

(Relative formula mass (M_r))

Q1. (2018)

80

Q2. (2018)

(1.2 kg $\Rightarrow$ 1200 (g))

or (900 g $\Rightarrow$ 0.9 (kg))

$$\left(\frac{900}{1200} \times 100 \right) = 75(\%)$$

or

$$\left(\frac{0.9}{1.2} \times 100 \right) = 75(\%)$$

Q3.a)(2021)

$$(3 \times M_r \text{H}_2\text{O} = 3 \times (2 + 16) \Rightarrow) 54$$

$$(A_r \text{R} = 150 - 54 \Rightarrow) 96$$

alternative approach:

$$(M_r \text{RO}_3 = 150 - 6 \Rightarrow) 144 \text{ (1)}$$

$$(A_r \text{R} = 144 - (3 \times 16) \Rightarrow) 96 \text{ (1)}$$

Q3.b)(2021)

(R $\Rightarrow$) molybdenum / Mo

Q4.(2022)

$$(M_r =)$$
$$(1 \times 2) + 12 + (16 \times 3)$$

$$= 62$$

Q5.(2023)

$$(M_r =)$$
$$(2 \times 56) + (3 \times 16)$$

$$= 160$$

Q6.(2024)

(percentage =)

$$\frac{63.5}{159.5} \times 100$$

$$= 39.81191 (\%)$$

$$= 39.8 \%$$

Q7. (2024)

$$(M_r =)$$
$$(27 \times 2) + (16 \times 3)$$

$$= 102$$