

**Total No. of Pages : 02**

**B.Tech.(Textile) (2011 Onwards) (Sem.-8)**

**Subject Code : BTTE-801**

**Paper ID : [72370]**

**Max. Marks : 60**

1. **SECTION-A is COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt **ANY FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt **ANY TWO** questions.

**1. Write briefly :**

- a) State the philosophy of a blowroom operation. State the parameters to assess the performance of a blow room.
- b) What function is performed by the recycling layer in a card?
- c) Compare 3 over 3 drafting system with 4 over 4 drafting system.
- d) What forces act on a running traveler?
- e) Define drafting force and state its importance in drafting operation.
- f) Why uniform shuttle retardation and rest position of shuttle are important for efficient weaving?
- g) Define alacrity and state its significance.
- h) State the limitations and utility of photoelectric and capacitance type of clearers.
- i) Why in a loom using bigger size shuttle possesses higher crank length?
- j) State the drawback of two different types of heald staggering.

**SECTION-B**

2. State the blemishes of fibre hooks. Compare Lindsley and modified Lindsley techniques for estimation of fibre disorder.
3. Define cylinder load. How it can be measured? Calculate the weight of fibre layer on any location in the card.
4. Write a short note on package building in speed frame.
5. How toughing of shed is performed in shuttle less weaving machine without any interference during picking?
6. Show the arrangement of heald reversing motions for heald staggering in case of straight and skip draft using negative cam.

**SECTION-C**

7.
  - a) Why does actual movement of the shuttle differ from its nominal movement? Show the construction of a tappet for 1/3 twill weave.
  - b) Define fractionation efficiency index and discuss a method for its theoretical estimation.
8. State the importance of a spinning balloon in a spinning process. Citing necessary assumptions, mathematically establish the nature of spinning balloon.
9.
  - a) Prove that during cone winding process,  $\frac{v}{v} = \frac{D \tan \beta_2}{[D^2(1 + \tan^2 \beta_2) - d^2]^{\frac{1}{2}}}$

where the notations have their own usual significance. State the concept of half accelerated and full accelerated cone drum.

- b)
  - (i) State different steps to achieve very closely constructed fabric.
  - (ii) State interference % for open and closed shedding.