$q\mathcal{1}$

Time allowed: 10 Minutes

| Version Number | 1 | 8 | 5 | 5 |

Note: Section – A is compulsory. All parts of this section are to be answered on the separately provided OMR Answer Sheet which should be completed in the first 10 minutes and handed over to the Centre Superintendent. Deleting/overwriting is not allowed. Do not use lead pencil.

Q. 1 Choose the correct answer A / B / C / D by filling the relevant bubble for each question on the OMR Answer Sheet according to the instructions given there. Each part carries one mark.

1) Study of chemical composition of living organisms is called:
   - A. Physical Chemistry
   - B. Organic Chemistry
   - C. Biochemistry
   - D. Nuclear Chemistry

2) The particles which revolve around the nucleus in an atom are called:
   - A. Electrons
   - B. Protons
   - C. Neutrons
   - D. Positrons

3) Chlorine is the element of:
   - A. Alkali metals
   - B. Noble gases
   - C. Halogens
   - D. Metalloids

4) Chemical formula of lime stone is:
   - A. Na_2CO_3
   - B. $CaCO_3$
   - C. K_2CO_3
   - D. $MgCO_3$

5) Homogenous mixtures are also called:
   - A. Compounds
   - B. Radical
   - C. Salts
   - D. Solutions

6) The freezing point of water in Fahrenheit scale is:
   - A. $0\,^{\circ}F$
   - B. $272\,^{\circ}F$
   - C. $32\,^{\circ}F$
   - D. $180\,^{\circ}F$

7) Volume is expressed by:
   - A. $L \times W \times H$
   - B. $L \times W$
   - C. $(L \times W)^2$
   - D. $\dfrac{L \times W}{2}$

8) Increase in temperature will _____ the solubility of solute in water.
   - A. Not affect
   - B. Increase
   - C. Decrease
   - D. Change to zero

9) No. of moles of solute dissolved per kilogram of solvent is called:
   - A. Molarity
   - B. Normality
   - C. Formality
   - D. Molality

10) Buffers are used to resist drastic changes in:
   - A. pH
   - B. Temperature
   - C. Density
   - D. Viscosity

ELEMENTARY CHEMISTRY AND CHEMICAL PATHOLOGY   HSSC-I

Time allowed: 2:20 Hours   **Total Marks Sections B and C: 40**

NOTE: Answer any thirteen parts from Section 'B' and any two questions from Section 'C' on the separately provided answer book. Use supplementary answer sheet i.e. Sheet–B if required. Write your answers neatly and legibly.

SECTION – B (Marks 26)

Q. 2   Answer any THIRTEEN parts. The answer to each part should not exceed 2 to 4 lines.   (13 x 2= 26)

   (i)   Define acid and base.

   (ii)   Name any 2 salts with their chemical formulae.

   (iii)   Define hydrolysis.

   (iv)   Write down principle of filtration.

   (v)   What is evaporation?

   (vi)   Define reversible reactions.

   (vii)   Write down types of balances used to measure the mass of a substance.

   (viii) What is the principle of centrifuge?

   (ix)   What are the sources of proteins?

   (x)   Define carbohydrates.

   (xi)   Enumerate fat soluble vitamins.

   (xii)   What are normal values of glucose in human blood?

   (xiii) In what conditions, does the uric acid level increase in blood?

   (xiv)   What are the normal values of transaminases in serum?

   (xv)   Define heat and temperature.

   (xvi)   Write down Henderson Hasselbach equations.

   (xvii) Write down any four classes of enzymes.

SECTION – C (Marks 14)

Note: Attempt any TWO questions. All questions carry equal marks.   **(2 x 7 = 14)**

Q. 3   What is cholesterol? Why is it important for our body? What are its clinical significance and normal values?

Q. 4   What are vitamins? Discuss water soluble vitamins in detail.

Q. 5   Write notes on the following:

   a.   Dehydration and Oedema.

   b.   Clinical significance of glucose in urine.

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