Code No: 154CW **R18**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech II Year II Semester Examinations, February - 2024
MAN MADE FIBRE TECHNOLOGY
(Textile Engineering)

Time: 3 Hours **Max. Marks: 75**

Note: i) Question paper consists of Part A, Part B.
ii) Part A is compulsory, which carries 25 marks. In Part A, answer all questions.
iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART – A

(25 Marks)

1.a)	What are the requirements of fibre forming Polymers?	[2]
b)	Write the differences between Natural and Manmade fibres in terms of end uses.	[3]
c)	Draw a simple sketch showing extruder and different zones in it.	[2]
d)	What is the influence of drawing speed on structure and properties of fibres in melt spinning process. Briefly explain.	[3]
e)	What are the requirements of staple fibre spin finish?	[2]
f)	Write the chemical properties of Viscose fibres.	[3]
g)	Write the general properties of Polypropylene fibres.	[2]
h)	Write the applications of Acrylic fibres.	[3]
i)	What is the difference between esterification and transesterification?	[2]
j)	Write the applications of Polyester fibres.	[3]

PART – B

(50 Marks)

2.a) Briefly explain about different methods of producing Polymers.
b) Describe the process of Dry spinning for producing synthetic filaments. [5+5]

OR

3.a) Explain the important operations involved in production of synthetic fibres.
b) Explain the differences between Natural and Manmade fibres in terms of properties. [5+5]

4.a) Explain about stretching and drawing in Melt spinning process.
b) Explain different methods of cleaning the spinneret in Melt spinning. [5+5]

OR

5. Explain about Melt spinning process referring to major elements in the process. [10]

6.a) What are the objectives of spin finish application on synthetic fibres?
b) What are the constituents of spin finishes? [5+5]

OR

7. Explain the manufacture of Viscose rayon staple fibres using simple flow diagram. [10]

8.a) Write the applications of Nano fibres.
b) Explain about manufacturing process of Modacrylic fibres. [4+6]

OR

9.a) Explain about the properties of Microfibers.
b) Briefly explain about method of producing Bicomponent fibres. [5+5]

10. Explain the production Nylon and Nylon 6,6 Polymers by referring chemical reactions. [10]

OR

11. Describe the manufacturing process of Polyester using a simple flow diagram. [10]

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