

**Fifth Semester**  
**Textile Technology**  
**Scheme July 2008**  
**SPINNING TECHNOLOGY (503)**

**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 diagram wherever necessary.

1. Choose the correct answer: 2each
- i) In SKF top arm drafting system top rollers are loaded by means of
- (a) Coiled springs                      (b) Pneumatic pressure  
(b) Magnetic pressure                  (d) Flat springs
- ii) The principle of the epicyclic train of wheels in a fly frame has been applied in:
- (a) Differential motion  
(b) Building motion  
(c) Traverse motion of fed roving in drafting rollers  
(d) None of the above
- iii) In a ring frame, as the bobbin increase diameter, the spindle R.P.M are:
- (a) Increased                              (b) Reduced  
(c) Remain Same                          (d) None of the above
- iv) The function of a pressure in a speed frame is:
- (a) To draft the sliver  
(b) To give twist to the roving  
(c) To wind the roving on the bobbin  
(d) To give a light pressure to the roving on the bobbin
- v) Horn is associated with
- (a) Bobbin                                  (b) Ring  
(c) Traveller                                (d) None of the above

2. a) What are the objects of building motion of speed frame? Explain with sketches how building motion alters the position of cone drum belt on the cone drum. 14
- b) What is the function of solid leg in a flyer? 4
3. Explain the principle in T.F.O with neat sketch. Describe the passage of material through machine and explain the properties of T.F.O yarn. 18
4. a) With the help of a neat sketch explain SKF-PK-1600-40 top arm drafting system. 12
- b) Explain traveller and its objects and also explain the factors affecting the selection of traveller. 6
5. a) Sketch and explain the various parts of Ring frame spindle and its functioning. 10
- b) What are the causes of end breakage in the ring frame and how they are rectified? 8
6. a) A roving frame produces a package of 450 gms . The back roller speed is 30r.p.m. and 1"dia. The draft employed=6.0. If the machine runs at 85 % efficiency find the time for 1 full doff when machine delivers 3.0 hank roving. 10
- b) What are Novelty yarns? How are these are manufactured in a doubling machine? Explain with examples. 8
7. a) On a ring frame, the yarn delivery speed is 12 metres/minute and the spindle speed is 10,000 r.p.m. calculate the twist inserted in the yarn, when winding on periphery is 12cms. If this diameter changes to, say, 15cms. What is the value of twist inserted? 12
- b) Write notes on features of automatic drafting device on Ring Frame. 6
8. Write short notes on any three of the following: 6 each
- Salient features of modern speed frame
  - Various types of rings
  - Pneumatic arrangement of Ring Frame
  - Aprons and lots
  - Compare between Bobbin leading and Flyer leading

