| Seat N  | Ιο·        | Enrolment No  |            |  |
|---|------------|---|------------|--|
| Scat 1  |            | GUJARAT TECHNOLOGICAL UNIVERSITY M. E SEMESTER - II • EXAMINATION - SUMMER • 2013   |            |  |
| Subject code: 1722504 Date: Subject Name: Modern Fiber Technology |            |   | 03-06-2013 |  |
| Time: 10.30 am – 01.00 pm Total Marks: 'Instructions:             |            |   | 70         |  |
|   | 2          | <ol> <li>Attempt all questions.</li> <li>Make suitable assumptions wherever necessary.</li> <li>Figures to the right indicate full marks.</li> </ol>  |            |  |
| Q.1   | (a)<br>(b) | ,   | 07<br>07   |  |
| Q.2   | (a)        | Describe continuous aqueous suspension polymerization process of acrylic fibre with neat diagram. Discuss also factors influencing properties of acrylic polymer.   | 07         |  |
|   | (b)        |   | 07         |  |
|   | (b)        | Discuss innovations made in melt spinning of Acrylic fibres.  | 07         |  |
| Q.3   | (a)<br>(b) | Discuss advantages of using TPA over DMT in PET fibre production. Discuss factors contributing formation of DEG in PET. Discuss also effects of DEG on polymer and fibre properties. Suggest also methods of controlling DEG formation. | 07<br>07   |  |
| Q.3   | (a)        | <b>OR</b> Discuss effects of various parameters in caprolactum polymer catalysed  | 07         |  |
|   | (b)        | by water.  Discuss high speed spinning of polyester and its effects on fibre properties with graph and technical details.   | 07         |  |
| Q.4   | (a)<br>(b) | List the advantages of Lyocell fibres and its uses in apparel as well as technical textiles with reasons.   | 07<br>07   |  |
|   | (a)        | OR What are high bulk acrylic yarns? How are they produced? Discuss in  | 07         |  |
|   | (b)        | detail.  Write a note on alternative routes for manufacturing cellulosic fibres.  | 07         |  |
| Q.5   | (a)        | Discuss in detail the functions of spin finish, types of spin finish. With regards to "Save Earth" discuss all the essential precaution which are   | 07         |  |

Q.5 (a) List important rhelogical aspects of solution spinning and discuss in detail spinning stretch and polymer concentration.
(b) Write a brief note on technical application of acrylic fibres.
07

(b) Discuss physical properties of cellulose acetate fibres with all the 07

OR

mandatory for all organizations.

technical details and graphs.

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