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BT-6/M-14 **8684**

MULTI FIBRE SPINNING

TT-324

Time : Three Hours] [Maximum Marks : 100

Note : Attempt *Five* questions in all, selecting at least *one* question from each Section. All questions carry equal marks.

Section A

1. (a) Why do we go for blending ?
   (b) Discuss different types of blending techniques. Which is more beneficial and why ?
   (c) What is the purpose of Tinting ?
   (d) Illustrate the measures of blend intimacy. **4+6+4+6**

2. (a) Discuss the factors to be considered for selecting the constituents of a blend.
   (b) Which structural parameters of a yarn are affected by blend composition ? How do these structural changes impact yarn properties ? **10+10**

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Unit II

3. Discuss carbon fibre production process from PAN base precursors along with all necessary reactions. Explain the structure of carbon fibres. **15+5**

4. Explain the production of carbon fibres from Rayon based precursors along with the disadvantages of the same. Describe liquid crystals. Discuss the concept of gel spinning. **8+4+8**

Unit III

5. Discuss the production process and properties of SPECTRA fibres. Why UHMWPE fibres are best suited for bullet proof jackets ? How hollow polyester fibres can be produced ? **10+6+4**

6. Explain the manufacturing process of an optical fibre in detail. Discuss the working principle and working mechanism of an optical fibre. **14+6**

Unit IV

7. Describe the production process and properties of S-glass fibres. Explain the properties of PEEK fibres and Soyabean Fibres. What are super absorbent fibres ? Give examples. **10+6+4**

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8. What are bicomponent fibres and how are they produced ? What type of property changes take place in a fibre after plasma treatment and radiation treatment ? How industrial tapes are produced and what are their properties and applications ? 7+5+8

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