मोशन है, तो भरोसा है

MOTION
18 YEARS OF LEGACY

NEET 2025
MOCK TEST PAPERS

MOTION

Sample Test Paper-2

Time Allowed: 3 hours **Maximum Marks: 720**

Important Instructions :

1. The Answer Sheet is inside this Test Booklet. When you are directed to open the Test Booklet, take out the Answer Sheet and fill in the particulars on ORIGINAL Copy carefully with **blue/black** ball point pen only.
2. The test is of **3 hours** duration and this Test Booklet contains **180** questions. Each question carries **4** marks. For each correct response, the candidate will get **4** marks. For each incorrect response, **one mark** will be deducted from the total scores. The maximum marks are 720.
3. Use **Blue/Black Ball Point Pen only** for writing particulars on this page/marking responses on Answer Sheet.
4. Rough work is to be done in the space provided for this purpose in the Test Booklet only.
5. On completion of the test, the candidate **must hand over the Answer Sheet (ORIGINAL and OFFICE Copy) to the Invigilator** before leaving the Room/Hall. The candidates are allowed to take away this Test Booklet with them.
6. The candidates should ensure that the Answer Sheet is not folded. Do not make any stray marks on the Answer Sheet. Do not write your Form No. anywhere else except in the specified space in the Test Booklet/Answer Sheet.
7. Use of white fluid for correction is **NOT** permissible on the Answer Sheet.
8. Each candidate must show on-demand his/her Allen ID Card to the Invigilator.
9. No candidate, without special permission of the Invigilator, would leave his/her seat.
10. The candidates should not leave the Examination Hall without handing over their Answer Sheet to the Invigilator on duty and sign (with time) the Attendance Sheet **twice. Cases, where a candidate has not signed the Attendance Sheet second time, will be deemed not to have handed over the Answer Sheet and dealt with as an Unfair Means case.**
11. Use of Electronic/Manual Calculator is prohibited.
12. The candidates are governed by all Rules and Regulations of the examination with regard to their conduct in the Examination Room/Hall. All cases of unfair means will be dealt with as per the Rules and Regulations of this examination.
13. **No part of the Test Booklet and Answer Sheet shall be detached under any circumstances.**
14. The candidates will write the Correct Test Booklet Code as given in the Test Booklet/Answer Sheet in the Attendance Sheet.

SUBJECT : PHYSICS

1. Choke coil is connected with a tube light to obtain :-

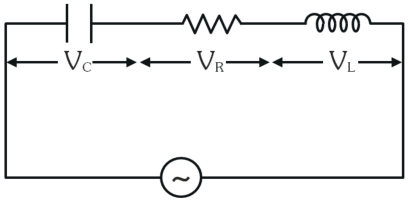
(1) high voltage initially and then low current

(2) high current initially and then high voltage

(3) low current initially and then high voltage

(4) high voltage initially and then high current

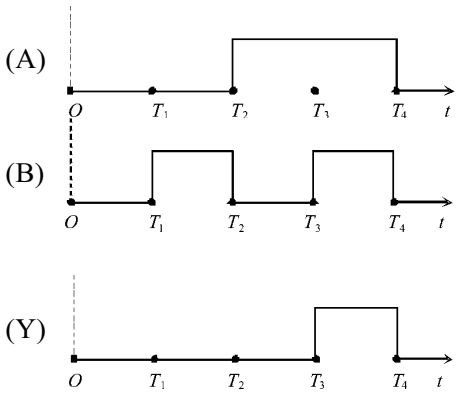
2. In $V_C = 4V_R$ and $V_L = 2V_R$, then find V_{AC}



(1) V_R (2) $\sqrt{2}V_R$

(3) $3V_R$ (4) $\sqrt{5}V_R$

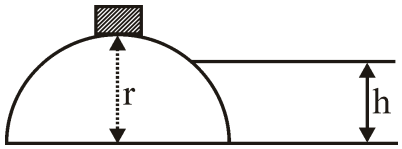
3. The given figure shows the wave forms for two inputs A and B and that for the output Y of a logic circuit. The logic circuit is



(1) An AND gate (2) An OR gate

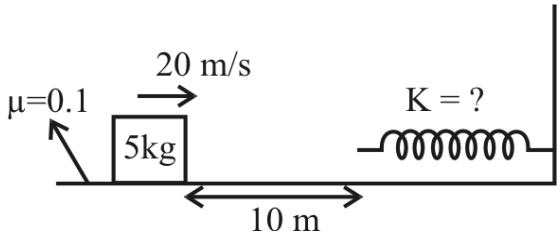
(3) A NAND gate (4) An NOT gate

4. A small body of mass m slides down from the top of a hemisphere of radius r. The surface of block and hemisphere are frictionless. The height (h) at which the body loses contact with the surface of the sphere is :- (hemisphere is fixed)



(1) $\frac{3}{2}r$ (2) $\frac{2}{3}r$ (3) $\frac{r}{2}$ (4) $\frac{r}{3}$

5. If the maximum compression in the spring is 50 cm then find the value of K($g = 10\ m/s^2$) :-



(1) $7580\frac{N}{m}$ (2) $7600\frac{N}{m}$

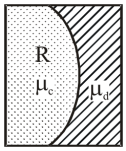
(3) $8420\frac{N}{m}$ (4) None of these

6. A long solenoid of radius 2 cm has 100 turns/cm and carries a current of 5A. A coil of radius 1 cm having 100 turns and a total resistance of 20 Ω is placed inside the solenoid coaxially. The coil is connected to a galvanometer. If the current in the solenoid is reversed in direction, find the charge flown through the galvanometer :-

(1) 2×10^{-4} C (2) 4×10^{-4} C

(3) 6×10^{-4} C (4) 8×10^{-4}C

7. A plane glass plate is constructed by combining a plane-convex lens and a plane-concave lens of different materials as shown in figure. Its focal length for paraxial rays is:



(1) $\frac{R}{(\mu_c - \mu_d)}$ (2) $\frac{(\mu_c - \mu_d)}{R}$

(3) $\frac{2R}{(\mu_c - \mu_d)}$ (4) $\frac{(\mu_c - \mu_d)}{2R}$

8. **Assertion(A)** :- The flux crossing through a closed surface is independent of the location of charge within the surface.
Reason(R) :- On displacement of charges within a closed surface, electric field at any point on the surface does not change.

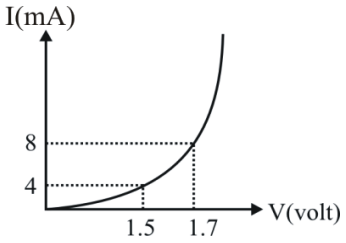
(1) Both (A) and (R) are true and (R) is the correct explanation of (A)

(2) Both (A) and (R) are true and (R) is not the correct explanation of (A)

(3) (A) is true but (R) is false

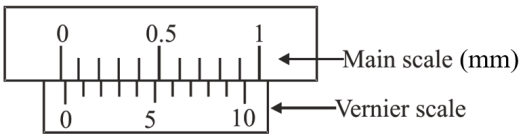
(4) (A) is false but (R) is true

9. For a P–N junction diode, its V – I characteristic are shown in figure, when a forward bias voltage of 1.5 V is applied across it. The dynamic resistance of diode is given by :



(1) 20 Ω (2) 30 Ω (3) 40 Ω (4) 50 Ω

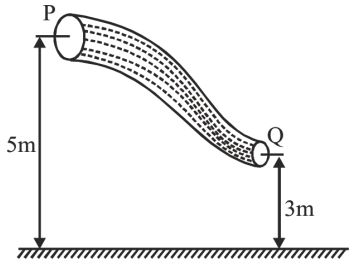
10. In the reading shown in the figure, find the zero error



(1) 0.05 cm (2) –0.05 cm

(3) 0.03 cm (4) –0.03 cm

11. A non-viscous fluid of constant density of 1000kg/m^3 flows in a stream line motion along a tube of variable cross-section.

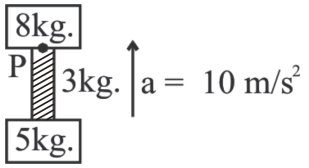


The area of cross-section at positions P and Q are 40 cm^2 and 20 cm^2 respectively. If velocity of fluid at P is 3 m/s then find velocity of fluid at Q.

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

(3) 5 m/s (4) 6 m/s

12. Two blocks of mass 8 kg and 5 kg are connected by a heavy rope of mass 3 kg. Complete system is accelerated upwards by 10 m/s^2 as shown in the figure. The tension at the point 'P' will be :-

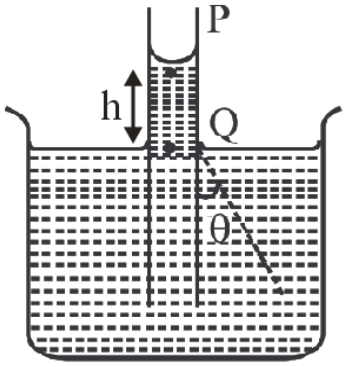


(1) 80N (2) 90N

(3) 160N (4) 150N

Space for Rough Work

13. Liquid reaches an equilibrium as shown, in a capillary tube of internal radius r. If the surface tension of the liquid is T, the angle of contact θ and density of liquid ρ , then the pressure differnce between P and Q is :-



(1) $\left(\frac{2T}{r}\right)\cos\theta$ (2) $\frac{T}{r\cos\theta}$

(3) $\frac{2T}{r\cos\theta}$ (4) $\left(\frac{4T}{r}\right)\cos\theta$

14. In convex lens of focal length F, the minimum distance between object and its real image :-

(1) 3 F

(2) 4 F

(3) Zero

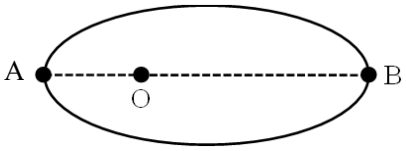
(4) 2 F

15. In the Young's double-slit experiment, the intensity of light at a point on the screen where the path difference is λ is K, (λ being the wave length of light used). The intensity at a point where the path difference is $\lambda/4$, will be :-

(1) K (2) K/4

(3) K/2 (4) Zero

16. The earth is revolving around the sun in an elliptical orbit. If $\frac{OA}{OB} = x$, the ratio of speeds of earth at B to the speed at A will be :



(1) x (2) x^2 (3) $\sqrt{x}$ (4) $x\sqrt{x}$

17. With respect to PEE experiment match the Column-I with the Column-II

	Column-I		**Column-II**
(i)	If (frequency) is increased keeping I (intensity) and (work function) constant	(a)	stopping potential increases
(ii)	If I is increased keeping f and ϕ constant.	(b)	Saturation current increases
(iii)	If the distance b/w anode and cathode increases	(c)	maximum K.E. of electron increases
(iv)	If ϕ is decreased keeping f and I constant.	(d)	stopping potential remains the same

(1) (i)-a, (ii)-b, (iii)-d, (iv)-c

(2) (i)-b, (ii)-a, (iii)-c, (iv)-d

(3) (i)-d, (ii)-c, (iii)-b, (iv)-a

(4) (i)-a, (ii)-d, (iii)-b, (iv)-c

18. Which one of the following statements about photon is incorrect :-

(1) Photon's rest mass is zero

(2) Momentum of photon is $h\nu/c$

(3) Photon's energy is $h\nu$

(4) Photons exert no pressure

19. A and B are two light sources. The intensity of the source A is greater than B, but the frequency of the source A is less than that of the source B. The photoelectric current obtained by the photo cell :-

(1) In case of A will be more

(2) In case of B will be more

(3) Is the same

(4) None of the above

20. A nucleus of mass m at rest emits a photon of wavelength λ, find recoil energy of the nucleus :-

(1) $\frac{h^2}{2\lambda^2 m}$

(2) $\frac{hc^2}{2\lambda m}$

(3) $\frac{h^2c^2}{2\lambda m}$

(4) $\frac{hc^2}{2\lambda^2 m}$

21. Which one of the following statement is WRONG in the context of X-rays generated from an X-ray tube :

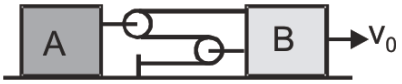
(1) Wavelength of characteristic X-rays decreases when the atomic number of the target increases

(2) Cut-off wavelength of the continuous X-rays depends on the atomic number of the target

(3) Intensity of the characteristic X-rays depends on the electrical power given to the X-ray tube

(4) Cut-off wavelength of the continuous X-rays depends on the energy of the electrons in the X-ray tube

22. Block B is moving towards right with constant velocity v_0. Velocity of block A with respect to block B is- (Assume all pulleys and strings are ideal)



(1) $v_0/2$ left

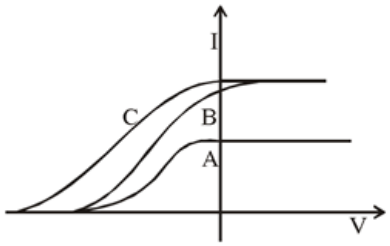
(2) $v_0/2$ right

(3) $3/2v_0$ right

(4) $3/2v_0$ left

Space for Rough Work

23. In a photoelectric experiment, anode potential (v) is plotted against plate current (I)



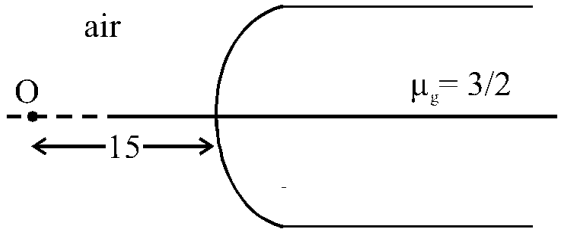
(1) A and B will have different intensities while B and C will have different frequencies

(2) B and C will have different intensities while A and C will have different frequencies

(3) A and B will have different intensities while A and C will have equal frequencies

(4) A and B will have equal intensities while B and C will have different frequencies

24. A point object O is placed in front of a glass rod having spherical end of radius of curvature 30 cm. The image will form at :-



(1) 30 cm left

(2) Infinity

(3) 1 cm to the right

(4) 18 cm to the left

25. In a microscope the focal lengths of two lenses are 1.2 cm and 6.25 cm. If an object is placed at 2 cm and the final image is formed at 25 cm from eye lens. The distance between the two lenses is

(1) 6.00 cm (2) 8.00 cm

(3) 7.75 cm (4) 9.25 cm

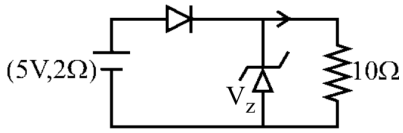
26. The least coefficient of friction for an inclined plane inclined at an angle a with horizontal, in order that a solid cylinder will roll down without slipping is :-

(1) $\frac{2}{3}\tan\alpha$ (2) $\frac{2}{7}\tan\alpha$

(3) $\frac{1}{3}\tan\alpha$ (4) $\frac{4}{3}\tan\alpha$

27. Current flowing through the zener diode shown in circuit is :-

(Given diode is ideal and $V_z = 4V$)



(1) 0.4 A (2) 0.5 A

(3) 0.1 A (4) 0.9 A

28. If the length of a pendulum is made 9 times and mass of the bob is made 4 times, then the value of time period becomes :-

(1) 3T

(2) (3/2)T

(3) 4T

(4) 2T

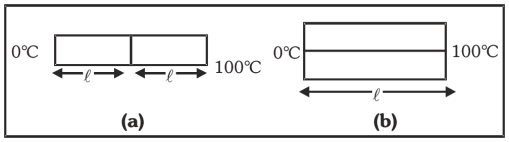
Space for Rough Work

29. A beaker contains 100 gm of water. The water equivalent of beaker is 10 gm. The initial temperature of water in the beaker is 10^oC. If 330 gm of hot water at 90^oC is poured in it. The final temperature neglecting radiation losses will be neared to :-

(1) 58^oC (2) 68^oC

(3) 70^oC (4) 80^oC

30. Two identical square rods of metal are welded end to end as shown in figure (1), 20 calories of heat flows through it in 4 minutes. If the rods are welded as shown in figure (2), the same amount of heat will flow through the rods in -



(1) 1 minute (2) 2 minutes

(3) 4 minutes (4) 16 minutes

31. Consider a gas with density ρ and $\bar{c}$ as the root mean square velocity of its molecules contained in a volume. If the system moves as whole with velocity v, then the pressure exerted by the gas is

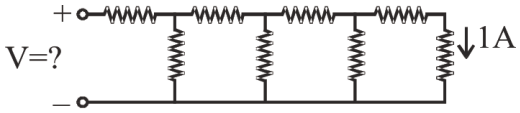
(1) $\frac{1}{3}\rho(\bar{c})^2$ (2) $\frac{1}{3}\rho(\bar{c}+v)^2$

(3) $\frac{1}{3}\rho(\bar{c}-v)^2$ (4) $\frac{1}{3}\rho(c^{-2}-v)^2$

32. One mole of an ideal monatomic gas undergoes a process described by the equation PV^2 = constant. The heat capacity of the gas during this process is

(1) 2 R (2) R/2 (3) $\frac{3}{2}R$ (4) $\frac{5}{2}R$

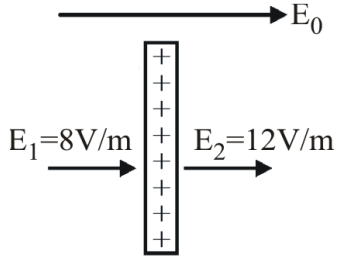
33. Each element in the finite chain of resistors shown in the figure is 1Ω. A current of 1 A flows through the final element. Then what is the potential difference V across input terminals of the chain.



(1) 12 volt (2) 34 volt

(3) 1 volt (4) 16 volt

34. The net electric field on two sides of a large charged nonconducting sheet kept in an external electric field is shown in the figure. The charge density on the sheet in S.I. Units is given by (ε_0 is the Permittivity of free space in S.I. Units) :-



(1) $2\varepsilon_0$ (2) $4\varepsilon_0$

(3) $10\varepsilon_0$ (4) Zero

35. In a L-R circuit the stored energy in the inductor coil is 5 Joule and rate of heat generation is 10 Watt at a charge flow rate of one coulomb per second. The time constant of circuit is :

(1) 2 second

(2) 1 second

(3) 1.5 second

(4) Data insufficient

Space for Rough Work

36. A large parallel plate capacitor, whose plates have an area of 1 m^2 and are separated from each other by 1mm , is being charged at a rate of 25 V/s.If the dielectric between the plates has the dielectric constant 10, then the displacement current at this instant is

(1) 25 μA (2) 11 μA

(3) 2.2 μA (4) 1.1 μA

37. A rod is fixed between two points at 20°C. The coefficient of linear expansion of material of rod is 1.1×10^{-5}/°C and Young's modulus is 1.2×10^{11} N/m^2. Find the stress developed in the rod if temperature of rod becomes 10°C :

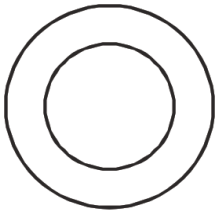
(1) 1.32×10^7 N/m^2

(2) 1.10×10^{15} N/m^2

(3) 1.32×10^8 N/m^2

(4) 1.10×10^6 N/m^2

38. A soap bubble of radius R is surrounded by another soap bubble of radius 2R, as shown. Take surface tension = S. Then, the pressure inside the smaller soap bubble, in excess of the atmospheric pressure, will be



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

39. ***Assertion (A):-*** Angular momentum of a satellite remains conserved.

Reason (R):- Conservation of linear momentum leads to conservation of angular momentum.

(1) Both (A) and (R) are true and (R) is the correct explanation of (A)

(2) Both (A) and (R) are true and (R) is not the correct explanation of (A)

(3) (A) is true but (R) is false

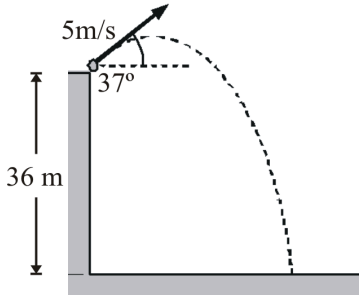
(4) (A) is false but (R) is true

40. If there is no change in the volume of wire on stretching, then poisson's ratio for material of wire is :-

(1) –1 (2) 0

(3) 0.5 (4) 0.25

41. A ball is thrown from the top of 36 m high tower with velocity 5 m/s at an angle 37° above the horizontal as shown. Its horizontal range on the ground is closest to [$g = 10$ m/s^2]



(1) 12 m (2) 18 m

(3) 24 m (4) 30 m

42. The refracting angle of a prism is A, and refractive index of the material of the prism is cot(A/2). The angle of minimum deviation is :-

(1) $180° - 2A$

(2) $90° - A$

(3) $180° + 2A$

(4) $180° - 3A$

43. A road of width 20 m forms an arc of radius 15 m, its outer edge is 2 m higher than its inner edge. For what speed the rod is banked?

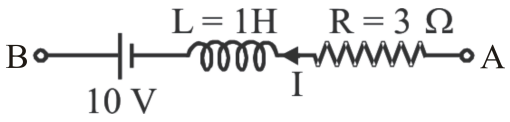
(1) $\sqrt{10}$ m/s

(2) $\sqrt{14.7}$ m/s

(3) $\sqrt{9.8}$ m/s

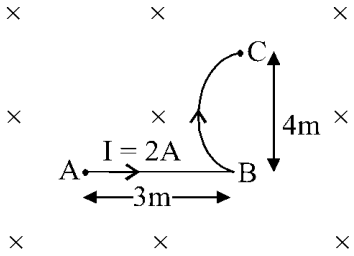
(4) None of these

44. In the branch AB of a circuit, as shown in the figure, a current I = (t + 2) A is flowing, where t is the time in second. At t = 0, the value of $(V_A - V_B)$ write will be :-



(1) 3V (2) –3V (3) –5V (4) 5V

45. In the given figure force on wire ABC will be (B = 2T) :



(1) $4(3+2\pi)$ N (2) 20 N

(3) 10 N (4) 40 N

Space for Rough Work

46. In a 0.25 litre container dissociation of 4 moles of NO takes place. If its degree of dissociation is 10% then K_p for reaction $2NO \rightleftharpoons N_2 + O_2$ is :-

(1) $\frac{1}{(18)^2}$ (2) $\frac{1}{(8)^2}$ (3) $\frac{1}{16}$ (4) $\frac{1}{32}$

47. The initial concentration for a first order reaction has been taken equal to M/10. After 8 minutes and 20 seconds the reactant concentration has become M/100. What is the velocity constant for reaction.

(1) 5×10^{-3} sec^{-1} (2) 2.303×10^{-5} sec^{-1}

(3) 2.303×10^{-4} sec^{-1} (4) 4.606×10^{-3} sec^{-1}

48. The ratio of weights of hydrogen and magnesium deposited by the same amount of electricity from aqueous H_2SO_4 and fused $MgSO_4$ is :-

(1) 1 : 8 (2) 1 : 12

(3) 1 : 16 (4) None of these

49. Following are some of the facts about dry cell :-
I : It is also called Leclanche cell
II : It gives constant voltage.
III : Electrolyte is a moist paste of NH_4Cl and $ZnCl_2$ in starch
IV : Cathodic reaction is
$2MnO_2(s) + 2NH_4^+(aq) + 2e^- \rightarrow Mn_2O_3(s) + 2NH_3(g) + H_2O(\ell)$
Select the correct facts :-

(1) I, II, III (2) I, IV

(3) I, II, III, IV (4) I, III, IV

50. If k_{sp} of CaF_2 in pure water is 1.70×10^{-10}, then find the solubility of CaF_2 in 0.10M NaF solution :-

(1) 1.70×10^{-10}

(2) 1.70×10^{-9}

(3) 1.70×10^{-8}

(4) 0.10 M

51. For a binary ideal liquid solution, the total pressure of the solution is given as :-

(1) $P_{total} = P_A^o + (P_B^o - P_A^o) X_B$

(2) $P_{total} = P_A^o + P_B^o$

(3) $P_{total} = P_B^o + (P_B^o - P_A^o) X_A$

(4) $P_{total} = P_B^o + (P_B^o - P_A^o) X_B$

52. In which case number of molecules of water maximum

(1) 18 ml of water

(2) 0.18 g water

(3) 10^{-3} mole water

(4) 0.00224 liter of water vapour at 1 atm and 273 K

53. Relative atomic mass of Ca-atom is

(1) 400 g

(2) 40

(3) 40 mg

(4) 40 kg

54.

	Column -I		Column -II
(i)	Aufbau principle	(a)	$\lambda = h/(mv)$
(ii)	de broglie	(b)	$\lambda = hc/\Delta E$
(iii)	Hund's rule	(c)	Max. unpaired e^-
(iv)	Planck's law	(d)	Electronic configuration

Correct match is :-

(1) (i) d (ii) b (iii) c (iv) a

(2) (i) c (ii) a (iii) d (iv) b

(3) (i) d (ii) a (iii) c (iv) b

(4) (i) c (ii) b (iii) d (v) a

55. Na(s) ⟶ Na(g), the heat of reaction is called as

(1) Heat of vaporisation

(2) Heat of atomisation

(3) Heat of sublimation

(4) Both (2) and (3)

56. A reaction has $\Delta H = -33$ kJ and $\Delta S = -58$ J/K. This reaction would be :

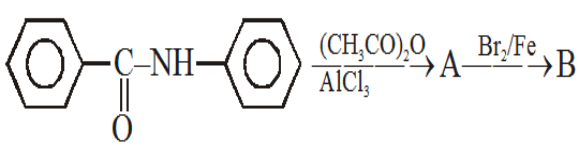
(1) spontaneous at all temperatures

(2) non-spontaneous at all temperatures

(3) spontaneous above a certain temperature

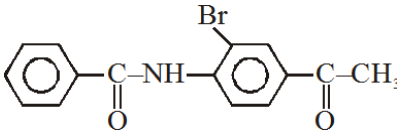
(4) spontaneous below a certain temperature

57.

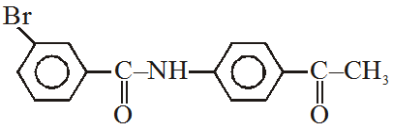


B is :-

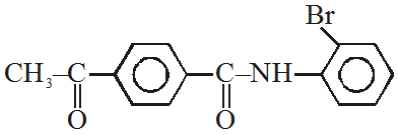
(1)



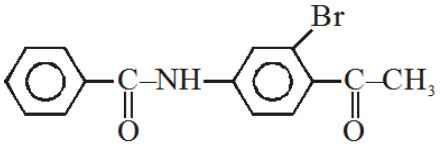
(2)



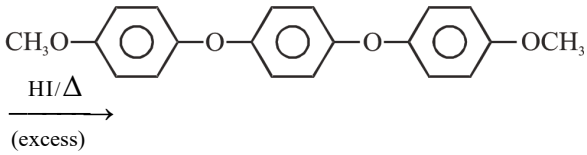
(3)



(4)



58.



How many moles of HI consumed in above reaction ?

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

59. Primary and secondary amines can be distinguished by :-

(1) Hoffmann's mustard oil reaction

(2) carbylamine reaction

(3) Hinsberg reagent

(4) All

Space for Rough Work

60. The hydrolysis product of (+) lactose is :-

(1) β–D(+)glucose + β–D(+)galactose

(2) α–D(+)galactose + α–D(+)glucose

(3) α–D(+)glucose + β–D(+)galactose

(4) β–D(+)glucose + α–D(+)glucose

61. Match list - I and List - II :-

List-I		List-II	
(a)	$R-\overset{O}{\overset{\|\|}{C}}-Cl \rightarrow R-CHO$	(i)	Br_2/NaOH
(b)	$R-CH_2-COOH \rightarrow R-\underset{Cl}{\underset{\|}{CH}}-COOH$	(ii)	H_2/Pd-$BaSO_4$
(c)	$R-\overset{O}{\overset{\|\|}{C}}-NH_2 \rightarrow R-NH_2$	(iii)	Zn(Hg)/Conc.HCl
(d)	$R-\overset{O}{\overset{\|\|}{C}}-CH_3 \rightarrow R-CH_2-CH_3$	(iv)	Cl_2/Red P, H_2O

Choose the correct answer from the options given below :

(1) (a)–(ii), (b)–(i), (c)–(iv), (d)–(iii)

(2) (a)–(iii), (b)–(iv), (c)–(i), (d)–(ii)

(3) (a)–(ii), (b)–(iv), (c)–(i), (d)–(iii)

(4) (a)–(iii), (b)–(i), (c)–(iv), (d)–(ii)

62. Which of the following statement is true :-

(1) $C_2H_5\overset{\ominus}{S}$ is both stronger base and nucleophile than $C_2H_5\overset{\ominus}{O}$

(2) $C_2H_5\overset{\ominus}{S}$ is stronger base but is weaker nucleophile than $C_2H_5\overset{\ominus}{O}$

(3) $C_2H_5\overset{\ominus}{S}$ is a weaker base but is stronger nucleophile than $C_2H_5\overset{\ominus}{O}$

(4) $C_2H_5\overset{\ominus}{S}$ is both weaker base and weaker nucleophile than $C_2H_5\overset{\ominus}{O}$

63. How many sigma (σ) and pi (π) bonds in NC–CH=CH–CN molecule.:-

(1) 3σ, 3π

(2) 5σ, 2π

(3) 7σ, 5π

(4) 2σ, 3π

64. 0.25 gm of organic compound gives 30 ml of N_2 at STP by Duma's method, calculate percentage of nitrogen :-

(1) 15% (2) 30%

(3) 45% (4) 60%

65. ***Assertion :–*** Anisole on reaction with HI gives phenol and CH_3I.

Reason :– Phenyl-oxygen bond is stronger than methyl-oxygen bond in anisole and hence is not cleaved by HI.

(1) If both Assertion & Reason are True & the Reason is a correct explanation of the Assertion.

(2) If both Assertion & Reason are True but Reason is not a correct explanation of the Assertion.

(3) If Assertion is True but the Reason is False.

(4) If both Assertion & Reason are False.

66. Which of the following order is wrong ?

(1) $NH_3 < PH_3 < AsH_3$ — acidic

(2) $Li < Be < B < C$ — (IE_1)

(3) $Al_2O_3 < MgO < Na_2O < K_2O$ — basic

(4) $Li^+ < Na^+ < K^+ < Cs^+$ — ionic radius

67. If lattice energy of AlF_3 = x, then lattice energy of Al_2O_3 may be : (K = constant)

(1) 2Kx

(2) 3Kx

(3) 4Kx

(4) 9Kx

68. **Assertion :** Lattice energy of MgF_2 is more than NaF.

Reason : MgF_2 is more ionic than NaF.

(1) Assertion and Reason both are correct but Reason is not correct explanation of Assertion.

(2) Assertion and Reason both are correct and Reason is correct explanation of Assertion.

(3) Assertion is correct but Reason is incorrect.

(4) Assertion is incorrect but Reason is correct.

69. Which is incorrect match ?

(1) $Na^+ + H_2O$ dipole - dipole attraction

(2) HCl + HCl Keesome attraction

(3) Xe + H_2O Debye attraction

(4) $CCl_4 + CCl_4$ London force

70. Which of the following is not correctly matched:-

	Bond angle	Number of bond angles
(1)	$CH_4 \longrightarrow$	$109°28' \longrightarrow 6$
(2)	$SF_6 \longrightarrow$	$90° \longrightarrow 12$
(3)	$IF_7 \longrightarrow$	$90° \longrightarrow 10$
(4)	$IF_5 \longrightarrow$	$90° \longrightarrow 8$

71. Which of the following complexes has lower Δ_0 (splitting energy) than pairing energy :

(1) $[RhF_6]^{3-}$ (2) $[Fe(NH_3)_6]^{2+}$

(3) $[Co(OX)_3]^{3-}$ (4) $[Ir(NH_3)_6]^{3+}$

Space for Rough Work

72. Incorrect statement is :-

(1) Hydrazine can act as bidentate ligand.

(2) In oxalate, donor atom is oxygen

(3) All bidentate ligands are chelating ligands

(4) Number of chelate rings = denticity−1

73. Which compound is used in manufacturing of $K_2Cr_2O_7$?

(1) Na_2CrO_4 (2) CrO_5

(3) $FeCr_2O_4$ (4) CrO_3

74. Assertion : Dimeric halide of sulphur give disproportionation reaction.
Reason : Both S_2F_2 and S_2Cl_2 have half open book like structure.

(1) Both assertion and reason are correct and reason is correct explanation for the assertion.

(2) Both assertion and reason are correct but reason is not correct explanation for assertion.

(3) Assertion is correct but reason is incorrect.

(4) Assertion is incorrect but reason is correct.

75. Which of the following anions is not easily removed from aqueous solution by precipitation ?

(1) Cl^- (2) SO_4^{2-} (3) NO_3^- (4) CO_3^{2-}

76. The compound present in brorax bead is

(1) B_2O_3 (2) $NaBO_2$

(3) $NaBO_3$ (4) $NaBO_2 + B_2O_3$

77. In the melting of ice, which one of the conditions will be more favourable ?

(1) High temperature and high pressure

(2) Low temperature and low pressure

(3) Low temperature and high pressure

(4) High temperature and low pressure

78. For a reaction rate law is given as $r = K[A]^{3/2}[B]^{-1}[C]^{1/3}[D]^{2/3}$: What will be order of reaction ?

(1) 2.5 (2) −1

(3) 3/2 (4) 2/3

79. The pH of a solution is 6.63. This value indicates that the $[H^+]$ concentration in solution is :-

(1) 2.2×10^{-6} (2) 2.2×10^{-7}

(3) 2.2×10^{-5} (4) None

80. 2 moles of liquid A is mixed with 3 moles of liquid B. The mole fraction of A in vapour phase is :
Vapour pressure of A in pure state $\left(P_A^0\right)$ = 100 mm Hg and vapour pressure of B in pure state $\left(P_B^0\right)$ = 200 mm Hg.

(1) 0.25 (2) 0.75

(3) 0.4 (4) 0.6

81. The equivalent weight of H_3PO_4 (M_w = 98 g/mol) in following reaction is :-
$H_3PO_4 + Ca(OH)_2 \longrightarrow CaHPO_4 + 2H_2O$

(1) 98 (2) 49

(3) 32.66 (4) 40

82. Following compounds are given :

(a) CH_3CH_2OH (b) CH_3COCH_3

(c) $CH_3-\underset{\displaystyle CH_3}{\overset{\displaystyle |}{CHOH}}$ (d) CH_3OH

Which of the above compound(s), on being warmed with iodine solution and NaOH, will give iodoform?Option :

(1) Only (a)

(2) (a), (b) and (c)

(3) (a) and (b)

(4) (a), (c) and (d)

83. pH value at which amino acid does not moves toward any electrode when placed in electric field is known as :-

(1) Denaturation point

(2) Isoelectric point

(3) Revival point

(4) Isomerisation point

84. The decreasing order of rate of SN^2 reaction is :-

CH_3-Cl (I) $\quad CH_3-\underset{\displaystyle O}{\overset{\displaystyle ||}{C}}-CH_2-Cl$ (II)

$CH_3-\underset{\displaystyle CH_3}{\overset{\displaystyle |}{CH}}-CH_2-Cl$ (III) $\quad CH_3-CH_2-Cl$ (IV)

(1) IV > III > II > I

(2) II > III > I > IV

(3) II > I > IV > III

(4) III > II > IV > I

85. Match the column :

(a)	$CH_3-CN \xrightarrow{LiAlH_4}$	(i)	$CH_3-\underset{\displaystyle OH}{\overset{\displaystyle |}{CH}}-CH_2$
(b)	$CH_3-COOH \xrightarrow{LiAlH_4}$	(ii)	$CH_3-CH_2-NH_2$
(c)	$CH_3-CN \xrightarrow{DIBAL}$	(iii)	
(d)	 $\xrightarrow{Zn-Hg/HCl}$	(iv)	CH_3-CHO

	(a)	(b)	(c)	(d)
(1)	(i)	(ii)	(iii)	(iv)
(2)	(ii)	(i)	(iv)	(iii)
(3)	(ii)	(i)	(iii)	(iv)
(4)	(i)	(ii)	(iv)	(iii)

86. Match the column :

	Compound		B.P./K
(A)	n-$C_4H_9NH_2$	(P)	390°
(B)	$C_2H_5N(CH_3)_2$	(Q)	300.8°
(C)	$C_2H_5CH(CH_3)_2$	(R)	310.5°
(D)	n-C_4H_9OH	(S)	350.8°

(1) A⟶P, B⟶Q, C⟶R, D⟶S

(2) A⟶P, B⟶R, C⟶Q, D⟶S

(3) A⟶S, B⟶R, C⟶Q, D⟶P

(4) A⟶S, B⟶Q, C⟶R, D⟶P

Space for Rough Work

87. **Assertion(A):** FeO is more basic the Fe_2O_3.
Reason (R) : FeO is more paramagnetic than Fe_2O_3.

(1) If both (A) and (R) are true, and (R) is the correct explanation of (A).

(2) If both (A) and (R) are true but (R) is not the correct explanation of (A).

(3) If (A) is true but (R) is false.

(4) If (A) is false but (R) is true.

88. If the z-axis is taken as the internuclear axis, then which of the following combinations of atomic orbitals is a nonbonding combination?

(1) s and p_x (2) p_x and d_{xy}

(3) p_x and p_y (4) all of these

89. Find the name of hydrate isomer of $CrCl_3.6H_2O$, which is having lowest electrical conductivity excluding zero value of conductivity :-

(1) Hexaaquachromium (III) chloride

(2) Tetraaquadichloridochromium (III) chloride dihydrate

(3) Pentaaquachloridochromium (III) chloride monohydrate

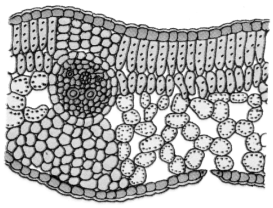
(4) Triaquatrichloridochromium (III) chloride trihydrate

90. The number of sigma bonds in $H_2S_xO_6$ is ($x \geq 2$):-

(1) $(x - 1)$ (2) $(x + 5)$

(3) $(x + 7)$ (4) $(x + 11)$

91. Observe the given diagram carefully and how many statements are true about given diagram:



(a) The position of xylem in the vascular bundle is adaxial
(b) The position of phloem in the vascular bundle is abaxial
(c) Two distinct patches of parenchyma are present above & below of the large vascular bundle.
(d) The adaxially placed palisade parenchyma is made up of elongated cells which are arranged vertically and parallel to each other

(1) Two (2) Three
(3) Four (4) One

92. A segment of DNA has a base sequence :

AAG GAG GAC CAA CCA
↓
deleted

If a nitrogen base G is deleted from second codon, what will be correct sequence of DNA segment after frame shift mutation :-

(1) AAG GAG GAC CAA CCA
(2) AGG AGG ACC CAA CCA
(3) AAG AGG ACC AAC CA
(4) AAG AGG ACC CAA CCA

93. The packaging of chromatin at higher level requires additional set of proteins that collectively are referred to as :-

(1) Euchromatin
(2) Histone proteins
(3) Non-Histone chromosomal protein
(4) Polyamines

94. The endoskeleton of cell is made up of :-

(1) Cell wall
(2) Endoplasmic reticulum
(3) Cytoplasm
(4) Mitochondria

95. Asexual reproduction takes place in fungi with the help of :-

(1) Ascospores, basidiospores and zoospores
(2) Zoospores, sporangiospores and conidia
(3) Zoospores, oospores and basidiospores
(4) Oospores, ascospores, basidiospores

96. Heterocyclic ring is found in :-

(1) Nitrogen bases
(2) Pentose sugar
(3) Lecithin
(4) All of the above

Space for Rough Work

97. Truffels are the members of class ;

(1) Basidiomycetes (2) Ascomycetes

(3) Deuteromycetes (4) Phycomycetes

98. How many of the given below have aseptate mycelium ?

Neurospora, Rhizopus, Aspergillus, Alternaria, Albugo, Claviceps, Puccinia, Mucor

(1) Four (2) Three

(3) Two (4) Five

99. Protoplasm is made up of-

(1) Cytoplasm & nucleus

(2) Cytoplasm & nucleolus

(3) E.R. and Golgi body

(4) Mitochondria & plastids

100. The world famous Watson-Crick double helical model of B-DNA exhibits

(1) Secondary structure

(2) Tertiary structure

(3) Quaternary structure

(4) All of the above

101. The carbon atoms of the pentose sugar involved in phosphodiester bond formation in DNA and RNA are :-

(1) C'_1 and C'_5

(2) C'_2 and C'_3

(3) C'_3 and C'_5

(4) C'_4 and C'_5

102. If pollen grain contains 30 chromosomes and 50pg DNA, then what will be the number of chromosome and DNA amount in microspore (pollen) mother cell in G_2 phase and in product of meiosis-I ?

G_2 phase Meiosis-I product

(1) $\frac{60 \text{ Chromosomes}}{200 \text{ Pg DNA}}$, $\frac{30 \text{ Chromosomes}}{100 \text{ Pg DNA}}$

(2) $\frac{30 \text{ Chromosomes}}{50 \text{ Pg DNA}}$, $\frac{15 \text{ Chromosomes}}{100 \text{ Pg DNA}}$

(3) $\frac{120 \text{ Chromosomes}}{400 \text{ Pg DNA}}$, $\frac{60 \text{ Chromosomes}}{100 \text{ Pg DNA}}$

(4) $\frac{60 \text{ Chromosomes}}{200 \text{ Pg DNA}}$, $\frac{60 \text{ Chromosomes}}{200 \text{ Pg DNA}}$

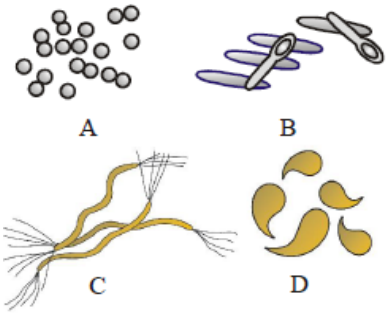
103. The microtubules from the opposite poles of the spindle attach to the pair of homologous chromosomes. This statement is correct for:

(1) Prophase-I (2) Metaphase-I

(3) Metaphase (4) Anaphase

104. Consider the following statements:
(a) Body as a soap box.
(b) Walls possess a large amount of silica.
(c) Two transversely and longitudinally arranged flagella are present.
(d) They float passively.
How many are correct for chrysophytes.

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

105. 

Select option showing correct identification for above figure from A to D :-

	A	B	C	D
(1)	Bacillus	Coccus	Spirillum	Vibrio
(2)	Coccus	Bacillus	Spirillum	Vibrio
(3)	Coccus	Spirillum	Bacillus	Vibrio
(4)	Coccus	Vibrio	Bacillus	Spirillum

106. Freshwater organisms found in stagnent water ?
(a) They have a protein rich layer called pellicle which makes their body flexible
(b) When deprived of sunlight they behave like heterotrophs
(c) Pigments are identical to those present in higher plants
The given statements are the features of :-

(1) Algae (2) Dinoflagellates

(3) Mycoplasma (4) Euglenoids

107. (i) *Selaginella* and *Salvinia* are heterosporous plant.
(ii) Gametophyte of pteridophyte is called prothallus.
(iii) In *Cycas*, stems are unbranched.
(iv) Gymnosperms are heterosporous.
How many statement/s is/are correct ?

(1) Two (2) Three (3) One (4) Four

108. Which of the following is the product of oxidation and reduction during photosynthesis :

(1) CO_2

(2) Glucose and $NADPH_2$

(3) Oxygen and $NADH_2$

(4) Oxygen and $NADPH_2$

109. Glycolysis operates in :

(1) Golgi Cisternae (2) Perinuclear space

(3) Protoplasm (4) E.R

110. Net gain of ATP molecules during aerobic respiration of one molecule of glucose is :

(1) 38 (2) 40

(3) 34 (4) 8

111. Choose the false option :

(1) Flow of electrons in ETS is $Fe^{+3} \longrightarrow Fe^{+2} \longrightarrow Fe^{+3}$

(2) In ETS coenzyme Q and cytochrome C are mobile electron carrier

(3) Cyt a_3 has Fe

(4) Cytochrome are proteinaceous but ubiquinone is protenaceous

112. Fermentation is conducted by

(1) All fungi

(2) All bacteria

(3) Some fungi and some bacteria

(4) All micro-organisms

Space for Rough Work

113. Amount of inorganic substances present in an ecosystem is _____which is a _____feature of ecosystem.

(1) Standing crop, structural

(2) Standing state, functional

(3) Standing crop, functional

(4) Standing state, structural

114. Mineralization is performed by:

(1) Small carnivores

(2) Detritovores

(3) Saprophytic bacteria and fungi

(4) Earthworm, termites

115. Which is not found inside the mitochondria ?

(1) Citric acid

(2) PEP

(3) Malic acid

(4) α-Ketoglutaric acid

116. Which of the following is responsible for apical dominance?

(1) GA_3 (2) IAA

(3) ABA (4) Florigen

117. Maximum growth is in :

(1) Exponential Phase

(2) Lag Phase

(3) Stationary Phase

(4) Decline Phase

118. During photosynthesis in chloroplast,

(1) Splitting of H_2O

(2) To develop proton gradient in lumen of thylakoid

(3) CO_2 reduction in dark reaction

(4) Breakdown of proton gradient for ATP synthesis

119. If green plants cell are incubated with O^{18} labelled CO_2 which of the following molecules will became labelled when the cells are exposed to light.

(1) H_2O

(2) Sugar

(3) ATP

(4) (1) and (2) both

120. Importance of air in photosynthesis was explained by :

(1) Bell jar experiment

(2) Hill reaction

(3) Molls half leaf experiment

(4) Absorption spectrum

121. Which of the following scientists found that plots with more species diversity show less year –to-year variation in total biomass?

(1) David Tilman

(2) Paul Ehrlich

(3) Robert May

(4) Edward Wilson

122. The feeding efficiency of one species might be reduced due to the interfering and inhibitory presence of the other species even if resources are abundant. This is referred as

(1) competitive release

(2) Resource partitioning

(3) Interference competition

(4) Competitive exclusion

123. The mutase in the following reaction is kept under which class

3–PGA ⟶ 2–PGA

(1) Lyases (2) Isomerase

(3) Ligase (4) Transaminase

124. Opening of stomata and counter action on apical dominance are respectively caused by :

(1) Auxin and ABA

(2) Cytokinin and Auxin

(3) Cytokinin and Cytokinin

(4) Cytokinin and ABA

125. (I) Help in spindle fibre formation
(II) Accumulates in older leaves.
(III) Components of middle lamella.
(IV) Essential for normal functioning of cell membrane.
The above statement are correct for

(1) Mg (2) Ca

(3) Fe (4) Cu

126. Which one of not correct with Glyoxysome?

(1) Present in animal cell

(2) Run the glyoxalate cycle

(3) Fatty seed germination

(4) It is highly specialised peroxysome

127. Dynine protein is related with :

(1) Microtubule

(2) Microfilament

(3) Intermediate filament

(4) Endoplasmic reticulum

128. Which of the following plastids store carbohydrate?

(1) Chromoplast (2) Elaioplast

(3) Leucoplast (4) Amyloplast

129. Galactans & Mannans are present in/as :

(1) Reserve food in alga

(2) Algal cell wall

(3) Reserve food in bacteria

(4) Bacterial cell wall

130. Centrosome lysosome and microvilli are characteristic off :

(1) Plant cell

(2) Animal cell

(3) Prokaryotic cell

(4) Eukaryotic cell

Space for Rough Work

131. Match the column and select the correct option :

Column-I		Column-II	
(A)	Tulip	(i)	⊕♀♂ $K_{(5)}C_{(5)}A_5\ \underline{G_{(2)}}$
(B)	*Trifolium*	(ii)	⊕♀♂ $P_{(3+3)}A_{3+3}\ \underline{G_{(3)}}$
(C)	*Petunia*	(iii)	⊕♀♂ $K_{2+2}C_4A_{2+4}\ \underline{G_{(2)}}$
(D)	*Brassica*	(iv)	⊕♀♂ $K_{(5)}C_{1+2+(2)}A_{(9)+1}\ \underline{G_1}$

	(A)	(B)	(C)	(D)
(1)	(ii)	(i)	(iv)	(iii)
(2)	(i)	(ii)	(iv)	(iii)
(3)	(ii)	(iv)	(i)	(iii)
(4)	(i)	(iii)	(ii)	(iv)

132. Which loop of tRNA is also known as aminoacyl synthetase recognition loop ?

(1) TψC loop (2) Acceptor end

(3) Anticodon loop (4) DHU loop

133. F_2 generation in a Mendelian cross showed that both genotypic and phenotypic ratios are same as 1 : 2 : 1. It represents a case of :-

(1) Complete dominance

(2) Dihybrid cross

(3) Monohybrid cross with co-dominance

(4) Incomplete dominance

134. If a man of blood group 'AB' marries a woman of blood group 'A' whose father was of blood group 'O', to what different blood groups can this man and woman expect their children to belong ?

(1) A, AB, B (2) A, AB

(3) AB, O (4) A, O, B

135. How many types of gametes will be produced by a plant having genotype AaBbDdEE?

(1) 16 (2) 8 (3) 4 (4) 2

136. CryIAc endotoxins obtained from *Bacillus thuringiensis* are effective against :-

(1) Nematodes (2) Cotton bollworms

(3) Bacteria (4) Weeds

137. *Agrobacterium tumefaciens* is known as :-

(1) Natural genetic engineer of plant

(2) Natural genetic engineer of animal

(3) Symbiotic bacteria

(4) Symbiotic plant

138. Match the following with respect to the average composition of cells.

Component		% of the total cellular mass	
a.	Proteins	(i)	5-7
b.	Carbohydrates	(ii)	3
c.	Lipids	(iii)	10-15
d.	Nucleic acids	(iv)	2

(1) a(i), b(iii), c(ii), d(iv)

(2) a(iii), b(ii), c(iv), d(i)

(3) a(iii), b(i), c(iv), d(ii)

(4) a(i), b(ii), c(iii), d(iv)

139. Several genes called___ have been identified in normal cells which when activated will turn into _____, and under certain conditions, could lead to cancerous transformation of the cells.
Complete the above paragraph by selecting correct sequence of words.

(1) oncogenes, proto oncogenes

(2) cellular oncogenes, proto oncogenes

(3) proto oncogenes, oncogenes

(4) oncogenes, proto oncogenes

140. Which of the following disease is not an anemic disease ?

(1) Thalassemia

(2) G6PD deficiency

(3) Vitamin B_{12} deficiency

(4) Albinism

141. Choose the incorrect regarding decapacitation :-

(1) Occurs in vas deferens before fertilization

(2) Sperms motility is suppressed

(3) Thin layering (of cholesterol) on apex/acrosome of sperm

(4) Occurs in epididymis before fertilization

142. Which of the following animals are osmoregulators ?

(1) Human

(2) Frog

(3) Catla

(4) All the above

143. Which of the following statement is correct ?
(a) Permeability of urea is found only in the deeper part of thin ascending limbs of Henle's loop and collecting ducts.
(b) Kidney produce a larger volume of dilute urine when more water is taken.
(c) ADH hormone increase the water permeability of distal convoluted tubule and of the collecting duct.
(d) When filtrate reaches in proximal tubule it is isotonic.

(1) a, c, d

(2) b, c, d

(3) a, b, d

(4) a, b, c, d

144. How many of the following non chordates have flame cells as excretory organs ?
Planaria, *Earthworm, Amphioxus,* Tapeworm, *Nereis, Labeo*

(1) 1

(2) 2

(3) 3

(4) 4

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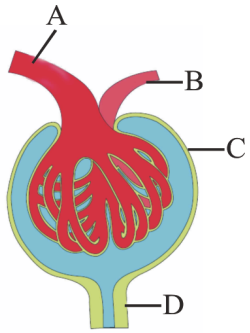
145. The given figure represents the Malpighian body. Identify the labelled parts A to D and select the correct option :-



(1) A-Efferent arteriole, B-Afferent arteriole, C-Bowman's capsule, D-Proximal convoluted tubule

(2) A-Afferent arteriole, B-Efferent arteriole, C-Renal corpuscle, D-Proximal convoluted tubule

(3) A-Afferent arteriole, B-Efferent arteriole, C-Bowman's capsule, D-Proximal convoluted tubule

(4) A-Afferent arteriole, B-Efferent arteriole, C-Bowman's capsule, D-Distal convoluted tubule

146. Which of the following are not analogous organs?

(1) Fins of fishes and flippers of whales.

(2) Stings of honey bee and sting of scorpion.

(3) Thorn of *Bougainvillea* and tendril of *Cucurbita.*

(4) Wings of insects and wings of birds.

147. Proper burial of dead bodies, for the first time, started by which pre-historic man ?

(1) Peking man

(2) Java man

(3) Neanderthal man

(4) Cro-Magnon man

148. Which of the following statements are **true/false** ?

(A) Calcitonin regulates the metabolism of calcium

(B) Oxytocin stimulates contraction of uterine muscles during birth.

(C) Grave's disease is caused by malfunctioning of adrenal gland.

(D) ADH stimulates absorption of water and increase the urine production.

(1) A and C are true, B and D are false

(2) A and B are true, C and D are false

(3) A and D are false, B and C are true

(4) A only true, B, C and D are false

149. During pregnancy level of how many of the following hormone increases. estrogen, thyroxine, prolactin, cortisol, hpl.

(1) two

(2) three

(3) four

(4) five

150. Find out wrong statement w.r.t. human evolution :-

(1) About 15 mya, Primates called Dryopithecus and Ramapithecus were existhing.

(2) Few fossils discovered in Ethiopia and tanzania revealed homonid features.

(3) 2 mya Australopithecus probably lived in west- african grassland

(4) Homo erectus had a large brain around 900 cc.

151. Assertion (A) : Hepatitis B and HIV infections are not completely curable.

Reason (R) : HIV and HBV can be transmitted by sharing of injection needles and surgical instruments with infected persons.

(1) Both 'A' and 'R' are true and 'R' is the correct explanation of 'A'.

(2) 'A' is false, but 'R' is true

(3) 'A' is true and 'R' is false

(4) Both 'A' and 'R' are true and 'R' is not the correct explanation of 'A'.

152. Which of the following statements are correct?

A. Corpus callosum connects two halves of cerebral hemisphere.

B. ADH facilitates water reabsorption from PCT to increase diuresis.

C. Acromegaly is caused due to the over production of growth hormone during the childhood.

D. Low concentration of oestrogen having negative feedback on FSH and LH hormone.

E. Abnormal skin and deaf-mutism in baby, caused due to hypothyroidism in mother during pregnancy.

Choose the correct answer from the options given below?

(1) A, B and D (2) A, C and E

(3) A, D and E (4) B, C and D

153. Read the following statements and select correct option :-

(A) In our body the neural system and the endocrine system jointly coordinate and integrate all the activities of the organs.

(B) neurons that have one axon and one dendrite; found usually in the embryonic stage.

(C) Oxytocin originating in the hypothalamic newton reaches the posterior pituitary gland through a portal circulatory system.

(D) Older individuals usually have a weakened immune response due to decreased production of thymosin.

(1) Only A and D are correct

(2) Only A, B and D are correct

(3) Only A, C and D are correct

(4) All are correct.

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154. Read the following statements (A-D):-

(A) The first movement of the foetus and appearance of hairs on the head are usually observed during fourth month.

(B) Saheli is a new oral contrapceptive for the females

(C) MTPs are considered relatively safe during the second trimester

D) The corpus luteum secretes large amount of estrogen which is essential for maintenance of the endometrium

How many statement are **incorrect** in following?

(1) Four (2) Three

(3) Two (4) One

155. Match the following :-

	Method		Action
(A)	Hysterectomy	(a)	Surgical removal of uterus
(B)	Tubectomy	(b)	Removal of testis
(C)	Orchiodectomy	(c)	Cutting of fallopian tube
(D)	Vasectomy	(d)	Cutting of vas deferens.

(1) A–d, B–c, C–b, D–a

(2) A–c, B–a, C–b, D–d

(3) A–b, B–c, C–a, D–d

(4) A–a, B–c, C–b, D–d

156. Find the incorrect match :-

(1) Role of Leydig cells of testis - synthesis of androgens

(2) Spermiogenesis - spermatids to sperm

(3) At the end of 6th month of pregnancy - first movement of foetus

(4) Barrier method of birth control - diaphragm, cervical cap, condom

157. Match the following columns-I and II. Choose the option with all **correct** match.

	Column-I		Column-II
A.	Dehydrogenases	p	Inter conversion of isomers
B.	Ligases	q	Oxidoreduction between two substrates
C.	Hydrolases	r	Linking together of two compounds
D.	Isomerases	s	Hydrolysis of bonds

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

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

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

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

158. Select the **correct** statement w.r.t enzyme actions.

(1) Addition of lot of succinate does not reverse the inhibition of succinic dehydrogenase by malonate

(2) A non-competitive inhibitor binds the enzyme at the site of substrate

(3) V_{max} remains unchanged in presence of competitive inhibitor

(4) V_{max} decreases and K_m increases in presence of non-competitive inhibitor

159. MALT stands for

(1) Muscle-associated with larynx tissue

(2) Mucosa-associated lymphoid tissue

(3) Muscle and lymphatic tissue

(4) Multi-adrenaline lymphatic tissue

160. Sterio ciliated columnar epithelium is found in

(1) Rectum

(2) Colon

(3) Epididymis

(4) Trachea

161. Withdrawl of which hormone is the immediate cause of menstruation ?

(1) Estrogen

(2) FSH

(3) FSH-LH

(4) Progesterone

162. Which statement is true ?

(1) Micturition is carried out by a reflex

(2) Henle's loop play an important role in concentrating the urine

(3) Protein free fluid is filtered from blood plasma into the bowman's capsule

(4) All of the above

163. Which of the following pair is correct match according to their cause :-

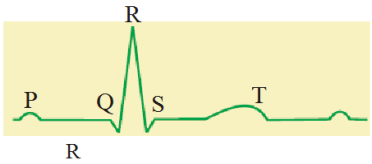
(1) Tetany - rapid spasm in muscle due to high Ca^{2+} level in body fluids

(2) Muscular dystrophy - Auto immune disorder

(3) Mysthania gravis - genetic disorder

(4) Oesteoporosis - age related disorder characterized by decreased bone mass

164. In a standred ECG. Select the correct statement for given figure :-



(1) P wave – Represents depolarisation of ventricals

(2) Ventricular diastole starts after Q wave `

(3) End of the T wave marks the end of the systole

(4) T wave represents the repolarisation of atria

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165. How many of the following are viral diseases :- Typhoid, Pneumonia, Common cold, plague, Chikun-gunya, diphtheria, Hepatitis-B, dengu-fever, filariasis.

(1) Four (2) Three

(3) Two (4) One

166. In the resting state, a complex protein masks the active binding sites for myosin on actin filament. This protein is

(1) Myosin (2) Meromyosin

(3) Troponin (4) HMM

167. Muscle has special given properties

a. Excitability

b. Elasticity

c. Contractility

d. Extensibility

How many of the given properties are shared by muscle and neuron?

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

168. Which points are correct with the regard to the skeletal muscles?

(A) Their activities are under the voluntary control of the nervous system

(B) They are located in the inner walls of visceral organs

(C) They are primarily involved in locomotory actions and changes of body postures

(D) They have no actin and myosin filaments

(1) B,D (2) A,D

(3) B,C (4) A,C

169. Which points are correct about visceral muscles?

(1) These are located in the inner walls of hollow visceral organs of the body

(2) They have both actin and myosin filaments

(3) Their activities are not under the voluntary control of the nervous system

(4) All of the above

170. Which of the following statements about the mechanism or ventilation/breathing is false?

(1) As the diaphragm relaxes, air is expelled from the respiratory system

(2) During inspiration the lungs act as suction pump

(3) Inspiration is a passive and expiration is an active process

(4) For quiet breathing external intercostal muscles and diaphragm play an important role

171. Which sequences is correct to initiate expiration?

I. Relaxation of EICM and return of diaphragm and sternum to their normal position

II. Air expelled from lungs

III. Volume of thorax decreases

IV. Intrapulmonary pressure increases

(1) I, III, IV, II

(2) II, IV, III, I

(3) IV, III, II, I

(4) I, II, III, IV

172. Which of the following statement is not correct about scrotum ?

(1) The temperature of scrotum is 2–2.5°C lower than normal body temperature.

(2) Scrotum is connected to the abdominal cavity through a passage termed as inguinal canal.

(3) During embryonic stage, testes develop in scrotum and remain in scrotum at the time of birth.

(4) Scrotum is a small bag like structure situated below abdominal cavity.

173. After some time of ejaculation, semen liquefies due to presence of an enzyme which is found in secretion of :-

(1) Vagina

(2) Seminal vesicle

(3) Prostate

(4) Cowper's gland

174. Match the column-A with column-B :-

Column-A		Column-B	
(A)	Transfer of sperms in the female genital tract	(i)	Ejaculation
(B)	Sperms released from seminiferous tubules	(ii)	Spermiation
(C)	Expulsion of semen from body of male	(iii)	Insemination

(1) A-ii, B-iii, C-i (2) A-i, B-ii, C-iii

(3) A-iii, B-ii, C-i (4) A-i, B-iii, C-ii

175. Why the chances of pregnency are very low in a lactating women till six months after delivery ?

(1) High levels of HCG in women kill sperms.

(2) High levels of estrogen and progesterone, secreted by the corpus luteum, that inhibit the secretion of gonadotropins.

(3) High levels of prolactin, inhibit the secretion of gonadotropins.

(4) All of these

176. An emergency contraceptive pill is given to a female who is 2 weeks pregnant. This will lead to:

(1) Termination of pregnancy.

(2) Prevention of implantation

(3) Pregnancy is unaffected.

(4) Degeneration of corpus luteum due to negative feedback of LH.

177. Which of the following is not considered as a secondary sex organ?

(1) Breast (2) Vagina

(3) Penis (4) Seminal vesicle

178. A temporary endocrine gland.....formed after ovulation in ovary and secretes.....hormone respectively:-

(1) Corpus albicans & estrogen

(2) Corpus luteum & LH

(3) Corpus albicans & progesterone

(4) Corpus luteum & progesterone

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179. A thalidomide drug was prescribed during pregnancy to ease morning sickness but it may cross the placenta and on reaching into foetus may cause deformity in foetus. Which of the following abnormality mainly occurs :-

(1) Shortened of limbs

(2) Liver chirrhosis

(3) Orchitis

(4) Cleft palate

180. If for some reason, the vasa efferentia in the human reproductive system get blocked, the gametes will not be transported from

(1) epididymis to vas deferens

(2) ovary to uterus

(3) vagina to uterus

(4) testes to epididymis

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