Seat No.:	Enrolment No
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GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER- II (Old course)• REMEDIAL EXAMINATION – SUMMER 2015 Subject Code: 1722504 Date:14/05/2015

Subject Name: Modern Fiber Technolo	gv
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Time:	02:30 pm to 5:00 pm	Total Marks: 70
Instruc	etions:	

1. Attempt all questions.

Q.5

(a)

(b)

- 2. Make suitable assumptions wherever necessary.
- 3. Figures to the right indicate full marks.
- **Q.1** List important rhelogical aspects of solution spinning and discuss in detail **07** spinning stretch and polymer concentration. Describe with diagram wet spinning of acrylic fibre and discuss the factors that **07** affect the spinnability and quality of wet spinning. 0.2 Draw flow diagrams for the manufacture of polyester fiber by DMT and PTA 07 route. Which are the functional parts of the extruder? Explain each in detail. **07 (b)** Explain different fibre morphology based on their orientation. **07** (b) **Q.3** Which are the principal operations involved in fibre manufacturing process? 07 (a) How caprolactam polymerization can be conducted through different **07** processing routes? OR **Q.3** What are high bulk acrylic yarns? How are they produced? Discuss in detail. **07** (a) With neat sketch explain a dry-jet-wet spinning process for PPTA fibre. **07 (b) Q.4** Define T_g and T_m . Explain free volume theory for T_g . 07 (a) **(b)** Explain the coagulation variables affecting protofibre structure. 07 OR Which are the variables affecting fibre formation and dimensions of the melt **Q.4 07** (a) spinning process? Define õNature of settingö. Describe the mechanism of temporary and **07** (b) permanent set of fibre. **Q.5** What is the effect of evaporation to diffusion rate on filament cross section in 07 dry and wet spinning? Define BCF? Give the production sequence for producing BCF yarn. **07 (b)**

composition, manufacturing process and structure of glass fibre.

Explain spin stretch process during dry spinning.

Which type of glass fibre is used for textile applications? Give a chemical

07

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