

USN

--	--	--	--	--	--	--	--	--	--

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)