

NOVEMBER/DECEMBER 2018

**MCH14A — ADVANCED POLYMER
CHEMISTRY**

Time : Three hours

Maximum : 75 marks

SECTION A — (5 × 6 = 30 marks)

Answer ALL questions.

1. (a) What are polymers? How are they classified? Illustrate with suitable examples.

Or

- (b) Write notes on Elastomers and fibers.

2. (a) Explain the role of retarders in polymerization reaction.

Or

- (b) Discuss the mechanism of coordination polymerization reaction.

3. (a) Discuss the mechanical and thermal properties of polymers.

Or

- (b) Explain Differential scanning calorimetry method.

4. (a) Explain the preparation and applications of Nafion.

Or

- (b) What are Cellulose? How are they prepared? Mention their applications.

5. (a) Write a note on biomedical polymers.

Or

- (b) What is IPN polymer? Explain with examples.

SECTION B — (3 × 15 = 45 marks)

Answer any THREE questions.

6. Explain emulsion and suspension polymerization techniques with examples.
7. Discuss kinetics and mechanism of free radical polymerization.
8. Explain ultra centrifuge method for the determination of molecular weight of polymers.
9. Explain the preparation, properties and applications of polyethylene and polyurethanes.
10. Explain the preparation and applications of conducting polymers.