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## Fourth Semester B.E. Degree Examination, July/August 2021 Clinical Biochemistry

Time: 3 hrs.

Max. Marks: 100

**Note: Answer any FIVE full questions.**

- 1 a. Elaborate the steps involved in the conversion of glucose of Pyruvate. (10 Marks)  
 b. i) Write the significance of Glycolysis and Kreb's cycle. (06 Marks)  
 ii) Give a brief note on fate of Pyruvate. (04 Marks)
- 2 a. Mitochondrial matrix is a pool for the formation of NADH, FADH<sub>2</sub> and ATP. Elaborate. (10 Marks)  
 b. i) Explain in detail the reaction sequence of PPP. (08 Marks)  
 ii) Give the summary of ATP yield from complete aerobic oxidation of glucose. (02 Marks)
- 3 a. In detail explain the Pathophysiology of Lipidosis. (10 Marks)  
 b. Discuss in detail about the Clinical symptoms, Diagnostic tests and treatment for the disorder associated with Hb. (10 Marks)
- 4 a. Elaborate on the pathophysiology of Diabetes Mellitus in detail. (10 Marks)  
 b. Write short notes on :  
 i) Kotone bodies and their significance      ii) Galectosemia. (10 Marks)
- 5 a. Explain Urea cycle in detail and discuss its regulation. (10 Marks)  
 b. Explain the Catabolism of Phenylalanine. (10 Marks)
- 6 Elaborate on the following :  
 a. Biosynthesis and Catobolism of Glutamine. (08 Marks)  
 b. Transamination and Deamination reactions with examples. (06 Marks)  
 c. Regulation of Porine and Pyrimidine denovo pathway. (06 Marks)
- 7 a. Discuss Alkaptonuria under : Enzyme defect and Clinical manisfestation. (10 Marks)  
 b. Elaborate the genetic situation with the lack of phenylanine hydroxylare enzyme in amino acid metabolism and add a note on its related symptomes. (10 Marks)
- 8 a. Hypothalamus in considered as Master co – ordinator of Hormonal action. Uphold the statement with schematic representation. (10 Marks)  
 b. Explain Posterior Pituitary hormones with their biochemical function. (10 Marks)
- 9 a. What should be your analysis approach when you suspect that the patient may have Myocardial infarction? (10 Marks)  
 b. Discuss Enzymes of Pancreatic origin in detail. (10 Marks)
- 10 a. Explain the clinical importance of yellow compound which is produced by the catabolism of old RBCs. (06 Marks)  
 b. Discuss the following :  
 i) Intestinal function tests. (06 Marks)  
 ii) Clinical significance of SGPT (A L T) and SGOT (A S T) (08 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
 2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.