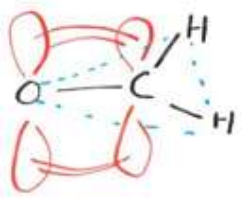
PART (B) : CHEMISTRY

Answer Key & Solution

21. (A)

22. (B)



YZ plane nodal plane of π bond.

23. (D)

$$204.4 = \frac{203(100-P)+205P}{100}$$

24. (C)

$$\text{Molarity} = 10\times 12\times\frac{1.131}{40} = 3.393\,M$$

$$3.393\times V(L) = 5$$

$$\Rightarrow\ V = \frac{5}{3.393} = 1.47\,L$$

25. (A)

$$Mg(OH)_2 + 2HCl \rightarrow MgCl_2 + 2H_2O$$

$$\Downarrow$$

15×80 mg of $Mg(OH)_2$

$$= \frac{15\times 80\times 10^{-3}}{58} \text{ moles } Mg(OH)_2$$

$$\text{Moles of HCl required} = \frac{2\times 15\times 80\times 10^{-3}}{58}$$

$$= \frac{2\times 15\times 80\times 10^{-3}}{58} = 0.17\times V(L)$$

$$\Rightarrow\ V = 0.243\,L$$

26. (D)

$$\lambda = \frac{h}{\sqrt{2MeV}}$$

27. (B)
Conceptual

28 (A)
$n = 1,\ \ell = 0$

29. (C)

30. (B)
No. of Lines = $n - 1$

31. (A, C, D)
Conceptual

32. (ABC)

33. (B, D)
BO of NO = 2.5
Bo of NO^+ 3

34. (BC)

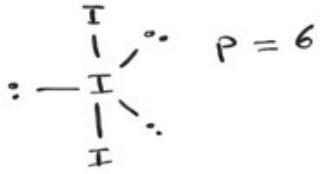
35. (A, B, C)

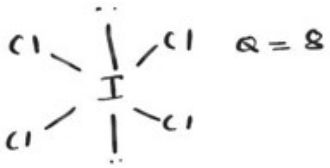
36. (4)
He, Be, N, Ne

37. (2)

38. (3)
$SO_2 \rightarrow 1\ d\pi - p\pi$ bond
$SO_3 \rightarrow 2\ \ d\pi - p\pi$ bond

39. (2)





40. (6)
TBP geometry have sixe faces and nine edges.