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NEET MOCK TEST

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PART-I: PHYSICS

Section-A

1. The value of electric potential at any point due to any electric dipole is **[New NCERT/XII/50, 51]**

(1) $k \cdot \frac{\vec{p} \times \vec{r}}{r^2}$ (2) $k \cdot \frac{\vec{p} \times \vec{r}}{r^3}$

(3) $k \cdot \frac{\vec{p} \cdot \vec{r}}{r^2}$ (4) $k \cdot \frac{\vec{p} \cdot \vec{r}}{r^3}$

2. An electron of mass m and charge e initially at rest gets accelerated by a constant electric field E. The rate of change of de-Broglie wavelength of this electron at time t ignoring relativistic effects is **[New NCERT/XII/285]**

(1) $\frac{-h}{eEt^2}$ (2) $\frac{-eht}{E}$

(3) $\frac{-mh}{eEt^2}$ (4) $\frac{-h}{eE}$

3. The position of particle is given by $\vec{r} = 2t^2\hat{i} + 3t\hat{j} + 4\hat{k}$, where *t* is in second and the coefficients have proper units for $\vec{r}$ to be in metre. The $\vec{a}(t)$ of the particle at $t = 1$ s is **[New NCERT/XI/36]**

(1) 4 m s^{-2} along y-direction
(2) 3 m s^{-2} along x-direction
(3) 4 m s^{-2} along x-direction
(4) 2 m s^{-2} along z-direction

4. A charge Q is enclosed by a Gaussian spherical surface of radius R. If the radius is doubled, then the outward electric flux will **[New NCERT/XII/30]**

(1) increase four times (2) be reduced to half
(3) remain the same (4) be doubled

5. The number of significant figures in a number "1700.00200" is **[New NCERT/XI/4, 5]**

(1) 3 (2) 7 (3) 9 (4) 10

6. Two identical thin metal plates has charge q_1 and q_2 respectively such that $q_1 > q_2$. The plates were brought close to each other to form a parallel plate capacitor of capacitance C. The potential difference between them is : **[New NCERT/XII/72]**

(1) $\frac{(q_1 + q_2)}{C}$ (2) $\frac{(q_1 - q_2)}{C}$

(3) $\frac{(q_1 - q_2)}{2C}$ (4) $\frac{2(q_1 - q_2)}{C}$

7. When a potential difference V is applied across a conductor at a temperature T, the drift velocity of electrons is proportional to **[New NCERT/XII/86]**

(1) $\sqrt{V}$ (2) V (3) $\sqrt{T}$ (4) T

8. In magnitude hydraulic stress is equal to **[New NCERT/XI/169]**

(1) hydraulic force (2) hydraulic pressure
(3) restoring force (4) hydraulic strain

9. A particle of mass 0.3 kg subject to a force F = – kx with k = 15 N/m . What will be its initial acceleration if it is released from a point 20 cm away from the origin? **[New NCERT/XI/54]**

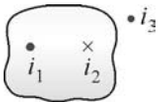
(1) 15 m/s^2 (2) 3 m/s^2 (3) 10 m/s^2 (4) 5 m/s^2

10. Maximum speed of car for safe turning on horizontal road is **[New NCERT/XI/64]**

(1) $\sqrt{\mu Rg}$ (2) $2\sqrt{\mu Rg}$

(3) $\sqrt{Rg}$ (4) $4\sqrt{Rg}$

11. **Assertion :** Ampere's law used for the closed loop shown in figure is written as $\oint \vec{B} \cdot d\vec{\ell} = \mu_0 (i_1 - i_2)$. Right side of it does not include i_3, because it produces no magnetic field at the loop.



Reason : The line integral of magnetic field produced by i_3 over the close loop is zero. **[New NCERT/XII/118]**

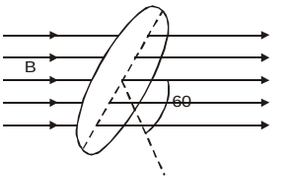
In the light of the above statements-Assertion & Reason, choose the most appropriate answer from the options given below :

(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.

12. A bar magnet having centre O has a length of 4 cm. Point P_1 is in the broad side-on and P_2 is in the end side-on position with $OP_1 = OP_2 = 10$ metres. The ratio of magnetic intensities H at P_1 and P_2 is **[New NCERT/XII/139]**

(1) $H_1 : H_2 = 16 : 100$ (2) $H_1 : H_2 = 1 : 2$
(3) $H_1 : H_2 = 2 : 1$ (4) $H_1 : H_2 = 100 : 16$

13. Fig shown below represents an area A = 0.5 m^2 situated in a uniform magnetic field B = 2.0 weber/m^2 and making an angle of 60° with respect to magnetic field. **[New NCERT/XII/157]**



The value of the magnetic flux through the area would be equal to

(1) 2.0 weber (2) $\sqrt{3}$ weber

(3) $\sqrt{3}/2$ weber (4) 0.5 weber

14. Given below are two statements: In the light of the given statements, choose the correct answer from the options given.

Statement I : Mass is a measure of inertia of the body.
Statement II : Greater the mass, greater is the force required to change its state of rest or of uniform motion.
[New NCERT/XI/50, 51, 52]

(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.

15. If a motorcyclist skids and stops after covering a distance of 15 m. The stopping force acting on the motorcycle by the road is 100 N, then the work done by the motorcycle on the road is **[New NCERT/XI/74]**

(1) 1500 J (2) –1500 J (3) 750J (4) Zero

16. A metal ball of mass 2 kg moving with a velocity of 36 km/h has a head on collision with a stationary ball of mass 3 kg. If after the collision, the two balls move together, the loss in kinetic energy due to collision is **[New NCERT/XI/84, 85]**

(1) 140 J (2) 100 J (3) 60 J (4) 40 J

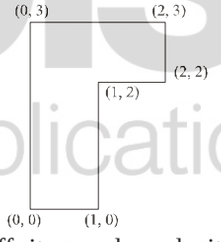
17. The coordinates of centre of mass of a uniform flag shaped lamina (thin flat plale) of mass 4 kg. (The coordinates of the same are shown in figure) are: **[New NCERT/XI/98]**

(1) (1.25 m, 1.50 m)

(2) (0.75 m, 1.75 m)

(3) (0.75 m, 0.75 m)

(4) (1 m, 1.75 m)



18. When a ceiling fan is switched off, its angular velocity falls to half while it makes 36 rotations. How many more rotations will it make before coming to rest?
[New NCERT/XI/117]

(1) 24 (2) 36 (3) 18 (4) 12

19. Newton's universal law of gravitation applies to **[New NCERT/XI/130]**

(1) small bodies only
(2) planets only
(3) both small and big bodies
(4) only valid for solar system

20. An A.C. source is connected to a resistive circuit. Which of the following is true? **[New NCERT/XII/181]**

(1) Current leads ahead of voltage in phase
(2) Current lags behind voltage in phase
(3) Current and voltage are in same phase
(4) Any of the above may be true depending upon the value of resistance.

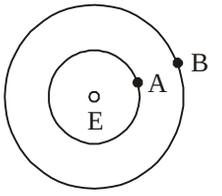
21. In order to establish an instantaneous displacemet current of 5 mA in the space between the plates of 5μF parallel plate capacitor, the potential difference need to apply is **[New NCERT/XII/203]**

(1) 100 Vs^{-1} (2) 200 Vs^{-1} (3) 300 Vs^{-1} (4) 1000 Vs^{-1}

22. A concave mirror is used for face viewing has focal length of 0.6m. At whay distance you should hold the mirror from your face to get an upright image with a magnification of 4?
[New NCERT/XII/226]

(1) 0.20m (2) 0.25m (3) 0.40m (4) 0.45m

23. Two satellites A and B of masses 200 kg and 400 kg are revolving round the earth at height of 600 km and 1600 km respectively.



If T_A and T_B are the time periods of A and B respectively then the value of $T_B - T_A$:

[Given: radius of earth = 6400 km, mass of earth = 6×10^{24} kg]
[New NCERT/XI/137]

(1) 4.24×10^2 s (2) 1.33×10^3 s
(3) 4.24×10^3 s (4) 3.33×10^2 s

24. A body is moving with a constant speed v in a circle of radius r. Its angular acceleration is **[New NCERT/XI/42]**

(1) vr (2) v/r (3) zero (4) vr^2

25. Hydraulic lifts and hydraulic brakes are based on **[New NCERT/XI/185]**

(1) Archimedes' principle (2) Bernoulli's principle
(3) Stoke's law (4) Pascal's law

26. A beaker of radius 15 cm is filled with a liquid of surface tension 0.075 N/m. Force across an imaginary diameter on the surface of the liquid is **[New NCERT/XI/194]**

(1) 0.075N (2) 1.5×10^{-2} N
(3) 0.225N (4) 2.25×10^{-2} N

27. An iron tyre is to be fitted on to a wooden wheel 1m in diameter. The diameter of tyre is 6 mm smaller than that of wheel. The tyre should be heated so that its temperature increases by a minimum of (the coefficient of cubical expansion of iron is 3.6×10^{-5}/°C) **[New NCERT/XI/207]**

(1) 167°C (2) 334°C (3) 500°C (4) 1000°C

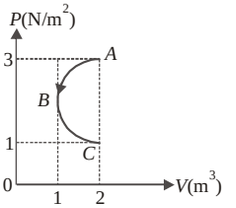
28. In *P-V* diagram shown in figure *ABC* is a semicircle. The work done in the process *ABC* is **[New NCERT/XI/230]**

(1) 4 J

(2) $\frac{-\pi}{2}$ J

(3) $\frac{\pi}{2}$ J

(4) zero



29. A and B are two metals with threshold frequencies 1.8×10^{14} Hz and 2.2×10^{14} Hz. Two identical photons of energy 0.825 eV each are incident on them. Then photoelectrons are emitted in (Take h = 6.6×10^{-34} Js)

[New NCERT/XII/281]

(1) B alone (2) A alone
(3) neither A nor B (4) both A and B

30. In a car race on straight road, car A takes a time t less than car B at the finish and passes finishing point with a speed '*v*' more than of car B. Both the cars start from rest and travel with constant acceleration a_1 and a_2 respectively. Then '*v*' is equal to:

[New NCERT/XI/18]

(1) $\frac{2a_1 a_2}{a_1 + a_2} t$ (2) $\sqrt{2a_1 a_2}\, t$

(3) $\sqrt{a_1 a_2}\, t$ (4) $\frac{a_1 + a_2}{2} t$

31. The significant result deduced from the Rutherford's scattering experiment is that **[New NCERT/XII/293]**

(1) whole of the positive charge is concentrated at the centre of atom
(2) there are neutrons inside the nucleus
(3) α-particles are helium nuclei
(4) electrons are embedded in the atom

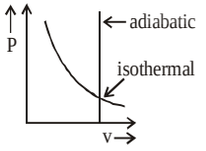
32. A nucleus splits into two nuclear parts which have their velocity ratio equal to 2 : 1. What will be the ratio of their nuclear radius? **[New NCERT/XII/309]**

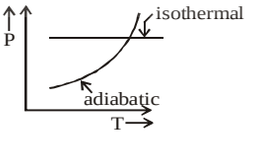
(1) $2^{1/3} : 1$ (2) $1 : 2^{1/3}$ (3) $3^{1/2} : 1$ (4) $1 : 3^{1/2}$

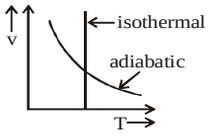
33. An experment is performed to find the refractive index of glass using a travelling microscope. In this experiment distances are measured by **[XII/Practical Skills]**

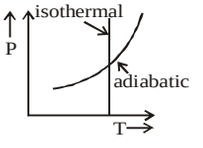
(1) a vernier scale provided on the microscope
(2) a standard laboratory scale
(3) a meter scale provided on the microscope
(4) a screwgauge provided on the microscope

34. Which one is the correct option for the two different thermodynamic processes? **[New NCERT/XI/235]**

(a) 

(b) 

(c) 

(d) 

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

35. A gas in a container A is in thermal equilibrium with antoher gas of the same mass in container B. If we denote the corresponding pressures and volumes by the suffixes A and B, then which of the following statement is most likely to be true? **[New NCERT/XI/247]**

(1) $P_A = P_B,\ V_A \neq V_B$ (2) $P_A \neq P_B,\ V_A = V_B$
(3) $P_A / V_A = P_B / V_B$ (4) $P_A V_A = P_B V_B$

Section-B

36. The number of collisions per second suffered by a molecule in a sample of hydrogen at S.T.P is: **[New NCERT/XI/255]**
[Mean free path = 1.38×10^{-5} cm]

(1) 10^{15} (2) 8.3×10^{12} (3) 1.1×10^{6} (4) 1.23×10^{10}

37. Two particles are executing simple harmonic motion of the same amplitude A and frequency ω along the *x*-axis. Their mean position is separated by distance $X_0 (X_0 > A)$. If the maximum separation between them is $(X_0 + A)$, the phase difference between their motion is **[New NCERT/XI/264]**

(1) $\frac{\pi}{3}$ (2) $\frac{\pi}{4}$ (3) $\frac{\pi}{6}$ (4) $\frac{\pi}{2}$

38. The bulk modulus of a liquid of density 8000 kg m^{-3} is 2×10^9 N m^{-2}. The speed of sound in that liquid is (in m s^{-1}) **[New NCERT/XI/287]**

(1) 200 (2) 250 (3) 100 (4) 500

39. Two balls of same mass and carrying equal charge are hung from a fixed support of length *l*. At electrostatic equilibrium, assuming that angles made by each thread is small, the separation, *x* between the balls is proportional to :

[New NCERT/XII/7]

(1) l (2) l^2 (3) $l^{2/3}$ (4) $l^{1/3}$

40. The Kirchhoff's second law ($\Sigma iR = \Sigma E$), where the symbols have their usual meanings, is based on

[New NCERT/XII/97, 98]

(1) conservation of momentum
(2) conservation of charge
(3) conservation of potential
(4) conservation of energy

41. Match Column I with Column II.

	Column I		**Column II**
(A)	Biot-Savart's law	(1)	$\frac{\mu_0 I_1 I_2}{2\pi d}$
(B)	Torque on a current carrying coil placed in a uniform magnetic field.	(2)	$q[\vec{E} + (\vec{V} \times \vec{B})]$
(C)	Force between two parallel current carrying conductors	(3)	$\tau = NIAB \sin\theta$
(D)	Lorentz force	(4)	$\vec{B} = \frac{\mu_0 i}{4\pi} \int \frac{dl \sin\theta}{r^2} \hat{n}$

[New NCERT/XII/109, 113, 123, 125, 126]

(1) (A) → (4) ; (B) → (3) ; (C) → (1) ; (D) → (2)
(2) (A) → (2) ; (B) → (2) ; (C) → (4) ; (D) → (3)
(3) (A) → (4) ; (B) → (3) ; (C) → (2) ; (D) → (1)
(4) (A) → (2) ; (B) → (1) ; (C) → (4) ; (D) → (3)

42. Two conducting circular loops of radii R_1 and R_2 are placed in the same plane with their centres coinciding. If $R_1 >> R_2$, the mutual inductance M between them will be directly proportional to **[New NCERT/XII/166]**

(1) R_1/R_2 (2) R_2/R_1 (3) R_1^2/R_2 (4) R_2^2/R_1

43. The current flowing through an ac circuit is given by $I = 5\sin(120\pi t)\,A$

How long will the current take to reach the peak value starting from zero? **[New NCERT/XII/180]**

(1) $\frac{1}{60}s$ (2) $60s$ (3) $\frac{1}{120}s$ (4) $\frac{1}{240}s$

44. Tube *A* has both ends open while tube *B* has one end closed, otherwise they are identical. The ratio of fundamental frequency of tube *A* and *B* is **[New NCERT/XI/292]**

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

45. A vernier calipers has 1 mm marks on the main scale. It has 20 equal divisions on the Vernier scale which match with 16 main scale divisions. For this Vernier calipers, the least count is **[XI/Practical Skills]**

(1) 0.02 mm (2) 0.05 mm (3) 0.1 mm (4) 0.2 mm

46. Two thin lenses are in contact and the focal length of the combination is 80 cm. If the focal length of one lens is 20 cm, then the power of the other lens will be **[New NCERT/XII/238]**

(1) 1.66 D (2) 4.00 D (3) –100 D (4) –3.75 D

47. Two beams of light of intensity I_1 and I_2 interfere to give an interference pattern. If the ratio of maximum intensity to that of minimum intensity is 25/9, then I_1/I_2 is **[New NCERT/XII/264]**

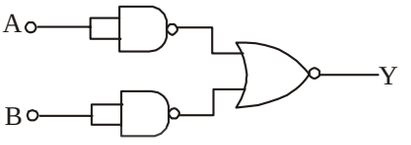
(1) 5/3 (2) 4 (3) 81/625 (4) 16

48. When the angle of incidence is 60° on the surface of a glass slab, it is found that the reflected ray is completely polarised. The velocity of light in glass is **[New NCERT/XII/381]**

(1) $\sqrt{2}\times10^8\,ms^{-1}$ (2) $\sqrt{3}\times10^8\,ms^{-1}$

(3) $2\times10^8\,ms^{-1}$ (4) $3\times10^8\,ms^{-1}$

49. Identify the logic operation carried out. **[New NCERT/XII/493]**



(1) OR (2) AND

(3) NOR (4) NAND

50. Pure Si at 500K has equal number of electron (n_e) and hole (n_h) concentrations of $1.5\times10^{16}\,m^{-3}$. Doping by indium increases n_h to $4.5\times10^{22}\,m^{-3}$. The doped semiconductor is of **[New NCERT/XII/332]**

(1) n–type with electron concentration $n_e = 5\times10^{22}\,m^{-3}$

(2) p–type with electron concentration $n_e = 2.5\times10^{10}\,m^{-3}$

(3) n–type with electron concentration $n_e = 2.5\times10^{23}\,m^{-3}$

(4) p–type having electron concentration $n_e = 5\times10^{9}\,m^{-3}$

PART-II: CHEMISTRY

Section-A

51. Why the size of an anion is larger than the parent atom? **[New NCERT/XI/87]**

(1) Due to increased repulsion among the electrons.

(2) Due to decrease in effective nuclear charge.

(3) Due to increased in effective nuclear charge.

(4) Both (1) and (2)

52. Match Column-I with Column-II. **[New NCERT/XI/162]**

	Column-I		Column-II
(A)	ΔH = –ve ; ΔS = –ve ΔG = –ve	(p)	Reaction will be non-spontaneous at high temperature
(B)	ΔH = –ve ; ΔS = –ve ΔG = +ve	(q)	Reaction will be non-spontaneous at low temperature
(C)	ΔH = +ve ; ΔS = +ve ΔG = +ve	(r)	Reaction will be spontaneous at low temperature
(D)	ΔH = +ve ; ΔS = +ve ΔG = –ve	(s)	Reaction will be spontaneous at high temperature

(1) A – (q), B – (r), C – (p), D – (s)

(2) A – (r), B – (p), C – (q), D – (s)

(3) A – (r), B – (q), C – (s), D – (p)

(4) A – (q), B – (s), C – (p), D – (r)

53. At the state of dynamic equilibrium, for solute + solvent $\rightleftharpoons$ solution. **[New NCERT/XII/6]**

(1) Rate of dissolution = Rate of unsaturation.

(2) Rate of dissolution = Rate of unsaturation.

(3) Rate of dissolution = Rate of saturation

(4) Rate of crystallization = Rate of saturation.

54. The formation of CO and CO_2 illustrates the law of **[New NCERT/XI/15]**

(1) reciprocal proportion (2) conservation of mass

(3) multiple proportion (4) constant composition

55. **Assertion :** The resistivity for a substance is its resistance when it is one meter long and its area of cross section is one square meter.

Reason : The SI units of resistivity is ohm metre (Ωm).

[New NCERT/XII/41]

(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.

56. **Statement I :** The geometry of amines is pyramidal.

Statement II : The angle C–N–C or C–N–H is slightly more than 109.5°. **[New NCERT/XII/259-260]**

(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.

57. Mark the oxide which is amphoteric in character **[Old NCERT/XI/324]**

(1) CO_2 (2) SiO_2
(3) SnO_2 (4) CaO

58. The correct IUPAC name of $[Pt(NH_3)_2Cl_2]$ is **[New NCERT/XII/123]**

(1) Diamminedichloridoplatinum (II)
(2) Diamminedichloridoplatinum (IV)
(3) Diamminedichloridoplatinum (0)
(4) Dichloridodiammineplatinum (IV)

59. The equilibrium constant for the reversible reaction

$N_2 + 3H_2 \rightleftharpoons 2NH_3$ is K and for reaction

$\frac{1}{2}N_2 + \frac{3}{2}H_2 \rightleftharpoons NH_3$, the equilibrium constant is K'

The K and K' will be related as: **[New NCERT/XI/176]**

(1) $K \times K' = 1$ (2) $K = K'$
(3) $K' = \sqrt{K}$ (4) $K = \sqrt{K'}$

60. In qualitative analysis NH_4Cl is added before NH_4OH

(1) to decrease $[OH^-]$ conc. **[Practical Chemistry]**
(2) to increase $[OH^-]$ conc.
(3) for making HCl
(4) to increase $[Cl^-]$ conc.

61. Which of the following is **not** permissible arrangement of electrons in an atom? **[New NCERT/XI/56]**

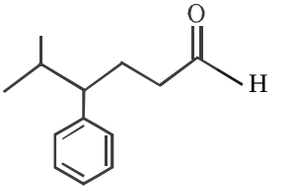
(1) $n = 5, l = 3, m = 0, s = +1/2$
(2) $n = 3, l = 2, m = -3, s = -1/2$
(3) $n = 3, l = 2, m = -2, s = -1/2$
(4) $n = 4, l = 0, m = 0, s = -1/2$

62. **Assertion:** The rate of the reaction is the rate of change of concentration of a reactant or a product.

Reason: Rate of reaction remains constant during the course of reaction. **[New NCERT/XII/62]**

(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.

63. Identify the correct IUPAC name of the compound given below **[New NCERT/XI/269]**



(1) 4 – benzyl – 5 – methyl hexanal
(2) 2 – methyl – 3 – phenyl hexanal
(3) 5 – isopropyl – 5 – phenyl butanal
(4) 5 – methyl – 4 – phenyl hexanal

64. Commercially carboxylic acids are reduced to alcohols by converting them to the _____. **[New NCERT/XII/200]**

(1) esters (2) aldehydes
(3) ketones (4) amines

65. Which one of the following gives only one monochloro derivative? **[New NCERT/XI/303]**

(1) *n*-Hexane (2) 2-Methylpentane
(3) 2, 3-Dimethylpentane (4) *neo*-Pentane

66. The reagent which does not react with both, acetone and benzaldehyde? **[New NCERT/XII/239]**

(1) Sodium hydrogen sulphite
(2) Phenyl hydrazine
(3) Fehling's solution
(4) Grignard reagent

67. The common oxidation states of Ti are **[New NCERT/XII/96]**

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

68. Which of the following molecule exist ? **[New NCERT/XI/129]**

(1) He_2 (2) Be_2
(3) Li_2 (4) Both (1) and (2)

69. **Statement I :** Denaturation leads to the conversion of globular protein into fibrous protein

Statement II : Denaturation affects primary structure which gets distorted **[New NCERT/XII/294]**

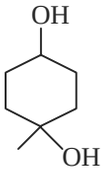
(1) Both statement I and II are correct.
(2) Both statement I and II are incorrect.
(3) Statement I is correct but statement II is incorrect.
(4) Statement II is correct but statement I is incorrect.

70. Two compounds benzyl alcohol and benzoic acid are formed from a compound, when it is heated in the presence of conc.NaOH, this compound is. **[New NCERT/XII/242]**

(1) Benzaldehyde (2) Benzylalcohol
(3) Acetophenone (4) Benzophenone

71. What is the amount of heat (in Joules) absorbed by 18 g of water initially at room temperature heated to 100°C ? If 10 g of Cu is added to this water , than decrease in temperature (in Kelvin) of water was found to be? C (p,m) for water 75.32 J/mol K ; C (p,m) for Cu = 24.47 J/mol K. **[New NCERT/XI/145]**

(1) 5649, 369 (2) 5544, 324
(3) 5278, 342 (4) 3425, 425

72.  PCC → [A] **[New NCERT/XII/210]**

[A] will show

(1) Br_2 water test (2) Tollen's test
(3) Victor maeyer test (4) Lucas test

73. The pK_a of a weak acid, HA, is 4.80. The pK_b of a weak base, BOH, is 4.78. The pH of an aqueous solution of the corresponding salt, BA, will be **[New NCERT/XI/202]**

(1) 9.58 (2) 4.79
(3) 7.01 (4) 9.22

74. Which of the following statements regarding properties of halogens are correct? **[Old NCERT/XII/198-199]**

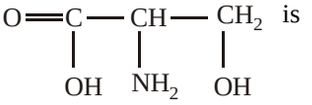
(i) Due to small size electron gain enthalpy of fluorine is less than that of chlorine.
(ii) Iodine has same physical state but different colour as compare to other members of the group.
(iii) Fluorine shows no positive oxidation state.
(iv) In $X_2(g) + H_2O(l) \longrightarrow HX(aq) + HOX(aq)$ (where X_2 = Cl or Br)
(v) F_2 is the strongest oxidising halogen.

(1) (i), (ii) and (iv)
(2) (i), (iii), (iv) and (v)
(3) (ii), (iii) and (iv)
(4) (iii) and (v)

75. Pyruvic acid is obtained by **[New NCERT/XII/237]**

(1) oxidation of formaldehyde cyanohydrin
(2) oxidation of acetaldehyde cyanohydrin
(3) oxidation of benzaldehyde cyanohydrin
(4) oxidation of acetone cyanohydrin

76. The IUPAC name of the compound having formula, **[New NCERT/XII/260-261]**

 is

(1) 3-amino-hydroxy propine acid
(2) 2-amino-propan-3-oic acid
(3) amino hydroxy propanoic acid
(4) 2-amino-3-hydroxy propanoic acid

77. **Assertion :** 1-Chlorobutane on heating with alcoholic KOH undergoes dehydrohalogenation to yield 1-butene as the major product.

Reason : The reaction does not occur through carbocation intermediate but instead occurs by a concerted mechanism. **[New NCERT/XII/179]**

(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.

78. Bohr model can explain : **[New NCERT/XI/46]**

(1) the solar spectrum
(2) the spectrum of hydrogen molecule
(3) spectrum of any atom or ion containing one electron only
(4) the spectrum of hydrogen atom only

79. The correct structure of $[Fe(CO)_5]$ is (Z=26 for Fe) **[New NCERT/XII/128]**

(1) octahedral (2) tetrahedral
(3) square pyramidal (4) trigonal bipyramidal

80. If K_c is in the range of …… appreciable concentrations of both reactants and products are present. **[New NCERT/XI/182]**

(1) 10^{-4} to 10^4 (2) 10^{-3} to 10^3
(3) 10^3 to 10^6 (4) 10^{-5} to 10^3

81. Vapour pressure of benzene at 30°C is 121.8 mm Hg. When 15 g of a non volatile solute is dissolved in 250 g of benzene its vapour pressure decreased to 120.2 mm Hg. The molecular weight of the solute (Mo. wt. of solvent = 78) **[New NCERT/XII/16]**

(1) 356.2 (2) 456.8 (3) 530.1 (4) 656.7

82. The long form of periodic table consists of **[New NCERT/XI/78]**

(1) seven periods and eight groups
(2) seven periods and eighteen groups
(3) eight periods and eighteen groups
(4) eighteen periods and eight groups

83. 'Oxidation number of H in NaH, CaH_2 and LiH, respectively is **[New NCERT/XI/240]**

(1) +1, +1, –1 (2) –1, +1, + 1

(3) +1, + 1, + 1 (4) –1,–1, –1

84. The coordination number of a central metal atom in a complex is determined by **[New NCERT/XII/121]**

(1) the number of ligands around a metal ion bonded by sigma and pi-bonds both

(2) the number of ligands around a metal ion bonded by pi-bonds

(3) the number of ligands around a metal ion bonded by sigma bonds

(4) the number of only anionic ligands bonded to the metal ion.

85. **Assertion:** Benzyl methyl ether on reaction with dilute and cold HI produces methyl iodide

Reason: This reaction occurs via S_N2 pathway

[New NCERT/XII/218]

(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.

Section-B

86. The following statement(s) is (are) correct **[New NCERT/XII/74]**

(i) A plot of log $[R]_0/[R]$ versus *t* is linear

(ii) A plot of log [X] versus time is linear for a first order reaction, $X \rightarrow P$

(iii) A plot of log $[R]_0/[R]$ versus *t* is not linear for a first order reaction

(iv) A plot of ln [R] versus *t* is linear

(v) Decomposition of HI on gold surface is a first order reaction

(1) (i) only (2) (ii) only

(3) (i) and (v) (4) (i), (ii) and (iv)

87. The brown ring test for NO_2^- and NO_3^- is due to the formation of complex ion with formula **[Practical Chemistry]**

(1) $[Fe(H_2O)_6]^{2+}$ (2) $[Fe(NO)(CN)_5]^{2-}$

(3) $[Fe(H_2O)_5NO]^{2+}$ (4) $[Fe(H_2O)(NO)_5]^{2+}$

88. The conversion $PhCN \rightarrow PhCOCH_3$, can be achieved most conveniently by reaction with **[New NCERT/XII/234]**

(1) CH_3MgBr followed by hydrolysis

(2) $I_2 - NaOH, CH_3I$

(3) dil. H_2SO_4 followed by reaction with CH_2N_2

(4) $LiAlH_4$ followed by reaction with CH_3I

89. Choose the correct option for the following reactions. **[New NCERT/XI/311-312]**

$$B \xleftarrow[H_2O_2/OH^{\ominus}]{(BH_3)_2} H_3C-\underset{\displaystyle CH_3}{\overset{\displaystyle CH_3}{\underset{|}{\overset{|}{C}}}}-CH=CH_2 \xrightarrow[NaBH_4]{Hg(OAc)_2,\ H_2O} A$$

(1) 'A' and 'B' are both Markovnikov addition products.

(2) 'A' is Markovnikov product and 'B' is anti-Markovnikov product.

(3) 'A' and 'B' are both anti-Markovnikov products.

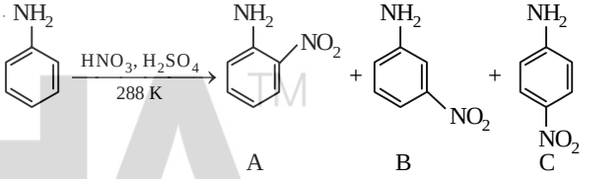
(4) 'B' is Markovnikov and 'A' is anti-Markovnikov product.

90. Which of the following is the correct increasing order of lone pair of electrons on the central atom? **[New NCERT/XI/115]**

(1) $IF_7 < IF_5 < ClF_3 < XeF_2$ (2) $IF_7 < XeF_2 < ClF_2 < IF_5$

(3) $IF_7 < ClF_3 < XeF_2 < IF_5$ (4) $IF_7 < XeF_2 < IF_5 < ClF_3$

91.



A B C

Consider the given reaction, precentage yield of : **[New NCERT/XII/273]**

(1) C > B > A (2) C > A > B

(3) B > C > A (4) A > C > B

92. For the given reactions **[New NCERT/XII/37]**

$Sn^{2+} + 2e^- \rightarrow Sn$

$Sn^{4+} + 2e^- \rightarrow Sn$

The electrode potentials are; $E^{\circ}_{Sn^{2+}/Sn} = -0.140$ V and $E^{\circ}_{Sn^{4+}/Sn} = 0.010$ V. The magnitude of standard electrode potential for Sn^{4+}/Sn^{2+} i.e. $E^{\circ}_{Sn^{4+}/Sn^{2+}}$ is _____ $\times 10^{-2}$ V.

(1) –0.16 (2) +0.16 (3) 16 (4) –16

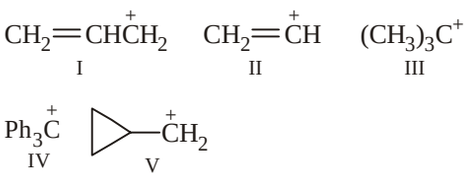
93. It has been found that for a chemical reaction with rise in temperature by 9K the rate constant gets doubled. Assuming a reaction to be occurring at 300 K, the value of activation energy is found to be _____ kJ mol^{-1}.

(Given ln 10 = 2.3, R = 8.3 $JK^{-1}mol^{-1}$, log 2 = 0.30)

[New NCERT/XII/81]

(1) 23 (2) 83 (3) 60 (4) 59

94. Arrange the following carbocations in decreasing order of stability. **[New NCERT/XI/271]**



(1) IV > III > I > V > II

(2) IV > I > III > II > V

(3) V > IV > I > III > II

(4) V > IV > III > I > II

95. Match Column-I with Column-II. **[New NCERT/XII/105, 107]**

Column-I	Column-II
(A) Compound formed when yellow CrO_4^{2-} is acidified.	(p) acidified MnO_4^-
(B) reagent oxidises Fe^{2+} to Fe^{3+}	(q) $Cr_2O_7^{2-}$
(C) Compound produced when MnO_2 is fused with KNO_3	(r) K_2MnO_4
(D) Compound having dark purple crystals isostructural with $KClO_4$	(s) $KMnO_4$

(1) A – (q),B – (p), C – (r), D – (s)

(2) A – (p),B – (q), C – (r), D – (s)

(3) A – (q),B – (r), C – (p), D – (s)

(4) A – (q),B – (p), C – (s), D – (r)

96. $KMnO_4$ reacts with oxalic acid as :

$$MnO_4^- + C_2O_4^{2-} + H^+ \longrightarrow Mn^{2+} + CO_2 + H_2O$$

Hence, 50 ml of 0.04 M $KMnO_4$ is acidic medium is chemically equivalent to **[Practical Chemistry]**

(1) 100 ml of 0.1 M $H_2C_2O_4$

(2) 50 ml of 0.2 M $H_2C_2O_4$

(3) 50 ml of 0.1 M $H_2C_2O_4$

(4) 25 ml of 0.1 M $H_2C_2O_4$

97. Following statements are given regarding the preparation of aryl halides from toluene. Read the following statements and choose the correct options. **[New NCERT/XII/166]**

(i) Aryl chlorides and bromides can be easily prepared by this method.

(ii) The ortho and para isomers formed in the reaction can not be separated easily due to small difference in their melting point.

(iii) Reactions with iodine are reversible in nature and require the presence of an oxidising agent.

(iv) Fluoro compounds are not prepared by this method due to low reactivity of fluorine.

(v) Lewis acid catalysts like iron or iron (iii) chloride are used in this reaction.

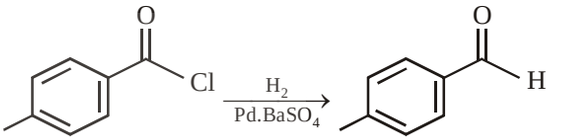
(1) (i), (iii) and (v) are correct

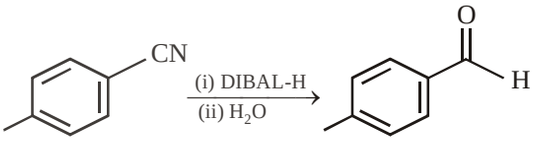
(2) (ii) and (iv) are correct

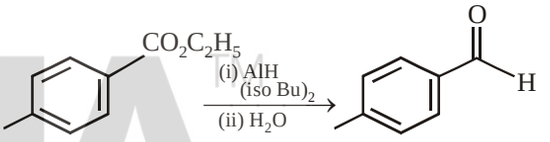
(3) (i), (ii), and (iii) are correct

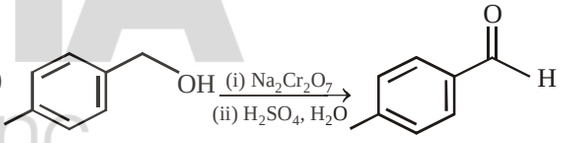
(4) All statements are correct

98. Which one of the following reactions does **not** represent correct combination of substrate and product under the given conditions? **[New NCERT/XII/232]**

(1) 

(2) 

(3) 

(4) 

99. Which of the following statements regarding fuel cell is incorrect? **[New NCERT/XII/56]**

(1) These cells are eco-friendly.

(2) These cells convert energy of combustion of fuels like H_2, CH_4, CH_3OH etc., directly into electrical energy.

(3) $H_2 – O_2$ fuel cell is used in Apollo space programme.

(4) Fuel cells produce electricity with an efficiency of about 100%.

100. Bonding in which of the following diatomic molecule(s) become(s) stronger, on the basis of MO Theory, by removal of an electron ? **[New NCERT/XI/129]**

(A) NO (B) N_2 (C) O_2 (D) C_2 (E) B_2

Choose the most appropriate answer from the options given below :

(1) (A), (B), (C) only (2) (B), (C), (E) only

(3) (A), (C) only (4) (D) only

PART-III: BOTANY

Section-A

101. R.Q. is ratio of **[New NCERT/XI/163]**

(1) CO_2 produced to substrate consumed
(2) CO_2 produced to O_2 consumed
(3) oxygen consumed to water produced
(4) oxygen consumed to CO_2 produced

102. Match the following and choose the correct option. **[New NCERT/XII/222-223]**

	Column-I		Column-II
A.	Over-exploitation by humans	I.	Environmental damage and threat to native species
B.	Introduction of Nile Perch in Lake Victoria	II.	Posing threat to the indigenous catfish
C.	*Clarias gariepinus*	III.	Extinction of Passenger pigeon
D.	Introduction of *Water Hyacinth* in India	IV.	Extinction of Cichlid fish

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

103. **Statement I:** Bryophytes are amphibians of plant kingdom.
Statement II: They live in soil but depend on water for sexual reproduction. **[New NCERT/XI/29]**

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

104. The process involving the transfer of electrons in the light reactions of photosynthesis in plants is:

(1) cyclic photo-phosphorylation **[New NCERT/XI/139]**
(2) ATP synthesis in mitochondria
(3) Z-Scheme
(4) non-cyclic chemo-phosphorylation

105. **Assertion (A):** Two kingdom classification was insufficient.
Reason (R): Majority of organisms did not fall into either of categories in two kingdom classification. **[Old NCERT/XI/16]**

(1) Both (A) and (R) are correct but (R) is not the correct explanation of (A)
(2) (A) is correct but (R) is not correct
(3) (A) is not correct but (R) is correct
(4) Both (A) and (R) are correct and (R) is the correct explanation of (A)

106. **Statement I:** Genetic diversity comprises of different type of gene in different type species as well as same species.
Statement II: Amphibian species diversity is more in Eastern Ghats than the Western Ghat. **[New NCERT/XII/217]**

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

107. Read the following statements and choose the **incorrect** statements. **[New NCERT/XII/80-83]**

(i) Nitrogenous base is linked to the pentose sugar through a N-glycosidic linkage.
(ii) Phosphate group is linked to 5′–OH of a nucleoside through phosphoester linkage.
(iii) Two nucleosides are linked through 3′–5′N-glycosidic linkage.
(iv) Negatively charged DNA is wrapped around positively charged histone octamer to form nucleosome.
(v) The distance between a bp in a helix is approximately 0.34 nm.

(1) (i) only (2) (iv) and (v)
(3) (iii) only (4) (i), (ii), (iii) and (v)

108. The microtubules of the mitotic spindle attach to a specializes structure in the centromere region of each chromosome called the _____. **[New NCERT/XI/123]**

(1) Telomere (2) Centriole
(3) Chromatin (4) Kinetochore

109. Match column-I containing types of aestivation with their examples given in column-II and choose the correct option. **[New NCERT/XI/64]**

	Column-I (Type of aestivation)		Column-II (Examples)
A.	Valvate	I.	Cotton
B.	Twisted	II.	*Calotropis*
C.	Imbricate	III.	Bean
D.	Vexillary	IV.	Gulmohar

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

110. Primary treatment of sewage is **[New NCERT/XII/154]**

(1) physical process (2) biological process
(3) chemical process (4) biochemical process

111. **Assertion (A):** Double fertilisation is characteristic feature of angiosperms.

Reason (R): Double fertilisation involves two fusions.

[New NCERT/XII/18]

(1) Both (A) and (R) are correct but (R) is not the correct explanation of (A)
(2) (A) is correct but (R) is not correct
(3) (A) is not correct but (R) is correct
(4) Both (A) and (R) are correct and (R) is the correct explanation of (A)

112. What is another name of family compositae?

[In Syllabus, Not in NCERT/XI]

(1) Asteraceae (2) Brassicaleae
(3) Leguminoseae (4) Graminae

113. Consider the following statements regarding starch and sucrose synthesis during daytime and select the correct ones. **[New NCERT/XI/156]**

(i) Triose phosphate is confined to chloroplast and is utilised for the synthesis of starch only.
(ii) Triose phosphate is translocated to cytosol from chloroplast.
(iii) Triose phosphate is utilised for the synthesis of both starch and sucrose.
(iv) Triose phosphate is translocated from cytosol to chloroplast.

(1) (i) and (iii) (2) (ii) and (iii)
(3) (ii) and (iv) (4) (iii) and (iv)

114. Match the description given in column-I with their steps given in column-II and identify the correct answer.

[New NCERT/XI/122, 123]

	Column-I		Column-II
A.	Initiation of the assembly of mitotic spindle	I.	Anaphase
B.	Proteins are synthesized in preparation for mitosis while cell growth continues.	II.	Prophase
C.	Spindle fibres attach to kinetochores of chromosomes.	III.	Interphase
D.	Movement of chromatids towards opposite poles	IV.	Metaphase

The correct match is

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

115. Hormone responsible for bolting is: **[New NCERT/XI/176]**

(1) IAA (2) kinetin
(3) ABA (4) GA

116. **Assertion (A):** Lipids present in the outer and inner side of the bilayer membrane are commonly different.

Reason (R): Peripheral proteins are attached to external surface as well as inner surface of a biomembrane.

[New NCERT/XI/93]

(1) Both (A) and (R) are correct but (R) is not the correct explanation of (A)
(2) (A) is correct but (R) is not correct
(3) (A) is not correct but (R) is correct
(4) Both (A) and (R) are correct and (R) is the correct explanation of (A)

117. Which one of the following is not a components of an ecosystem? **[New NCERT/XII/206]**

(1) Energy flow (2) Decomposition
(3) Productivity (4) Stratification

118. Which of the following pairs come under the group chrysophytes? **[New NCERT/XI/14]**

(1) Diatoms and *Euglena*
(2) *Euglena* and *Trypanosoma*
(3) Diatoms and Desmids
(4) *Gonyaulax* and Desmids

119. Match the items given in column-I with those given in column-II and choose the correct option given below.

[New NCERT/XII/5]

	Column-I		Column-II
A.	Tapetum	I.	Oily and sticky layer, tissue help in pollination
B.	Exine	II.	Acts as nutritive layer
C.	Pollenkit	III.	Thick, rigid protective layer
D.	Vegetative cell	IV.	Involve in the formation of microspores

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

120. Which of the following statements is incorrect?

[New NCERT/XI/30]

(1) Pyrenoids contain protein besides starch.
(2) Sexual reproduction may be isogamous, oogamous and anisogamous in green and brown algae.
(3) Some of the members of algae also occur in association with fungi (lichen) and animals (eg, on sloth bear).
(4) The leaves in pteridophyta are small (macrophyll) and large (microphyll).

121. **Statement I:** The outer covering of endosperm separates the embryo by a lipid bi-layer called **aleurone layer**.

Statement II: The plumule and radical are enclosed in sheaths which are called **coleoptile** and **coleorhizae** respectively. **[New NCERT/XII/67]**

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

122. Where do the casparian strips occur?
[New NCERT/XI/74]
(1) Epidermis (2) Endodermis
(3) Pericycle (4) Phloem

123. Match column-I with column-II and select the correct answer using the codes given below.
[New NCERT/XII/67, 70, 76]

	Column-I		Column-II
A.	Turner syndrome	I.	Trisomy
B.	Linkage	II.	XX + XO
C.	Y-chromosome	III.	Morgan
D.	Down's syndrome	IV.	Testis determining factor

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

124. During complete metabolism of glucose, the number of ATP formed is **[New NCERT/XI/162-163]**
(1) 2 (2) 12
(3) 36 (4) 44

125. Which of the following statements regarding biodiversity hotspots are incorrect? **[New NCERT/XII/224]**
(i) High endemism.
(ii) High level of species richness.
(iii) Total number is 34 in the world.
(iv) Five of these occur in India.
(v) High alien species invasion.
(1) (i) and (ii) (2) (iv) and (v)
(3) (ii) and (v) (4) (iii), (iv) and (v)

126. The term 'glycocalyx' is used for **[New NCERT/XI/90]**
(1) A layer surrounding the cell wall of bacteria
(2) A layer present between cell wall and membrane of bacteria
(3) Cell wall of bacteria
(4) Bacterial cell glyco-engineered to possess N-glycosylated proteins

127. Which of the following is not an influence of auxins?
[New NCERT/XI/175-176]
(1) Apical dominance
(2) Parthenocarpy
(3) Phototropism
(4) Fruit ripening

128. Okra is a member of family _____.
[In Syllabus, Not in NCERT/XI]
(1) Brassicaceae
(2) Malvaceae
(3) Graminae
(4) Leguminoseae

129. Which of the following is not a function of cytokinin?
(1) Promotes apical dominance. **[New NCERT/XI/177]**
(2) Promotes chloroplast development.
(3) Promotes movement of nutrients.
(4) Delay leaf senescence.

130. **Assertion (A):** C_4 pathway of CO_2 fixation is found in some tropical plants.
Reason (R): In this pathway, CO_2 is fixed by 3C compound.
[New NCERT/XI/143]
(1) Both (A) and (R) are correct but (R) is not the correct explanation of (A)
(2) (A) is correct but (R) is not correct
(3) (A) is not correct but (R) is correct
(4) Both (A) and (R) are correct and (R) is the correct explanation of (A)

131. How many meiotic divisions are required to produce 100 pollen grains ? **[New NCERT/XII/5]**
(1) 25 (2) 50
(3) 100 (4) 125

132. _____ in birds is an interesting example of parasitism in which the parasitic bird lays its eggs in the nest of its host and the host incubates them.
[New NCERT/XII/200]
(1) Bird parasitism
(2) Breed parasitism
(3) Brood parasitism
(4) Ectoparasites

133. Match column-I with column-II and select the option.
[New NCERT/XI/18]

	Column-I (Fungi)		Column-II (Common name)
A.	Phycomycetes	I.	Sac fungi
B.	Ascomycetes	II.	Algal fungi
C.	Basidiomycetes	III.	Fungi imperfecti
D.	Deuteromycetes	IV.	Bracket fungi

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

134. Which of the following statement(s) is/are not correct ?
[Old NCERT/XI/4]
(i) Reproduction is the production of progeny possessing features dissimilar to their parents.
(ii) The fungi, the filamentous algae, the protonema of mosses, all multiply by budding.

(iii) Many organisms like mules, sterile worker bees do not reproduce.
(iv) Reproduction is not an all-inclusive defining characteristic of living organisms.
(v) Yeast and Hydra reproduce by budding.
(1) Only (i) (2) Both (i) and (ii)
(3) Both (ii) and (iv) (4) All of these

135. **Assertion (A):** Net primary productivity is gross primary productivity minus respiration.
Reason (R): Secondary productivity is produced by heterotrophs. **[New NCERT/XII/207]**
(1) Both (A) and (R) are correct but (R) is not the correct explanation of (A)
(2) (A) is correct but (R) is not correct
(3) (A) is not correct but (R) is correct
(4) Both (A) and (R) are correct and (R) is the correct explanation of (A)

Section-B

136. What sequence on the template strand of DNA corresponds to the first amino acid inserted into a protein?
(1) TAC (2) UAC **[New NCERT/XII/96]**
(3) UAG (4) AUG

137. At which stage, the homologous chromosomes separate due to repulsion, but are yet held by chiasmata ? **[New NCERT/XI/126]**
(1) Zygotene (2) Pachytene
(3) Diplotene (4) Diakinesis

138. Match column-I with column-II and select the correct option from the codes given below. **[New NCERT/XI/74]**

	Column-I		Column-II
A.	Stele	I.	Innermost layer of cortex
B.	Endodermis	II.	Suberin
C.	Casparian strips	III.	All the tissues exterior to vascular cambium
D.	Bark	IV.	All the tissues inner to endodermis

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

139. What is the function of molecular oxygen in cellular respiration? **[New NCERT/XI/154]**
(1) it causes the breakdown of citric acid.
(2) It combines with glucose to produce carbon dioxide.
(3) It combines with carbon from organic molecules to produce carbon dioxide.
(4) It combines with hydrogen from organic molecules to produce water.

140. **Statement I:** UAA, UAG and UGA are known as stop codons.
Statement II: Stop codon terminates the message of gene controlled protein synthesis. **[New NCERT/XII/96]**
(1) Both Statement I and Statement II are incorrect
(2) Statement I is correct but Statement II is incorrect
(3) Statement I is incorrect but Statement II is correct
(4) Both Statement I and Statement II are correct

141. The gene disorder phenylketonuria is an example for **[New NCERT/XII/69]**
(1) multiple allelism (2) polygenic inheritance
(3) multiple factor (4) pleiotropy

142. Which of the following criteria must a molecule fulfil to act as a genetic material? **[New NCERT/XII/87]**
(i) It should not be able to generate its replica.
(ii) It should chemically and structurally be stable.
(iii) It should not allow slow mutation.
(iv) It should be able to express itself in the form of Mendelian Characters.
(1) (i) and (ii) (2) (ii) and (iii)
(3) (iii) and (iv) (4) (ii) and (iv)

143. In meiosis, division is **[New NCERT/XI/125]**
(1) Ist reductional and IInd equational.
(2) Ist equational and IInd reductional.
(3) both reductional.
(4) both equational.

144. Match the column-I with column-II and choose the correct option. **[New NCERT/XI/23-24]**

	Column-I (System of classification)		Column-II (Characteristics)
A.	Artificial system of classification	I.	Based on few morphological characters
B.	Natural system of classification	II.	Based on evolutionary relationships between the various organisms
C.	Phylogenetic system of classification	III.	Based on natural affinities among the organisms and consider external as well as internal features.
D.	Numerical Taxonomy	IV.	Carried out using computer

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

145. The function of anther is **[New NCERT/XII/5]**
(1) produce a cellular structure of sporo-pollenin.
(2) produce pollen grains.
(3) store and protect pollen grains.
(4) All the above

146. **Assertion (A):** Translation refers to the process of polymerisation of amino acids to form a polypeptide.
Reason (R): The order and sequence of amino acid are defined by the sequence of bases in the rRNA.
[New NCERT/XII/98]
(1) Both (A) and (R) are correct but (R) is not the correct explanation of (A)
(2) (A) is correct but (R) is not correct
(3) (A) is not correct but (R) is correct
(4) Both (A) and (R) are correct and (R) is the correct explanation of (A)

147. During the formation of leaves and elongation of stem, some cells 'left behind' from the shoot apical meristem, constitute the **[Old NCERT/XI/85]**
(1) lateral meristem
(2) axillary bud
(3) cork cambium
(4) fascicular cambium

148. The practical purpose of classification of living organisms is to: **[New NCERT/XI/5]**
(1) explain the origin of living organsims.
(2) trace the evolution of living organsims.
(3) name the living organisms.
(4) facilitate grouping of anything based on some easily observable characteristics.

149. Match column-I with column-II and select the correct option. **[New NCERT/XI/95-97]**

	Column - I		**Column - II**
A.	Golgi apparatus	I.	Storage
B.	Mitochondria	II.	Photosynthesis
C.	Vacuoles	III.	Transport
D.	Grana	IV.	Respiration

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

150. Read the following five statements (i-v) on photosynthesis. **[New NCERT/XI/136]**
(i) Photosynthesis is an oxidoreductive process.
(ii) The stroma of chloroplast is responsible for the synthesis of ATP and NADPH.
(iii) Membrane system of chloroplast is responsible for photochemical reaction.
(iv) Photosynthesis does not takes place in the ground tissue of leaves.
(v) In stroma, enzymatic reaction synthesize sugar.
Select the right option having both incorrect statement.
(1) (i) and (iv) (2) (ii) and (iv)
(3) (ii) and (v) (4) (iii) and (iv)

PART-IV: ZOOLOGY

Section-A

151. The part of fallopian tube closest to the ovary is **[New NCERT/XII/29]**
(1) isthmus (2) infundibulum
(3) cervix (4) ampulla

152. Match column I (category) with column II (secondary metabolites)and choose the correct option. **[New NCERT/XI/108]**

	Column-I (Category)		**Column-II (Secondary metabolites)**
A.	Pigments	I.	Concanavalin A
B.	Terpenoides	II.	Monoterpenes, Diterpenes
C.	Alkaloids	III.	Morphine, Codeine
D.	Lectins	IV.	Carotenoids, Anthocyanin

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

153. The squamous epithelium is found in **[Old NCERT/XI/101]**
(1) stomach (2) intestine
(3) trachea (4) air sacs of lungs

154. Column I contains the characteristics features and column II contains the function/ location. Select the correct match from the option given below. **[New NCERT/XI/40, 43-44]**

	Column-I (Characteristic feature)		**Column-II (Function/Location)**
A.	Water canal system	I.	Sponges

B.	Comb plates	II.	Eight ciliated external rows present in a body of ctenophora.
C.	Nephridia	III.	Helps in osmoregulation and excretion
D.	Jointed appendages	IV.	A body part of arthropoda

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

155. A cup shaped cavity for articulation of femur head is **[New NCERT/XI/226]**
(1) acetabulum
(2) glenoid cavity
(3) sigmoid notch
(4) obturator foramen

156. In adult man, normal blood pressure is **[New NCERT/XI/202]**
(1) 100/80 mm Hg
(2) 120/80 mm Hg
(3) 100/120 mm Hg
(4) 80/120 mm Hg

157. The most important component of the oral contraceptive pills is **[New NCERT/XII/45]**
(1) progesterone
(2) growth hormone
(3) thyroxine
(4) luteinizing hormone

158. **Statement I:** Clitoris lies at the upper junction of the two labia minora.
Statement II: The vagina includes mons pubis, labia majora labia minora, clitoris and hymen. **[New NCERT/XII/30]**
(1) Both Statement I and Statement II are incorrect
(2) Statement I is correct but Statement II is incorrect
(3) Statement I is incorrect but Statement II is correct
(4) Statement II is correct but statement I is incorrect.

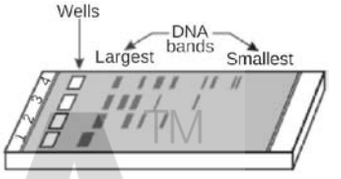
159. The cell mediated immunity inside the human body is carried out by: **[New NCERT/XII/135]**
(1) B-lymphocytes
(2) Thrombocytes
(3) Erythrocytes
(4) T-lymphocytes

160. All the diseases are spread by mosquito, except: **[In Syllabus, Not in NCERT/XII]**
(1) Filariasis
(2) Malaria
(3) Chikungunya
(4) Dengue

161. Volume of urine is regulated by **[New NCERT/XI/212]**
(1) aldosterone
(2) aldosterone and ADH
(3) aldosterone, ADH and testosterone
(4) ADH alone

162. **Assertion (A):** Mammals are found in polar ice caps, deserts, mountains, forests, grasslands and dark caves.
Reason (R): The most unique mammalian characteristic is the presence of milk producing glands. **[New NCERT/XI/50]**
(1) Both (A) and (R) are correct but (R) is not the correct explanation of (A)
(2) (A) is correct but (R) is not correct
(3) (A) is not correct but (R) is correct
(4) Both (A) and (R) are correct and (R) is the correct explanation of (A)

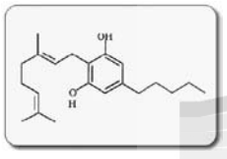
163. Study the given figure carefully and select the incorrect statements regarding this. **[New NCERT/XII/168]**



(i) It represents a typical agarose gel electrophoresis in which lane 1 contains undigested DNA.
(ii) The higher the concentration of agarose, the larger will be the pore size.
(iii) The separated DNA fragments can be visualized after staining in the visible light.
(iv) The separated DNA bands are cut out from the agarose gel and extracted from the gel piece. This step is known as elution.
(v) DNA fragments are negatively charged.
(1) (i) and (ii)
(2) (ii) and (iii)
(3) (ii) and (v)
(4) (i) and (iv)

164. The ascending loop of Henle is permeable for **[New NCERT/XI/209]**
(1) Ammonia
(2) Glucose
(3) Sodium
(4) Water

165. Match the following and choose the correct option. **[New NCERT/XII/142-143]**

A.		I.	*Cannabis*
B.		II.	Diacetyl morphine
C.		III.	Hallucination
D.		IV.	Cannabinoid molecule

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

166. The total lung capacity is represented by **[New NCERT/XI/187]**

(1) Tidal volume + Vital capacity
(2) Tidal volume + Residual volume
(3) Vital capacity + Residual volume
(4) Inspiratory + Expiratory reserve volumes

167. Identify the main functions of the cerebrum of human brain from the given statement. **[New NCERT/XI/236]**

(i) Control the contraction of voluntary muscles through the frontal lobe.
(ii) Control the sensitivity, movement, memory, vocabulary etc. through the frontal lobe.
(iii) Control the temperature, taste, touch, pain etc. through the parietal lobe.
(iv) Control the hearing and sense of smell through the occipital and frontal lobes.

(1) (i), (ii), (iv)
(2) (i) (iii), (iv)
(3) (i), (ii), (iii)
(4) (ii), (iii), (iv)

168. Which of the following is not required in the preparation of a recombinant DNA molecules? **[New NCERT/XII/171]**

(1) Restriction endonucleases
(2) DNA ligase
(3) DNA fragments
(4) *E. coli*

169. **Statement I:** Carbonic anhydrase is present in the erythrocytes.

Statement II: In erythrocytes the carbon dioxide combine with water and is transported. **[New NCERT/XI/190]**

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

170. In which of the phylum, excretory organ like proboscis gland is present? **[New NCERT/XI/45]**

(1) Hemichordata (2) Chordata
(3) Echinodermata (4) Annelida

171. Select the correct statement regarding *Periplaneta americana* **[Old NCERT/XI/112]**

(1) There are 16 very long malpighian tubules present at the junctions of midgut and hindgut.
(2) Grinding of food is carried out only by the mouth parts.
(3) Nervous system is located ventrally and consists of segmentally arranged ganglia joined by a pair of longitudinal connectives.
(4) Males bear a pair of short thread like anal styles.

172. In the given columns, column-I contain structures of female reproductive system and column-II contain its feature. Select the correct match from the option given below. **[New NCERT/XII/28-30]**

	Column-I (Structures of female reproductive system)		**Column-II (Features)**
A.	Ampulla	I.	Also called fallopian tubes, which extend from the periphery of each ovary to the womb.
B.	Labia majora	II.	It helps in collection of ovum after ovulation.
C.	Oviduct	III.	Wider part of fallopian tube where fusion of male and female gametes takes place.
D.	Fimbriae	IV.	Larger hairy folds which extend down from the mons pubis and surrounds the vaginal opening.

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

173. **Statement I:** Exonucleases are restriction enzymes, which cut DNA internally.

Statement II: Endonucleases make cuts at specific positions within the DNA. **[New NCERT/XII/166]**

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

174. Artery differs from vein in having **[New NCERT/XI/201]**

(1) Narrow wall (2) Thick walls
(3) Valves (4) None of these

175. **Assertion (A):** The imbalance in concentration of Na^+, K^+ generates resting potential.

Reason (R): To maintain the unequal distribution of Na^+ & K^+, the neurons use electrical energy.

[New NCERT/XI/232-233]

(1) Both (A) and (R) are correct but (R) is not the correct explanation of (A)
(2) (A) is correct but (R) is not correct
(3) (A) is not correct but (R) is correct
(4) Both (A) and (R) are correct and (R) is the correct explanation of (A)

176. Gel electrophoresis is used for **[New NCERT/XII/168]**

(1) construction or recombinant DNA by joining with cloning vectors
(2) isolation of DNA molecules
(3) cutting DNA into fragments
(4) separation of DNA fragments according to their size.

177. Which of the following is correctly stated as it happens in the common cockroach ? **[Old NCERT/XI/113]**

(1) Malpighian tubules are excretory organs projecting out from the colon
(2) Oxygen is transported by haemoglobin in blood
(3) Nitrogenous excretory product is urea
(4) The food is ground by gizzard

178. **Statement I:** In frogs vasa efferentia enter the kidneys and open into Bidder's canal.

Statement II: Fertilisation of frog is external and takes place in water. **[New NCERT/XI/83]**

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

179. Chikungunya fever is caused by a **[In Syllabus, Not in NCERT/XII]**

(1) Bacteria (2) Plasmodium
(3) Virus (4) Fungi

180. Which of the following properties of cardiac muscles are correct? **[New NCERT/XI/219]**

(i) These are the muscles of the heart.
(ii) These are non-striated.
(iii) These are involuntary in their functions.
(iv) These are controlled by nervous system directly.
(v) Cardiac muscles not straited.

Select the correct option.

(1) (i) and (iii) (2) (ii), (iv) and (v)
(3) (i), (iv) and (v) (4) (ii) and (iii)

181. The first restriction endonuclease reported was **[New NCERT/XII/165]**

(1) *Hind* II (2) *EcoR*I
(3) *Hind* III (4) *BamH*I

182. Signals for parturition originate from: **[New NCERT/XII/38]**

(1) Both placenta as well as fully developed foetus
(2) Oxytocin released from maternal pituitary
(3) Placenta only
(4) Fully developed foetus only

183. CO_2 combines with Hb to form : **[New NCERT/XI/190]**

(1) Carbaminohaemoglobin
(2) Carboxy haemoglobin
(3) Oxyhaemoglobin
(4) Methaemoglobin

184. Receptors for protein hormones are found **[New NCERT/XI/247]**

(1) inside nucleus (2) inside cytoplasm
(3) on surface of ER (4) on cell surface

185. Biolistics (gene-gun) is suitable for **[New NCERT/XII/171]**

(1) DNA finger printing.
(2) Disarming pathogen vectors.
(3) Transformation in plant cells.
(4) Constructing DNA molecules.

Section-B

186. **Statement I:** Thorns and tendrils of *Bougainvillea* and *Cucurbita* represent homology.

Statement II: Homologous organs have similar functions but are different in their structural details and origin. **[New NCERT/XII/115]**

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

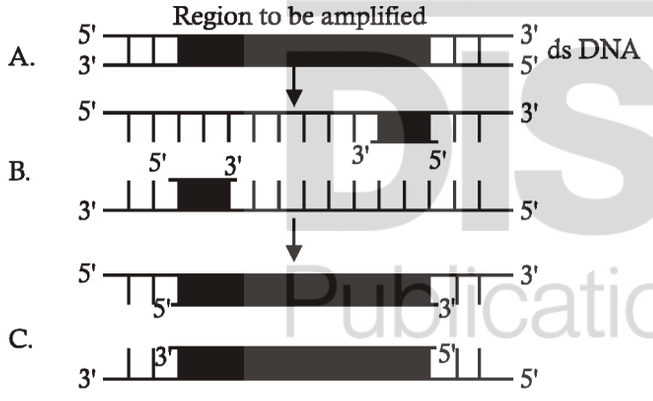
187. The genetically-modified (GM) cotton in India has been developed for **[New NCERT/XII/179]**

(1) insect-resistance
(2) enhancing shelf life
(3) enhancing mineral content
(4) drought-resistance

188. Select the answer which correctly matches the endocrine gland with the hormone it secrets and its function/ deficiency symptom: **[New NCERT/XI/241-242, 246]**

	Endocrine gland	Hormone	Function/ deficiency symptom
(1)	Posterior pituitary	Growth Hormone (GH)	Oversecretion stimulates abnormal growth
(2)	Thyroid gland	Thyroxine	Lack of iodine in diet results in goitre
(3)	Corpus luteum	Testosterone	Stimulates spermatogenesis
(4)	Anterior pituitary	Oxytocin	Stimulates uterus contraction during child birth

189. The figure below shows three steps (A, B, C) of Polymerase Chain Reaction (PCR). Select the option giving correct identification together with what it represents? **[New NCERT/XII/172]**



(1) B - Denaturation at a temperature of about 98°C separating the two DNA strands.
(2) A - Denaturation at a temperature of about 50°C.
(3) C - Extension in the presence of heat stable DNA polymerase.
(4) A - Annealing with two sets of primers.

190. Identify the correct reasons of infertility. **[New NCERT/XII/48]**

(i) Drugs (ii) Diseases
(iii) Congenital (iv) Use of Contraceptives
(v) Immunological or psychological
(1) (i), (ii), (iii)
(2) (iii) and (iv)
(3) (i), (ii), (iii) and (v)
(4) All of these

191. Smoking nicotine is associated with which of the following? **[New NCERT/XII/144]**

(1) Gastric ulcer (2) Emphysema
(3) Bronchitis (4) All of these

192. Match column I (containing list of scientists) with column II (their contributions) and choose the correct option. **[New NCERT/XII/113, 118, 119]**

	Column-I (Name of the Scientist)		Column-II (Contributions)
A.	Charles Darwin	I.	Saltation
B.	Lamarck	II.	Driven by use and disuse of organs.
C.	Hugo de Vries	III.	Evolution was gradual
D.	Ernst Heckel	IV.	Embryological support for evolution

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

193. Which of the following statement is correct? **[New NCERT/XII/136]**

(1) Injecting microbes during immunization induces passive immunity.
(2) Cell-mediated immune response is responsible for graft rejection.
(3) Colostrum during initial days of lactation provides active immunity to infant.
(4) None of the above

194. **Assertion (A):** Copper-T is an effective contraceptive device in human females.
Reason (R): Copper-T prevents passage of sperms from vagina upwards into the fallopian tubes. **[New NCERT/XII/44]**

(1) Both (A) and (R) are correct but (R) is not the correct explanation of (A)
(2) (A) is correct but (R) is not correct
(3) (A) is not correct but (R) is correct
(4) Both (A) and (R) are correct and (R) is the correct explanation of (A)

195. Which of the following statements does not hold true for the hormones? **[New NCERT/XI/239]**

(1) They act on target organs away from the source glands
(2) They are secreted directly into the blood
(3) They are used again and again like catalysts
(4) They are produced in very minute quantities and are biologically very active

196. Which of the following statements are correct with respect to hormones secreted by placenta? **[New NCERT/XI/239]**

(i) Placenta secretes relaxin during later stage of pregnancy.

(ii) Placenta secretes high amount of FSH during pregnancy.
(iii) Placenta secretes relaxin during initial stage of pregnancy.
(iv) Placenta secretes hCG and hPL during pregnancy.
(1) (i) and (iv) (2) (i), (ii) and (iv)
(3) (iii) and (iv) (4) (ii), (iii) and (iv)

197. Match the following descriptions (given in column-II) of each type of blood cell to their names (given in column-I). **[New NCERT/XI/194]**

	Column-I (Blood cell)		**Column-II (Description)**
A.	Erythrocyte	I.	Most abundant white blood cell, and the main phagocytic cell of the blood.
B.	Eosinophil	II.	Least abundant white blood cell; releases histamine granules.
C.	Neutrophil	III.	Resist infections and are associated with allergic reactions.
D.	Basophil	IV.	Blood cell that contains haemo-globin and transports oxygen.

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

198. **Statement I:** The exaggerated response of the immune system to certain antigens present in the environment is called as allergy.

Statement II: The allergic tendency is genetically passed from the parent to the offspring and is characterised by the presence of large quantities of IgG antibodies in the blood. **[New NCERT/XII/137]**

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

199. Renal calculi is **[New NCERT/XI/214]**

(1) soluble mass of crystallised salts in kidney.
(2) soluble mass of protein in kidney.
(3) insoluble mass of proteins in kidney.
(4) insoluble mass of crystallised salts in kidney.

200. Read the following four statements (i-iv) about certain mistakes in two of them **[New NCERT/XII/183]**

(i) The first transgenic buffalo, Rosie produced milk which was human alpha-lactal albumin enriched.
(ii) Restriction enzymes are used in isolation of DNA from other macro-molecules.
(iii) Downstream processing is one of the steps of r-DNA technology.
(iv) Disarmed pathogen vectors are also used in transfer of r-DNA into the host.

Which are the two statements having mistakes?
(1) Statement (ii) and (iii)
(2) Statement (iii) and (iv)
(3) Statement (i) and (iii)
(4) Statement (i) and (ii)

ANSWER KEYS

TEST BOOKLET CODE T 1																			
PHYSICS																			
1	(4)	**6**	(3)	**11**	(4)	**16**	(3)	**21**	(4)	**26**	(4)	**31**	(1)	**36**	(4)	**41**	(1)	**46**	(4)
2	(1)	**7**	(2)	**12**	(2)	**17**	(2)	**22**	(4)	**27**	(3)	**32**	(2)	**37**	(1)	**42**	(4)	**47**	(4)
3	(3)	**8**	(2)	**13**	(4)	**18**	(4)	**23**	(2)	**28**	(3)	**33**	(1)	**38**	(4)	**43**	(4)	**48**	(2)
4	(3)	**9**	(3)	**14**	(1)	**19**	(3)	**24**	(3)	**29**	(2)	**34**	(1)	**39**	(4)	**44**	(3)	**49**	(2)
5	(3)	**10**	(1)	**15**	(4)	**20**	(3)	**25**	(4)	**30**	(3)	**35**	(4)	**40**	(4)	**45**	(4)	**50**	(4)
CHEMISTRY																			
51	(4)	**56**	(3)	**61**	(2)	**66**	(3)	**71**	(1)	**76**	(4)	**81**	(1)	**86**	(4)	**91**	(1)	**96**	(3)
52	(2)	**57**	(3)	**62**	(3)	**67**	(4)	**72**	(4)	**77**	(1)	**82**	(2)	**87**	(3)	**92**	(3)	**97**	(1)
53	(2)	**58**	(1)	**63**	(4)	**68**	(3)	**73**	(3)	**78**	(3)	**83**	(4)	**88**	(1)	**93**	(4)	**98**	(4)
54	(3)	**59**	(3)	**64**	(1)	**69**	(3)	**74**	(2)	**79**	(4)	**84**	(3)	**89**	(2)	**94**	(3)	**99**	(4)
55	(2)	**60**	(1)	**65**	(4)	**70**	(1)	**75**	(2)	**80**	(2)	**85**	(3)	**90**	(1)	**95**	(1)	**100**	(3)
BOTANY																			
101	(2)	**106**	(1)	**111**	(1)	**116**	(2)	**121**	(3)	**126**	(1)	**131**	(1)	**136**	(1)	**141**	(4)	**146**	(3)
102	(2)	**107**	(3)	**112**	(1)	**117**	(4)	**122**	(2)	**127**	(4)	**132**	(3)	**137**	(3)	**142**	(4)	**147**	(2)
103	(4)	**108**	(4)	**113**	(2)	**118**	(3)	**123**	(4)	**128**	(2)	**133**	(1)	**138**	(1)	**143**	(1)	**148**	(4)
104	(3)	**109**	(2)	**114**	(1)	**119**	(1)	**124**	(3)	**129**	(1)	**134**	(2)	**139**	(4)	**144**	(2)	**149**	(1)
105	(4)	**110**	(1)	**115**	(4)	**120**	(4)	**125**	(2)	**130**	(1)	**135**	(1)	**140**	(4)	**145**	(4)	**150**	(2)
ZOOLOGY																			
151	(2)	**156**	(2)	**161**	(2)	**166**	(3)	**171**	(4)	**176**	(4)	**181**	(2)	**186**	(2)	**191**	(4)	**196**	(1)
152	(1)	**157**	(1)	**162**	(1)	**167**	(3)	**172**	(3)	**177**	(4)	**182**	(1)	**187**	(1)	**192**	(1)	**197**	(1)
153	(4)	**158**	(1)	**163**	(2)	**168**	(4)	**173**	(1)	**178**	(4)	**183**	(1)	**188**	(2)	**193**	(2)	**198**	(2)
154	(1)	**159**	(4)	**164**	(3)	**169**	(4)	**174**	(2)	**179**	(3)	**184**	(4)	**189**	(3)	**194**	(1)	**199**	(4)
155	(1)	**160**	(1)	**165**	(2)	**170**	(1)	**175**	(2)	**180**	(1)	**185**	(3)	**190**	(3)	**195**	(3)	**200**	(4)