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. Monobasic acid
     B. Diaboric 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
SECTION – B (Marks 26)

Q. 2 Attempt any THIRTEEN parts. The answer to each part should not exceed 2 to 4 lines. 

(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 Porphyrias. 
(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.


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.