

**[Total No. of Questions - 9]  
(2123)**

**[Total No. of Printed Pages - 2]**

**1393**

**B. Tech 5th Semester Examination**

**Multi Fibre Process and Woolen Technology (O.S.)**

**TE-5005**

**Time : 3 Hours**

**Max. Marks : 100**

*The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.*

**Note :** Attempt five questions in all selecting one question from each section A, B, C & D and section E is compulsory.

**SECTION - A**

1. (a) Explain Hamburger's theory of blended yarn. **(10)**  
(b) Discuss changes required in spinning for processing long staple man-made fibre. **(10)**
2. Why blending is important? Discuss different stages of Blending along with their advantages and disadvantages. Briefly mention a few developments in blending machines. **(20)**

**SECTION - B**

3. (a) Briefly mention the changes required on rotor spinning for processing man-made fibres. **(10)**  
(b) Draw a process sequence for spinning of Hessian and Sacked Jute yarns. **(10)**
4. (a) Draw a neat & clean diagram of morphological structure of wool fibre and discuss different layers of it. **(10)**  
(b) What is a fancy yarn? Discuss different types of fancy yarn alongwith their end-uses. **(10)**

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**[P.T.O.]**

**SECTION - C**

5. (a) What is recovered wool? Discuss different machines used for obtaining recovered wool. **(10)**
- (b) Discuss popular blends of wool fibre. How blending of different fibre affect performance of wool blended fabrics. **(10)**
6. Give a flowchart of process of woollen and worsted yarn manufacturing. Explain the working of a worsted circular combing machine with suitable diagram. **(20)**

**SECTION - D**

7. (a) Why we do bleaching of wool? Discuss different bleaching technique for wool fibre with mentioning their advantages and disadvantages. **(10)**
- (b) Briefly discuss the top and tip dyeing of wool fibre. **(10)**
8. Discuss different type of finishing treatment given to wool. How these different finishing treatment affect the quality and performance of wool? **(20)**

**SECTION - E**

9. Briefly answer the following questions.
- (i) Mention any four changes on ring frame to process dyed fibre.
- (ii) What is a Micro-fibre?
- (iii) Define 2.5 Y. Span length and uniformity Ratio.
- (iv) Give the molecular structure of wool fibre.
- (v) Mention specific gravity and moisture regain of wool fibre.
- (vi) Mention different grade of wool.
- (vii) What is Damping of wool?
- (viii) What is NOIL?
- (ix) Mention the objective of carbonizing of wool.
- (x) What is FAST? **(10×2=20)**