

**SEMESTER—ONE****CHEMISTRY**

Class X

Student Name: .....

Date: .....

**Period—I : Topic 1****INTRODUCTION TO CHEMISTRY****Multiple Choice Questions**

Select and write one most appropriate option out of the four options given for each of the questions 1–5.

- Picometer (pm) and nanometer (nm) are correctly related as
  - 1 pm = 10 nm
  - 1 nm = 10 pm
  - 1 pm = 100 nm
  - 1 nm = 1000 pm.
- Which of the following reported values is more precise
  - $20.45 \pm 0.15$
  - $20.60 \pm 0.05$
  - $20.20 \pm 0.10$
  - $20.50 \pm 0.02$ .
- A compound of C, H and O has, C = 40.0%, H = 6.66% and O = 53.34%. The molecular mass of the compound is 90. What will be the molecular formula of the compound?
  - $\text{CH}_2\text{O}$
  - $\text{C}_2\text{H}_4\text{O}_3$
  - $\text{C}_6\text{H}_{12}\text{O}_6$
  - $\text{C}_3\text{H}_6\text{O}_3$ .
- Which of the following compounds has same empirical formula as that of glucose?
  - $\text{CH}_3\text{CHO}$
  - $\text{CH}_3\text{COOH}$
  - $\text{CH}_3\text{OH}$
  - $\text{C}_2\text{H}_6$ .
- Simplest formula of the oxide of nitrogen containing 14 g of nitrogen for each 40 g of oxygen is
  - NO
  - $\text{N}_2\text{O}_3$
  - $\text{N}_2\text{O}_4$
  - $\text{N}_2\text{O}_5$ .

## Fill in the Blanks

Fill in the blanks with a suitable word for each of the questions 1–5.

1. The mass of moon is reported as  $7.3 \times 10^{22}$  kg. In a calculation it is found to be  $6.9 \times 10^{22}$  kg, the accuracy of calculation is \_\_\_\_\_ .
2. There are \_\_\_\_\_ basic SI units.
3. Equal volumes of different gases under similar conditions of temperature and pressure contain equal number of \_\_\_\_\_ .
4. The number of significant figures in 13.200 is \_\_\_\_\_ .
5. Percentage of hydrogen in propyne is \_\_\_\_\_ .

## True or False

State whether the following statements are true or false for each of the questions 1–5.

1. Robert Boyle formulated the Boyles's law which describes the relationship between pressure and volume of air.
2. Study of compounds of all other elements except carbon is known as organic chemistry.
3. A complete set of both the base and derived units, is known as the system of units.
4. The SI system has five base units.
5. A binary compound is a compound that contains only four elements.

## Theoretical Questions

Answer each of the questions 1–5.

1. What do you understand by the term unified mass?

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2. What do you understand by the following terms:

- (i) Significant figures
- (ii) Rounding off

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3. (i) Write 0.00560 cm in scientific notation.

(ii) What is the difference between 5 g and 5.00 g?

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4. Write five safety rules of laboratory.

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5. Convert each of the following:

- (i) 5 gram to centigram
- (ii) 25000 millimeter to meter
- (iii) 1200 seconds to minutes
- (iv)  $40^{\circ}$  Celsius to Fahrenheit

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