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) Briefly give the utility of chemical pathology.

(ii) Define Periodic law and Periodic table of elements.

(iii) Write down the chemical formulae of any ten common compounds.

(iv) Define Heat and Temperature on the basis of Kinetic Molecular Theory.

(v) Briefly mention the factors affecting solubility.

(vi) How will you prepare 300ml of 0.2 N solution from a 0.7 N solution?

(vii) How is an acid related to its conjugate base? Clarify with any two examples.

(viii) Briefly write the principle and significance of centrifugation.

(ix) Briefly write the reactions of water "Hydrolysis" and "Hydration".

(x) Differentiate between Serum and Plasma.

(xi) What do you know about Beer's lambert law? Also give its formula.

(xii) Why is glucose termed as primary metabolic fuel for the body?

(xiii) What is bilirubin? Give its types and normal serum levels.

(xiv) What are transaminases? Give clinical significance of these enzymes.

(xv) What do you mean by acid-base balance in the body?

(xvi) Define Dehydration and Edema.

(xvii) Give the significance of analysis of chloride (Cl) in urine.

SECTION – C (Marks 14)

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

Q. 3 Write down the principle, procedure and normal value for plasma cholesterol estimation.

Q. 4 What do you mean by Jaundice? Give its types and also give principle of bilirubin estimation.

Q. 5 What is diabetes mellitus? How is glucose estimation helpful in its diagnosis?

Roll No. | | | | | | | Answer Sheet No._____ 83

Sig. of Candidate._____ Sig. of Invigilator._____

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SECTION – A (Marks 10)

Time allowed: 10 Minutes

NOTE: Section–A is compulsory. All parts of this section are to be answered on the question paper itself. It 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 Circle the correct option i.e. A / B / C / D. Each part carries one mark.

(i) The isotopes of an element differ in the number of:

A. Electrons B. Protons

C. Neutrons D. Positrons

(ii) Which one of the following has component in fixed proportions?

A. Elements B. Compound

C. Mixture D. Solution

(iii) The average translational kinetic energy of molecules in a body is termed as:

A. Temperature B. Heat

C. Weight D. Force

(iv) An acid donates a proton and is converted to its:

A. Acid B. Base

C. Conjugate base D. Salt

(v) The conversion of a solid directly into gaseous form is termed as:

A. Oxidation B. Hydrolysis

C. Sublimation D. Precipitation

(vi) "Monochromatic" is a part of:

A. Centrifuge B. pH meter

C. Microtome D. Spectrophotometer

(vii) SGPT and SGOT are termed as:

A. Phosphotases B. Transaminases

C. Sulphatases D. Dehydrogenises

(viii) Which of the following minerals is in a higher concentration inside cells:

A. Sodium B. Potassium

C. Iron D. Calcium

(ix) Diabeties inspidis is a condition caused by deficiency of:

A. Insulin B. Glucagon

C. Antidiuretic Hormone D. Growth Hormone

(x) The metabolic product of purine nucleotides is:

A. Urea B. Creatinine

C. Uric acid D. Bilirubin

For Examiner's use only:

Total Marks: 10

Marks Obtained: