

**Unit IV**

**No. of Printed Pages : 04**

**Roll No. ....**

7. (a) Explain the enzyme catalysed addition and elimination reactions.
- (b) Discuss the methods of purification of enzymes and the effect of immobilisation on enzyme activity. **10,10**
8. Write a detailed description of biotechnical application of large scale production and purification of enzymes. **20**

**CC-298**

**M. Sc. EXAMINATION, Dec. 2017**

(Third Semester)

(Main & Re-appear)

**CHEMISTRY**

**CH-615-B**

**Organic Chemistry Special-ii**

(Natural Products-i)

*Time : 3 Hours]*

*[Maximum Marks : 100*

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Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

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**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

### Unit I

1. (a) Define carotenoids. Describe structure of lycopene with its synthesis.  
(b) Give biosynthesis of carotenoid. **10,10**
2. (a) What are the constituents of Vitamin B-complex ? How is the constitution of Adrenalin established ? Give its synthesis.  
(b) Establish presence of  $\gamma$ -lactone ring in Ascorbic acid. **12,8**

### Unit II

3. (a) Write an account of the chemistry of quercetin. Outline its synthesis and establish its relationship to cyanidin chloride.  
(b) Discuss biosynthesis of flavonoids. **12,8**

4. (a) Explain, how Haem is different from Haemin ?  
(b) Write synthesis of the following :
  - (i) Haematinic acid
  - (ii) Structure of chlorophyll (synthesis not required). **10,10**

### Unit III

5. (a) What are enzymes ? What is the role of specificity in enzyme action ?  
(b) With the help of suitable example, explain the isomerization and epimerization reactions catalysed by enzymes. **10,10**
6. Write short notes on the following : **4×5=20**
  - (a) FAD
  - (b) CO-I
  - (c) NADP<sup>+</sup>
  - (d) Thiamine Phosphate.