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**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) In Shirley draft middle zone draft is  
(a) 2.0 (b) 1.5  
(c) 3.2 (d) 1.05
- ii) Index wheel is associated with  
(a) Sliver lap machine  
(b) Ribbon lap machine  
(c) Combing machine  
(d) None of the above
- iii) Noil removal in super combing ranges  
(a) 1 to 5%  
(b) 5 to 10%  
(c) 10 to 20%  
(d) Above 20%
- iv) In a flyer leading frame  
(a) The bobbin rotates at a higher speed than the flyer  
(b) The bobbin rotates at a lower speed than the flyer  
(c) The bobbin and flyer rotates at the same speed  
(d) None of the above

- v) The object of comber is
- (a) To remove long fibres
  - (b) To remove neps and short fibres
  - (c) To remove short fibres
  - (d) To remove neps
2. a) With the help of a neat sketch describe the working of Ribbon lap machine. 10
- b) Explain the salient features of modern comber. 8
3. a) Sketch and explain reiter polar drafting system 10
- b) What are common faults in a draw frame sliver? Mention their causes and remedies? 8
4. a) Write the objects of draw frame. With a neat sketch describe the passage of material in a modern draw frame. 12
- b) Write short notes on stop motions of a draw frame. 6
5. a) Explain graduated drafting system and shirley drafting system. 12
- b) Write short notes on drafting wave. 6
6. a) Calculate the production per shift on 8 hours of draw frame which is running at 85% efficiency. Speed of  $1\frac{1}{4}$ " inch front roller is 300 r.p.m. weight of the sliver fed is 60 grains/yard. The draft is 6.2 and number of doublings are six, deliveries per machine are also six. 10
- b) The front roller speed of Laxmi rieter drawing is 1960rpm and its diameter is 38mm. The tension draft is 1.03. Calculate the production per machine for 8 hours with 80% efficiency and producing 0.13 hank of sliver. 8

7. a) 24 cards slivers each of 50 grains/yard are fed to sliver lap machine giving 1.5 draft. The lap roller is 12" inch diameter and runs at 40 rpm. Find production per shift of 8 hours at 80% efficiency. 9
- b) The lap fed to a six head comber is 64 kilo tex, and twin sliver of 3.4 kilo tex are required in the cans. The waste percentage is 15% if the draft constant for this comber is 1696, what draft change wheel is necessary? 9
8. Write short notes on any three of the following: 6 each
- a) Comber waste
  - b) Aprons and cots
  - c) Top comb of Nasmith comber
  - d) Super lap machine
  - e) Drafting wave and roller slip
  - f) Pneumatic top roller loading

