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GIET UNIVERSITY, GUNUPUR – 765022

M. Tech (First Semester – Regular) Examinations, June – 2021
MPCBT1010 – APPLIED BIOCHEMISTRY & MOLECULAR BIOLOGY
 (Biotechnology)

Time: 2 hrs

Maximum: 50 Marks

The figures in the right hand margin indicate marks.

PART – A**(2 x 10 = 20 Marks)**Q1. Answer **ALL** questions

- a. What are polysaccharides?
- b. Define amino acids. Give the structure of an alpha amino acid in its un-ionized form
- c. Define nucleotides.
- d. What are the steps in glycolysis in which ATP is produced?
- e. Define gluconeogenesis?
- f. What are the enzymes involved in DNA replication in prokaryotes?
- g. What is the role of telomerase in aging process?
- h. Define transposons?
- i. What is role of operator in Operon system
- j. What is reverse transcription?

PART – B**(6 x 5 = 30 Marks)**Answer ANY FIVE questions**Marks**

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|---|------------|
| 2. What are carbohydrates? How are they classified? | (6) |
| 3. What are the three major components of nucleotides and how are they connected? Support your answer with diagram. | (6) |
| 4. Describe urea cycle. What is its significance? | (6) |
| 5. How are Fatty Acid catabolised? | (6) |
| 6. Which experiment proved that DNA is the genetic material? Discuss the experiment | (6) |
| 7. What is RNA world? What is its significance? | (6) |
| 8. Briefly describe the process of translation in prokaryotes. | (6) |

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