

Roll No.....

Total No. of Printed Pages: [1]

Total No. of Questions: [09]

B.Tech. (Textile Engineering) (Semester – 4th)

TEXTILE FIBRES-II

Subject Code: BTEXS1-401

Paper ID: [18112615]

Time: 03 Hours

Maximum Marks: 60

Instruction for candidates:

1. Section A is compulsory. It consists of 10 parts of two marks each.
2. Section B consist of 5 questions of 5 marks each. The student has to attempt any 4 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A

(2 marks each)

Q1. Attempt the following:

- a) What is Degree of Polymerization? Define.
- b) How do man-made fibres differ from natural fibres?
- c) Differentiate Dry and Wet Spinning.
- d) Enumerate the advantages of Melt Spinning.
- e) How does the temperature affect melt spinning?
- f) What is the difference between linear, branched and network structure of a polymer?
- g) What is meant by necking?
- h) What is POY? How is it different from FDY.
- i) Compare nylon 6 and nylon 66 in term of properties.
- j) Which fibres are called High Performance Fibres?

Section – B

(5 marks each)

- Q2. How do crystallinity and molecular orientation affect thermal conductivity of the polymer? Explain.
- Q3. With the help of a neat and clean sketch, describe the process of Polyester staple fibre production.
- Q4. Why are staple fibres crimped? How is crimp induced in man-made fibres?
- Q5. Differentiate between acrylic and modacrylic and their methods of production.
- Q6. Draw a flow chart to show the production of polypropylene. List its properties and end uses.

Section – C

(10 marks each)

- Q7. Discuss the effects of various important parameters of heat setting of fibre properties.
- Q8. Write in brief on Applications of High-Performance Fibres.
- Q9.
 - a) What is the purpose of drawing and stretching of Continuous filament yarns?
 - b) Describe in details the Extrusion process of a man-made fibre that can be produced in more than one way.

(5+5)