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Total Pages : 3

Roll No. ....

## **MCH-603**

**Natural Product/ Enzyme & Biogenesis**

M.Sc. Chemistry (MSCCH)

3rd Semester Examination, 2023 (June)

**Time : 2 Hours]**

**[Max. Marks : 35**

**Note :** This paper is of Thirty Five (35) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein. Candidates should limit their answer to the questions on the given answer sheet. No additional (B) answer sheet will be issued.

### **SECTION-A**

**(Long Answer Type Questions)**

**Note :** Section 'A' contains Five (05) long answer type questions of Nine and Half (9½) marks each. Learners are required to answer any Two (02) questions only.  
(2×9½=19)

1. Write down the step involved in the biosynthesis of  $\alpha$ -amino acids from skimmic acid.

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**[P.T.O.**

2. Discuss the structure elucidation of reserpine.
3. Establish the structure of PGE1  $\alpha$  by using chemical method and IR and NMR data.
4. What are enzymes? Describe the mechanism of enzyme activity.
5. Write down the step involved in fatty acid metabolism.

### **SECTION-B**

#### **(Short Answer Type Questions)**

**Note :** Section 'B' contains Eight (08) short answer type questions of Four (04) marks each. Learners are required to answer any Four (04) questions only. (4×4=16)

1. Write a note on classification of alkaloids.
2. Discuss physiological importance of Prostaglandins.
3. What are water soluble and fat-soluble Vitamins ? Write skeletal structure of Vitamin C.
4. Discuss briefly the structure determination of Rotenones.
5. Write down the step involved in Urea Cycle.

6. Discuss the process of enzyme immobilization.
  7. Write short notes on steps involved in glycolysis.
  8. Discuss the applications of  $^{13}\text{C}$  NMR in the biosynthesis of Natural Products.
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