Practice Test - 1 - (NEET 2017-19 Aspirants) - SOLUTION - (30-06-2017)

1. (2) If we are adding two physical quantities their dimension should be same

2. (4) Area should have 2 significant figures

3. (1) % error in density = % error in mass + 3(% error in length)
= 3 + 3.2 =9 %

4. (2) % error in R = % error in V + (% error in I)
= 5 + 2 =7 %

5. (4) Use chain rule

6. (3) Use chain rule

7. (3) Integrate, a = dv/dt

8. (2) A.B = 0

9. (3) A.B = 50, A = 5 , B = 10

10. (3) Magnitude of unit vector is always 1

11. (3) R^2 = (3p)^2 + (2p)^2 + 2. 3p.2p cosX
(2R)^2 = (6p)^2 + (2p)^2 + 2. 6p.2p cosX

12. (1) tanX = perpendicular/ adjacent

13. (1) (2i - j + 3k).(2i - 5j - 3k) = 2.2 + (-1)(-5) + 3(-3) = 0

14. (3) v = dx/dt, a = dv/dt, t = 0

15. (1) ∫(2t- 2) = t^2 -2t

16. (2) S = ut + ½ at^2

17. (1) A body can have acceleration even if velocity is zero

18. (2) v = (80t + 10t)/2t

19. (4) T = 2u sinX/g

20. (2) R = $\frac{u^2 \sin 2\theta}{g}$

21. (3)

$$n = \frac{54}{27} = \frac{W_{Mg}}{24} \Rightarrow W_{Mg} \simeq 48\ gm$$

22. (1)

$$\text{No. of atoms} = \frac{1}{50} \times N_A \times 14$$

23. (3)

$$n = \frac{11.2}{22.4} = \frac{14}{M} \Rightarrow M = 28$$

24. (1)

$$\frac{W_{Mg}}{M} \times 100 = 0.376$$

$$M = \frac{56 \times 100}{0.376} \simeq 14800$$

25. (2)

1 mole S_8 can produce 8 mole SO_3

$$W_{SO_3} = 8 \times 80 = 640$$

26. (2)

Theory

27. (1)

Isobars: same no. of p + n.

28. (1)

$$V \propto \frac{1}{n}$$

29. (1)

$$\frac{1}{\lambda_4} = R\left(\frac{1}{2^2} - \frac{1}{6^2}\right) \Rightarrow \lambda_4 = \frac{9}{2R}$$

$$\frac{1}{\lambda_5} = R\left(\frac{1}{2^2} - \frac{1}{7^2}\right) \Rightarrow \lambda_5 = \frac{196}{45R}$$

$$\lambda_4 - \lambda_5 = \frac{0.144}{R} = 1.31 \times 10^{-8}$$

$$\simeq 131\,\mathring{A}$$

30. (3)

$n \neq \ell$

31. (1)

	%	%/M	
C	70.8	$\frac{70.8}{12} = 5.9$	$\frac{5.9}{0.292} \simeq 20$
H	6.2	$\frac{6.2}{1} = 6.2$	$\frac{6.2}{0.292} \simeq 21$
N	4.1	$\frac{4.1}{14} = 0.292$	1
O	18.9	$\frac{18.9}{16} = 1.18$	$\frac{1.18}{0.292} = 4$

$C_2H_{21}NO_4$

32. (3)

$$4Fe + 3O_2 \rightarrow 2Fe_2O_3$$

$$\frac{x/56}{4} = \frac{10/32}{3}$$

$$x = 23.3$$

33. (1)

$$n_{KCl} = 0.5 \times \frac{100}{1000} = \frac{100}{1000} \times 0.4 + n^1_{KCl}$$

$$n^1_{KCl} = 0.01$$

$$W^1_{KCl} = 0.745 \text{ gm}$$

34. (1)

$$xMg + \frac{y}{2}N_2 \rightarrow Mg_xN_y$$

0.273 0.378

Mole method

$$\frac{0.273}{x \times 24} = \frac{0.378}{24x + 14y}$$

$$\frac{x}{y} = \frac{3}{2}$$

35. (3)

HCl will be limiting reagent

$$\frac{n_{HCl}}{4} = \frac{n_{Cl_2}}{1}$$

$$W_{Cl_2} = \frac{1}{36.5 \times 4} \times 71 = 0.486 \text{ gm}$$

36. (3)

Theory

37. (3)

5^{th} shell

As $\ell = 4$ (g-subshell) is possible first in $n = 5$

38. (1)

Theory

39. (4)

$$Mn^{4+} \Rightarrow [A_2]3d^3$$

$$n = 3$$

40. (1)

According to Aubbau's principle