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Total No. of Pages : 02

Total No. of Questions : 09

**M.Sc.(BT) (2011 & Onwards) (Sem.-1)**  
**BIOMOLECULES AND METABOLISM**  
Subject Code : MSBT-101  
Paper ID : [F0251]

Time : 3 Hrs.

Max. Marks : 60

**INSTRUCTION TO CANDIDATES :**

1. **SECTION-A** is **COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students has to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students has to attempt any **TWO** questions.

**SECTION-A****Q1. Answer briefly :**

- a) Distinguish between epimers and anomers.
- b) '*Citric acid cycle is amphibolic*'. Justify the statement.
- c) Write down the significance of gluconeogenesis.
- d) Name the components of pyruvate dehydrogenase complex.
- e) Name the reactions of glycolysis in which ATP is produced.
- f) Write down the reaction of nitrogen fixation.
- g) Name the precursors for the biosynthesis of purines.
- h) Distinguish between triacylglycerols and waxes.
- i) Define ketone bodies.
- j) Distinguish between amylase and amylopectin.

### SECTION-B

- Q2. Discuss why solution of glucose mutarotates.
- Q3. Write down the reactions of Pentose phosphate pathway.
- Q4. Describe how ammonia is converted into urea.
- Q5. What is salvage pathway for nucleotides? Discuss its reactions and significance.
- Q6. Write a brief note on phospholipids.

### SECTION-C

- Q7. Write a detailed note on structure and functions of structural polysaccharides.
- Q8. Discuss in details biosynthesis of fatty acids.
- Q9. Describe biosynthesis of amino acids.