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Sig. of Invigilator. \_\_\_\_\_

Sig. of Candidate. \_\_\_\_\_

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**SECTION – A (Marks 10)**

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) Sodium hydroxide is a \_\_\_\_\_.  
A. Weak acid  
B. Strong acid  
C. Weak base  
D. Strong base
- (ii) Removal of electron is termed as \_\_\_\_\_.  
A. Reduction  
B. Electrolysis  
C. Oxidation  
D. Combustion
- (iii)  $C_6H_{12}O_6$  is the chemical formula of \_\_\_\_\_.  
A. Hexane  
B. Ethyl alcohol  
C. Methane  
D. Glucose
- (iv) What does the Low pH mean?  
A. High concentration of hydrogen  
B. Low concentration of hydrogen  
C. High concentration of hydroxide ion  
D. None of these
- (v)  $H_2SO_4$  is a \_\_\_\_\_.  
A. Monabasic acid  
B. Diabasic acid  
C. Tribasic acid  
D. None of these
- (vi) Rickets is \_\_\_\_\_.  
A. Deficiency of Vitamin A in adults  
B. Deficiency of Vitamin A in children  
C. Deficiency of Vitamin D in adults  
D. Deficiency of Vitamin D in children
- (vii) Which of the following is a muscle protein?  
A. Glucagon  
B. Insulin  
C. Myosin  
D. Pepsin
- (viii) Normal value of blood triglycerides \_\_\_\_\_.  
A. 60-80 mg%  
B. 20-40 mg%  
C. 100-150 mg%  
D. 8-20 mg%
- (ix) VD-BERG'S test is performed to detect \_\_\_\_\_.  
A. Sugar in blood  
B. Sugar in urine  
C. Ketone bodies in urine  
D. Bilirubin in serum
- (x) Beriberi is caused due to the deficiency of \_\_\_\_\_.  
A. Folate  
B. Niacin  
C. Riboflavin  
D. Thiamine

**Total Marks:**

10

**Marks Obtained:**



## ELEMENTARY CHEMISTRY AND CHEMICAL PATHOLOGY

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

- (i) Differentiate between Exothermic and Endothermic reactions.
- (ii) What is a Crystal? Define Crystallization.
- (iii) Define Enzyme and Iso-enzyme.
- (iv) Explain briefly the process of Oxidation and Reduction.
- (v) Briefly explain the Patho-physiology of vitamin C.
- (vi) Write down the normal  $Na^+$  and  $K^+$  level in the serum.
- (vii) Write briefly the functions of Chloride in our body.
- (viii) Write down the clinical significance of the following:
  - a. SGOT
  - b. SGPT
- (ix) Differentiate between Atomic number and Atomic mass.
- (x) What is Periodic classification?
- (xi) Differentiate between Apo-enzyme and Co-enzyme.
- (xii) Briefly explain Hemoproteins with examples.
- (xiii) Define Porphyrins.
- (xiv) Differentiate between Essential and Non-essential fatty acids.
- (xv) Write down the normal values of the given parameters in mg% in serum of adults:
  - a. Cholesterol
  - b. Calcium
  - c. Total bilirubin
  - d. Urea
- (xvi) Define **Basicity of acids** and **Acidity of bases**.
- (xvii) Define Gout.

### SECTION – C (Marks 14)

Note: Attempt any TWO the questions. All questions carry equal marks.

(2 x 7 = 14)

- Q. 3 Define Urine. Describe the principle and method of estimation of **albumin** and **sugar** in urine.
- Q. 4 Explain the clinical significance of serum **alkaline Phosphatase**. Write the principle and method of determination of serum alkaline phosphatase.
- Q. 5 Write down the main functions and normal value of **Calcium** in the body. Explain how serum calcium is measured in the laboratory.