

4324

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M. Tech. / Semi. III

CHEMICAL SYNTHESIS AND PROCESS TECHNOLOGIES

Paper Module – 14 – Chemistry of Life Processes

(Admissions of 2008 and onwards)

Time : 3 hours

Maximum Marks : 38

Write your Roll No. on the top immediately on receipt of this question paper.

Attempt any *four* questions. Question No.1 is compulsory.

Module – 14 (Chemistry of Life Processes)

Attempt any Four questions. Question no 1 is compulsory.

1. (a) Why is ATP an energy rich molecule ? 2
 (b) What do you understand by 1^o, 2^o and 3^o structures of Proteins. ? 3
 (c) What will be the m-RNA sequence transcribed from 5'-AAGTCTAGATGGT-3' ? 1
 (d) Discuss the catabolic steps of conversion of Glucose to Pyruvate. 2
 (e) Draw a G-C base pair of RNA stem. 3
2. (a) What are triglycerols ? Discuss the β -Oxidation of a C₁₆ saturated fatty acid. 5
 (b) What is the fate of carbon skeleton and amino function in the biodegradation of amino acids ? Discuss Urea Cycle. 4
3. (a) What do you understand by proteolytic enzymes ? Discuss the action of Chymotrypsin. 4
 (b) Gluconeogenesis is not simply the reversal of Glycolysis. 3
 (c) Write salient features of DNA double helix.. 2
4. (a) What are ketone bodies ? 2
 (b) What do understand by Oxidative phosphorylation ? 4
 (c) Give structures of three aromatic amino acids 3
5. Write short notes on any **three** of the following. (3x3=9)
 (a) Degeneracy of Genetic Code
 (b) Structure and function of t-RNA.
 (c) Alkaline hydrolysis of RNA
 (d) Fate of Pyruvate under anaerobic conditions.