

M.Sc. Semester-III, Examination, November, 2014  
Organic Chemistry, Paper IX, Industrial Chemistry, Subject Code: 3487

Time: 2.5 hrs]

[Marks: 70

- N.B. (i) Attempt all questions.  
(ii) All questions carry equal marks
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- Q.1. Answer the following: 14  
(a) Define: Repeating unit, degree of polymerization, oligomer, heavy polymer, HDP and LDP.  
(b) What is cationic addition polymerization? Explain the mechanism of cationic addition polymerization with proper illustrations.

**OR**

- Q.1 (a) Explain condensation polymerization with proper illustrations. 14  
(b) Give the types of phenol formaldehyde resin and describe the manufacture of phenol formaldehyde resins.

- Q.2 Discuss the manufacture of any three members of C<sub>2</sub> cut of petroleum. 14

**OR**

- Q.2. Discuss manufacture of any three important members of aromatic cut from petroleum. 14

- Q.3 Discuss the applications and importance of sulphonation as unit processes in organic industries. 14

**OR**

- Q.3. Introduce the terms: Unit processes & Unit operations. Discuss the mechanism and applications of amination as unit processes in organic industries. 14

- Q.4 Explain the terms: Fixative, vehicles or solvent in the perfume industry. Discuss the synthesis of important chemical used in perfume industries (any four). 14

**OR**

- Q.4. What are organophosphorus insecticides? What are the advantages associated with organophosphorus insecticides? Give synthesis of at least four insecticides of this class. 14

- Q.5. (a) With a diagram explain manufacture of raw cane sugar. 7

- (b) Answer the following: 7

- (i) What is PCT? Explain the role of PCT in protecting IP rights.

- (ii) Explain: Plant varieties.

**OR**

- Q.5. Answer the following: 14

- (a) Draw a diagram explaining various steps involved in manufacture of starch from maize.

- (b) Introduce the term: Copy right. Discuss the various aspects of copy right for the protection of creativity.