FIFTH SEMESTER
TEXTILE TECHNOLOGY
SCHEME JULY 2008
SPINNING TECHNOLOGY (503)

Time : Three Hours *Maximum Marks : 100*

Note : Attempt total **six** questions. Question No.**1** (objectives type) is compulsory. From the remaining questions attempt any five.

1. Choose the correct answer. 2 each

   i) Hairness of Ring spun yarn can be controlled by

   (a) Spacers

   (b) Replacing the burnt travellers

   (c) Increasing the twist per meter of yarn

   (d) Reducing the shore hardness of cots

   ii) Its a bobbin leading S/F as the bobbin diameter increases

   (a) Bobbin speed decreases

   (b) Flyer speed increases

   (c) Bobbin speed increases

   (d) None of the above

iii) Its S/F TPI is equal to

(a) $\frac{\text{Bobbin speed}}{\text{F.R.delivery}}$

(b) $\frac{\text{Flyer speed}}{\text{F.R.delivery}}$

(c) Flyer speed × F.R. delivery

(d) None of the above

iv) The function of a pressure arm in a speed frame is

(a) To give twist to the roving

(b) To draft the sliver

(c) To wind the roving on bobbin

(d) To give a light pressure to the roving on the bobbin.

v) Degree of shore hardness of soft cots lie between

(a) 60° - 70° (b) 70° - 90°

(c) Below 60° (d) None of the above

2. a) What are the object of R/F? Sketch and explain the passage of material through a R/F? 12

b) Discuss the significance of Antiwedge Ring and Elliptical traveller in a R/F. 6

3. a) What are the object of building motion in a S/F? Explain with neat sketches how the building motion regulates and reverse the traverse of bobbin rail. 12

b) Write a short notes on the maintenance schedule of S/F. 6

4. a) What are the object of S/F? Sketch and explain the working of speed Frame? 12

b) Write short notes on different types of faults in speed frame roving and their remedies. 6

5. a) Sketch and explain the passage of material through a two-for-one twister. 10

b) What are the Novelty yarn? How are these Manufactured in a doubling M/C? Explain with examples. 8

6. a) If a R/F producing 40's count has a front roller delivery rate of 500"/min find the production/ spindle/ 8 Hrs if the m/c has 360 spindles. Also find the production per shift. 9

b) The Hank of Roving is to be changed from 1.0 HK to 1.5 Hank. The present wheels are C-P-30T, Ratchet-40T Lifter-22T, T.W.-42T. Find the wheel's for new Hank. 9

7. a) An S/F has 144 spindles and produces 2.3 Hank. Roving giving 120 kg/shift of 8 hrs with 80% efficiency find the front roller speed when its dia is $1\frac{1}{8}$". 9

b) If a R/F 60's yarn is produced with 3.9 T, mat12,500 spindle speed, efficiency of the m/c is 91%, and one doff requires 10 hrs to complete what is the length of yarn on the bobbin. 9

8. Write short notes on any three of the following : 6 each

a) Bobbin Leading S/F

b) Balloon Control Ring

c) SKF-PK-1600-40 drafting system

d) Cone drum

e) Flyer