5/H–64 (vi) (Syllabus–2015)

2 0 1 8

(October)

BIOCHEMISTRY

(Honours)

(Nutritional and Clinical Biochemistry)

(BCHEM–502)

Marks : 56

Time : 3 hours

The figures in the margin indicate full marks for the questions

Answer **four** questions, taking at least **one** from each Part

PART—A

1. (a) Discuss the significance of carbohydrates in terms of their nutritive and physiological roles. 7

(b) Discuss in detail the structure and biological functions of vitamin A. 7

(a) Define BMR. Mention the ways by which BMR can be measured. 1+6=7

(b) What is RDA? Discuss how RDA is formulated for Indian population. 1+6=7

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3. *(a)* What is malnutrition? Discuss its implications and prevention. 2+5=7

(b) State the differences between Kwashiorkor and Marasmus. 3½+3½=7

PART—B

4. *(a)* Briefly discuss the scope of clinical biochemistry in disease diagnosis. 7

(b) Describe how 'quality control' is important in clinical diagnosis. 7

5. *(a)* Describe the procedure involved in the collection and preservation of urine and blood samples. 3½+3½=7

(b) Describe how chemical analysis of blood is carried out in the clinical laboratory. 7

6. *(a)* What do you understand by functional and non-functional plasma enzymes? Mention the significance of two enzymes from each of the above. 3+(2+2)=7

(b) Discuss the physiological and clinical relevance of the following enzymes : 3½+3½=7

   (i) Alkaline phosphatase

   (ii) CPK

7. *(a)* What do you understand by glycogen storage disease? Discuss the conditions associated with hyper- and hypo-glycemia. 2+5=7

(b) Write short notes on any *two* of the following : 3½×2=7

   (i) Albinism

   (ii) Porphyrias

   (iii) Hyperuricemia

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