

Roll No. 

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Total No. of Pages : 02

Total No. of Questions : 11

**M.Sc. (BT) (2018 Batch) (Sem.-1)**  
**BIOMOLECULES AND METABOLISM**  
Subject Code : MBT-101  
Paper ID : [75659]

Time : 3 Hrs.

Max. Marks : 70

**INSTRUCTIONS TO CANDIDATES :**

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

**SECTION-A****Q1. Attempt all parts :**

- a) Name the components of 70S ribosome.
- b) Name the forces which stabilize tertiary structure of proteins.
- c) Write down the principle of gel filtration.
- d) Define enzyme code.
- e) Define International unit of enzyme activity.
- f) Draw the structure of lactose.
- g) "*Plasma-membrane is having a dynamic structure*". Justify the statement.
- h) What is pyruvate dehydrogenase complex?
- i) Write down the similarities and differences between DNA and RNA.
- j) Citric acid cycle is amphibolic in nature. Justify.

### SECTION-B

- Q2. Write a note on secondary structure of proteins.
- Q3. Describe structure and physiological functions of haemoglobin.
- Q4. Discuss competitive inhibitors of enzymes.
- Q5. Describe the structure of starch.
- Q6. Write a brief note on glycoproteins.
- Q7. Write down the reactions of glycolytic pathway.
- Q8. Write a note on  $\beta$ -oxidation of fatty acids.

### SECTION-C

- Q9. Discuss mechanisms of regulation of enzyme activity.
- Q10. Describe the structure of plasma-membrane
- Q11. Discuss Sanger's method of DNA sequencing.