ENTHUSIAST, LADER & ACHIEVER COURSE

PHASE : (All Phase)

TARGET : PRE-MEDICAL 2020

Test Type : **DRILL TEST # 08** Test Pattern : **NEET (UG)**

TEST DATE : 17-04-2020

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

HINT – SHEET

2. Ans (3)

$(\bar{A}+\bar{B})\cdot(\bar{A}-\bar{B}) = A^2 - AB\cos\theta + AB\cos\theta - B^2 = 0$

hence $(\bar{A}+\bar{B})\perp(\bar{A}-\bar{B})$

3. Ans (1)

(a) For $V = V_0 \sin \omega t$

$$I = \frac{V_0}{\left|\omega L - \frac{1}{\omega C}\right|}\sin\left(\omega t + \frac{\pi}{2}\right) \text{ ; if } R = 0$$

where – sign appears if $\omega L > 1/\omega C$, and + sign appears if $\omega L < 1/\omega C$.

$I_0 = 11.6A$

5. Ans (4)

$$\frac{1}{C_{eq}} = \frac{16d}{\epsilon_0 A} + \frac{8d}{\epsilon_0 A} + \frac{4d}{\epsilon_0 A} + \frac{2d}{\epsilon_0 A} = \frac{30d}{\epsilon_0 A}$$

$$C_{eq} = \frac{\epsilon_0 A}{30\,d}$$

6. Ans (1)

$$I = \frac{E}{R+r} \Rightarrow R = \frac{E}{I} - r$$

$$\Rightarrow R = \frac{10}{0.5} - 3 = 17\Omega$$

7. Ans (3)

W = 0 so force must be perpendicular to line

slope

of force × slope of line = –1

$$\Rightarrow \left(\frac{2}{3}\right)\left(\frac{-K}{2}\right) = -1$$

$\Rightarrow K = 3$

8. Ans (2)

$$\Delta V_S = \frac{1}{e}\left[\frac{hc}{3100} - \frac{hc}{4000}\right]$$

$$\Delta V_S = \frac{12400 \times 900 \times e}{e \times 3100 \times 4000}$$

$= 0.9$ V

9. Ans (4)

Mirror can be shifted to new position C'D'. Distance are shown in figure.

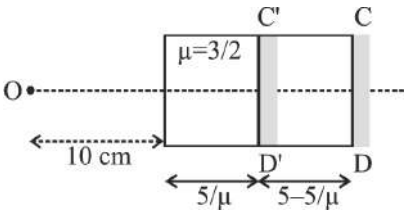


Image will be at equal distance from the mirror C'D' as the object is.

Image distance from C'D' is

$$10 + \frac{5}{3/2} = 10 + \frac{10}{3} = \frac{40}{3} \text{ cm}$$

Separation between object and image is $\frac{80}{3}$ cm.

10. Ans (3)

Photons will not affected by electric field.

11. Ans (2)

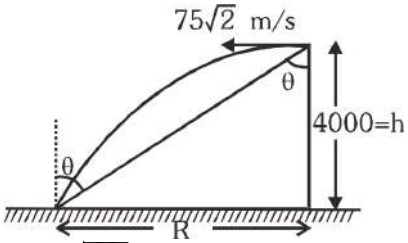
$$\lambda_{photon} = \frac{hc}{E}$$

$$\lambda_{photon} = \frac{hc}{\frac{hv}{2\lambda_e}} = \frac{(2C)\lambda_e}{V}$$

$$\frac{\lambda_e}{\lambda_{photon}} = \frac{V}{2C}$$

12. Ans (1)

Let t be the time taken by bomb to hit the target.



$$t = \sqrt{\frac{2h}{g}} = \sqrt{\frac{2 \times 4000}{10}} = 20\sqrt{2} \text{ sec}$$

$R = ut = 75\sqrt{2} \times (20\sqrt{2}) = 3000m$

$$\therefore \tan\theta = \frac{R}{h} = \frac{3000}{4000} = 37^\circ$$

13. Ans (1)

$$\frac{110 \times R}{110 + R} = 11 \qquad \Rightarrow 10R = 110 + R$$

$\Rightarrow 9R = 110$ $\quad R = 12.22\ \Omega$

14. Ans (1)

$i_1 = i_2$

$$\frac{(80)K_1A}{40} = \frac{90(K_2A)}{60}$$

$$\frac{K_1}{K_2} = \frac{3}{4}$$

16. Ans (2)

$\Delta\phi = (2n + 1)\pi$ for destructive interference

17. Ans (1)

By $n = \frac{1}{2\ell}\sqrt{\frac{T}{m}}$

18. Ans (4)

$$\eta = \left(1 - \frac{T_2}{T_1}\right) \times 100$$

$$\eta = \left(1 - \frac{300}{400}\right) \times 100$$

$\eta = 25\%$

20. Ans (2)

$T_1 = m_1\omega^2\ell_1 + m_2\omega^2\ell_2$

$T_2 = m_2\omega^2\ell_2$

$$\frac{T_1}{T_2} = \frac{m_1\ell_1 + m_2\ell_2}{m_2\ell_2} = \frac{m_1 + 2m_2}{2m_2}$$

21. Ans (1)

We know that $R = V/I = 8/2 = 4\ \Omega$. Percentage error in V is $\frac{0.5}{8} \times 100 = 6.25$.

Percentage error in I is $\frac{0.2}{2} \times 100 = 10$. Now, add up the percentage errors and get the answer.

22. Ans (1)

$4u=(206)v$

$$v = \frac{4u}{206}$$

23. Ans (2)

Both the blocks are not moving together

so $\quad a_A = \frac{50 - 20}{5} = 6\ m/s^2$

$$a_B = \frac{20}{10} = 2\ m/s^2$$

24. Ans (4)

$P_{out} = \frac{mgh}{t}$

$= \frac{200 \times 10 \times 20}{10} = 4000$ W

$\%\eta = \frac{P_{out}}{P_{in}} \times 100$

$P_{in} = \frac{P_{out}}{\eta} \times 100 = \frac{4000}{50} \times 100$

$= 8000$ W

25. Ans (1)

$\perp$ axis theorem

$I_2 = I_1 + I_2 = I_3 + I_4$

26. Ans (3)

Equation of wave travelling along $\oplus$ve x-direction

$y = A\sin(Kx - \omega t) = A\sin\left(\frac{2\pi}{\lambda}x - 2\pi\nu t\right)$

$A = 1m, \quad \lambda = 2\pi m, \quad \nu = \frac{1}{\pi}$

$y = 1\sin\left(\frac{2\pi}{2\pi}x - 2\pi.\frac{1}{\pi}t\right) = \sin(x - 2t)$

27. Ans (2)

$f' = f\left(\frac{C}{C - V\cos\theta}\right)$

$\theta \approx 0 \quad f' = f\left(\frac{C}{C - V}\right)$

$\theta \approx 180° \quad f' = f\left(\frac{C}{C + V}\right)$

28. Ans (4)

$\frac{(m)(30) + (40 - m)80}{40} = \frac{95}{2}$

$m = 30$ kg

& 10 kg

29. Ans (3)

For (a) $V_P - V_N = 5 - 0 = 5 > 0 \Rightarrow$ F Bias

For (b) $V_P - V_N = -(10) = 10 > 0 \Rightarrow$ FB

For (c) $V_P - V_N = -15 - (-10) = -5 < 0 \Rightarrow$ RB

For (d) $V_P - V_N = -10 - (-20) = 10 > 0 \Rightarrow$ FB

30. Ans (2)

Method I :

For greatest distance, $v_1 = v_2$

so, $v = (0 + at) \Rightarrow t = \frac{v}{a}$ and separation $= \Delta S$

$= vt - \left(0 + \frac{1}{2}at^2\right) = vt - \frac{1}{2}at^2$

$= v\left(\frac{v}{a}\right) - \frac{1}{2}a\left(\frac{v}{a}\right)^2 = \frac{v^2}{2a}$

Method II :

For greatest distance $v_{rel} = 0$

so, $0^2 = u_{rel}^2 + 2a_{rel}\,S_{rel}$

$\Rightarrow S_{rel} = \frac{(v - 0)^2}{2(a - 0)} = \frac{v^2}{2a}$

31. Ans (4)

$I_{disc} = MK_1^2 = \frac{5}{4}MR^2$

$I_{ring} = MK_2^2 = \frac{3}{2}MR^2$

$\frac{K_1}{K_2} = \sqrt{\frac{5}{6}}$

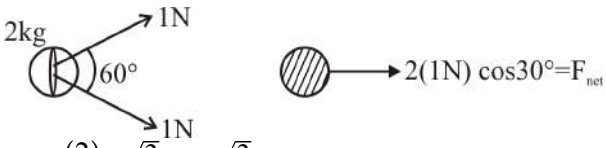
32. Ans (1)

Vr = constant in orbit

$r \rightarrow$ min

$V \rightarrow$ max

35. Ans (3)



$a = \frac{(2)}{2}\frac{\sqrt{3}}{2} = \frac{\sqrt{3}}{2}$ m/s^2

36. Ans (3)

Effect of thin film interference

37. Ans (2)

Adiabatic process

$TV^{\gamma-1} = \text{const}$

$T1V_1^{\gamma-1} = T_2V_2^{\gamma-1}$

$\frac{T_1}{T_2} = \left(\frac{V_2}{V_1}\right)^{\gamma-1} = \left(\frac{V_1}{9v_1}\right)^{1.5-1} = \frac{1}{3}$

$T_2 = 3T_1 = 3 \times 400 = 1200$ K $= 927°C$

38. Ans (3)

$$\left(\frac{KQ}{R^3}\right) r = 270r$$

$$\frac{9\times10^9\times Q\times r}{8\times10^{-3}} = 270r$$

$$Q = 2.4\times10^{-10}\ C$$

39. Ans (2)

$P_A = P_B$

$$P_0 + h\rho g + (2h)(3\rho)g = P_{tube} + \left(\frac{2h}{3} - \frac{h}{4}\right)(\rho)g$$

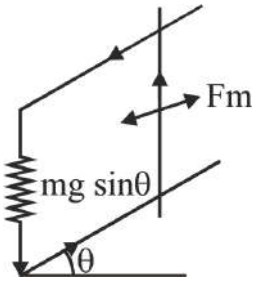
$$P_0 + 7h\rho g = P_{tube} + \frac{10}{3}h\rho g$$

$$\therefore P_{tube} = P_0 + \frac{11}{3}h\rho g$$

40. Ans (2)

Terminal velocity is attained when magnetic force is equal to mg sin θ

$\therefore F_m = mg\sin\theta$



or $= mg\sin\theta$

or $\left(\frac{e}{R}\right)\ell B = mg\sin\theta$

or $\frac{(Bv_T\ell)}{R}\times\ell B = mg\sin\theta$

$$\therefore\ v_T = \frac{mgR\sin\theta}{B^2\ell^2}$$

41. Ans (1)

$$I = \frac{GM}{r^2}$$

$$I_{total} = G\left[\frac{1}{(1)^2} + \frac{1}{(2)^2} + \frac{1}{(4)^2} + \frac{1}{(8)^2} + \ldots\infty\right]$$

$$= G\left[\frac{1}{1} + \frac{1}{4} + \frac{1}{16} + \ldots\ldots\infty\right]$$

$$S_\infty = \frac{a}{1-r} = \frac{1}{1-1/4} = \frac{1}{3/4} = \frac{4}{3} = G[s_\infty]$$

$$= G\left(\frac{4}{3}\right) = \frac{4G}{3}$$

42. Ans (3)

$y_1 = A_{net}\sin(\omega t + \phi_1)$

$$A_{net} = \sqrt{\left(\frac{1}{2}\right)^2 + \left(\frac{\sqrt{3}}{2}\right)^2} \quad \tan\phi = \frac{b}{a} = \frac{\sqrt{3}/2}{1/2}$$

$\tan\phi_1 = \sqrt{3} \Rightarrow 60°$

$y_2 = A_{net}\sin(\omega t + \phi_2)$ $\quad \phi_1 = \frac{\pi}{3}$

$$\tan\phi_2 = \frac{1}{1} = 45°$$

$$\phi_2 = \frac{\pi}{4}$$

$$\Delta\phi = \phi_1 - \phi_2$$

$$= \frac{\pi}{3} - \frac{\pi}{4}$$

$$\Delta\phi = \frac{\pi}{12}$$

43. Ans (3)

$$\frac{100}{12} + \frac{1}{2.4} = \frac{100}{12 - \frac{1}{3}} + \frac{1}{u}$$

$$\frac{200}{24} + \frac{10}{24} = \frac{300}{35} + \frac{1}{u}$$

$$\frac{1}{u} = \frac{210}{24} - \frac{300}{35}$$

$u \approx 5.6$ m

shifting = 5.6 m - 2.4 m

= 3.2 m

44. Ans (2)

$$F = qvB = \frac{qv\mu_0 i}{2\pi r}$$

$$\frac{mv^2}{R} = \frac{qv\mu_0 i}{2\pi r} \quad \Rightarrow \quad R = \frac{2\pi rmv}{q\mu_0 i}$$

45. Ans (2)

$V_{block} = \sqrt{2\times10\times0.1} = \sqrt{2}$ m/s

$(mv)_{bullet} = (mv)_{block} + (mv')_{bullet}$

$5 = 2\sqrt{2} + (0.01)v'$

v' = 220 m/s

46. Ans (2)

$$r \propto \frac{1}{\sqrt{d}} \propto \frac{1}{\sqrt{M}}$$

47. Ans (1)

along a period acidity increases so $Cl_2O_7 > SO_3 > P_4O_{10}$

48. Ans (1)

Sulphate is max. limit is drinking water 7500 PPM

50. Ans (4)

$P = K_H.X_B$

$760 = 3800.X_{CH_4}$

$\Rightarrow X_{CH_4} = 0.2$

$\Rightarrow X_{Benzene} = 0.8$

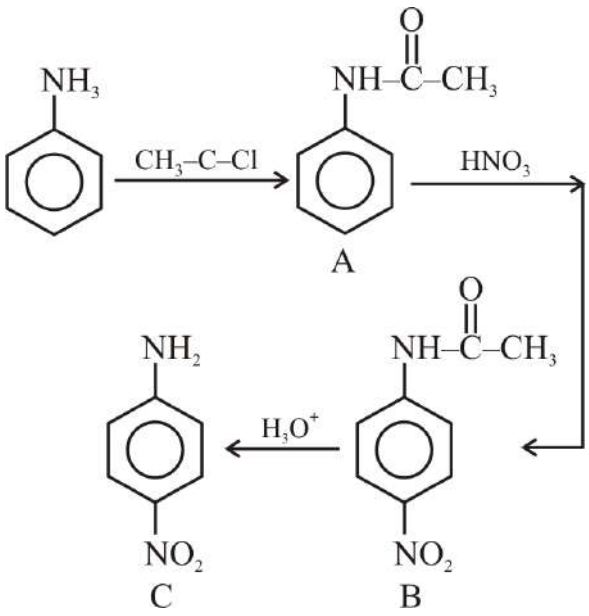
Let $n_{total} = 1 \Rightarrow n_{C_6H_6} = 0.8$

& $n_{CH_4} = 0.2$

$\Rightarrow m = \dfrac{0.2 \times 1000}{0.8 \times 78}$

$= 3.2$ m

51. Ans (2)



53. Ans (4)

Basic strength $\propto$ + M

55. Ans (3)

$1M \xrightarrow{t_{1/2}} 0.5\ M \xrightarrow{t_{1/2}} 0.25\ M$

$2t_{1/2} = 1$ hr

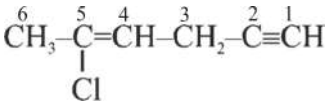
56. Ans (2)

The equilibrium constant for the reaction

$CuO(s) \rightleftharpoons Cu(s) + 0.5\ O_2\ (g)$ would be –

$\dfrac{K_1}{K_2} = \dfrac{2 \times 10^{15}}{5 \times 10^{22}} = 4 \times 10^{-8}$

57. Ans (2)



58. Ans (2)

Degree of dissociation $(\alpha) = \dfrac{\lambda_m}{\lambda_m^\infty}$

$\therefore\ \alpha = \dfrac{12.8}{42 + 288.42} \times 100 = 3.9\%$

59. Ans (1)

Order of reactivity HI > HBr > HCl > HF

61. Ans (4)

Acidic strength $\propto$ –M, –I

63. Ans (1)

$\Lambda_m = \dfrac{K \times 10^3}{M}$

$K = \dfrac{0.01.x}{10^3}$

$K = x.10^{-5}\ Scm^{-1}$

64. Ans (2)

$_{11}Na = 1s^2\ 2s^2\ 2p^6\ 3s^1$

for m = 0 $\Rightarrow 2 + 2 + 2 + 1 = 7$

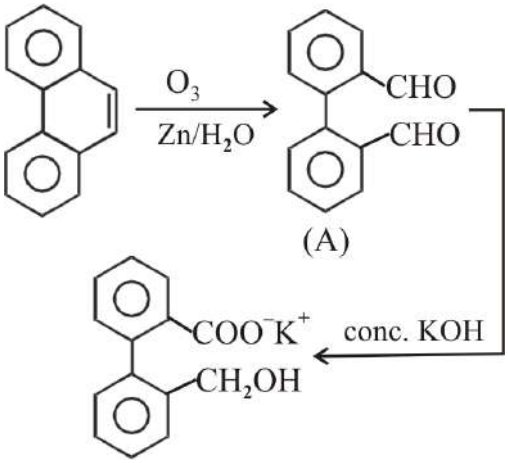
65. Ans (2)

$[Ma_3b_3] \rightarrow$ Fac – Mer

66. Ans (4)

– ve charge on more electronegative atom increase stability.

67. Ans (2)

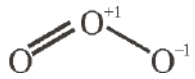


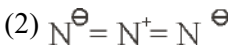
68. Ans (4)

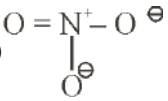
Volume strength $= \dfrac{11.2 \times 24.3}{34}$

$= 8V$

69. Ans (4)

(1) 

(2) 

(3) 

72. Ans (3)

$[H^+] = C\alpha$

$\alpha = \frac{10^{-3}}{10^{-2}} = 0.1$

74. Ans (3)

1° Alkyl halide with $R–O^-$ give Williamson's ether synthesisi.

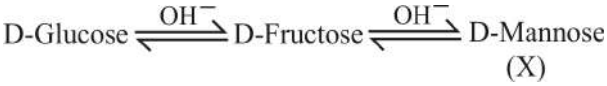
75. Ans (3)

Symmetrical alkene give same product.

76. Ans (1)

NCERT-XI, Pg No. 300, Para-10.6.6

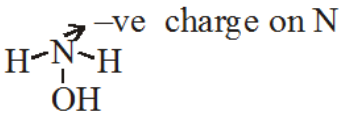
77. Ans (3)



78. Ans (1)

$NH_4Cl \xrightarrow{\Delta} NH_3 + HCl$

80. Ans (3)



For oxy acid = positive charge should be present

81. Ans (2)

$\frac{x}{m} = \frac{ap}{1+bp}$

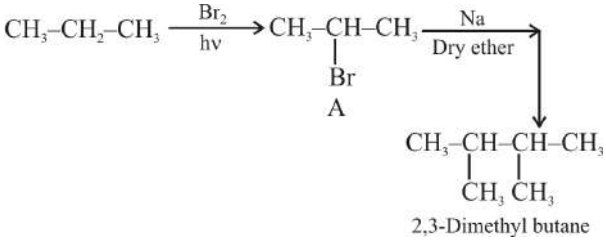
At high pressure 1 + bp = bp

or $\frac{x}{m} = \frac{ap}{bp} = \frac{a}{b}$

83. Ans (3)

All Aldihyde and Aliphatic methyl ketone react with $NaHSO_3$

84. Ans (3)



86. Ans (4)

Structural isomers have diffrent connectivity of atoms or group.

87. Ans (2)

Steric hindrence and + I decrease reactivity.

88. Ans (1)

$H_2O(g) + C(S) \rightarrow CO(g) + H_2(g)$ …(1)

$CO(g) + \frac{1}{2}O_2(g) \rightarrow CO_2(g)$ …(2)

$H_2(g) + \frac{1}{2}O_2(g) \rightarrow H_2O$ …(3)

$C(S) + O_2(g) \rightarrow CO_2(g)$ …(4)

Eq. (1) + eq. (2) + eq. (3) = eq. (4)

93. Ans (2)

NCERT (XIth) Pg. # 314

94. Ans (2)

NCERT-XII, Pg # 147

Malaria caused by Plasmodium falciparum is most harmful and may even cause death.

98. Ans (4)

NCERT (XIth) Pg. # 262, 263, 264

99. Ans (1)

NCERT (XIth) Pg. # 332

102. Ans (4)

NCERT (XI) Pg. # 20

104. Ans (3)

Module 01 Pg. # 185,186, and 194

107. Ans (3)

Module 01 Pg. # 174

112. Ans (4)

NCERT-XIth Pg # 287

113. Ans (2)

Module # 01 Pg. # 191

116. Ans (2)
NCERT (XIth) Pg. # 306,307

121. Ans (2)
NCERT Pg. # 75

129. Ans (4)
NCERT (XIth) Pg. # 49, Ist Para

138. Ans (2)
NCERT (XIth) Pg. # 326

140. Ans (4)
Module # 01 Pg. # 174

141. Ans (3)
NCERT (XIIth) Pg. # 53

144. Ans (2)
NCERT-XIth Pg # 270-71

151. Ans (4)
NCERT Pg.(XII) Page No. 64(E), 72(H)

153. Ans (3)
NCERT Pg. # 181

154. Ans (4)
NCERT XIIth Pg.#23

157. Ans (2)
Module # 01 Pg. # 190

158. Ans (2)
NCERT (XIth) Pg. # 338

161. Ans (1)
NCERT (XIth) Pg. # 101

168. Ans (3)
NCERT-XII, Pg # 159

170. Ans (3)
NCERT Pg. # 144, Last Para

172. Ans (1)
Module-3 Pg. # 131

173. Ans (2)
NCERT (XI) Pg. # 71

174. Ans (2)
NCERT XI, Pg.# 266

175. Ans (3)
NCERT (XIth) Pg. # 323, 324

179. Ans (4)
Module # 01 Pg. # 167

180. Ans (3)
NCERT (XI) Pg # 296