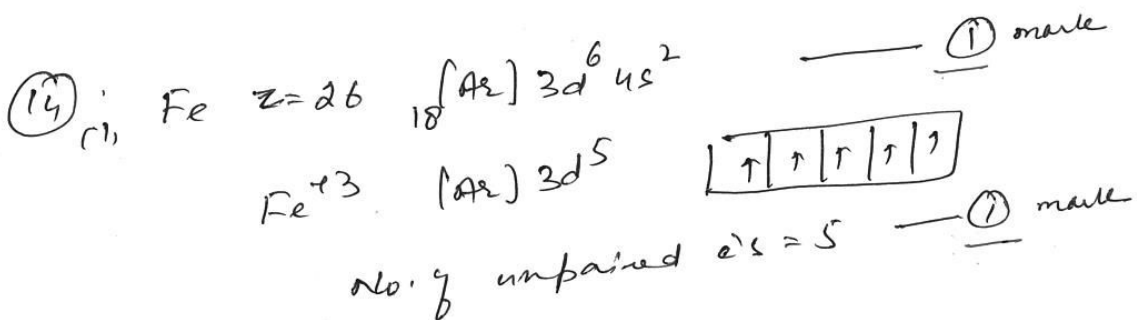


§ Answers.

(2) $(n-2)f^{0-14} (n-1)d^{0-2} ns^2$ where $n = 6-7$ — 1 mark

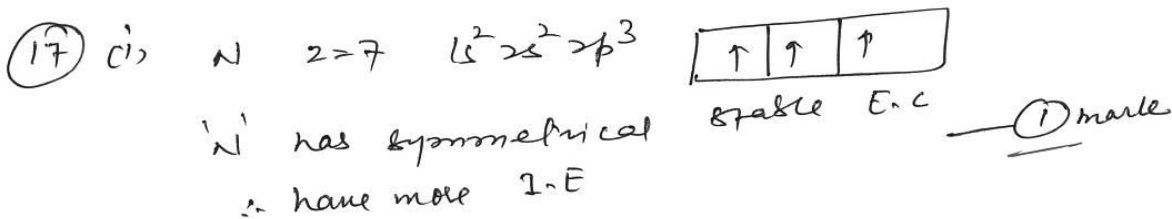
(3) (6) mass of Mg = 2.687 g of 2 g
 $= \frac{2.687}{100} \times 2 = 0.0536$ g
 No. of atoms = moles \times Avogadro's No.
 $= \frac{0.0536}{24} \times 6.022 \times 10^{23}$
 $= 1.345 \times 10^{21}$ atoms } 1 1/2 marks

(9) 1 mark + 1/2 + 1/2 mark (NCERT ex. 14.10)
two consequences



(ii) $n=4$ $l=2$ 1/2 mark
 $m=0$ 1/2 mark

(15) NCERT exercise 3.4 — 2 marks



~~(15) Increasing metallic character~~

(iii) Increasing metallic character is
 $\text{B} < \text{Al} < \text{Mg} < \text{K}$ — 1 mark

(18) $\frac{1}{2} \times 4 = 2$ marks

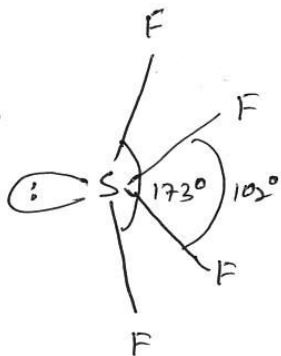
(19) $P = \frac{w}{M} \frac{RT}{V}$ $\frac{1}{2}$ mark

$$P_{\text{CH}_4} = \frac{3.2 \times 0.0821 \times 300}{16 \times 9} = 0.55 \text{ atm}$$

$$P_{\text{CO}_2} = \frac{4.4 \times 0.0821 \times 300}{44 \times 9} = 0.27 \text{ atm}$$

$$\text{Total Pressure} = P_{\text{CH}_4} + P_{\text{CO}_2} \\ = 0.55 + 0.27 = \underline{\underline{0.82 \text{ atm}}}$$

(21) (a)



(b)

