

Reg. No.



**MANIPAL INSTITUTE OF TECHNOLOGY**

MANIPAL

(A constituent institution of MAHE, Manipal)

III SEMESTER B.TECH BIOTECHNOLOGY

END SEMESTER EXAMINATIONS, NOV/DEC 2018

SUBJECT: PROCESS BIOCHEMISTRY (BIO 2102)

REVISED CREDIT SYSTEM

Time: 3 Hours

MAX. MARKS: 50

**Instructions to Candidates:**

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

1A	Explain the role of acetyl CoA as a metabolic intermediate in different pathways.	4
1B	What is Ramachandran plot? Describe the significance and applications.	4
1C	What is inversion? Sucrose does not undergo mutarotation. Justify	2
2A	Explain the synthesis of cholesterol and its functions.	4
2B	Describe the regulation of glycolysis and gluconeogenesis.	4
2C	Explain the role of IMP in the synthesis of nucleotides.	2
3A	Compare and contrast the reactions of TCA cycle.	4
3B	Describe the structure of DNA and add a note on conformations of base pairs.	4
3C	Write the significance of decarboxylation reactions in biological system with an example.	2
4A	Describe the structure and functions of monosaccharides.	4
4B	Elucidate the $\alpha$ oxidation pathway in eukaryotic cell.	4



4C	Explain the composition and importance of hyaluronic acid. Which MPS is principal ground tissue substance of mammalian tissue?	2
5A	Differentiate between the ketogenic and glucogenic amino acids. Explain the role of carbamoyl phosphate pool in cells.	4
5B	Elucidate the mechanism of ATP synthesis.	4
5C	Explain the structure of mRNA.	2