

# CBCS SCHEME

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18TX52

## Fifth Semester B.Tech. Degree Examination, July/August 2021 Manufactured Fibre Technology

Time: 3 hrs.

Max. Marks: 100

**Note: Answer any FIVE full questions.**

- 1 a. Give the unique properties of Synthetic fibres. (05 Marks)  
b. Give the various catalyst used and side reactions taking place in PET manufacturing. (05 Marks)  
c. Explain the production of PET using DMT routes. (10 Marks)
- 2 a. Why TPA was not a preferred raw – material for the production of PET in early days? Explain briefly. (05 Marks)  
b. Give the degradation reactions during PET production. (05 Marks)  
c. With a neat flow chart, explain the production of polypropylene fibre. (10 Marks)
- 3 a. Differentiate between Nylon – 6 and Nylon – 66. (05 Marks)  
b. State the properties of Elastomeric fibres. (05 Marks)  
c. Explain the production of Nylon – 6 using VK tube. (10 Marks)
- 4 a. Give the composition of Nylon – 6 and Nylon – 66 productions. (05 Marks)  
b. Write the modification of Nylon fibres. (05 Marks)  
c. With the help of flow – chart, explain the production of Acrylic fibres. (10 Marks)
- 5 a. Classify the high performance fibres, with examples. (05 Marks)  
b. Give the composition of E – glass which is extensively used for the production of glass fibres. (05 Marks)  
c. Describe the production of carbon fibres, with a neat flow chart. (10 Marks)
- 6 a. State the properties of silicon carbide fibre. (05 Marks)  
b. Give the properties and end uses of boron fibres. (05 Marks)  
c. Explain the production of PAN – based carbon fibres. (10 Marks)
- 7 a. What are Kevlar fibres? State their properties and applications. (05 Marks)  
b. State the Thermotropic and Leotropic Polymer fibres. (05 Marks)  
c. State the objective of tow to top conversion. Explain the method of stretch breaking. (10 Marks)
- 8 a. State the objective of Heat setting. (05 Marks)  
b. Give the properties and end uses of PBZT and PBZO fibres. (05 Marks)  
c. Describe the method of Stretch breaking of tow to top conversion. (10 Marks)
- 9 a. State the objects of texturing. List out the methods of texturing. (05 Marks)  
b. Write the various parameters affecting false twist texturing. (05 Marks)  
c. With the help of neat sketch, explain the Air Jet texturing. (10 Marks)
- 10 a. Why air texturing is preferred for texturing viscose rayon over false twist texturing? Explain briefly. (05 Marks)  
b. Write the various methods of testing textural yarns. (05 Marks)  
c. With a neat sketch, explain the knife edge crimping of yarns. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.