Aakash BYJU'S

Corporate Office : Aakash Tower, 8, Pusa Road, New Delhi-110005, Phone : 011-47623456

MM : 720

REVISION TEST SERIES

Time : 3 Hrs. 20 Min.

(*for* NEET-2022)

Test – 4

Topics covered :

Physics : Electromagnetic Induction, Alternating Current, Electromagnetic Waves

Chemistry : The *s*-block Elements, Coordination Compounds, The *d*- & *f* block Elements

Botany : Microbes in Human Welfare, Strategies for Enhancement in Food Production

Zoology : Human Health and Disease

Instructions :

(i) There are two sections in each subject, i.e., Section-A & Section-B. You have to attempt all 35 questions from Section-A & only 10 questions from Section-B out of 15.

(ii) Each question carries 4 marks. For every wrong response 1 mark shall be deducted from the total score. Unanswered / unattempted questions will be given no marks.

(iii) Use blue/black ballpoint pen only to darken the appropriate circle.

(iv) Mark should be dark and completely fill the circle.

(v) Dark only one circle for each entry.

(vi) Dark the circle in the space provided only.

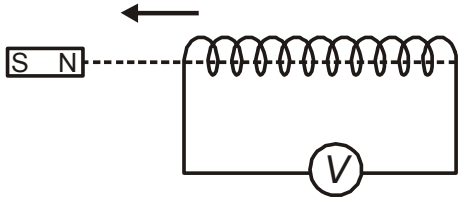
(vii) Rough work must not be done on the Answer sheet and do not use white-fluid or any other rubbing material on the Answer sheet.

PHYSICS

Choose the correct answer:

SECTION-A

1. A short bar magnet is kept stationary and a solenoid is moving parallel to its axis, with constant velocity, as shown in the figure. Which of the following best represents variation of induced emf(*e*) in coil with time?



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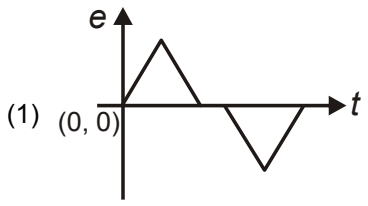

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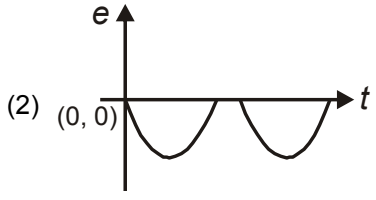

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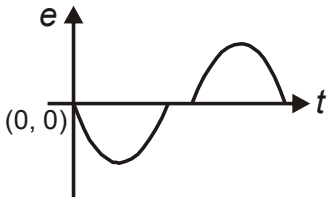

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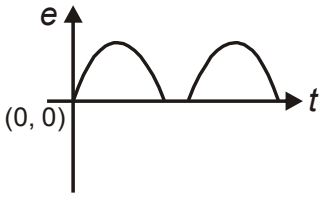


2. Phase difference between voltage and current in LCR series circuit at resonance is

(1) 0° (2) 45°

(3) 90° (4) 180°

3. In an LCR series circuit voltage across resistor, inductor and capacitor are same and is 50 V. If capacitor is short circuited, then the voltage across inductor will be (Assume same A.C. voltage source remains connected)

(1) $25\sqrt{2}$ V (2) 25 V

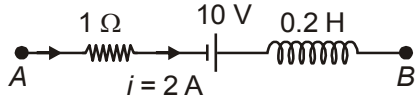
(3) $50\sqrt{2}$ V (4) 100 V

4. An A.C. voltage $V = 20\sin(80\pi t)$ is applied to a circuit. How many times current in circuit becomes zero in 2 second?

(1) 40 (2) 80

(3) 160 (4) 240

5. A part of complex circuit is shown in the diagram. If at an instant current is from *A* to *B* and is 2 A and the potential difference between point *A* and *B* is zero, then the $\left|\frac{di}{dt}\right|$ is



(1) 4 A/s (2) 20 A/s

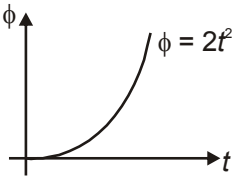
(3) 30 A/s (4) 40 A/s

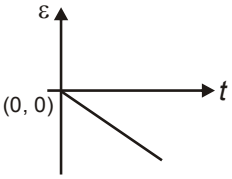
6. Current flowing through an inductor of inductance 2 H, is 4 A. The magnitude of flux through the inductor is

(1) 2 Wb (2) 3 Wb

(3) 8 Wb (4) 6 Wb

7. Flux passing through a loop is changing with time as shown in the figure. Select most appropriate graph between induced emf (ε) and time(t)



(1)


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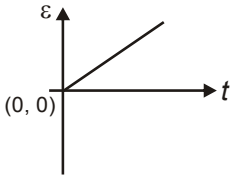

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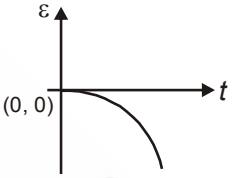

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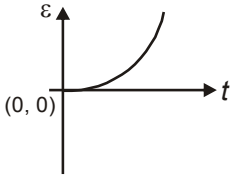


8. Select **correct** statement regarding ideal transformer

(1) Input and output both have same frequency and different power

(2) Input and output both have same power and different frequency

(3) Input and output both have same power and frequency

(4) Input and output both have different frequency and different power

9. A square plate of side 20 cm is kept in *yz*-plane in a region where magnetic field $\vec{B} = (4\hat{i} + 6\hat{j} + 2\hat{k})$ T. The magnitude of magnetic flux passing through the loop is

(1) 16 weber

(2) 0.16 weber

(3) $0.4\sqrt{40}$ weber

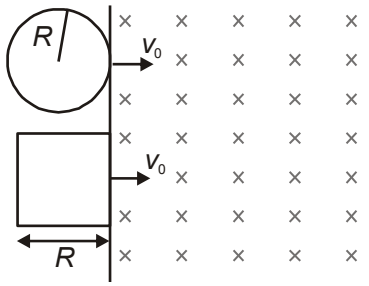
(4) 2.4 weber

10. Self-inductance *L* of a coil of length *l*, area of cross-section *A*, and total number of turns *N*, increases with increase in (*i* is current)

(1) *i* (2) *l* and *A*

(3) *i* and *l* (4) *N* and *A*

11. A circular loop and a square loop are entering into a region of uniform magnetic field with constant speed. While the loops are entering



(1) Induced emf in both are constant

(2) Induced emf in square loop is variable and in circular loop is constant

(3) Induced emf in circular loop is variable and in square loop it is constant

(4) None of the these

12. A circular loop of radius R carrying current i is kept on xy-plane so that centre of loop is at origin. The total magnetic flux passing through any sphere enclosing the loop is

(1) Zero (2) $\frac{\mu_0 i\pi R}{2}$

(3) $\frac{\mu_0 iR}{2}$ (4) $\frac{\mu_0 i\pi R}{4}$

13. A circular conducting loop of radius R is placed in uniform magnetic field B with its plane perpendicular to the field. If it is rotated about its axis through centre normal to its plane with angular frequency ω, then value of induced emf is

(1) $B\pi R^2\omega$ (2) $\frac{B\pi R^2}{\omega}$

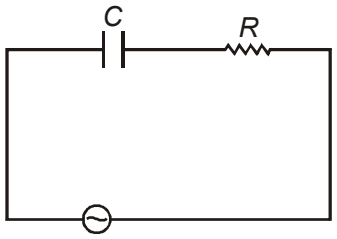
(3) $\frac{\omega\pi R^2}{B}$ (4) Zero

14. Alternating current in a circuit is given as $i = i_1 + i_2 \cos \omega t$. The root mean square value of this current in circuit is

(1) $i_1^2 + i_2^2$ (2) $\sqrt{i_1^2 + \frac{i_2^2}{2}}$

(3) $i_1^2 + \frac{i_2^2}{2}$ (4) $\sqrt{\frac{i_1^2 + i_2^2}{2}}$

15. In the circuit shown in figure, the average power dissipated through the circuit is



$E = E_0 \sin \omega t$

(1) $\frac{E_0^2 R}{2\left[\frac{1}{\omega^2 C^2} + R^2\right]}$ (2) $\frac{E_0^2}{2R}$

(3) $\frac{E_0^2}{R}$ (4) Zero

16. In a step up transformer

(1) $N_S \leq N_P$ (2) $N_S = N_P$

(3) $N_S < N_P$ (4) $N_S > N_P$

17. A series LR circuit is connected with AC source of peak voltage 100 V. If peak voltage across inductor is 80 V, then effective current in the circuit is [Resistance of resistor is 15 Ω]

(1) 2 A (2) 4 A

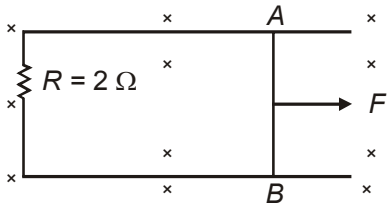
(3) 2.8 A (4) 6.5 A

18. In a series LCR resonance circuit, as the resistance of the circuit is decreased, The Q-factor is

(1) Increased (2) Decreased

(3) Zero (4) Remains same

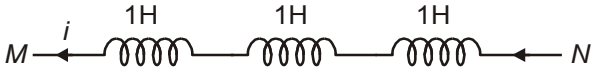
19. A wire AB of length 1 m, is moving in a uniform magnetic field of 2 T perpendicular to the plane of paper, with constant velocity of 3 m/s, perpendicular to field as shown in figure. Force required to move the wire with constant velocity 3 m/s is



(1) 6 N (2) 3 N

(3) 4 N (4) Zero

20. If current i as shown in figure increases, at the rate of 3 A/s, then $V_M - V_N$ is



(1) 9 V (2) –3 V

(3) 3 V (4) – 9 V

21. In an AC generator, the magnetic flux linked with the rotating coil has maximum value ϕ and frequency of rotation of coil is f. Then amplitude of emf generated is

(1) $\frac{\pi\phi}{f}$

(2) $\frac{2\pi\phi}{f}$

(3) $\frac{2\pi}{f\phi}$

(4) $2\pi f\phi$

22. A square loop of wire of side l is placed at the centre of a coplanar circular loop of radius R ($R >> l$). Their centre coincide. The mutual inductance of system is directly proportional to

(1) R^2 (2) R

(3) l^2 (4) l

23. In electromagnetic induction, the induced charge that flows in a coil is independent of

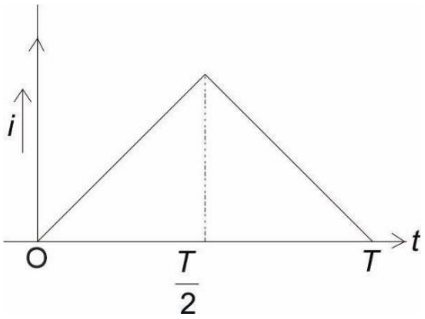
(1) Resistance

(2) Change in flux

(3) Time in which change in flux is brought

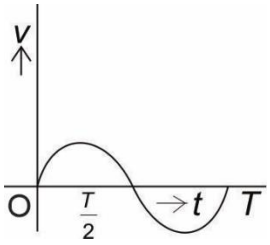
(4) All of these

24. The current (i) in the inductance is varying with time(t) according to the plot shown in figure



Which one of the following is the best representation of correct variation of e.m.f with time in the coil?

(1)



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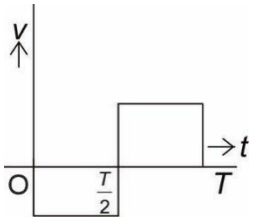

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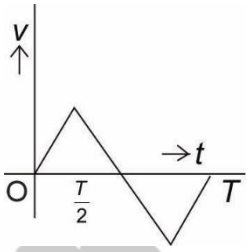

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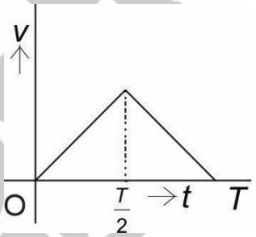


25. Number of turns in primary and secondary of a coil are 200 and 400 respectively. The transformer's primary coil is connected across 10 V DC. The voltage in secondary will be

(1) 20 V (2) Zero

(3) 30 V (4) 50 V

26. In an A.C. circuit V and I are given by $V = 100\sin 100t$ volt and $I = 100\sin\left(100t + \frac{\pi}{3}\right)$ milliampere. The power dissipated in the circuit is:

(1) 10^4 watt (2) 10 watt

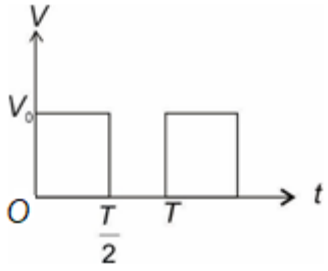
(3) 2.5 watt (4) 5 watt

27. A 200 V ac source is fed to a series LCR circuit having X_L = 50 ohm, X_C = 50 Ω and R = 25 ohm. Potential drop across the inductor is:

(1) 100 V (2) 200 V

(3) 400 V (4) 10 V

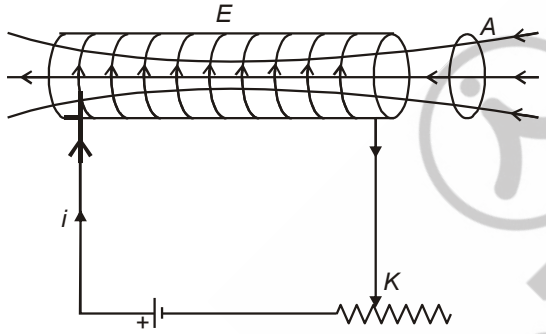
28. The rms value of potential difference V (shown in the figure) for one time period T is



(1) $\frac{V_0}{\sqrt{3}}$ (2) V_0

(3) $\frac{V_0}{\sqrt{2}}$ (4) $\frac{V_0}{2}$

29. An aluminium ring faces an electromagnet. The current i through electromagnet can be altered by changing the setting of rheostat. Choose the correct statement



(1) As the K shifts towards right, E will repel A

(2) As the K shifts towards left, E will attract A

(3) As the K shifts towards right, E will attract A

(4) Both (1) & (2) are correct

30. The magnetic field in a plane electromagnetic wave is given by

$B_y = 2\times10^{-7}\sin(0.5\times10^3 x + 1.5\times10^{11}t)\text{T}\ \left(\hat{j}\right)$

where x, t are in m and s respectively. The expression for the electric field is

(1) $E_x = 60\sin(0.5\times10^3 y + 1.5\times10^{11}t)$ V/m $\left(\hat{i}\right)$

(2) $E_x = 2\times10^{-7}\sin(0.5\times10^3 x + 1.5\times10^{11}t)$ V/m $\left(\hat{i}\right)$

(3) $E_z = 60\sin(0.5\times10^3 x + 1.5\times10^{11}t)$ V/m $\left(\hat{k}\right)$

(4) $E_z = 2\times10^{-7}\sin(0.5\times10^3 y + 1.5\times10^{11}t)$ V/m $\left(\hat{k}\right)$

31. The direction of electromagnetic wave is along the direction of (symbols have their usual meanings)

(1) $\vec{B}\times\vec{E}$ (2) $\vec{E}\times\vec{B}$

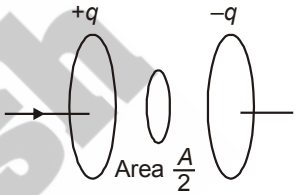
(3) $\vec{E}+\vec{B}$ (4) $\vec{E}-\vec{B}$

32. A transformer is used to light 140 W, 24 V lamp from 240 V A.C. mains. The current in the main cable is 0.7 A. The efficiency of the transformer is

(1) 63.7% (2) 58%

(3) 83.3% (4) 34%

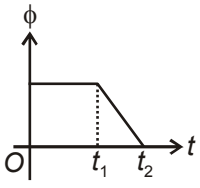
33. Consider a parallel plate capacitor with circular plates of area A. At an instant, the charge on the plates of capacitor is q and it is increasing at a rate $\frac{dq}{dt}$. The displacement current through a circular region of area $\frac{A}{2}$ parallel to the plates, between them is

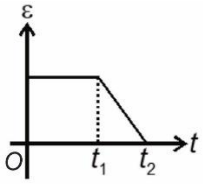


(1) $\frac{1}{4}\frac{dq}{dt}$ (2) $2\frac{dq}{dt}$

(3) $\frac{1}{2}\frac{dq}{dt}$ (4) $\frac{dq}{dt}$

34. The magnetic flux (ϕ) in an induction coil varies with time (t) according to the graph as shown in the figure. Choose the correct graph best representing induced emf (ε) in the coil with time



(1)


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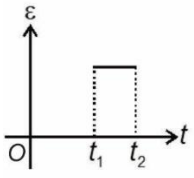

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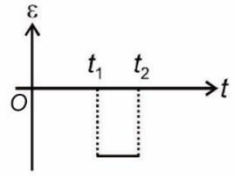

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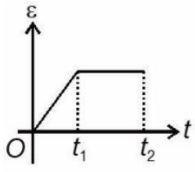


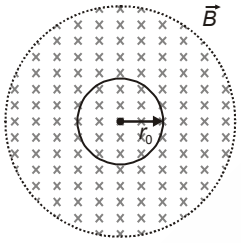
35. A circular loop of radius r is placed at the centre of current carrying conducting square loop of side a. If both loops are coplanar and $a >> r$, then the mutual inductance between the loops will be

(1) $\frac{\mu_0 r^2}{2\sqrt{2}(a)}$ (2) $\frac{\mu_0 r^2}{4a}$

(3) $\frac{2\sqrt{2}\,\mu_0 r^2}{a}$ (4) $\frac{\mu_0 r^2}{4\sqrt{2}\,a}$

SECTION-B

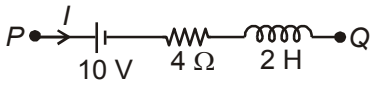
36. A circular conducting coil of radius r_0 having resistance R is placed in a time varying transverse uniform magnetic field $B = 4t^2$ as shown in the figure. The current in the coil at time t = 2 s is (consider all quantities are in SI units)



(1) $\frac{16\pi r_0^2}{R}$ (2) $\frac{4\pi r_0^2}{R}$

(3) $\frac{8\pi r_0^2}{R}$ (4) $\frac{\pi r_0^2}{R}$

37. In the given branch PQ of a circuit, a current $I = (2t + 3)$ A is flowing, where t is time in second. Then the value of potential difference $(V_P - V_Q)$ at t = 2 s will be



(1) 24 V (2) 42 V

(3) 34 V (4) Zero

38. If the electric field component of an electro-magnetic wave moving in positive x-direction is given by $\vec{E} = 6\cos\left[1.2x - 3.6\times10^8 t\right]\hat{j}\ \frac{\text{N}}{\text{C}}$, then the average energy density of the electromagnetic wave will be

(1) 2.8×10^{-10} J/m^3 (2) 1.6×10^{-10} J/m^3

(3) 9×10^{10} J/m^3 (4) 3.8×10^{-8} J/m^3

39. Electromagnetic wave can be produced by

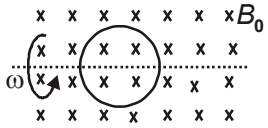
(1) L-C oscillations

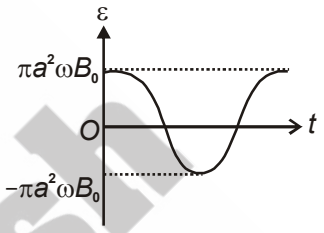
(2) De-excitation of nucleus

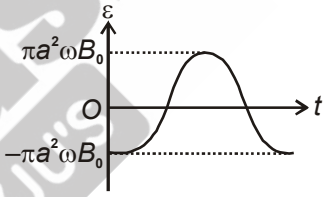
(3) Stationary charge

(4) Both (1) and (2)

40. A circular loop of radius a is rotated in a uniform magnetic field B_0 with constant angular velocity ω about diameter as shown in the figure. Choose the correct graph of induced emf ε versus time t. (consider at t = 0 area vector of loop is in the direction of magnetic field)



(1)


(2)


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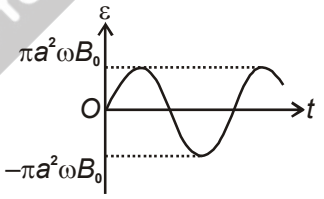

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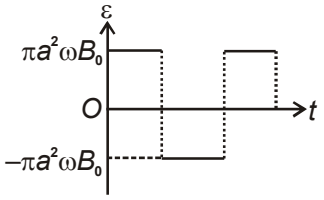


41. A plane E.M. wave in free space is travelling along the +x-direction. The electric field component of the wave at a particular point of space and time is $\vec{E} = 10^3\hat{j}$ V/m. Its magnetic field component $\vec{B}$ at this point be

(1) $0.33\times10^{-5}\hat{k}$ T (2) $0.33\times10^{-5}(-\hat{k})$ T

(3) $0.33\times10^{+5}\hat{k}$ T (4) $0.33\times10^{+5}(-\hat{k})$ T

42. An electromagnetic wave going through a medium is described by $E = E_0\sin(kx - \omega t)$ and $B = B_0\sin(kx - \omega t)$, then

(1) $E_0k = B_0\omega$ (2) $E_0\omega = B_0k$

(3) $E_0B_0 = \omega k$ (4) $E_0 = B_0\omega k$

43. A conducting ring of radius $2r$ is placed in a varying magnetic field perpendicular to the plane of the ring. If the rate at which the magnetic field varies is x, the electric field intensity at any point of the ring is

(1) rx (2) $\frac{rx}{2}$

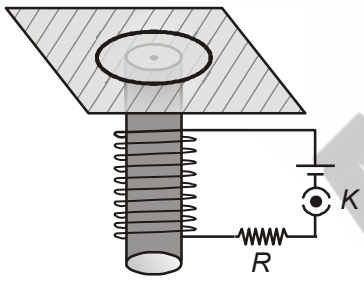
(2) $2rx$ (4) $4rx$

44. The core of transformer is laminated to reduce

(1) Flux leakage (2) Hysteresis loss

(3) Eddy current loss (4) Copper loss

45. A metallic ring is kept on a horizontal hard paper (which is transparent to magnetic field) such that its centre coincide with the axis of a long solenoid (as shown in figure). If current in solenoid is switched on then normal reaction between ring and paper will



(1) Continuously decrease

(2) Continuously increase

(3) Remain unchanged

(4) First decreases and then becomes constant

46. A transformer works on principal of

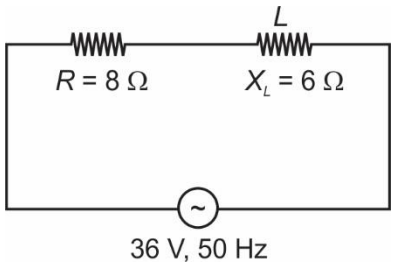
(1) Self induction

(2) Mutual induction

(3) Electric inertia

(4) Magnetic effect of current

47. An L-R circuit is shown in figure. What is peak value of current in circuit.



(1) 3.6 A (2) 1.8 A

(3) 2.6 A (4) 5.1 A

48. For series L-C-R circuit at resonance, the statement which is incorrect is

(1) Wattless current is zero

(2) Power factor is zero

(3) Impedance of circuit is equal to resistance of circuit

(4) Average power is equal to apparent power

49. In case of inductor connected to an A.C. source

(1) Voltage lags current by $\frac{\pi}{2}$

(2) Voltage leads current by $\frac{\pi}{2}$

(3) Voltage and current are in phase

(4) Inductive reactance is independent of A.C. source frequency

50. The part of the spectrum of electromagnetic waves used to cook food is

(1) x-rays (2) Ultraviolet rays

(3) Radiowaves (4) Microwaves

CHEMISTRY

SECTION-A

51. Least soluble in water among the following is

(1) $BeSO_4$

(2) $MgSO_4$

(3) $BaSO_4$

(4) $CaSO_4$

52. Correct order of density is

(1) Li > Na > K

(2) Na > K > Li

(3) K > Na > Li

(4) K > Li > Na

53. Concentrated solution of alkali metals in liquid ammonia is/are
(1) Blue in colour
(2) Bronze in colour
(3) Diamagnetic in nature
(4) Both (2) and (3)

54. Which of following does not exist as a solid?
(1) $LiHCO_3$ (2) $NaHCO_3$
(3) $KHCO_3$ (4) $RbHCO_3$

55. In flame test, apple green colour is shown by
(1) Sr (2) Ba
(3) Ca (4) Mg

56. Dead burnt plaster is
(1) $CaSO_4$ (2) $CaCO_3$
(3) $CaSO_4 \cdot \frac{1}{2} H_2O$ (4) $CaSO_4 \cdot 2H_2O$

57. Which of the following transition elements shows the highest oxidation state?
(1) Cr (2) Mn
(3) V (4) Os

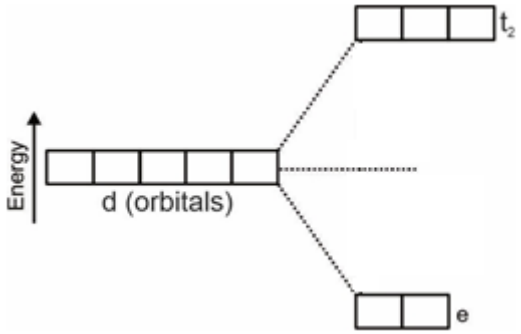
58. The IUPAC name of $[Cu(NH_3)_4]\ [NiCl_4]$ is
(1) Tetraamminecopper(II) tetrachloridonickelate(II)
(2) Tetrachloridonickel(II) tetraamminecuprate(II)
(3) Tetraamminecopper(II) tetrachloridonickel(II)
(4) Tetrachloronickelate(II) tetraamminecopper(II)

59. Which of the following equimolar solution has the highest molar conductivity in the solution?
(1) $[Pt(NH_3)_6]Cl_4$ (2) $[Pt(NH_3)_5Cl]Cl_3$
(3) $[Pt(NH_3)_4Cl_2]Cl_2$ (4) $[Pt(NH_3)_3Cl_3]Cl$

60. If excess $AgNO_3$ solution is added in 1 M solution of $CoCl_3.xNH_3$, two moles of AgCl is formed. What is the value of x?
(1) 2 (2) 5
(3) 4 (4) 6

61. Which of the following is an amphoteric oxide?
(1) Cr_2O_3 (2) Mn_2O_7
(3) CrO (4) Cl_2O_7

62. The following diagram of splitting of *d*-orbitals takes place in the formation of



(1) Octahedral complexes
(2) Tetrahedral complexes
(3) Both tetrahedral and octahedral complexes
(4) Square planar complexes

63. MnO_4^{2-} (1 mol) in acidic medium disproportionates to
(1) $\frac{2}{3}$ mol of MnO_4^- and $\frac{1}{3}$ mol of MnO_2
(2) $\frac{1}{3}$ mol of MnO_4^- and $\frac{2}{3}$ mol of MnO_2
(3) $\frac{1}{3}$ mol of Mn_2O_7 and $\frac{1}{7}$ mol of MnO_2
(4) $\frac{2}{3}$ mol of Mn_2O_7 and $\frac{1}{3}$ mol of MnO_2

64. $KMnO_4$ on strong heating gives a gas which is
(1) O_2 (2) MnO
(3) Mn_2O_3 (4) MnO_2

65. Correct order of spin only magnetic moments of $Ni(CO)_4$, $[Ti(H_2O)_6]^{2+}$, $[V(H_2O)_6]^{2+}$, $[Fe(H_2O)_6]^{2+}$ is

I	II	III	IV

(1) I < II < III < IV (2) IV < III < II < I
(3) II < III < I < IV (4) II < I < III < IV

66. Heteroleptic complex among the following is
(1) $[Fe(CN)_6]^{4-}$ (2) $[Cr(NH_3)_3Cl_3]$
(3) $[Cr(NH_3)_6]^{3+}$ (4) $Cr(CO)_6$

67. "Bis" will be used in the naming of
(1) $[CrCl_2F_2Br_2]^{3-}$ (2) $[Cr(NH_3)_2(en)Cl_2]^+$
(3) $[Cr(NH_3)_2(en)_2]^{3+}$ (4) $[Cr(NH_3)_2(CN)_2Br_2]^-$

68. $FeSO_4$ on treatment with excess of KCN gives a product that does not give test of Fe^{2+}. The product formed is

(1) $[Fe(CN)_2]SO_4$ (2) $K_3[Fe(CN)_6]$

(3) $K_4[Fe(CN)_6]$ (4) $KFe[Fe(CN)_6]$

69. Electronic configuration of d^6 system in low spin octahedral complex is

(1) $t_{2g}^6 e_g^0$ (2) $t_{2g}^5 e_g^1$

(3) $t_{2g}^4 e_g^2$ (4) $t_{2g}^3 e_g^3$

70. Which of the following relation is correct for same metal ion and ligand?

(1) $\Delta_0 = \frac{9}{4}\Delta_t$ (2) $\Delta_0 = \frac{3}{4}\Delta_t$

(3) $\Delta_0 = \frac{4}{3}\Delta_t$ (4) $\Delta_0 = \frac{4}{9}\Delta_t$

71. Which of the following is correct regarding Valence Bond Theory regarding co-ordination compounds?

(1) It gives a quantitative interpretation of thermodynamic stability (or kinetic stability) of complexes

(2) It does not distinguish between strong and weak field ligands

(3) It explains the colour exhibited by coordination compounds

(4) It makes exact predictions regarding tetrahedral and square planar geometry

72. Coordination compound used as catalyst in the hydrogenation of alkenes and its formula is

(1) Dithiosulphatoargentate(I) ion: $[Ag(S_2O_3)_2]^{3-}$

(2) Ziegler-Natta catalyst : $TiCl_4 + (C_2H_5)_3Al$

(3) Wilkinson catalyst : $[(Ph_3P)_3RhCl]$

(4) Cis-platin : $[Pt(NH_3)_2Cl_2]$

73. Which among the following contains highest number of unpaired electrons?

(1) Gd^{3+} (2) Ce^{3+}

(3) Pm^{3+} (4) Sm^{3+}

74. Outer orbital complex among the following is

(1) $[Fe(CN)_6]^{3-}$ (2) $[Co(H_2O)_6]^{3+}$

(3) $[MnCl_6]^{3-}$ (4) $[Co(C_2O_4)_3]^{3-}$

75. The product obtained upon reaction of I^- with MnO_4^- in alkaline medium is

(1) I_2 (2) IO_3^-

(3) IO^- (4) IO_4^-

76. Which among the following ions has the lowest value of negative hydration enthalpy?

(1) Cu^{2+} (2) Ti^{2+}

(3) Ni^{2+} (4) Cr^{2+}

77. Most common oxidation state of Ti and V respectively are

(1) + 2 and + 4 (2) + 4 and + 5

(3) + 3 and + 5 (4) + 4 and + 3

78. The species which is orange in colour is

(1) CrO_4^{2-} (2) $Cr_2O_7^{2-}$

(3) $[Ti(H_2O)_6]^{3+}$ (4) MnO_4^{2-}

79. Which among the following has highest value of enthalpy of atomisation?

(1) Co (2) Mn

(3) Cu (4) Sc

80. Which of the following has shortest C–O bond length?

(1) $[Co(CO)_4]^-$ (2) $[Cr(CO)_6]$

(3) $[Mn(CO)_6]^+$ (4) $[Fe(CO)_5]$

81. In Castner Kellner cell, cathode is made up of

(1) Steel (2) Platinum

(3) Carbon (4) Mercury

82. Which compound has maximum solubility in water?

(1) BeF_2 (2) MgF_2

(3) CaF_2 (4) SrF_2

83. Which of the following has the highest value of $E^\circ_{M/M^{2+}}$?

(1) Fe (2) Ti

(3) Co (4) Ni

84. If Δ_0 is the octahedral crystal field splitting energy, then the CFSE for $[Fe(CN)_6]^{4-}$ is (ignore pairing energy)

(1) $-2.4\ \Delta_0$ (2) $-0.4\ \Delta_0$

(3) $-2.0\ \Delta_0$ (4) $-0.6\ \Delta_0$

85. Which of the following complex ion have symmetrical distribution of *d* electron of central metal ion in e_g orbital?

(1) $[Co(CN)_6]^{4-}$ (2) $[Fe(H_2O)_6]^{2+}$

(3) $[Cu(NH_3)_6]^{2+}$ (4) $[Co(en)_3]^{2+}$

SECTION-B

86. Ionic mobility of which of the following alkali metal ions is lowest when aqueous solution of their salts are put under an electric field?

(1) Na^+ (2) K^+

(3) Rb^+ (4) Li^+

87. IUPAC name of $K_3[Al(C_2O_4)_3]$ is

(1) Potassium trioxalatoaluminium (III)

(2) Potassium trioxalatoaluminium (II)

(3) Potassium trioxalatoaluminate (III)

(4) Potassium trioxalatoaluminate (II)

88. Which oxidation state is not observed for cobalt?

(1) + 2 (2) + 3

(3) + 5 (4) + 4

89. Which oxide of Mn is most acidic in nature?

(1) MnO (2) MnO_2

(3) Mn_2O_7 (4) Mn_2O_3

90. Heating of $LiNO_3$ produces

(1) Li_3N (2) $LiNO_2$

(3) Li_2O (4) LiOH

91. Among the following, chelating ligand is

(1) C_2H_4 (2) $C_2O_4^{2-}$

(3) CO_3^{2-} (4) CN^-

92. $[Co(NH_3)_5SO_4]Br$ and $[Co(NH_3)_5Br]SO_4$ are related as

(1) Linkage isomers

(2) Coordination isomers

(3) Ionisation isomers

(4) Geometrical isomers

93. Which of the following is not an organometallic compound?

(1) Grignard reagent

(2) Tetracarbonyl nickel

(3) Wilkinson catalyst

(4) Ferrocene

94. Thermally most stable carbonate among the following is

(1) Na_2CO_3 (2) K_2CO_3

(3) Li_2CO_3 (4) Rb_2CO_3

95. Among the following, lowest melting point is of

(1) Ti (2) Mn

(3) V (4) Cr

96. The possible number of enantiomeric pair(s) for the complex ion $[Co(en)(NH_3)_2Cl_2]^+$ is

(1) 1 (2) 2

(3) 3 (4) 4

97. Select the incorrect statement out of the following.

(1) $E^\circ_{Cu^{2+}/Cu}$ has a positive value

(2) Cu^{2+} cannot oxidise I^- to I_2

(3) Cu^+ disproportionates in aqueous solutions to form Cu^{2+} and Cu

(4) $Cu^{2+}(aq)$ is more stable than $Cu^+(aq)$ as the hydration of Cu^{2+} is much more exothermic than that of Cu^+, which compensates more than the second ionisation enthalpy of Cu

98. Which of the following statement is incorrect?

(1) The hybridisation of Co in $[CoF_6]^{3-}$ is sp^3d^2

(2) The hybridisation of Co in $[Co(NH_3)_6]^{3+}$ is d^2sp^3

(3) The hybridisation of Fe in $[Fe(CN)_6]^{3-}$ is sp^3d^2

(4) The hybridisation of Ni in $Ni(CO)_4$ is sp^3

99. Which of the following pairs has the same size?

(1) Zn^{2+}, Hf^{4+} (2) Fe^{2+}, Sc^{2+}

(3) Zr^{4+}, Ti^{4+} (4) Zr^{4+}, Hf^{4+}

100. Which statement is correct comparison between lanthanoids and actinoids?

(1) Actinoid contraction is more than lanthanoid contraction

(2) Actinoids do not show variable valency

(3) Lanthanoids show higher tendency to form oxocations than actinoids

(4) More number of lanthanoids are radioactive than actinoids

BOTANY

SECTION-A

101. Methods of producing large number of plants in very short duration is called
(1) Biofortification
(2) Micropropagation
(3) Protoplast fusion
(4) Somatic hybridisation

102. "Sonalika" and "Kalyan sona" are the varieties of
(1) Wheat (2) Rice
(3) Sugarcane (4) Maize

103. 'Pusa Komal' developed by hybridisation and selection for disease resistance against bacterial blight is a variety of
(1) Chilli (2) Cauliflower
(3) Wheat (4) Cowpea

104. Select the **incorrect** match w.r.t. crop varieties and resistance to disease
(1) Himgiri – Hill bunt
(2) Pusa shubhra – Leaf and stripe rust
(3) Pusa swarnim – White rust
(4) Pusa sadabahar – Chilly mosaic virus

105. A gene responsible for dwarfing in rice, dee-geo-woo-gen, was reported in
(1) Taiwan (2) Philippines
(3) India (4) Australia

106. Consider the following statements and select the **incorrect** option.
(1) Wheat variety Atlas 66 with high protein content has been used as a donor for improving cultivated wheat.
(2) SCP is alternative source of proteins for animal and human nutrition.
(3) The capacity to generate a whole plant from any cell/explant is called totipotency.
(4) In tissue culture, the optimum pH should be 7.5.

107. Which of the given is vitamin A enriched vegetable crop developed by IARI, New Delhi?
(1) Pumpkin (2) Tomato
(3) Bitter gourd (4) Bathua

108. Select the **incorrect** statement w.r.t. somatic hybridisation.
(1) It is fusion of protoplast of two plants belonging to same variety
(2) Cells are first treated with pectinase and cellulase
(3) Naked protoplast are fused by electrofusion or chemofusion
(4) PEG or sodium nitrate are used during chemofusion of protoplast

109. The crucial step for the success of breeding experiment is
(1) Germplasm collection
(2) Evaluation and selection of parents
(3) Cross hybridisation
(4) Selection and testing of superior recombinants

110. Match the column I with II and select the **correct** option.

	Column I		Column II
a.	Bioactive molecules	(i)	Plants genetically identical to the original plant produced during tissue culture
b.	Somaclone	(ii)	Functional in living system
c.	Domestication	(iii)	Purposeful manipulation of plant species
d.	Plant breeding	(iv)	Bringing species under human management

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

111. Cereals are commonly deficient in
(1) Lysine and cysteine
(2) Lysine and methionine
(3) Lysine and tryptophan
(4) Methionine and cysteine

112. In *Abelmoschus esculentus,* resistance to yellow mosaic virus was brought about by
(1) Tissue culture
(2) Conventional breeding
(3) Mutation
(4) Biofortification

113. Which of the given characteristics develops resistance to stem borer in maize?
(1) Low nitrogen only
(2) Low aspartic acid and sugar
(3) High aspartic acid only
(4) Low nitrogen, sugar and high aspartic acid

114. Sugarcane of North India, i.e., *Saccharum barberi* had
(1) High sugar content (2) Thick stem
(3) Poor sugar content (4) High yield

115. Find the **incorrect** match.

	Variety		**Resistance to**
(1)	Pusa Gaurav	–	Aphids
(2)	Pusa Snow ball K-1	–	Black rot
(3)	Pusa Sawani	–	Aphids
(4)	Pusa A-4	–	Shoot borer

116. The technology of biogas production was developed in India mainly due to the efforts of
(1) Ministry of Environment and Forest
(2) Indian Agricultural Research Institute (IARI)
(3) Khadi and Village Industries Commission (KVIC)
(4) Both (2) and (3)

117. Blood-cholesterol lowering agent
(1) Is streptokinase
(2) Is produced by bacterium *Streptococcus*
(3) Resembles mevalonate and is competitive inhibitor of β-hydroxy-β-methylglutaryl CoA reductase or HMG CoA reductase
(4) Is produced by the yeast – *Saccharomyces cerevisiae*

118. Large holed swiss cheese is ripened by
(1) *Penicillium* (2) *Propionibacterium*
(3) *Leuconostoc* (4) *Streptococcus*

119. Select the **incorrect** match w.r.t microbes and their applications.
(1) *Aspergillus niger* – Flavouring and preservation of foods
(2) *Acetobacter aceti* – Employed in dyeing
(3) *Clostridium butylicum* – Used for making rancid butter
(4) *Lactobacillus* – Curd

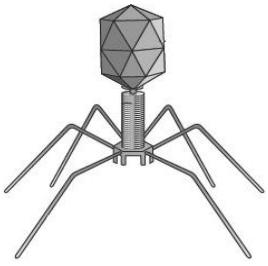
120. Which of the given is used as immunosuppressive agent in organ-transplant patients?
(1) Statin (2) Lipase
(3) Cyclosporin A (4) Streptokinase

121. Which of the given is major component of biogas w.r.t. their percentage composition?
(1) CH_4 (2) CO_2
(3) H_2 (4) H_2S

122. Which of the given stages of sewage treatment removes floating debris?
(1) Primary treatment
(2) Secondary treatment
(3) Tertiary treatment
(4) Biological treatment

123. The microbial biocontrol agent that can be introduced to control butterfly caterpillars is
(1) *Trichoderma*
(2) *Bacillus thuringiensis*
(3) *Azotobacter*
(4) *Aulosira*

124. Identify the viruses given in figure



(1) TMV (2) Adenovirus
(3) Chilly mosaic virus (4) Bacteriophage

125. Read the given statements stating true **(T)** or false **(F)** and select the **correct** option.

Statement-A : Flocs are masses of bacteria associated with fungal filaments.

Statement-B : Raising of crops through the use of chemical fertilizer is organic forming.

	A	B
(1)	F	F
(2)	T	T
(3)	T	F
(4)	F	T

126. Select the **incorrect** statement w.r.t 'Methanogens'.

(1) Grow anaerobically on cellulosic material

(2) Produce large amount of CH_4 along with CO_2 and H_2

(3) Promotes the growth of bacteria and fungi present in sludge in anaerobic sludge digester

(4) Are present in rumen of cattle

127. Read the following statements and select the option which is true for them.

Statement A : Dragonflies are useful to get rid of aphids.

Statement B : The majority of baculoviruses used as biocontrol agents are in the genus *Nucleopolyhedrovirus.*

(1) Only statement A is correct

(2) Only statement B is correct

(3) Both statements A and B are correct

(4) Both statements A and B are incorrect

128. During primary treatment in STP, all the solids settle form the A , and the supernatant form the B .

Select the option which correctly fills A and B.

(1) A- Primary sludge B- Primary effluent

(2) A- Primary effluent B- Primary sludge

(3) A- Primary sludge B- Activated sludge

(4) A- Activated sludge B- Primary effluent

129. In the production of which of the following, yeast is **not** used?

(1) Bread (2) Toddy

(3) Beer (4) Dosa

130. Puffed-up appearance of dough is due to production of

(1) CO_2 only

(2) Both O_2 and ethanol

(3) Lactic acid

(4) CO_2 and starch

131. The turbidity of fruit juices is cleared with the help of enzyme

(1) Pectinases (2) Lipases

(3) Amylases (4) Streptokinase

132. How many of the given practices or measures are used by organic farmer for managing the pest and pathogen?

Natural predators, chemical methods, biological control methods, conventional farming practices

(1) Three (2) Two

(3) Four (4) One

133. Which of the following can be used for recovery of healthy plants from diseased plant?

(1) Embryo and pollen

(2) Apical and axillary meristems

(3) Protoplast and anther

(4) Pollen and embryo sac

134. Some growth regulators are required for cell division and organ regeneration in tissue culture. Which of the following chemicals is **not** used as a growth regulator in tissue culture?

(1) 2, 4 D

(2) Auxins

(3) ABA

(4) Benzyl amino purine

135. Antibiotics

(1) Are obtained from prokaryotic and eukaryotic organisms

(2) Are most significant discoveries of 9th century

(3) Are used to treat deadly diseases like gal ghotu, colour blindness

(4) Means 'pro life' w.r.t. pathogen

SECTION-B

136. Single cell protein
(1) Is rich in good quality protein
(2) Poor in fats
(3) Is rich in fats and poor in protein
(4) Both (1) and (2)

137. Himgiri and Pusa Shubhra are developed through
(1) Conventional method of plant breeding
(2) Mutational method of plant breeding
(3) Conventional and mutational methods of plant breeding respectively
(4) Mutational and conventional methods of plant breeding respectively

138. IARI, New Delhi has developed biofortified spinach which is rich in
(1) Only amino acids and iron
(2) Protein and minerals
(3) Vitamin A, calcium and iron
(4) Oil and micronutrients

139. Lactic acid bacteria (LAB)
(1) Completely digest the milk proteins
(2) Can check disease causing microbes
(3) Produce acid at any temperature
(4) Produce acetic acid

140. In STP, secondary treatment involves
(a) Agitation (b) Aeration
(c) Chlorination
Choose the **correct** option
(1) Only (a) and (c) (2) Only (c)
(3) Only (a) and (b) (4) Only (b)

141. Bacteria present in gut of ruminants and marshy area are
(1) Halophiles (2) Thermoacidophiles
(3) Thermohalophiles (4) Methanogens

142. Classical plant breeding involves
(1) Hybridisation of pure lines
(2) Domestication
(3) Tissue culture
(4) Using molecular genetic tools

143. The entire collection of plants or seeds having all the diverse alleles for all genes in a given crop is called
(1) Hybridisation
(2) Germplasm collection
(3) Pure line collection
(4) Biofortification

144. The main source of biofertilisers is/are
a. Bacteria
b. Fungi
c. Cyanobacteria
(1) Only b (2) Only c
(3) Only a and b (4) All a, b and c

145. Pusa sem 2 and 3 are varieties of flat bean. They are resistant to
(1) Shoot borer only
(2) Fruit borer only
(3) Jassids, aphids and fruit borer
(4) Jassids only

146. Bacteria which can fix atmospheric nitrogen while free-living in the soil is/are
(1) *Rhizobium* (2) *Azospirillum*
(3) *Azotobacter* (4) Both (2) and (3)

147. Select the **incorrect** statement w.r.t *Trichoderma*
(1) *Trichoderma* species are free-living fungi
(2) They are very commonly found in the root ecosystems
(3) They are effective biocontrol agents of several plant pathogens
(4) It can control the butterfly caterpillars easily

148. Which among the following is produced without distillation?
(1) Rum (2) Wine
(3) Brandy (4) Whisky

149. Pusa Swarnim, resistant to white rust is variety of
(1) Wheat (2) Chili
(3) *Brassica* (4) Cauliflower

150. Citric acid is mainly produced by the organism
(1) *Lactobacillus*
(2) *Aspergillus niger*
(3) *Penicillium notatum*
(4) *Staphylococci*

ZOOLOGY

SECTION-A

151. Choose an autoimmune disorder among the following.
(1) Myasthenia gravis (2) Muscular dystrophy
(3) Gout (4) Malaria

152. Choose the option where the disease does **not** match with its mode of transmission from the patient to the healthy person.
(1) Pneumonia - Air-borne droplets
(2) Typhoid - Contaminated food and water
(3) Filariasis - Bite by female *Anopheles* vector
(4) Sleeping sickness - Bite by tse-tse fly

153. The antibodies mainly produced against allergens in a hypersensitive patient are of type
(1) IgA (2) IgE
(3) IgM (4) IgD

154. Read the following statements w.r.t. *Plasmodium vivax*. Select the **incorrect** statement.
(1) Parasites reproduce sexually in the red blood cells of human, bursting the red blood cells and causing cycles of fever and other symptoms.
(2) Sexual stages (gametocytes) develop in RBCs of human.
(3) Fertilisation takes place in the gut of mosquito.
(4) Female mosquito takes up gametocytes with blood meal.

155. Which among the following set of symptoms are indicative of amoebiasis?
(1) Difficulty in respiration, fever, chills, cough, headache
(2) Constipation, abdominal pain, cramps, blood clots and mucous in stools
(3) Nasal congestion and discharge, cough, sore throat, headache
(4) Internal bleeding, muscular pain, fever, anemia and blockage of intestinal passage

156. Property of normal cells called 'contact inhibition' is lost in
(1) Tuberculosis related complexes
(2) Bacterial infection
(3) Malignant tumors
(4) Severe combined immuno deficiency

157. Cancer of lymph nodes are named as
(1) Lymphoma (2) Carcinomas
(3) Leukemia (4) Melanomas

158. LSD is a powerful hallucinogenic drug that is obtained from
(1) *Papaver somniferum*
(2) *Claviceps purpurea*
(3) *Cannabis sativa*
(4) *Erythroxylum coca*

159. Choose the **incorrect** statement w.r.t. HIV.
(1) NACO is doing a lot of work to educate people about AIDS.
(2) HIV has two copies of similar ssRNA.
(3) In AIDS, patients start suffering from opportunistic infections due to decrease in number of helper T-cells.
(4) HIV do not spread by sharing infected needles.

160. Identify the plant part given in the diagram and select the drug that is obtained from it and its effect on the body

(1) *Claviceps purpurea* – Synthetic drug – Hallucinogen
(2) *Cannabis sativa* – Bhang – Hallucinogen
(3) *Datura* – Morphine – Pain killer
(4) *Cannabis sativa* – Charas – Stimulant

161. Opioids binds to their specific receptors present in CNS. Choose the drug which **does not** fall into this category.
(1) Morphine (2) Amphetamines
(3) Smack (4) Heroin

162. Cells which act as HIV factory are
(1) Helper T-cells
(2) Macrophages
(3) Nerve cells
(4) Killer T-cells

163. A widely used diagnostic test for HIV is ____ and its confirmatory test is done by ____.
Choose the option which respectively fill the blanks **correctly**.
(1) PCR, Southern blotting
(2) ELISA, Western blotting
(3) ELISA, Northern blotting
(4) Pap smear, ELISA

164. Select the **incorrect** match w.r.t. carcinogens and their carcinogenic effect on the organs of the body
(1) Cadmium oxide – Prostate gland
(2) Nickel compounds – Lungs
(3) Vinyl chloride – Skin
(4) Cigarette smoke – Lungs

165. Which is **wrong** w.r.t. alcohol abuse?
(1) May result in gastric carcinoma, peptic ulcer
(2) Alcohol damages the liver, causing cirrhosis
(3) Fatty liver
(4) Decrease urine output

166. Select an **incorrect** statement w.r.t. adolescence from the following.
(1) Adolescence is bridge linking childhood and adulthood.
(2) It is a stage of human in which a child becomes mature in terms of his/her attitudes and beliefs.
(3) It is a period of life between 12 to 18 years of age.
(4) Least vulnerable phase of mental and psychological development.

167. Read the following statements and choose the **correct** option.
Statement-A: Dependence is the tendency of the body to manifest a characteristic and unpleasant withdrawal syndrome if regular dose of drug/alcohol is abruptly discontinued.
Statement-B: Dependence leads the patient to ignore all social norms in order to get sufficient funds to satiate his/her needs.
(1) Both statements are incorrect
(2) Statement A is correct only
(3) Statement A is incorrect only
(4) Both statements are correct

168. Which among the following is **correct** w.r.t. nicotine found in tobacco?
(1) Stimulates adrenal gland to release adrenaline and nor-adrenaline
(2) Decreases blood pressure
(3) Decreases heart rate
(4) Is obtained from coca plant

169. Select a pair of primary lymphoid organs from the given options.
(1) Peyer's patches and appendix
(2) Lymph nodes and spleen
(3) Bone marrow and thymus
(4) MALT and tonsils

170. Select the odd one w.r.t. detection and diagnosis of cancer.
(1) Biopsy (2) Immunotherapy
(3) CT scan (4) MRI

171. Several genes called _____ in normal cells get activated under certain conditions and could lead to carcinogenic transformation of the cells. Choose the option that fills the blank correctly.
(1) Viral oncogenes (2) Proto oncogenes
(3) GP120 (4) CD8

172. All of the following statements are correct regarding AIDS, **except**
(1) It was first reported in 1981.
(2) It is a hereditary, congenital disease as HIV can pass on from mother to her child.
(3) Symptoms of AIDS begin to appear when T_H lymphocyte count decreases drastically
(4) A person could be detected as HIV positive, but it is not necessary that he is suffering from symptoms of AIDS at that time

173. Which of the following side-effects of anabolic steroids is **not** observed in females?
(1) Masculinisation
(2) Breast enlargement
(3) Excessive hair growth on face and body
(4) Deepening of voice

174. A hallucinogenic drug obtained from *Cannabis sativa* is
(1) LSD (2) Heroin
(3) Coke (4) Marijuana

175. Choose the **incorrect** statement from the options given below
(1) Antibodies against cancer-specific antigens are also used for detection of certain cancers.
(2) Metagenesis is the most feared property of malignant tumors
(3) Depletion of ozone layer in atmosphere can lead to increased incidences of skin cancer
(4) Chemotherapy can be used to treat various forms of cancer.

176. All of the following drugs are used to treat insomnia, **except**
(1) Barbiturates (2) Benzodiazepines
(3) Valium (4) Cocaine

177. How many among the given statements are **correct**?
a. Alcohol addicts and all types of drug abusers are at high risk for acquiring HIV infection.
b. Chemical carcinogens like UV rays and X-rays cause neoplastic transformations.
c. Cancer is the most dreaded infectious disease of human.
d. Drugs used in chemotherapy besides targeting cancer cells, also inhibit the proliferation of normal cells in body leading to hair loss and anemia.
(1) Four (2) Three
(3) Two (4) One

178. Select the **mismatch**.
(1) Hashish – *Cannabis sativa*
(2) Morphine – *Papaver somniferum*
(3) Atropine – *Atropa belladonna*
(4) Crack – *Datura*

179. Pneumonia is caused by
(1) *Salmonella typhi*
(2) *Wuchereria bancrofti*
(3) *Haemophilus influenzae*
(4) *Bacillus pestis*

180. Which of the following is a component of physical barrier of innate immunity?
(1) Skin and mucous membrane
(2) Histamine and serotonin
(3) Sebum and bile
(4) Perforins and interferons

181. A viral disease which spreads by bite of a mosquito is
(1) Filariasis (2) Malaria
(3) Dengue (4) Diphtheria

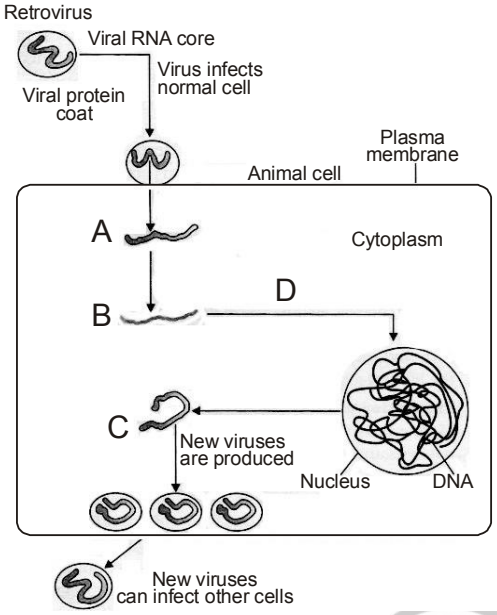
182. Leucocytes mainly responsible for humoral immune response are
(1) T-lymphocytes (2) B-lymphocytes
(3) Macrophages (4) Neutrophils

183. Which of the following statement is **correct**?
(1) Pathogen specific immunity is present only at the time of birth.
(2) Colostrum contains IgA antibodies and provides natural active immunity to new born
(3) Interferons are glycolipids secreted by virus-infected cells to protect non-infected cells from viral infection
(4) The symptoms of allergy are quickly reduced by adrenaline and steroids

184. MRI uses strong A and B to accurately detect pathological and physiological changes in the living tissue. Choose the option which fill blanks A and B correctly.

	A	B
(1)	Ionising radiation	Computed tomography
(2)	Non-ionizing radiation	X-rays
(3)	Magnetic fields	Non-ionising radiations
(4)	Magnetic fields	Ionising radiations

185. The figure given below illustrates the mode of action of HIV. Identify steps A, B, C and D labelled in it



(1) A-Viral RNA, B-Viral RNA, C-Viral DNA form new glycoprotein receptor, D-New viral DNA

(2) A-Viral DNA, B-Viral DNA, C-New viral RNA, D-Viral RNA introduced into host genome

(3) A-Viral RNA, B-Viral DNA, C-New Viral RNA, D-Viral DNA incorporated into host genome

(4) A-Viral DNA, B-Viral RNA, C-New Viral DNA, D-Viral RNA incorporated into host genome

SECTION-B

186. Choose the **odd** one w.r.t. genera responsible for ringworms.

(1) *Wuchereria*

(2) *Microsporum*

(3) *Trichophyton*

(4) *Epidermophyton*

187. Interferons are included in

(1) Physical barriers

(2) Physiological barriers

(3) Cellular barriers

(4) Cytokine barriers

188. Antibodies are synthesised in the host's body itself after exposure to

(1) ATS (2) DPT vaccine

(3) Antidote (4) Anti-venom

189. Anamnestic response is always vigorous due to presence of

(1) Suppressor T-cells (2) Memory cells

(3) Killer T-cells (4) Helper T-cells

190. Which of the following is a plasma protein that helps in the immune response of the body?

(1) Albumin (2) Collagen

(3) Fibrinogen (4) Globulin

191. A very effective sedative and painkiller which is useful for patients who have undergone surgery is

(1) Opium in raw form

(2) Morphine

(3) Diacetylmorphine

(4) Barbiturates

192. Choose the factors which lead to oncogenic transformation within cells.

a. UV-rays

b. X-rays

c. Radiowaves

d. Tobacco smoke

e. Retrovirus

(1) a, b and c (2) a, b, d and e

(3) a, b and d only (4) b and d only

193. The immunity which is mainly responsible for graft rejection is

(1) Humoral immunity

(2) Antibody mediated immunity

(3) Cell mediated immunity

(4) Passive immunity

194. Which among the following is not a viral disease?

(1) Mumps

(2) Diphtheria

(3) Chicken pox

(4) Measles

195. Acidic pH in stomach, saliva in mouth and tears from the eyes are parts of

(1) Physical barriers of innate immunity

(2) Physiological barriers of innate immunity

(3) Cytokine barriers of innate immunity

(4) Humoral mediated specific immunity

196. Select the **odd** one w.r.t. causative agents for the following given diseases.
(1) Typhoid (2) Pneumonia
(3) Ringworms (4) Plague

197. Consider the following symptoms.

Internal bleeding, Muscular pain, Anemia, Blockage of internal passage.

Above mentioned symptoms are observed in disease caused by
(1) *Ascaris*
(2) *Entamoeba*
(3) *Wuchereria*
(4) *Microsporum*

198. Which of the following is used in the production of recombinant Hepatitis-B vaccine?
(1) *Staphylococcus*
(2) Yeast
(3) *Trichophyton*
(4) *E.coli*

199. Consider the given statements and select the **incorrect** option w.r.t antibodies.
(1) Antibodies are glycoprotein in nature
(2) IgM is the largest antibody
(3) IgD can cross the placenta
(4) Antigen binding site is present at N-terminal of heavy and light chains

200. Read the given statements and select the **correct** option.

Statement-A: Ebola virus is transferred through semen of an infected male.

Statement-B: Pneumonia pathogen infects alveoli whereas the common cold pathogen affects nose and respiratory passage but not the lungs.

(1) Both statements A and B are correct
(2) Both statements A and B are incorrect
(3) Only statement A is correct
(4) Only statement B is correct

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