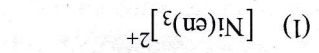
[NCERT-XI, Page 318]

- (1) $Tl^+ > In^+ > Ga^3+ > In^3+ > Tl^3+$
- (2) $Ga^+ > In^+ > Tl^+, Tl^3+ > In^3+ > Ga^3+$
- (3) $Ga^+ > In^+ > Tl^+, Ga^3+ > In^3+ > Tl^3+$
- (4) $Tl^+ > In^+ > Ga^+, Tl^3+ > In^3+ > Ga^3+$

94.

Which one of the following complexes is not expected to exhibit isomerism?

[NCERT-XII, Page 126]



95.

Statement I: Reductive ozonolysis of alkene gives carbonyl compound.

Statement II: Ozonolysis occurs in the presence of O_2 .

[NCERT-XI, Page 313]

- (1) Both statement I and II are correct.
- (2) Both statement I and II are incorrect.
- (3) Statement I is correct but statement II is incorrect.
- (4) Statement II is correct but statement I is incorrect.

96.

Assertion: Bond order can assume any value number including zero.

Reason: Higher the bond order, shorter is bond length and greater is bond energy.

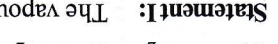
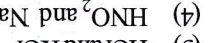
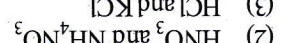
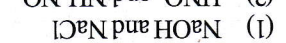
[NCERT-XI, Page 129]

- (1) If both Assertion and Reason are correct and the Reason is a correct explanation of the Assertion.
- (2) If both Assertion and Reason are correct but Reason is not a correct explanation of the Assertion.
- (3) If the Assertion is correct but Reason is incorrect.
- (4) If the Assertion is incorrect and Reason is correct.

97.

Which of the following pairs constitutes a buffer?

[NCERT-XI, Page 203]



98.

Statement I: The vapour pressure of a liquid decreases if some non-volatile solute is dissolved in it.

Statement II: The relative lowering of vapour pressure of a solution containing a non-volatile solute is equal to the mole fraction of the solute in the solution.

[NCERT-XII, Page 7, 15]

100. For the ions Zn^{2+} , Ni^{2+} and Cr^{3+} which among the following statements is correct? [NCERT-XII, Page 103]
- (1) All these are colourless
 (2) All these are coloured
 (3) Only Ni^{2+} is coloured and Zn^{2+} and Cr^{3+} are colourless
 (4) Only Zn^{2+} is colourless and Ni^{2+} and Cr^{3+} are coloured

PART-III: BOTANY

107. Match column-I with column-II.

Column-I	Column-II
A. Coleorhiza	I. Grapes
B. Food storing tissue	II. Mango
C. Parthenocarpic fruit	III. Endosperm
D. Single seeded fruit developing from monocarpellary superior ovary	IV. Radicle

- Choose the correct answer from the options given below:
- (1) A-III; B-I; C-IV; D-II
 (2) A-IV; B-II; C-III; D-I
 (3) A-II; B-I; C-III; D-IV
 (4) A-IV; B-III; C-I; D-II
108. Given below are two statements:
- Statement I :** The group Fungi has more species than all molluscs, crustaceans and other animal group.
- Statement II :** Species diversity on earth is not uniformly distributed.
- [NCERT-XII, Page 218, 219]
- In the light of the above statements, choose the correct answer from the options given below:
- (1) Both Statement I and Statement II are true.
 (2) Both Statement I and Statement II are false.
 (3) Statement I is true but Statement II is false.
 (4) Statement I is false but Statement II is true.

109. In Krebs's cycle, how many oxidation (dehydrogenation) occur?

- (1) 4
 (2) 6
 (3) 2
 (4) 1

110. Cyclosporin A is produced from

- (1) *Trichoderma polysporum* (a fungus)
 (2) *Bacillus* (a bacterium)
 (3) *Aspergillus* (a fungus)
 (4) *Saccharomyces* (yeast).

111. Which of the following characteristics represent

'Inheritance of blood groups' in humans?

[NCERT-XII, Page 61, 62]

Section-A

101. Which of the following taxonomic category contains organisms least similar to one another? [NCERT-XI, Page 8]

- (1) Genera
 (2) Family
 (3) Class
 (4) Species

102. Identify the correct order of organisation of genetic material from largest to smallest. [NCERT-XII, Page 83]

- (1) Genome, chromosome, gene, nucleotide
 (2) Chromosome, genome, nucleotide, gene
 (3) Chromosome, gene, genome, nucleotide
 (4) Genome, chromosome, nucleotide, gene

103. If $\log A = 4$, $Z = 0.3$ and $\log C = 0.8$, what is the value of $\log S$?

- (1) 3.76
 (2) 100
 (3) 4.24
 (4) 2

104. T. O. Diener discovered a new infectious agent and have the following characteristics. [NCERT-XI, Page 21]

- A. It causes potato spindle tuber disease.
 B. It has free RNA.
 C. The molecular weight of RNA is low.
 D. The protein coat is absent.
 E. It is smaller than viruses.
 Which is the correct option for all the given characteristics?
 (1) Viruses
 (2) Viroids
 (3) Viton
 (4) Mycoplasma

105. Percentage of pure breeding F_2 individuals of a monohybrid cross would be

[NCERT-XII, Page 56]

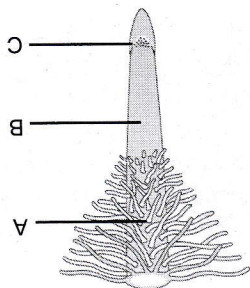
- (1) 75%
 (2) 50%
 (3) 25%
 (4) 12.5%

106. Increase in growth per unit time is called

- (1) exponential growth
 (2) intrinsic growth
 (3) growth rate
 (4) cell elongation.

[NCERT-XI, Page 169]

116. Refer to the given figure and find out the correct statement. [NCERT-XI, Page 59]



- (1) Differentiation and maturation of cells can be observed in part C.
 (2) Part A protects the tender apex of the root.
 (3) Part B mainly helps in absorption of water.
 (4) A thimble like structure is present in part B.

117. Given below are two statements:

Statement I: Rudolf Virchow modified the hypothesis of Schleiden and Schwann to give the cell theory a final shape. [NCERT-XI, Page 87, 88]

Statement II: Cell theory proposed by Schleiden and Schwann does not explain "how new cells were formed". In the light of the above statements, choose the correct answer from the options given below:

- (1) Both Statement I and Statement II are true.
 (2) Both Statement I and Statement II are false.
 (3) Statement I is true but Statement II is false.
 (4) Statement I is false but Statement II is true.

118. Read the following statements and select the correct statements. [NCERT-XII, Page 221, 222]

- A. Tilman found that increased diversity contributes to higher productivity.
 B. A stable community should show much variations in productivity.
 C. Steller's sea cow became extinct from Africa.
 D. Rivet popper hypothesis is used by ecologist Paul.
 E. A constant and uniform environment condition promotes niche specialisation and lead to greater species diversity.
 Choose the correct answer from the options given below:

- (1) A and C only
 (2) A and B only
 (3) B and C only
 (4) A, D and E only

119. Most of the bacterial cell envelope consists of (1) only the cell membrane [NCERT-XI, Page 90]
 (2) the cell wall and cell membrane
 (3) a tightly bound 3 layered structure
 (4) only glycocalyx.

112. Exponential growth occurs when there is

- (1) B, C and E only
 (2) A, B and C only
 (3) A, C and E only
 (4) B, D and E only

Choose the correct answer from the options given below:

- A. Dominance
 B. Co-dominance
 C. Multiple allele
 D. Incomplete dominance
 E. Polygenic inheritance

113. Match the columns. [NCERT-XI, Old Page 87]

Column-I

- A. Tracheid
 I. Long cylindrical tubular cells with large central cavity
 B. Vessels
 II. Elongated tube like cells with thick, lignified walls and tapering ends
 C. Xylem fibres
 III. Cells possess highly thickened walls with obiterated central lumen.
 D. Xylem parenchyma
 IV. Cells are living with thin cellulose cell walls

Choose the correct answer from the options given below:

- (1) A-II, B-I, C-III, D-IV
 (2) A-I, B-II, C-III, D-IV
 (3) A-IV, B-III, C-I, D-II
 (4) A-III, B-IV, C-II, D-I

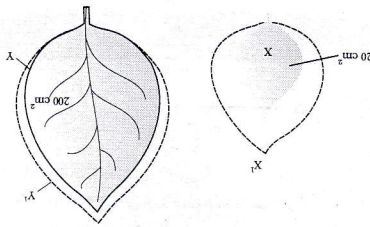
114. C_4 pathway is advantageous over C_3 pathway in plants as it

- (1) occurs in relatively low CO_2 concentration
 (2) uses more amount of water
 (3) occurs in relatively low O_2 concentration
 (4) is less efficient in energy utilisation.

115. Which of the following statement is correct? [NCERT-XII, Page 90, 91]

- (1) DNA replication occurs in S-phase.
 (2) The polarity of DNA template on which continuous strand formed is $3' \rightarrow 5'$.
 (3) DNA-dependent DNA polymerase catalyse polymerisation in $5' \rightarrow 3'$ direction.
 (4) All of these

120. Refer to the given diagram showing two leaves, X and Y, of different sizes but shows absolute increase in area in the given time to give rise to leaves, X' and Y'. Identify X' and Y'.



- (1) $X' - 200 \text{ cm}^2, Y' - 300 \text{ cm}^2$
 (2) $X' - 120 \text{ cm}^2, Y' - 300 \text{ cm}^2$
 (3) $X' - 50 \text{ cm}^2, Y' - 250 \text{ cm}^2$
 (4) $X' - 80 \text{ cm}^2, Y' - 250 \text{ cm}^2$

121. Removal of introns and joining of exons in a defined order during transcription is called

- (1) capping (2) inducing (3) tailing (4) splicing.

122. Read the following statements. [NCERT-XI, Old Page 86]

- A. Long and narrow cells
 B. Cell wall is lignified
 C. Cells - Spherical, oval or cylindrical
 D. Often has few pits
 E. Dead mechanical tissue
- The characters are shown by which of the following tissues?
- (1) Parenchyma (2) Collenchyma (3) Sclerenchyma

123. Read the following statements. [NCERT-XI, Page 59]

- A. Stem develops from the plumule of a spore.
 B. Stem bears nodes and internodes.
 C. The region of stem where leaves are borne are internodes.
 D. The stem bears terminal or axillary buds.
 E. Some stems perform the function of storage of food, support, protection and vegetative propagation.
- How many of the above statements are correct?
 (1) Three (2) Two (3) Four (4) Five

124. The 'Rivet popper hypothesis' is given by

- (1) Robert May (2) A.V Humboldt (3) Paul Ehrlich (4) David Tilman.

125. In Harch and Slack pathway, the primary CO_2 acceptor is

- (1) RubisCo (2) Oxaloacetic acid (3) Phosphoryglyceric acid (4) Phosphoenol pyruvate.

[NCERT-XI, Page 171]

126. In split genes, the coding sequences are called

- (1) introns (2) exons (3) cistrons (4) operons.

127. Which of the following pair of statements are correct about Klinefelter's Syndrome? [NCERT-XII, Page 76]

- A. Physical and mental development is retarded.
 B. Such an individual has development of breast.
 C. This disorder was first described by Langdon (1866).
 D. The affected individual is short statured.
 E. Such individuals are sterile.

128. Cyclic and non cyclic flow of e^- is used in plants to

- (1) meet the ATP demands of Calvin-cycle
 (2) avoid producing excess $\text{NADPH} + \text{H}^+$
 (3) balance ATP and $\text{NADPH} + \text{H}^+$ ratio in chloroplasts
 (4) all of these

129. Match List-I with List-II. [NCERT-XI, Page 121]

- List-I**
 A. S-phase
 B. G_2 phase
 C. Quiescent stage
 D. G_1 phase

- List-II**
 I. Protein synthesis
 II. Inactive phase
 III. After cytokinesis
 IV. DNA synthesis

- Choose the correct answer from the options given below.
 (1) A - III, B - II, C - I, D - IV
 (2) A - IV, B - II, C - III, D - I
 (3) A - IV, B - I, C - II, D - III
 (4) A - II, B - IV, C - III, D - I

130. *Lactobacillus* mediated conversion of milk to curd occurs

- due to
 (1) coagulation and partial digestion of milk fats
 (2) coagulation and partial digestion of milk proteins
 (3) coagulation of milk proteins and complete digestion of milk fats
 (4) coagulation of milk proteins and complete digestion of milk proteins.

131. Which of the following growth regulator initiates sprouting of potato tubers? [NCERT-XI, Page 177]

- (1) C_2H_4 (2) ABA (3) GA (4) IAA

132. Given below are two statements:

- Statement I:** Mitochondria help in oxidative phosphorylation.
Statement II: Mitochondria have a diameter of $0.2 - 1.0 \mu\text{m}$.

In the light of the above statements, choose the correct answer from the options given below:

- [NCERT-XI, Page 102]

133. Tendrils develops from
- (1) Both Statement I and Statement II are true.
 (2) Both Statement I and Statement II are false.
 (3) Statement I is true but Statement II is false.
 (4) Statement I is false but Statement II is true.
- [NCERT-XI, Old Page 68]

134. Read the given statements and choose the correct option.
- (1) root
 (2) leaf
 (3) axillary bud
 (4) peduncle.
- [NCERT-XI, Page 126]

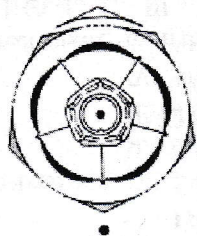
135. Match the columns.
- Column-I
- (1) Zygotene (2) Diakinesis (3) Diplotene (4) Metaphase I
- Column-II
- I 170 billion tons
 II $gm^{-2}yr^{-1}$
 III gm^{-2}
 IV 55 billion tons
- A. Productivity
 B. Annual NPP
 C. Primary production
 D. Productivity of ocean
- (1) A-II, B-IV, C-I, D-III
 (2) A-III, B-II, C-IV, D-I
 (3) A-I, B-II, C-IV, D-III
 (4) A-II, B-I, C-III, D-IV
- [NCERT-XII, Page 207]

136. Inclusion bodies of blue-green, purple and green photosynthetic bacteria are
- (1) contractile vacuoles
 (2) gas vacuoles
 (3) centrioles
 (4) microtubules.
137. Match the columns.
- Column-I
- A. Pericarp
 B. Perisperm
 C. Albuminous seed
 D. Non albuminous seed
- Column-II
- I Persistent nucellus
 II No residual endosperm
 III Ovary wall
 IV Retain endosperm
- (1) A-I; B-II; C-III; D-IV
 (2) A-IV; B-III; C-II; D-I
 (3) A-III; B-I; C-IV; D-II
 (4) A-III; B-I; C-II; D-IV
- [NCERT-XI, Page 24, 25, 26]

Section-B

138. Match the columns:
- Column-I
- (1) A-II; B-I; C-IV, D-III
 (2) A-I; B-II; C-III, D-IV
 (3) A-III; B-I; C-IV; D-II
 (4) A-III; B-I; C-II; D-IV
- Column-II
- I *Ulothrix*
 A. Unicellular algae
- [NCERT-XI, Page 24, 25, 26]

141. Match the columns:
- Column-I
- (1) Gramineae (2) Leguminosae
 (3) Compositae (4) Malvaceae
- Column-II
- I Spindle fibres get connected to the kinetochores.
 II Initiation of condensation of chromosomal material.
 III Centromeres of chromosomes lie towards pole while arms trail behind.
 IV Nucleolus, Golgi and ER reform.
- (1) A-II, B-I, C-IV, D-III
 (2) A-I, B-II, C-III, D-IV
 (3) A-II, B-I, C-III, D-IV
 (4) A-IV, B-II, C-I, D-III
- Choose the correct answer from the options given below:



140. Which of the following family is represented in the given floral diagram?
- [XI, Present in NEET Syllabus but Not in NCERT]

139. The *Antirrhinum sp.* when two F_1 pink flowered plants were crossed with each other, the F_2 generation produced 40 red, 80 pink and 40 white flowering plants. This is a case of
- (1) duplicate genes
 (2) dominance
 (3) incomplete dominance
 (4) codominance
- [NCERT-XII, Page 60]

141. Match the columns:
- Column-I
- (1) Gramineae (2) Leguminosae
 (3) Compositae (4) Malvaceae
- Column-II
- I Spindle fibres get connected to the kinetochores.
 II Initiation of condensation of chromosomal material.
 III Centromeres of chromosomes lie towards pole while arms trail behind.
 IV Nucleolus, Golgi and ER reform.
- (1) A-II, B-I, C-IV, D-III
 (2) A-I, B-II, C-III, D-IV
 (3) A-II, B-I, C-III, D-IV
 (4) A-IV, B-II, C-I, D-III
- Choose the correct answer from the options given below:

133. Tendrils develops from
- (1) Both Statement I and Statement II are true.
 (2) Both Statement I and Statement II are false.
 (3) Statement I is true but Statement II is false.
 (4) Statement I is false but Statement II is true.
- [NCERT-XI, Old Page 68]

135. Match the columns.
- Column-I
- (1) Zygotene (2) Diakinesis (3) Diplotene (4) Metaphase I
- Column-II
- I 170 billion tons
 II $gm^{-2}yr^{-1}$
 III gm^{-2}
 IV 55 billion tons
- A. Productivity
 B. Annual NPP
 C. Primary production
 D. Productivity of ocean
- (1) A-II, B-IV, C-I, D-III
 (2) A-III, B-II, C-IV, D-I
 (3) A-I, B-II, C-IV, D-III
 (4) A-II, B-I, C-III, D-IV
- [NCERT-XII, Page 207]

134. Read the given statements and choose the correct option.
- (1) root
 (2) leaf
 (3) axillary bud
 (4) peduncle.
- [NCERT-XI, Page 126]

135. Match the columns.
- Column-I
- (1) Zygotene (2) Diakinesis (3) Diplotene (4) Metaphase I
- Column-II
- I 170 billion tons
 II $gm^{-2}yr^{-1}$
 III gm^{-2}
 IV 55 billion tons
- A. Productivity
 B. Annual NPP
 C. Primary production
 D. Productivity of ocean
- (1) A-II, B-IV, C-I, D-III
 (2) A-III, B-II, C-IV, D-I
 (3) A-I, B-II, C-IV, D-III
 (4) A-II, B-I, C-III, D-IV
- [NCERT-XII, Page 207]

136. Inclusion bodies of blue-green, purple and green photosynthetic bacteria are
- (1) contractile vacuoles
 (2) gas vacuoles
 (3) centrioles
 (4) microtubules.
137. Match the columns.
- Column-I
- A. Pericarp
 B. Perisperm
 C. Albuminous seed
 D. Non albuminous seed
- Column-II
- I Persistent nucellus
 II No residual endosperm
 III Ovary wall
 IV Retain endosperm
- (1) A-I; B-II; C-III; D-IV
 (2) A-IV; B-III; C-II; D-I
 (3) A-III; B-I; C-IV; D-II
 (4) A-III; B-I; C-II; D-IV
- [NCERT-XI, Page 24, 25, 26]

Section-B

138. Match the columns:
- Column-I
- (1) A-II; B-I; C-IV, D-III
 (2) A-I; B-II; C-III, D-IV
 (3) A-III; B-I; C-IV; D-II
 (4) A-III; B-I; C-II; D-IV
- Column-II
- I *Ulothrix*
 A. Unicellular algae
- [NCERT-XI, Page 24, 25, 26]

141. Match the columns:
- Column-I
- (1) Gramineae (2) Leguminosae
 (3) Compositae (4) Malvaceae
- Column-II
- I Spindle fibres get connected to the kinetochores.
 II Initiation of condensation of chromosomal material.
 III Centromeres of chromosomes lie towards pole while arms trail behind.
 IV Nucleolus, Golgi and ER reform.
- (1) A-II, B-I, C-IV, D-III
 (2) A-I, B-II, C-III, D-IV
 (3) A-II, B-I, C-III, D-IV
 (4) A-IV, B-II, C-I, D-III
- Choose the correct answer from the options given below:

140. Which of the following family is represented in the given floral diagram?
- [XI, Present in NEET Syllabus but Not in NCERT]

139. The *Antirrhinum sp.* when two F_1 pink flowered plants were crossed with each other, the F_2 generation produced 40 red, 80 pink and 40 white flowering plants. This is a case of
- (1) duplicate genes
 (2) dominance
 (3) incomplete dominance
 (4) codominance
- [NCERT-XII, Page 60]

141. Match the columns:
- Column-I
- (1) Gramineae (2) Leguminosae
 (3) Compositae (4) Malvaceae
- Column-II
- I Spindle fibres get connected to the kinetochores.
 II Initiation of condensation of chromosomal material.
 III Centromeres of chromosomes lie towards pole while arms trail behind.
 IV Nucleolus, Golgi and ER reform.
- (1) A-II, B-I, C-IV, D-III
 (2) A-I, B-II, C-III, D-IV
 (3) A-II, B-I, C-III, D-IV
 (4) A-IV, B-II, C-I, D-III
- Choose the correct answer from the options given below:

133. Tendrils develops from
- (1) Both Statement I and Statement II are true.
 (2) Both Statement I and Statement II are false.
 (3) Statement I is true but Statement II is false.
 (4) Statement I is false but Statement II is true.
- [NCERT-XI, Old Page 68]

142. Identify the correct statements. [NCERT-XI, Page 73, 74]

- A. Conjoint closed vascular bundles do not possess cambium.
 - B. In open vascular bundles, cambium is present in between xylem and phloem.
 - C. In roots, xylem and phloem in a vascular bundle are arranged in an alternate manner along the different radii.
 - D. In monocotyledonous root, usually there are more than six xylem bundles present.
 - E. The vascular bundles of dicotyledonous stem possess endarch protoxylem.
- Choose the correct answer from the options given below:
- (1) A, B, D and E only
 - (2) B, C, D and E only
 - (3) A, B, C and D only
 - (4) All of these

143. Pre-mRNA or hnRNA found in eukaryotic cell is

- (1) formed as result of a replication of DNA
- (2) formed due to the transcription of entire length of a gene
- (3) a new species of genetic RNA
- (4) result of transcription of only introns.

144. Match List-I with List-II. [NCERT-XII, Page 90, 104, 106]

List-II

- A. Human Genome
- B. SNPs
- C. VNTRs
- D. *E. coli*
- I. 1.4 million
- II. 0.1 - 20 kb
- III. 4.6×10^6 bp
- IV. 3164.7 million bp

Choose the correct answer from the options given below:

- (1) A-II, B-I, C-IV, D-III
- (2) A-IV, B-I, C-II, D-III
- (3) A-II, B-IV, C-III, D-I
- (4) A-II, B-IV, C-I, D-III

145. Select the correct statement about biodiversity.

- (1) The desert areas of Rajasthan and Gujarat have a very high level of desert animal species as well as numerous rare animals.
- (2) Large scale planting of Bt cotton has no adverse effect on biodiversity.
- (3) Western Ghats have a very high degree of species richness and endemism.
- (4) Conservation of biodiversity is just a fast pursued by the developed countries.

146. Given below are two statements:

- (1) bilayer
- (2) monolayer
- (3) multilayer
- (4) unilayer at some places and bilayer at other places.

150. In cell membrane, lipids are arranged in a

- (1) replication of RNA
- (2) formation of peptide bond
- (3) splicing
- (4) initiation of transcription.

149. Aminoacylation of tRNA is essential for

- (1) A-II; B-III; C-I; D-IV
- (2) A-I; B-II; C-III; D-IV
- (3) A-II; B-IV; C-III; D-I
- (4) A-II; B-III; C-IV; D-I

Choose the correct answer from the options given below:

- A. Ascus
- B. Basidium
- C. Imperfect fungi
- D. Parasitic fungi
- I. *Albugo*
- II. *Penicillium*
- III. *Agaricus*
- IV. *Alternaria*

(Examples)
Column-II

(Terms)
Column-I

148. Match column-I with column-II. [NCERT-XI, Page 17, 18]

- (1) A-IV, B-III, C-II, D-I
- (2) A-I, B-II, C-III, D-IV
- (3) A-II, B-IV, C-III, D-I
- (4) A-III, B-II, C-IV, D-I

Choose the correct answer from the options given below:

- A. Karyokinesis
- B. Cytokinesis
- C. Gametogenesis
- D. Diakinesis
- I. Transition to metaphase
- II. Haploid gametes
- III. Cytoplasm division
- IV. Nuclear division

Column-II

[NCERT-XI, Page 124, 125]

147. Match column-I with column-II.

- (1) Both Statement I and Statement II are true.
- (2) Both Statement I and Statement II are false.
- (3) Statement I is true but Statement II is false.
- (4) Statement I is false but Statement II is true.

answer from the options given below:

In the light of the above statements, choose the correct stem height.

[NCERT-XII, Page 54, 55]

flower colour, pod shape and colour; flower position and his experiment on pea plants were seed shape and colour.

Statement I: Mendel studied seven contrasting traits in pea plants and proposed the Laws of Inheritance.

Statement II: Seven characters examined by Mendel in pea plants and proposed the Laws of Inheritance.

FT - 06

PART-IV: ZOOLOGY

Section-A

151. Regarding catalytic cycle of an enzyme action, select the correct sequential steps. [NCERT-XI, Page 115, 116]

- A. Substrate enzyme complex formation.
 - B. Free enzyme ready to bind with another substrate.
 - C. Release of products.
 - D. Chemical bonds of the substrate broken.
 - E. Substrate binding to active site.
- Choose the correct answer from the options given below:
- (1) E, A, D, C, B
 - (2) A, E, B, D, C
 - (3) B, A, C, D, E
 - (4) E, D, C, B, A

152. Which property among the following is shown by frogs? [NCERT-XI, Page 80, 83]

- (1) Poikilothermal
- (2) Stenothermal
- (3) Ureotelic
- (4) Both (1) and (3)

153. As menstruation ends, estrogen level in blood rises rapidly, the source of estrogen is [NCERT-XII, Page 34, 35]

- (1) corpus luteum
- (2) developing follicle
- (3) endometrium
- (4) pituitary gland.

154. Which one of the following statement is correct? [NCERT-XII, Page 141, 142]

- (1) Benign tumours show the property of metastasis.
- (2) Cancerous cells show contact inhibition.
- (3) Malignant tumours may exhibit metastasis.
- (4) α -interferon deactivates the immune system.

155. Which of the following statement is incorrect? [NCERT-XII, Page 165, 166]

- A. Genetic engineering is also called recombinant DNA technology.
- B. DNA is a hydrophobic molecule.
- C. MALAYALAM is a palindrome.
- D. *E. coli* is isolated from *Escherichia coli* RY12.

Choose the correct answer from the options given below:

- (1) A and B only
- (2) B and D only
- (3) C and D only
- (4) A, B, C and D

156. Frog takes in water through which of the following organs? [NCERT-XI, Page 82]

- (1) Eyes
- (2) Skin
- (3) Mouth
- (4) Gills

157. Match the columns:

[NCERT-XII, Page 141, 142]

- | | |
|---|---|
| <p>Column-I</p> <ul style="list-style-type: none"> A. Carcinogens B. Immunotherapy C. Metastasis D. CT | <p>Column-II</p> <ul style="list-style-type: none"> I. Malignant tumors II. Cause of cancer III. Treatment of cancer IV. Detection of cancer |
|---|---|

Choose the correct answer from the options given below:

- (1) A-I, B-III, C-II, D-IV
- (2) A-II, B-III, C-I, D-IV
- (3) A-II, B-I, C-III, D-IV
- (4) A-III, B-I, C-II, D-IV

158. Which of the following statements are correct? [NCERT-XI, Page 111, 112]

- A. Proteins, are heteropolymers containing strings of amino acids.
- B. Biologists describe the protein structure at four levels.
- C. The first amino acid is also called as N-terminal amino acid.
- D. Only some portions of the protein thread are arranged in the form of a helix.
- E. The long protein chain is also folded upon itself like a hollow woolen ball, giving rise to the tertiary structure.

Choose the correct answer from the options given below:

- (1) Only B and C
- (2) Only D and E
- (3) Only A and D
- (4) A, B, C, D and E

159. Flying squirrel and flying phalanger show

[NCERT-XII, Page 118]

- (1) divergent evolution
- (2) convergent evolution
- (3) adaptive radiation
- (4) convergent evolution unlike in Darwin's finches.

160. Read the following statements for the first triploblastic animals.

- A. Possess coelom
- B. Are acoelomate
- C. Are pseudocoelomate
- D. Possess flame cells
- E. Is exemplified by *Planaria*

Which of the above statements correspond to these animals?

- (1) A, B and C only
- (2) A, B, C, D and E
- (3) B, D and E only
- (4) A and C only

161. Match the columns:

- Column-I**
- A. MTP legalised
 - B. Family planning
 - C. Vasectomy
 - D. Tubectomy

Choose the correct answer from the options given below:

- (1) A-I, B-II, C-IV, D-III
- (2) A-II, B-IV, C-I, D-III
- (3) A-II, B-I, C-IV, D-III
- (4) A-I, B-IV, C-II, D-III

162. Match the columns:

Column-I

- A. Sponges and coelenterates
- B. Aquatic arthropods
- C. Insects
- D. Mammals, birds and reptiles

Choose the correct answer from the options given below:

- (1) A-I, B-II, C-IV, D-III
- (2) A-IV, B-II, C-III, D-I
- (3) A-IV, B-I, C-II, D-III
- (4) A-III, B-II, C-I, D-IV

163. Match the columns:

Column-II

- I. Mammals
- II. Land snails
- III. Amphioxus
- IV. Fish

Choose the correct answer from the options given below:

- (1) A-II, B-I, C-IV, D-III
- (2) A-I, B-IV, C-II, D-III
- (3) A-III, B-I, C-II, D-IV
- (4) A-III, B-IV, C-I, D-II

164. Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R:

Assertion A: Restriction enzyme digestion is a process of incubating purified DNA with restriction enzyme.

Reason R: AGE is employed to check the progression of a restriction enzyme digestion.

In the light of the above statements, choose the correct answer from the options given below:

- (1) Both A and R are true and R is the correct explanation of A.
- (2) Both A and R are true but R is NOT the correct explanation of A.
- (3) A is true but R is false.
- (4) A is false but R is true.

165. Match List I with List II.

List-I

- A. α -cells
- B. β -cells
- C. Pars distalis
- D. Pars nervosa

List-II

- I. TSH
- II. Glucagon
- III. Vasopressin
- IV. Insulin

Choose the correct answer from the options given below:

- (1) A-IV, B-I, C-II, D-III
- (2) A-II, B-IV, C-III, D-I
- (3) A-II, B-IV, C-I, D-III
- (4) A-II, B-I, C-IV, D-III

166. Match column-I with column-II.

Column-I

- A. α -1-antitrypsin
- B. Micropropagation
- C. Rosie
- D. Transposons

Choose the correct answer from the options given below:

- (1) A-I, B-II, C-III, D-IV
- (2) A-II, B-I, C-III, D-IV
- (3) A-II, B-IV, C-III, D-I
- (4) A-IV, B-II, C-I, D-III

167. Aschelminthes are called roundworms because

- (1) their larvae are round in shape
- (2) their body is round like disc
- (3) their stomach is round shaped
- (4) their thread like body is circular in cross section.

168. Bundle of His/AV-bundle is found in

- (1) ganglia
- (2) nerve cells
- (3) muscular fibres
- (4) connective tissue.

169. Which of the following hormone is responsible for both the milk ejection reflex and the foetal ejection reflex?

- (1) Oestrogen
- (2) Prolactin
- (3) Oxytocin
- (4) Relaxin

170. Which of the following is incorrect match?

- | | | |
|-------------------------|---|--|
| (1) Plasmid | - | Extra-chromosomal DNA |
| (2) Cloning | - | Ability to multiply copies of antibiotic resistance gene in <i>E. coli</i> |
| (3) Restriction enzymes | - | Molecular scissors |
| (4) Exonucleases | - | Vectors |

[NCERT-XII, Page 164, 165]

[NCERT-XII, Page 38]

[NCERT-XI, Page 199]

[NCERT-XI, Page 43]

[NCERT-XII, Page 178, 180, 184]

[NCERT-XII, Page 41, 45, 46]

[NCERT-XI, Page 183]

[NCERT-XI, Page 205, 206]

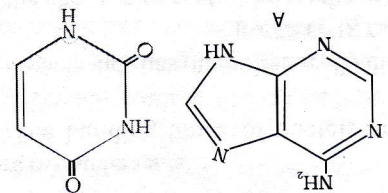
[NCERT-XII, Page 38]

171. Systemic circulation provides nutrients, O₂ and other essential substances to the tissues

- (1) provides nutrients, O₂ and other essential substances to the tissues
- (2) eliminate CO₂ and other harmful substances
- (3) carries blood from intestine to liver
- (4) Both (1) and (2)

172. Which of the following technique can detect very low amounts of DNA?

- (1) PCR
- (2) ELISA
- (3) rDNA technology
- (4) Serum analysis



173.

The above diagrams represent the nitrogenous bases. Identify the correct combination. [NCERT-XI, Page 107]

- (1) A - Adenine; B - Thymine
- (2) A - Guanine; B - Thymine
- (3) A - Adenine; B - Uracil
- (4) A - Guanine; B - Uracil

174. Dengue and chikungunya are _____ diseases. [NCERT-XII, Page 134]

- (1) vector-borne
- (2) water borne
- (3) air-borne
- (4) food-borne

175. Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R:

Assertion A: Life appeared 500 million years after the formation of earth. [NCERT-XII, Page 111]
Reason R: There was no atmosphere on early earth.

In the light of the above statements, choose the correct answer from the options given below:

- (1) Both A and R are true and R is the correct explanation of A.
- (2) Both A and R are true but R is NOT the correct explanation of A.
- (3) A is true but R is false.
- (4) A is false but R is true.

176. Which part of brain control respiration, cardiovascular reflexes and gastric secretions? [NCERT-XI, Page 236]

- (1) Medulla oblongata
- (2) Pons
- (3) Hypothalamus
- (4) Cerebellum

177. Match the columns. [NCERT-XI, Page 201]

Column-I

- A. Carboxyhaemoglobin
- B. Carbamino haemoglobin
- C. Haemoglobin
- D. Oxyhaemoglobin

Column-II

- I. O₂
- II. Hb
- III. CO₂
- IV. CO

Choose the correct answer from the options given below:

- (1) A - III, B - IV, C - II, D - I
- (2) A - IV, B - III, C - I, D - II
- (3) A - IV, B - III, C - II, D - I
- (4) A - I, B - II, C - IV, D - III

178. Consider the following statements. [NCERT-XI, Page 184]

- A. Pharynx is also called sound box.
- B. Larynx is made up of cartilaginous substance.
- C. Each terminal bronchiole gives rise to alveoli.
- D. Lungs are covered by a double layered pleura.

Which of the above given statements are incorrect?

- (1) A only
- (2) B and C only
- (3) C and D only
- (4) A and D only

179. Match column-I with column-II. [NCERT-XI, Page 232]

Column-I

- A. Unipolar neuron
- B. Bipolar neuron
- C. Multipolar neuron
- D. Schwann cell

Column-II

- I. In cerebral cortex
- II. In embryonic stage
- III. In retina of eye
- IV. ANS

Choose the correct answer from the options given below:

- (1) A - I; B - II; C - III; D - IV
- (2) A - I; B - III; C - II; D - IV
- (3) A - II; B - I; C - III; D - IV
- (4) A - II; B - III; C - I; D - IV

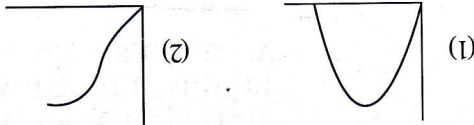
180. Given below are two statements:

Statement I: The testes are situated inside the abdominal cavity within pouch called scrotum. [NCERT-XII, Page 27]
Statement II: The male sex accessory ducts include rete testis, vasa efferentia, penis and vas deferens.

In the light of the above statements, choose the correct answer from the options given below:

- (1) Both Statement I and Statement II are true.
- (2) Both Statement I and Statement II are false.
- (3) Statement I is true but Statement II is false.
- (4) Statement I is false but Statement II is true.

181. Which one of the following graphs show the correct relationship between the rate of an enzymatic activity and substrate concentration (S)? [NCERT-XI, Page 116]



185. Given below are two statements:
Statement I: During pregnancy level of cortisol, prolactin and thyroxine are increased several times in maternal blood.
Statement II: Placenta acts as an endocrine tissue.
 [NCERT-XII, Page 37]

In the light of the above statements, choose the correct answer from the options given below:
 (1) Both Statement I and Statement II are true.
 (2) Both Statement I and Statement II are false.
 (3) Statement I is true but Statement II is false.
 (4) Statement I is false but Statement II is true.

Section-B

186. Given below are two statements:
Statement I: The building block of nucleic acid is nucleotide.
Statement II: A nucleotide has three chemically distinct components.
 [NCERT-XII, Page 80]

In the light of the above statements, choose the correct answer from the options given below:
 (1) Both Statement I and Statement II are true.
 (2) Both Statement I and Statement II are false.
 (3) Statement I is true but Statement II is false.
 (4) Statement I is false but Statement II is true.

187. Match the columns:

Column-I

- A. First transgenic cow
- I. *mRNA* silencing
- B. Safety test of polio vaccine
- II. Rice
- C. Resistance from nematode
- III. Rosie
- D. Vitamin 'A' enriched crop
- IV. Transgenic mice

Choose the correct answer from the options given below:

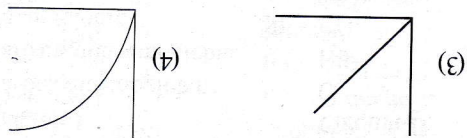
- (1) A-I, B-III, C-IV, D-II
- (2) A-III, B-II, C-I, D-IV
- (3) A-III, B-IV, C-II, D-I
- (4) A-III, B-IV, C-I, D-II

188. Read the following statements about cnidarians.

[NCERT-XI, Page 41]

- A. Cnidarians exhibit tissue level of organisation and are triploblastic
 - B. Digestion is extracellular and intracellular
 - C. Corals bear comb plates.
 - D. Corals have a skeleton composed of calcium carbonate
 - E. They possess a central gastro-vascular cavity with a single opening, mouth on hypostome.
- Which of the above statements are correct?
 (1) A and C only
 (2) A, B and C only
 (3) B, D and E only
 (4) C and D only

182. Match the columns :



[NCERT-XI, Page 227]

- Column-I**
- I. Inflammation of joints
 - II. Caused due to decreased estrogen
 - III. Rapid spasms
 - IV. Inflammation of joints due to accumulation of uric acid crystals
- Column-II**
- A. Tetany
 - B. Osteoporosis
 - C. Gout
 - D. Arthritis

Choose the correct answer from the options given below:

- (1) A-III, B-II, C-IV, D-I
- (2) A-III, B-I, C-IV, D-II
- (3) A-II, B-IV, C-III, D-I
- (4) A-I, B-III, C-II, D-IV

183. Match column-I with column-II. [NCERT-XII, Page 118, 121]

Column-I

- A. Mutation
- I. Change in population's allele frequencies due to chance alone
- II. Differences in survival and reproduction among variant individuals.
- III. Migration
- IV. Lead to speciation

Choose the correct answer from the options given below:

- (1) A-I; B-II; C-III; D-IV
- (2) A-IV; B-II; C-III; D-I
- (3) A-III; B-I; C-IV; D-II
- (4) A-IV; B-III; C-II; D-I

184. Match column-I with column-II.

Column-I

- A. Glycosuria
- B. Uremia
- C. Renal calculi
- D. Glomerular nephritis

- I. Accumulation of urea in blood.
- II. Mass of crystallised salts within the kidney
- III. Inflammation in glomeruli of kidney
- IV. Presence of glucose in urine

Choose the correct answer from the options given below:

- (1) A-III, B-II, C-IV, D-I
- (2) A-I, B-II, C-III, D-IV
- (3) A-IV, B-I, C-II, D-III
- (4) A-II, B-III, C-I, D-IV

189. Choose the incorrect statement. [NCERT-XII, Page 136]

- (1) Colostrum is a whitish fluid.
- (2) Colostrum contains abundant IgA which protect infants.
- (3) Colostrum provides passive immunity to the infants during lactation.
- (4) Colostrum is secreted in the beginning of lactation period.

190. Given below are two statements:

Statement I: Disarmed Ti plasmid is used as vector to deliver gene of interest into plant cell.

Statement II: Some retroviruses have ability to transform normal animal cells into cancerous cells.

[NCERT-XII, Page 170]

In the light of the above statements, choose the correct answer from the options given below:

- (1) Both Statement I and Statement II are true.
- (2) Both Statement I and Statement II are false.
- (3) Statement I is true but Statement II is false.
- (4) Statement I is false but Statement II is true.

191. Given below are two statements:

Statement I: Bt toxins are plant group specific.

Statement II: Bt toxin is coded by a gene named cry.

[NCERT-XII, Page 180]

In the light of the above statements, choose the correct answer from the options given below:

- (1) Both Statement I and Statement II are true.
- (2) Both Statement I and Statement II are false.
- (3) Statement I is true but Statement II is false.
- (4) Statement I is false but Statement II is true.

192. Which of the following is/are used in PCR?

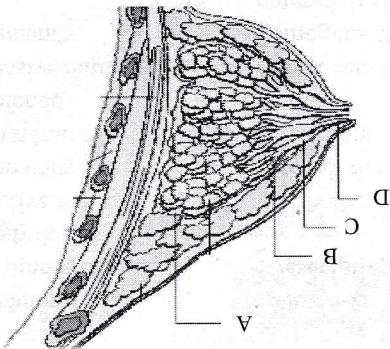
[NCERT-XII, Page 172, 173]

- A. dsDNA
- B. Primers
- C. *Taq* polymerase
- D. Deoxynucleotides
- E. Downstream processing

Choose the correct answer from the options given below:

- (1) A and B only
- (2) B and C only
- (3) C and E only
- (4) A, B, C and D only

193. Refer to the given figure of mammary gland with few structures marked as A, B, C and D. Identify the marked structures. [NCERT-XII, Page 30]



(1) A-Mammary lobe, B-Mammary duct, C-Ampulla,

(2) D-Lactiferous duct, A-Ampulla, B-Mammary duct, C-Lactiferous duct,

(3) D-Mammary lobe, A-Lactiferous duct, B-Mammary lobe, C-Mammary lobe, D-Ampulla.

(4) A-Mammary duct, B-Mammary lobe, C-Lactiferous duct, D-Ampulla.

194. Match List-I with List-II. [NCERT-XI, Old Page 101, 102]

List-I

- A. Unicellular glandular epithelium
- B. Compound epithelium
- C. Multicellular epithelium
- D. Endocrine glandular epithelium

- I Salivary glands
- II Pancreas
- III Goblet cells of alimentary canal
- IV Moist surface of buccal cavity

Choose the correct answer from the options given below.

- (1) A-II, B-I, C-III, D-IV
- (2) A-IV, B-III, C-I, D-II
- (3) A-III, B-IV, C-I, D-II
- (4) A-II, B-I, C-IV, D-III

195. Match the column-I with column-II.

Column-I

- A. IUT
- B. Copper T
- C. Spermicides
- D. STD
- I Birth control
- II Agent to kill spermatozoa
- III VD or RTI
- IV To help infertile couple

Column-II

[NCERT-XII, Page 44, 47, 48]

Choose the correct answer from the options given below.

- (1) A-IV; B-III; C-I; D-II
- (2) A-IV; B-III; C-II; D-I
- (3) A-II; B-IV; C-I; D-III
- (4) A-IV; B-I; C-II; D-III

196. Match column-I with column-II:
[NCERT-XII, Page 134, 135, 136]

Column-II

(Description)

(Components of body defence)

- A. Active natural immunity
- B. First line of immunity
- C. Passive natural immunity
- D. Second line of defence

Choose the correct answer from the options given below.

- (1) A-IV, B-III, C-I, D-II
- (2) A-III, B-IV, C-II, D-I
- (3) A-III, B-IV, C-I, D-II
- (4) A-IV, B-III, C-II, D-I

197. Read the following statements about agarose gel electrophoresis and identify the correct ones.

[NCERT-XII, Page 168]

- A. Agarose is a natural polymer obtained from sea weed.
- B. The separation of DNA molecules in agarose gel electrophoresis depends on the size of DNA.
- C. The DNA migrates from negatively charged electrode to the positively charged electrode.
- D. The DNA migrates from positively charged electrode to the negatively charged electrode.
- E. The DNA fragments resolve according to their molecular weight.

Choose the correct answer from the options given below.

- (1) B, C and D only
- (2) A and E only
- (3) A, B and C only
- (4) A, B and D only

198. Match List-I with List-II. [NCERT-XI, Page 241, 243, 244]

List-I

- A. Exophthalmic goiter

List-II

- I Under production by adrenal cortex

199. Given below are two statements:

Statement I: All members of platyhelminthes possess both hooks and suckers.
[NCERT-XI, Page 42]

Statement II: All members are endoparasites.

In the light of the above statements, choose the correct answer from the options given below:

- (1) Both Statement I and Statement II are true.
- (2) Both Statement I and Statement II are false.
- (3) Statement I is true but Statement II is false.
- (4) Statement I is false but Statement II is true.

200. Match the columns about the geological periods of vertebrates.

Column-I

- A. Early reptiles
- B. Thecodonts
- C. Synapsids
- D. Dinosaurs

Column-II

- I 300
- II 50
- III 350
- IV 250

[NCERT-XII, Page 123]

Choose the correct answer from the options given below.

- (1) A-III, B-IV, C-I, D-II
- (2) A-III, B-II, C-IV, D-I
- (3) A-I, B-II, C-III, D-IV
- (4) A-III, B-IV, C-II, D-I