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MANIPAL INSTITUTE OF TECHNOLOGY
MANIPAL

A Constituent Institution of Manipal University

III SEMESTER B.TECH. (BIOTECHNOLOGY)

END SEMESTER EXAMINATIONS, NOV/DEC 2016

SUBJECT: PROCESS BIOCHEMISTRY [BIO 2102]

REVISED CREDIT SYSTEM

(11/11/2015)

Time: 3 Hours

MAX. MARKS: 50

Instructions to Candidates:

- ❖ Answer **ALL** the questions.
- ❖ Missing data may be suitable assumed.

1A.	What are mucopolysaccharides? Explain their classification and biological significance.	4
1B.	Prostaglandins, leukotrienes and thromboxane are not hormones but show hormone like behavior. Justify this statement.	4
1C.	Fructose 2,6 biphosphate is a potent activator but not inhibitor of PFK. Justify.	2
2A.	Write the significance of omega oxidation and alpha oxidation of fatty acids.	4
2B.	Explain the structure of fatty acid synthase. Give the steps involved in fatty acid synthesis.	4
2C.	What is suicide inhibition? Give example.	2
3A.	Explain the different types of conformations and puckerings of DNA molecule.	4
3B.	Compare and contrast gluconeogenesis with glycolysis.	4
3C.	Dietary triacylglycerol is partially hydrolysed and absorbed as free fatty acids and monoacylglycerol. TRUE or FALSE justify.	2
4A.	Explain the synthesis and role of aspartate.	4
4B.	Describe the shuttle for transfer of acetyl groups from mitochondria to cytosol.	4
4C.	Give the sources of atom for purine and pyrimidine ring.	2
5A.	Explain the regulation of purine synthesis. Add a note on conversion of monophosphate to di and triphosphates.	4
5B.	Explain the reactions which feeds amino groups into the urea cycle.	4
5C.	Elucidate the synthesis of deoxynucleotides.	2