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Date: 21-01-2022

Class: 9th Genesis

Subject: Science

Test code: SEP16(21021319)

Chemistry ***M. Marks: 20***

1. (a) State law of conservation of mass? (2)

   (b) What mass of silver nitrate will react with 5.85 g of sodium chloride to produce 14.35 g of silver chloride and 8.5 g of sodium nitrate if the law of conservation of mass is true?

2. Calculate the molecular masses of the following: (2)

   (i) $C_{12}H_{22}O_{11}$ (ii) $Al_2(SO_4)_3$

3. (a) Which postulate of Dalton's atomic theory is the result of the law of conservation of mass? (2)

   (b) Which postulate of Dalton's atomic theory can explain the law of definite proportion?

4. Write the limitations of Dalton's atomic theory? (3)

5. Calcium carbonate ($CaCo_3$) contains 40% calcium, 12% carbon and 48% oxygen by mass. Knowing that the law of constant composition holds good, calculate the mass of the constituent elements present in 2 g of calcium carbonate. (3)

6. (a) What are molecules? (3)

   (b) State the difference between homoatomic & heteroatomic molecules and give examples.

7. (a) What is meant by atomicity of a molecules? Give examples of monoatomic, diatomic & tetra atomic molecules (5)

   (b) What do you mean by atomic mass unit ?

   (c) Why is copper represented by the symbol 'Cu' while there is no letter 'u' in the name?

   (d) State law of constant proportions