

This question paper contains 3 printed pages]

Your Roll No. :

Sl. No. of Q. Paper : **2953** **I**

Unique Paper Code : 2173522006

Name of the Paper : DSE: Biomolecules-I

Name of the Course : **B.Sc. (Porg.)**

Semester : IV/VI

Time : 2 Hours **Maximum Marks : 60**

Instructions for Candidates :

- (a) Write your Roll No. on the top immediately on receipt of this question paper.
 - (b) Attempt any **FOUR** questions out of **six**.
 - (c) Each question carries **15 marks**.
 - (d) Attempt all parts of a question together.
- 1.** (i) What are oil and fats? Explain the reason for their physical state.
- (ii) Explain mutarotation taking glucose as an example.
- (iii) Write the components present in DNA and RNA. (5,5,5)

P.T.O.

2. (i) Carry out the following reactions, give complete reaction involved in it (any **two**):
- D-Glucose to n-Hexane
 - D- Glucose to Sorbitol
 - D-Glucose to Glucosazone
- (ii) Define Iodine number. What is its significance? Calculate the iodine number for triolein (Molecular weight=885 g/mol).
- (iii) Name the different types of RNAs and explain their biological roles. (5,5,5)
3. (i) Explain the structure of DNA (Watson-Crick model).
- (ii) What is acid value and saponification value for oil/fats? Write the formula for calculating the both values.
- (iii) Draw and compare the structure of maltose and lactose based on composition and type of bonding. (5,5,5)
4. (i) What is the relationship between glucose, mannose and galactose.

- (ii) Define genetic code and its nonsense codons.
- (iii) What are liposomes and how are they utilized in various field. (5,5,5)
5. (i) What do you mean by hardening of oil? Explain with reaction.
- (ii) What is the difference between Adenine, Adenosine and Adenylic acid.
- (iii) Draw Fischer and Haworth projection for fructose. (5, 5, 5)
6. Write short notes on any **three** of the following :
- Steroid hormones
 - Polysaccharides
 - Reversion and rancidity
 - Transcription
