

M.Sc. Sem.-1 Examination

403

Polymer Science

January-2024

Time : 2-30 Hours]

[Max. Marks : 70

QUESTION – 1 Write the following

- (i) What is Polyolefin? Discuss about its fiber spinning process with its neat sketch? **7 MARKS**
- (ii) Differentiate between melt and wet spinning process with its neat sketch? **7 MARKS**
- OR**
- (i) What are fibers? How will you explain the concept for optical fibers is widely used in telecommunication purpose? **7 MARKS**
- (ii) What are the physical structures of natural and man-made fibers? **7 MARKS**

QUESTION – 2 Write the following

- (i) Write short note on: (1) Process of Glass fibers (2) What is ceramic fiber? **7 MARKS**
- (ii) Explain the Types of spun bonding. Give various application of PEEK Fiber? **7 MARKS**
- OR**
- (i) Give detailed review on Mechanical Properties of fiber? **7 MARKS**
- (ii) What is Rayon? Give Chemical structure, source, manufacturing process, use and limitations? **7 MARKS**

QUESTION – 3 Write the following

- (i) What is melt blowing process? Explain the application of melt blowing fibers? **7 MARKS**
- (ii) What is FRP? Name ten methods used to prepare used for desire application **7 MARKS**
- OR**
- (i) Give the preparation of synthetic fiber? **7 MARKS**
- (ii) Give difference between Natural and Synthetic fiber? **7 MARKS**

QUESTION – 4 Write the following

- (i) Explain the steps in Yarn to fabric preparation? **7 MARKS**
- (ii) Enlist the properties of Polyolefin Fiber? **7 MARKS**
- OR**
- (i) What is heat setting? Give detailed note and application? **7 MARKS**
- (ii) What are Industrial and high performance application of Nomex and Kevlar fiber? **7 MARKS**

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QUESTION – 5 Attempt any seven out of twelve.

14 MARKS

- 1 Explain Yarn?
- 2 Write the Types of Twist of fiber?
- 3 Write the properties of jute Fiber?
- 4 What are the types of printing?
- 5 What is Warp?
- 6 Explain Denier & Tex?
- 7 What is the difference between fatigue and Creep?
- 8 Parachutes are generally made from which Fiber?
- 9 What is fiber spinning?
- 10 Name the Natural fibers & its significance used in higher engineering application?
- 11 Write composition of ceramic fiber?
- 12 Write the definition of boron fiber?

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