# 2021

## BIOCHEMISTRY — HONOURS

### Paper : SEC-B-1

### (Clinical Biochemistry)

### Full Marks : 80

*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 ten** questions :                                                           2×10

   (a) What are the different complications arise during blood collection?

   (b) Which is the best preservative for hemogram?

   (c) Write down two differences between serum and plasma.

   (d) Write down one clinical significance of elevated lipoprotein.

   (e) What is atherosclerosis?

   (f) What is the clinical significance of troponin?

   (g) What is congenital heart disease?

   (h) What is the significance of alanine transaminase (ALT)?

   (i) What causes high LDH level?

   (j) What is renal clearance test?

   (k) Write down the reaction catalysed by glucoseoxidase.

   (1) What is precision and accuracy of results in clinical biochemistry?

   (m) What is a clinical marker for any disease?

   (n) What are the clinical significances of SGOT and SGPT?

   (o) Give one example for each of LFT and RFT.

2. Answer **any four** questions :

   (a) What is the difference between plasma and serum? How do you separate serum from blood? Why serum is preferred over plasma?                                      2+2+1

   (b) What are the components of lipid profile? What are the clinical interpretations from the lipid profile?                                                         1+4

   (c) What is the clinical importance of albumin : globulin ratio? Why creatinine is a better marker in old patients? What is urea clearance?                             2+2+1

**Please Turn Over**

(d) What is OGTT and EGTT? What are their clinical significances with respect to disease diagnosis?

1+4

(e) What is myocardial infarction? What clinical marker will you suggest to determine it in a patient with myocardial infarction? What is parenchymal liver damage? How will you diagnose it?

1+1+1+2

(f) Write any three characteristics of morphological changes in a tumorous cell. What is alpha-fetoprotein? What is the significance of elevated alpha-fetoprotein? 3+1+1

(g) What is apolipoprotein? What are good and bad cholesterols? Why are they so called? 2+1+2

(h) What is hyperbilirubinemia? When and how does it happen? 2+3

3. Answer *any four* questions :

(a) What is BUN? Why urea concentration increases with age? What is GFR? What are the reasons for decreased GFR? What is uremia? Why a diet high in protein is harmful to the patient of gout?

2+2+1+2+1+2

(b) What are different cardiac markers? Discuss about any one of the cardiac markers. How is coronary artery disease diagnosed? What is most common congenital heart defect? 3+2+3+2

(c) How liver takes part in drug metabolism? What are the different causes behind the Cirrhosis of liver? How serum creatinine is estimated quantitatively? 4+3+3

(d) What causes Diabetes mellitus? Discuss about the symptoms associated with it. Why do I need triglyceride level test? What medical conditions lead to the rise of triglyceride levels? 3+2+2+3

(e) What is the clinical significance of urinary protein? How will you classify proteinuria and what are the common causes of benign proteinuria? What is microalbuminuria? What is the difference between proteinuria and microalbuminuria? How will you interpret the results of the urine albumin to urine creatinine ratio? 2+3+1+2+2

(f) How do you measure blood glucose by GOD-POD method? What is glycosylated haemoglobin? What is its clinical significance with respect to disease diagnosis? What is insulin resistance? What are the primary causes for insulin resistance? 3+1+2+1+3