ANSWER KEY FOR MOCK TEST- 50 (FOR 2020 ASPIRANTS) (9th Sept 2020)

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

1. (4)
2. (3)
3. **Correct option is (4)**

Solution:

$$\int dV = -\int E.dr\ ,\ \int dV = -\int \frac{-k}{r} dr$$

$V = k \log r + c$ at $r = r_0$; $V = V_0$

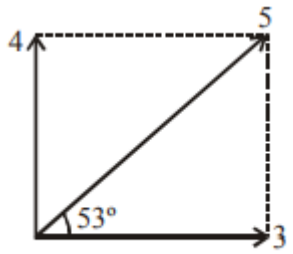
$\Rightarrow V_0 = k \log r_0 + c \Rightarrow c = V_0 - k \log r_0$

By substituting the value c from equation

$$V = k \log \left(\frac{r}{r_0}\right) + V_0$$

4. **Correct option is (3)**

Solution:



$\therefore\ I_3 = 5\sin(\omega t + 53°)$

5. **Correct option is (4)**

Solution:

$I = (I_{disc})_O + 4mR^2$

$= MR^2/2 + 4mR^2$

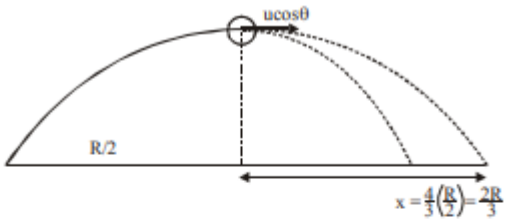
6. **Correct option is (3)**

Solution:

$$a = v\frac{dv}{dx} \Rightarrow a = k\sqrt{x}\left(\frac{k}{2\sqrt{x}}\right) = \frac{k^2}{2} = \text{constant}$$

7. **Correct option is (4)**

Solution:



By COLM

$$mu\cos\theta = \left(\frac{3m}{4}\right)V^1 \Rightarrow V^1 = \frac{4}{3}(u\cos\theta)$$

so total Range become

$$\frac{R}{2}+\frac{2R}{3}=\frac{3R+4R}{6}=\frac{7R}{6}$$

$$R = \frac{u^2\sin 2\theta}{g} = \frac{100\times100\times2\times\frac{3}{5}\times\frac{4}{5}}{10}$$

$$= 960 \text{ m}$$

Total range = 7/6 × 960 = 1120 m

8. **Correct option is (3)**

Solution:

$i = 5 + 5\sin(100\,\omega t)$

average value

$\langle i \rangle = 5 + 5 \langle \sin(100\,\omega t) \rangle$

In one time period $\langle \sin(100\omega t) \rangle = 0$

$\langle i \rangle = 5A$

9. (4)

$mg\sin\theta = \mu mg\cos\theta$

10. (3)

11. (2)

$$\frac{2u_y}{g}=\frac{2u_xu_y}{g}=\frac{\sqrt{3}}{g}$$

$$\therefore\ u_x = 1 \& u_y = \frac{\sqrt{3}}{2}$$

$$\therefore \tan\theta = \frac{u_y}{u_x} = \frac{\sqrt{3}}{2} \Rightarrow \theta = \tan^{-1}\left(\frac{\sqrt{3}}{2}\right)$$

12. (3)

Activity = λN

13. (2)

$$\vec{v}_B = 2\vec{v}_A$$

$$\vec{v}_{CA} = x\hat{i} \Rightarrow \vec{v}_C - \vec{v}_A = x\hat{i} \quad \ldots\ldots\ldots\ldots\ldots(1)$$

$$\vec{v}_{CB} = x\hat{j} \Rightarrow \vec{v}_C - \vec{v}_B = x\hat{j}$$

$$\Rightarrow \vec{v}_C - 2\vec{v}_A = x\hat{j} \qquad \ldots\ldots\ldots\ldots\ldots..(2)$$

Multiply eq. (1) by 2 and subtract eq. (2) from it

$$2\vec{v}_C - 2\vec{v}_A - (\vec{v}_C - 2\vec{v}_A) = 2x\hat{i} - x\hat{j}$$

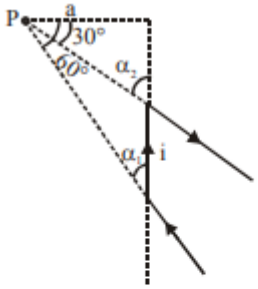
$$\vec{v}_C = 2x\hat{i} - x\hat{j}$$

$$\text{dir}^n = E\tan^{-1}\left(\frac{x}{2x}\right)S = E\tan^{-1}\left(\frac{1}{2}\right)S$$

14. (4)

15. **Correct option is (3)**

Solution:



$$B_p = \frac{\mu_0 i}{4\pi a}(\cos\alpha_1 - \cos\alpha_2)\odot$$

$$= \frac{\mu_0 i}{4\pi a}(\cos 30° - \cos 60°)$$

$$= \frac{\mu_0 i}{8\pi a}\left(\sqrt{3}-1\right)\odot$$

16. (3)

17. (2)

18. (3)

Since $P' = n^3P$

$\because$ n = 3 $P' = 27$ P

19. (3)

u = –25 v = –50

$$\frac{1}{f} = \frac{1}{v} - \frac{1}{u} = \frac{1}{50}$$

$\therefore$ P = 2D

20. (3)

$$\Delta\phi = (2n-1)\pi$$

21. (3)

$$R_{AB} = \frac{5R}{11}, R_{BC} = \frac{4R}{11}$$

$$R_{AC} = \frac{3R}{11}$$

22. (2)

$$a_r = \frac{g\sin\theta}{1 + K^2/r^2}$$

For shell $\frac{K^2}{r^2} = \frac{2}{3}$

$a_r = \frac{3}{5} g \sin\theta$ ……. (1)

but $a_s = g \sin\theta$ ……..(2)

dividing the two equations

$\frac{a_r}{a_s} = \frac{3}{5}$

23. **Correct option is (4)**

Solution:

$$<V> = \frac{\text{Area of graph}}{\text{Time}}$$

$$= \frac{\frac{1}{2} \times \frac{T}{2} \times V_0}{T} = \frac{V_0}{4}$$

24. (1)

Total distance covered by two wheels is same

$2\pi r_1 n_1 = 2\pi r_2 n_2$

or $0.5 \times 200 = 0.1\ n_2 \Rightarrow n_2 = 1000$ rpm

25. (2)

Apply energy conservation

Energy at surface = Energy at height

$$\frac{-GM_e m}{R_e} + \frac{1}{2} m \left(\frac{v_e}{2}\right)^2 = \frac{-GM_e m}{(R_e + h)}$$

but $v_e^2 = \frac{2GM_e m}{R_e}$

Hence, $\frac{-GM_e m}{R_e} + \frac{1}{4} \frac{GM_e m}{R_e} = \frac{-GM_e m}{R_e + h}$

Hence $R_e + h = \frac{4}{3} R_e$

$h = \frac{R_e}{3}$

26. (2)

$PV^\gamma = \text{const.} \Rightarrow v^\gamma \propto \frac{1}{P}$

$TV^{\gamma-1} = \text{cons tan t} \Rightarrow v^{\gamma-1} \propto \frac{1}{T}$

27. (1)

28. **Correct option is (3)**

Solution:

Potential gradient (x) $= \frac{IR}{L}$

$= \frac{\varepsilon}{10r} \cdot \frac{9r}{L}$

$= \frac{9\varepsilon}{10L}$

$\because \frac{\varepsilon}{2} = x \times \ell_{AJ}$

$\ell_{AJ} = \frac{\varepsilon}{2} \times \frac{10L}{9\varepsilon} = \frac{5L}{9}$

29. (3)

30. (3)

$V_{rms} \propto \frac{1}{\sqrt{M_w}} \Rightarrow \frac{v_1}{v_2} = \sqrt{\frac{M_{w_2}}{M_{w_1}}}$

$\Rightarrow \frac{v}{\sqrt{2v}} = \sqrt{\frac{M_{w_2}}{32}} \Rightarrow M_{w_2} = 16(CH_4)$

31. **Correct option is (1)**

Solution:

K.V.L. on left mesh

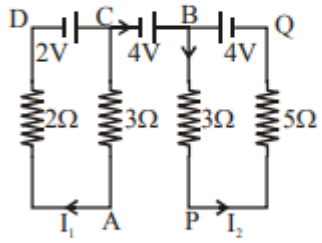
$2 - 3I_1 - 2I_1 = 0$

$I_1 = 0.4$ amp.

K.V.L. on right mesh

$4 - 3I_2 - 5I_2 = 0$

$I_2 = 0.5$ amp.



Potential difference between A & B

$V_A + 3I_1 + 4 = V_B$

$V_A - V_B = -3(0.4) - 4 = -5.2$ V

32. (4)

$f_{Heard} = \left(\frac{c + v_{car}}{c}\right) f_{reflected} = \left(\frac{c + v_{car}}{c}\right)\left(\frac{c}{c - v_{car}}\right) f_{actual} = \frac{354}{350} \times 700 = 708\,Hz$

33. (3)

34. (1)

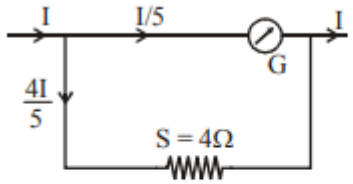
35. (4)

36. (4)

37. **Correct option is (3)**

Solution:

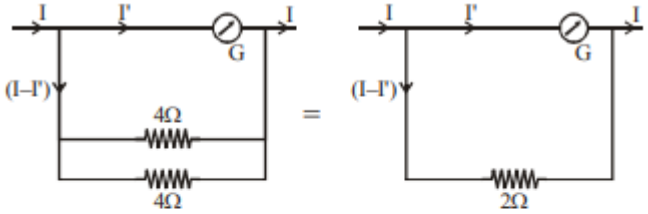
Initial condition when shunt of 4Ω is used



$$\frac{I}{5}\times G=\frac{4}{5}I\times 4$$

$$G = 16\Omega$$

When additional shunt of 4Ω used



$$I' \times 16 = 2\,(I - I')$$

$$16I' = 2I - 2I'$$

$$18I' = 2I$$

$$I' = \frac{I}{9}$$

38. **Correct option is (1)**

Solution:

$$\text{B due to AB} = \frac{\mu_0 i}{4\pi R}\sin 45^\circ$$

$$= \frac{\mu_0 i}{4\pi R}\times\frac{1}{\sqrt{2}}\otimes$$

$$\text{B due to BC} = \frac{\mu_0 i}{8R}\otimes$$

B due to semi infinite wire

$$= \frac{\mu_0 i}{4\pi R}\otimes$$

$$\Rightarrow B_{net} = \frac{\mu_0 i}{4\pi R}\left[\frac{1}{\sqrt{2}}+\frac{\pi}{2}+1\right]\otimes$$

39. (4)

40. **Correct option is (2)**

Solution:

According to activity law

$$R = R_0 e^{-\lambda t} \Rightarrow \frac{R_0}{R} = e^{\lambda t}$$

Taking the logarithm on both sides, we get

$$\lambda t = \log_e\left(\frac{R_0}{R}\right)$$

$$\lambda = \frac{1}{t}\log_e\left(\frac{R_0}{R}\right)$$

Here, $R_0 = 5000$ decay/min, $R = 1250$ decay/min

$t = 5$min

$$\lambda = \frac{1}{5}\log_e\left(\frac{5000}{1250}\right) = \frac{1}{5}\log_e(4)$$

$$= \frac{1}{5}\log_e\left(2^2\right) = \frac{2}{5}\log_e 2$$

$$= 0.4\log_e 2$$

41. (3)

$$\frac{2h}{\pi} = \frac{nh}{2\pi}$$

$$\Rightarrow \qquad n = 4$$

$$E = \frac{-13.6}{16} = -0.85$$

42. (3)

For same magnification,

$$f = \frac{u_1 + u_2}{2} = \frac{10 + 30}{2} = 20 \text{ cm}$$

43. **Correct option is (3)**

Solution:

An unpolarized beam of intensity $2a^2$ passes through a thin polaroid. Assuming zero absorption in the polaroid, the intensity of emergent plane polarised light is a^2

44. (2)

Potential energy of the configuration,

$$\frac{K(-Q)q}{\frac{l}{2}} + \frac{K(2Q^2)}{l} + \frac{K(-2Q)}{\frac{l}{2}} q > 0$$

$$\frac{2Q^2}{l} - \frac{6Qq}{l} > 0$$

$$q < \frac{Q}{3}$$

45. (1)

In *P*-type semiconductors, holes are majority charge carriers.

46. $\text{Molarity} = \dfrac{\text{Moles of solute}}{\text{Volume of solution in litre}}$

Number of moles of urea $= \dfrac{120}{60} = 2$

Weight of solution = weight of solute + weight of solvent

$= 120 + 1000 = 1120$ g

$\text{Volume} = \dfrac{1120\text{ g}}{1.15\text{ g/ml}} \times \dfrac{1}{1000\text{ ml/L}} = 0.974$ L

$\text{Molarity} = \dfrac{2}{0.974} = 2.05$ M

47. $3ClO^-_{(aq)} \longrightarrow ClO^-_{3(aq)} + 2Cl^-_{(aq)}$

It is an example of disproportionate reaction because the same species (ClO^-) is being oxidized to ClO_3^- as well as reduced to Cl^-.

48. $PV = nRT = \dfrac{w}{M}RT$

$PM = \left(\dfrac{w}{V}\right)RT = dRT$

$d = \dfrac{PM}{RT}$ (where d = density)

i.e. density will be greater at low temperature and high pressure.

49. Kinetic energy $(E) = \dfrac{3}{2}KT$

$\text{R.MS speed } (u) = \sqrt{\dfrac{3KT}{m}} = \sqrt{\dfrac{2E}{m}}$

Or $u = \left(\sqrt{\dfrac{2E}{m}}\right)^{1/2}$

50. $\lambda = \dfrac{h}{mv}$

$= \dfrac{6.625 \times 10^{-34} \times 60 \times 60}{0.2 \times 5} = 2.3 \times 10^{-30}$ m

51. At the critical temperature the meniscus between the liquid and the vapour disappears.

52. For bcc, $d = \dfrac{\sqrt{3}}{2}a$

$a = \dfrac{2d}{\sqrt{3}} = \dfrac{2 \times 4.52}{1.732}$

$= 5.219$ A° $= 522$ pm

$\rho = \dfrac{Z \times M}{a^3 \times N_0 \times 10^{-30}}$

$= \dfrac{2 \times 39}{(522)^3 \times 6.02 \times 10^{23} \times 10^{-30}}$

$= 0.91$ g/cm^3 $= 910$ kgm^{-3}

53. Be^- is the least stable ion Be ($1s^2$, $2s^2$) has stable electronic configuration hence addition of electron decreases stability.

54.

Species	Hybridisation
NH_3	sp^3
$[PtCl_4]^{2-}$	dsp^2
PCl_5	sp^3d
BCl_3	sp^2

55. The bond order of CO is 3.

NO^+, CN^- and N_2 are isoelectronic with CO hence they have the same bond order as CO.

NO^- (16e$^-$) has bond order of 2.

56. Alkali metal salts are usually more soluble than the salts of transition metals. Also CuS is less soluble than ZnS because of $3d^9$ configuration of Cu^{2+}. Hence the order of solubility is

$$Na_2S > ZnS > CuS$$

57.

	CH_3NH_2	+ HCl	→ $CH_3NH_3^+$	+ Cl^-
Initial	0.10	0.08	0	0
Final	0.02	0	0.08	0.08

$$pOH = pK_b + \log\frac{[CH_3NH_3^+]}{[CH_3NH_2]}$$

$$pOH = -\log(5\times10^{-4}) + \log\frac{0.08}{0.02} = 3.9$$

$$pH = 14 - pOH = 14 - 3.9 = 10.1$$

$$[H^+] = 8\times10^{-11}$$

58. Elements in its standard state have zero enthalpy of formation. Cl_2 is gas at room temperature. hence ΔH_f° of $Cl_{2(g)}$ is zero

59. $$\wedge_m^\circ(mgCl_2) = \lambda^\circ_{Mg^{2+}} + 2\lambda^\circ_{Cl^-}$$

$$= 106.1 + 2\times76.3$$

$$= 258.7 \text{ ohm}^{-1}\text{ cm}^2\text{ mol}^{-1}$$

60. When a lead storage battery is discharged, then sulphuric acid is consumed as:

$$Pb + PbO_2 + 2H_2SO_4 \longrightarrow 2PbSO_4 + 2H_2O$$

61. $Fe^{2+} + Ce^{4+} \rightleftharpoons Fe^{3+} + Ce^{3+}$

$$E^\circ = E^\circ_{(Ce^{4+}/Ce^{3+})} - E^\circ_{(Fe^{3+}/Fe^{2+})}$$

$$E^\circ = 1.44 - 0.68$$

$$= 0.76\text{ V}$$

$\because$ $$E^\circ = 0.0592\log K$$

$$\log K = \frac{E^\circ}{0.0592} = \frac{0.76}{0.0592} = 12.83$$

$$K = 6.88\times10^{12}$$

62. $$K = \frac{0.693}{10}\text{year}^{-1}$$

$$K = \frac{2.303}{t}\log\frac{a}{a-0.99a}$$

$\therefore$ $$\frac{0.693}{10} = \frac{2.303}{t}\log10^2$$

$$t = \frac{10\times2.303\times2}{0.693}$$

$$= 66.5 \text{ years} \approx 67 \text{ years}$$

63. Cow milk is an emulsion stabilsed by casein.

64. $$\Delta E = -C\times\Delta t\times\frac{M}{m}$$

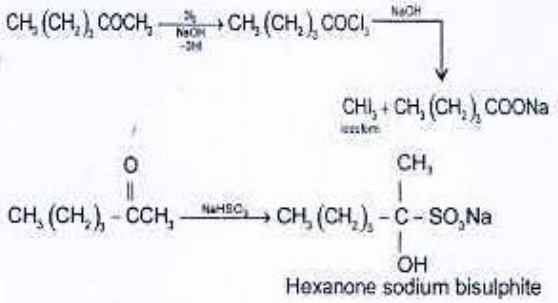
(–sign is used because heat is evolved)

$$= \frac{500\times2\times16}{0.1}$$

$$= -160000\text{ J}$$

$$= -160\text{ KJ}$$

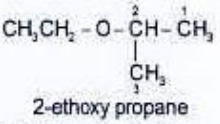
65. Acetaldehyde and methyl ketone gives the iodoform reaction.



Hexanone sodium bisulphite

66. In aromatic nitration NO_2^+ (nitronium ion) acts as an electrophile.

$$HNO_3 + H_2SO_4 \longrightarrow \underset{\text{electrophile}}{NO_2^+} + HSO_4^- + H_2O$$

67. 

2-ethoxy propane

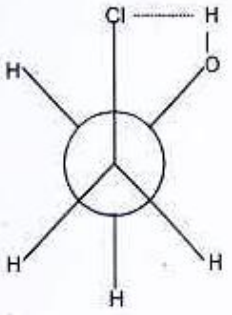
68. Wolframite is ferrous tungstate $FeWO_4$ which is magnetic in nature.

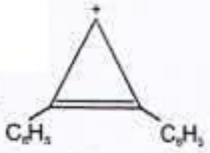
69. Hydrogen burns in air or oxygen with pale blue flame.

70. The crystal structures of $NaHCO_3$ and $KHCO_3$ both show H-bonding but are different. In $NaHCO_3$, HCO_3^- ions are linked into an infinite chain while in $KHCO_3$ a dimeric anion is formed.

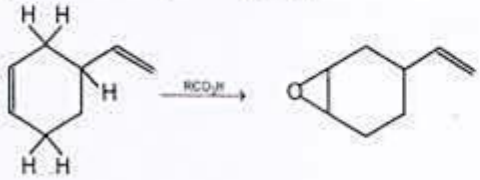
71. Oxalic acid is weak acid and NaOH is strong base hence the suitable indicator phenolphthalein is used for the titration of oxalic acid and NaOH solution.

72. Due to weak H-bonding between H atom of OH group and Cl gauche conformation of chlorohydrin is most stable at room temperature.



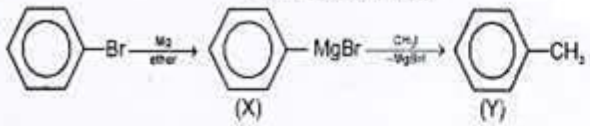
73.  has 2π electrons and all the three C-atom of the ring are sp^2 hybridized. Hence according to Huckel rule it is aromatic.

74. With peracids double bonds which are electron rich preferentially undergo epoxidation



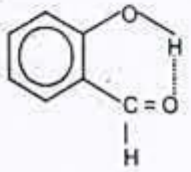
75. $:\overset{\ominus}{C}H_2-\overset{\oplus}{N}=N \xrightarrow{\text{Sun light}} :CH_2 + N_2$
Diazomethane → methylene

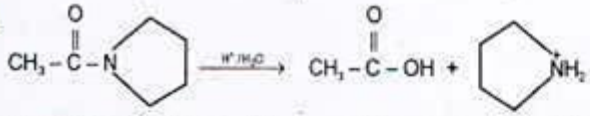
$CH_3CH=CH_2 + :CH_2 \longrightarrow$ methylcyclopropane

76. 
(X) (Y)

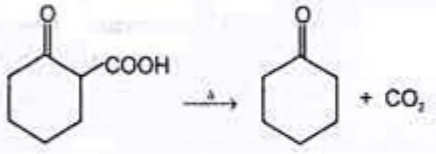
77. Vinyl chloride ($CH_2 = CHCl$) does not undergo hydrolysis and hence does not form white ppt. of AgCl.

78. In salicyaldehyde the OH group is less reactive than in m and p-isomers or benzyl alcohol due to chelation



79. 

80. Only β-keto acids i.e. 2-oxocyclohexane carboxylic acid on heating undergo decarboxylation.



82. P-benzoquinone acts as inhibitor it traps the radical intermediate to form a non-reactive radical which is highly stabilized by resonance.

83. Arsenic drugs such as salvarsan is used for treatment of syphilis.

84. $\underset{(A)}{NH_4NO_3} + NaOH \longrightarrow NaNO_3 + \underset{(B)}{NH_3} + H_2O$

$2K_2[HgI_4] + NH_3 + 3KOH \longrightarrow \underset{\text{Brown ppt.}}{H_2N \cdot HgO \cdot HgI} + 7KI + 2H_2O$
Nessler's reagent

$NH_4NO_3 \longrightarrow \underset{(C)}{N_2O} + 2H_2O$

N_2O rekindles glowing splinter but is not converted into NO_2 by air oxidation.

85. Co^{3+} will give blue bead in borax bead test.

86. Wilkinson's catalyst, $(Ph_3P)_3RhCl$ is a homogeneous catalyst. In it the hybridization of central metal (Rh) is dsp^2 and the shape of this catalyst is square planar.

87. Molecular weight of $KMnO_4 = 39 + 55 + 64 = 158$

$2K\overset{+7}{Mn}O_4 \xrightarrow{OH^-} 2K_2\overset{+6}{Mn}O_4$

Here one electron gain.

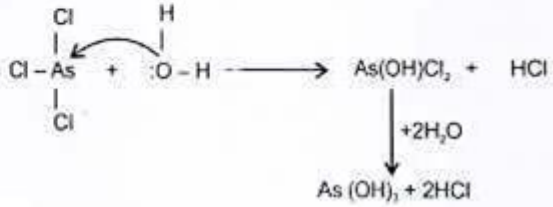
Hence the equivalent weight of $KMnO_4$ is equal to its molecular weight i.e. 158

88. Only He due to its small size can form interstitial compounds. All other noble gases do not form such compounds.

89. F-B bond is the strongest bond due to most effective overlap of the p-orbitals. The bond energies for single bonds in KJ mol^{-1} is as:

Bond	Bond energy
F – B	613
F – Cl	184
F – Br	255
Cl – Br	217

90. $AsCl_3$ due to lower value of electronegativity of As undergoes hydrolysis not through H-bonding mechanism but through nucleophilic attack by H_2O molecule.



91. (1) Definition of biological species was given by Ernst Mayr. In unicellular organisms, reproduction is synonymous with growth.
92. (3) page no. 26, 2nd paragraph
93. (3) page no.20, 2.2 Kingdom Protista
94. (3) NCERT XI page 30
95. (3) NCERT XI page 33
96. (4) ER – Formation of new nuclear membrane
97. (3) Plasmalemma
98. (3) complete permeability
99. (1) Golgi complex releases Calcium pectate a chemical substance that forms the cell plate.
100. (2) Post mitotic gap of interphase is G^1 phase. In G_1 phase RNA or DNA replication does not take place.
101. (1) NCERT pg no 74, 75
102. (1) Edible part of coconut is endosperm
103. (3) NCERT pg no 73
104. (2) page no. 85, last paragraph
105. (3) page no. 87 , last paragraph
106. (1) ncert xi -91
107. (2) decrease
108. (4) Pg. no. 204
109. (3) Pg. no. 197
110. (3) HSC pg no 72
111. (1) NCERT pg no 214
112. (1)
113. (1) Factional Question
114. (3) ncert xi-243
115. (3) page no 232 , 1st paragraph
116. (2) NCERT XI page 248
117. (2) NCERT XI page 251
118. (4) NCERT XI page 247
119. (1) NCERT XII page 6
120. (4) 8
121. (4) 13
122. (1) ncert xii-184
123. (1) page no 89, 5.6.2 Mendelian disorders
124. (2) page no. 78 , 1st Paragraph
125. (1) page no 89 , Haemophilia
126. (4) ncert xii-187
127. (4) NCERT XII, Pg. no. 111
128. (1) Mg^{2+} governs the association of two subunits of ribosome.
129. (4) Pollen grains are haploid ; thus n =14 (for a plant 2n = 28 and callus = 14 too)
130. (2) NCERT XII page 176
131. (4) NCERT pg no 183
132. (4) NCERT pg no 188
133. (1) fungus and algae
134. (2) rate of immigration, natality rate, mortality rate
135. (1) ncert xii-223
136. (1) NCERT-XII Pg.no.222
137. (4) NCERT XII page 259
138. (3) NCERT XII page 262
139. (1) ncert xii 273
140. (3) ncert xii 273

141. (3) Skeletal muscles do not have gap junctions and are not controlled by ANS
142. (3) XI NCERT pg 103 , last para
143. (4) Its ovaries lie in 2^{nd}-6^{th} abdominal segments
144. (2) XI NCERT pg 114, 2^{nd} para
145. (4) XI NCERT pg 114, 3rd para
146. (1) XII NCERT pg 49, fig 3.8
147. (2) Spermatogonia and primary spermatocytes are diploid.
148. (2) Malaria- Protozoan, Diptheria- Bacterial, Filariasis- Worm infection
149. (2) XII NCERT pg 152, 2^{nd} para
150. (3) Spleen is also called as graveyard of dead erythrocytes.
151. (3) These two features are characterstic features of all the arthropods.
152. (4) Penguin, Ostrich- Birds
153. (1) *Pteropus* is viviparous. *Aurelia* has tissue level of organization. *Ascaris* belongs to Aschelminthes.
154. (1) Broca's area which is the motor speech area is present in the frontal lobe of cerebral cortex.
155. (2) Sound waves travel to inner ear through oval window.
156. (4) Pg 317, 2^{nd}para
157. (3) Intravenous mode of transmission is the fastest means for any medicine for immediate effects.
158. (4) hypothalamo-hypophyseal tract is present between hypothalamus and posterior pituitary so it will affect flow of ADH hormone and oxytocin.
159. (3) Pg 333,2^{nd}para
160. (3) XI NCERT pg 54, 2^{nd} para
161. (3) Axis- Odontoid
162. (4) XI NCERT pg 311, 2^{nd} para
163. (2) Tubectomy- Menstrual cycle is regular
164. (2) XII NCERT pg 61, 2^{nd} para
165. (1) NCERT XII, Page 141.
166. (2) NCERT XII, Page 128
167. (4) Methylase- bacterial enzyme for restricting growth of bacteriophages.
168. (2) Cloning vector of 1 or multiple gene copy number cam be selected
169. (1) XI NCERT pg 157
170. (1) XII NCERT pg 212, 2^{nd} para
171. (3) Basophil-inflammatory
172. (2) XI NCERT pg 272
173. (1) Trypsinogen is secreted by PANCREAS. Enterokinase is secreted by ILEUM. Bile contains NO ENZYMES
174. (1) K-intracellualr ion and Na- extracellular ion, most abundant
175. (2) That's columns of Bertini not renal pelvis.
176. (1) XI NCERT pg 275
177. (1) Right lung has 3 lobes- superior middle and inferior while left lung has 2 lobes- superior and inferior
178. (1) Steapsin- Pancreatic lipase
179. (3) Enzymes- mlostly proteins and few RNA like ribozyme.
180. (2) Inner visceral layer of Bowman's capsule, Outer parietal layer of Bowman's capsule and thin segment of Descending limb of Henle's loop have squamous epithelium