

**B.Sc. 4th Semester (Honours) Examination, 2023 (CBCS)****Subject : Chemistry****Course : SEC-2****(Analytical Clinical Biochemistry)****Time: 2 Hours****Full Marks: 40***The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Answer *any five* questions from the following: 2×5=10
- (i) Distinguish between 'co-factor' and 'co-enzyme'.
  - (ii) What is haemophilia?
  - (iii) What do you mean by metabolism?
  - (iv) What is 'Gene-therapy'?
  - (v) What do you mean by Denaturation of protein? Give example.
  - (vi) What are the different types of RNA? Mention the main function of RNA.
  - (vii) What is Bio-catalyst? Give one example.
  - (viii) What do you mean by Genetic Code?
2. Answer *any two* questions from the following: 5×2=10
- (a) Proteins are called amphipathic molecules — explain. Give the structure of Ninhydrin. How can you identify a protein by Ninhydrin? 2+1+2
  - (b) What do you mean by extrinsic blood coagulation? Describe briefly the mechanism of coagulation of blood. 2+3
  - (c) Describe briefly the enzymes involved in Krebs cycle. What do you mean by ATP? 3+2
  - (d) What is Lipid? Mention its classification with proper example. 1+4
3. Answer *any two* questions from the followings: 10×2=20
- (a) What is Proteinuria? When does it occur? Mention its classification. Describe the general components of urine. 2+1+2+5
  - (b) What is glycosidic linkage? Name a reducing sugar and give its structural formula. What is the cause of its reducing property? Describe the Lactic acid fermentation. What is glycogen? 1+(1+1)+2+4+1

- (c) What is DNA replication? Mention its general properties. Discuss briefly the mechanism of DNA replication. 2+4+4
- (d) State the effect of pH and temperature on enzyme. What is enzyme inhibitor? How many types of enzyme inhibitor are there? Give one example for each type. (2.5+2.5)+2+1+2