

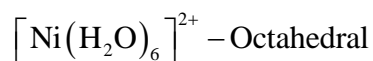
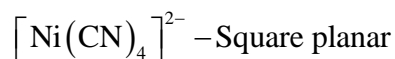
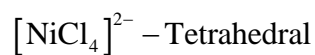
IIT-JEE-2011

PAPER-I CHEMISTRY

SECTION-I

1. Answer: (B)

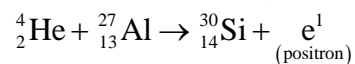
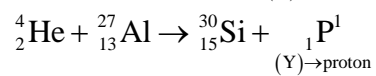
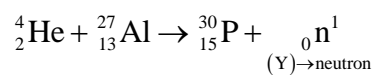
Sol.



2. Answer: (D)

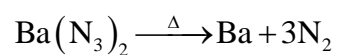
3. Answer: (A)

Sol.



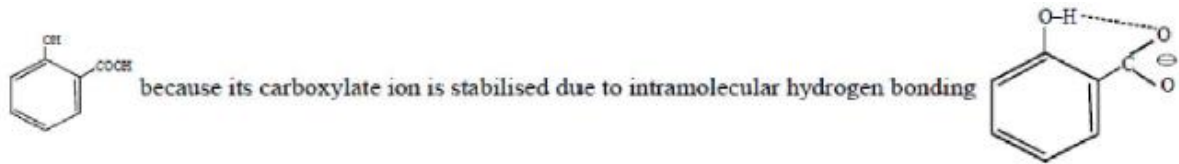
4. Answer: (D)

Sol.



5. Answer: (C)

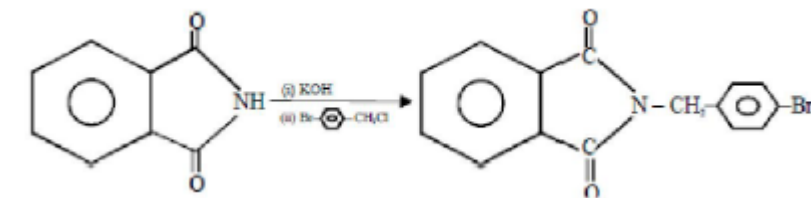
Sol.



and due to ortho effect.

6. Answer: (A)

Sol.



7. Answer: (C)

Sol.

Total mass of the solution = $1000 - 120 = 1120$ g

$$V = \frac{1120}{1.15} = 0973L$$

$$n_{urea} = \frac{120}{60} = 2mol$$

$$M = \frac{2}{0.973} = 2.05M$$

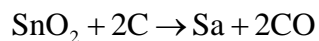
SECTION – II

8. Answer: (A, D)

Sol.

Cassiterite contains impurity of FeWO_4

(SnO_2)



9. Answer: (B, C)

10. Answer: (A, B, D)

11. Answer: (A, B, C, D)

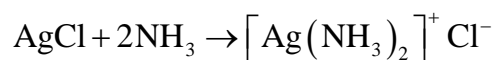
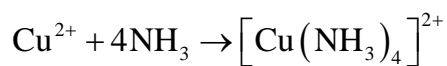
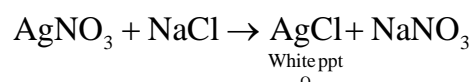
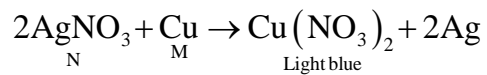
SECTION – III

12. Answer: (B)

13. Answer: (A)

14. Answer: (C)

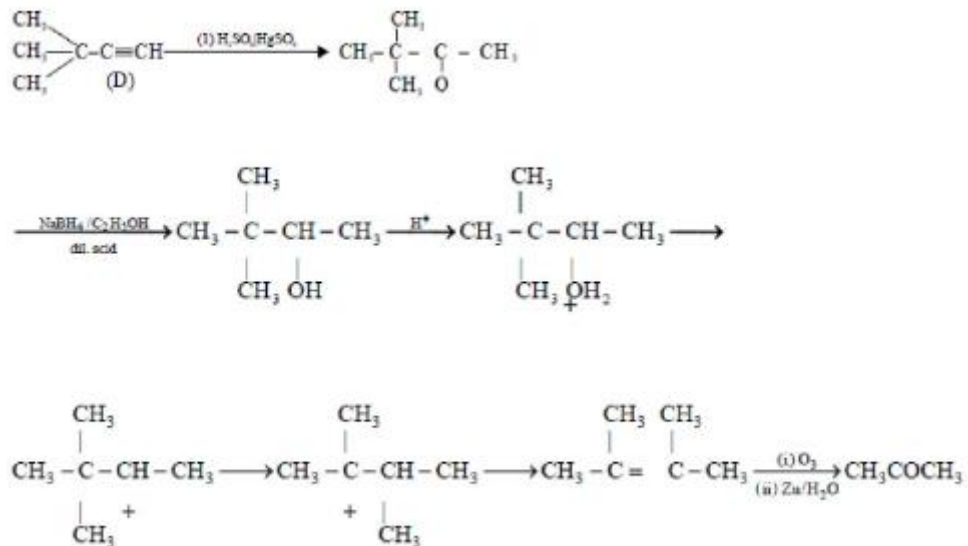
Sol.



15. Answer: (D)

16. Answer: (B)

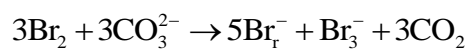
Sol.



SECTION – IV

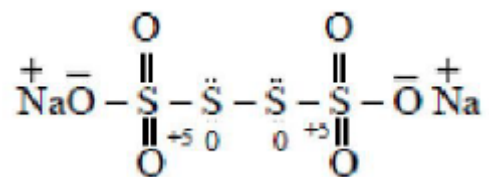
17. Answer: (5)

Sol.



18. Answer: (5)

Sol.



19. Answer: (9)

Sol.

Number of orbital for $n = 3$ is $= n^2 = 9$

Number of electron $n = 3$ and $m_s = -\frac{1}{2} = 9$

20. Answer: (6)

Sol.

Let number of glycine units $= n$

mass of decapeptide $= 796$

mass of H_2O needed $= 162$ g

$$= 958 \text{ g}$$

Total mass $958 \times \frac{47}{100} = 75 \times n$

$$\therefore n = \frac{958 \times 47}{100 \times 5} \approx 6$$

21. Answer: (7)

Sol.

Let unknown is X

$$p_{He} = p_{total} - p_x = (1 - 0.68) \text{ atm}$$

$$= 0.32 \text{ atm}$$

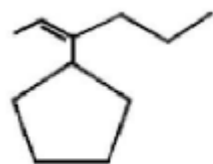
$$= n_{He} = n_{He} \frac{RT}{V}$$

$$\text{Now } \therefore v = \frac{RT}{p_{He}} = \frac{0.10 \times 0.082 \times 273}{0.32}$$

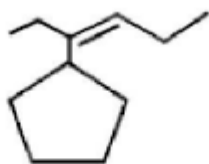
$$= 7$$

22. Answer: (5)

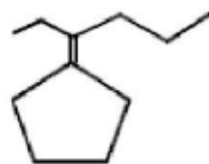
Sol.



(Cis + trans)



(Cis + trans)



23. Answer: (4)

Sol.

For photoelectric effect to happen.

$$E \geq \phi \Rightarrow \phi \leq 4.14eV$$

\therefore Li, Na, K, Mg will show photo electronic effect when light of 300 nm wavelength falls on the metal is (4).

