

**Fourth Semester
Textile Technology
Scheme July 2008**

SPINNING PREPARATORY (401)

Time : Three Hours

Maximum Marks : 100

- Note :** i) Attempt total six questions. Question No. 1 (Objective type) is compulsory. From the remaining questions attempt any five.
ii) Draw neat diagrams wherever necessary.

1. Choose the correct answer 2 each
- i) Detaching roller is situated at the
 - (a) Back side of the comber machine
 - (b) Front of comber machine
 - (c) Top of comber machine
 - (d) None of the above
 - ii) Hooks and links are associated with
 - (a) Weighting by spring
 - (b) Pneumatic weighting
 - (c) Dead weighting
 - (d) None of the above
 - iii) Nasmith comber consists of
 - (a) 8 heads
 - (b) 6 heads
 - (c) 9 heads
 - (d) None of the above
 - iv) In polar drafting system the diameter of front bottom is
 - (a) 30 mm
 - (b) 28 mm
 - (c) 35 mm
 - (d) None of the above
 - v) The total draft in modern speed frame lies between
 - (a) 5 - 20
 - (b) 1 - 10
 - (c) 15 - 25
 - (d) 10 - 22
2. a) What is the object of combing? Explain. 4
b) Explain the various operations, which complete one cycle in Nasmith comber machine. With the help of suitable sketches show the position of important parts of the machine at each stage. 14

3. a) What is the principle of Autoleveller? How does an open and closed loop autoleveller function? Also write about their merits and demerits. 12
- b) Describe the maintenance schedule of draw frame. 6
4. a) What is Drafting? With a neat sketch describe the passage of material in a modern draw frame. 10
- b) What is Shirley drafting? Discuss the remedies that are suggested in Shirley drafting to overcome 'Roller slip' problem. 8
5. a) What are the objects of sliver lap machine? With a neat sketch describe the working of sliver lap machine. 10
- b) What are major hooks and minor hooks? Explain why preparatory process is introduced before a carded material can be combed in the comber machine. 8
6. a) A certain draw frame with a 56 teeth draft change pinion is delivering a 48 grain/yard sliver from 45 grains/yard fed. What will be the pinion required if 52 grains yard sliver is to be produced? 10
- b) A within drawing frame has front roller running at 1400 rpm and has 2" inch dia. The tension draft between F.R. and coiler C.R is 1.02. Calculate production at 80% efficiency when hank delivered is 0.15. 8
7. a) In a sliver lap machine if 20 strands of 60 grains/yard. Slivers are fed and 560 grain/yard lap is produced, calculate the resultant draft in the machine. For delivering the same lap, if the draft is increased by 10%. What hank of sliver should be fed? 10
- b) A comber delivers 60 grains/yard of sliver Eight ends of sliver from each head are doubled to give total draft of 60 between gears, while 12% waste is extracted. Find the weight/yard of lap fed. 8
8. Write short notes on any three of the following. 6 each
- a) Differentiate between graduated drafting and Shirley drafting
- b) Waste Aspirator
- c) Index wheel of comber
- d) Spring weighting of draw frame
- e) 4 over 5 drafting system
- f) Features of modern comber.

