B. Tech.

(SEM. VIII) EXAMINATION. 2006-07

SPINNING TECHNOLOGY

Time : 3 Hours] [Total Marks : 100

Notes : (1) Attempt all questions.
(2) All questions carry equal marks.
(3) Assume suitable data if necessary.
(4) Write in brief and draw the neat sketches if required.

1. Attempt any four from following:

(a) What are the impurities present in cotton fibres? Classify the grades of cotton as per Indian and American system.

(b) What are the different types of impurities removed by ginning process? How the chemical impurities are removed from cotton?

(c) What are the different types of ginning process? Describe briefly “Macarthy Gin”.

(d) How the characteristics of seed cotton influence the design of ginning machine.
(e) Explain briefly the aero-dynamic characteristics of lint and trash of the ginned cotton.

(f) State the major drawbacks of the conventional opening and cleaning machines and what was disclosed to the researcher’s for designing the new machines.

2. Attempt any four from following:
   (a) What are the main objects of Blow Room machineries? What are the actions given to these machineries for achieving these objects?
   (b) On Blow-Room line, how do you control lengthwise and widthwise weight during processing the cotton?
   (c) Define the cleaning efficiency of Blow-Room. How do you improve the cleaning efficiency of Blow-Room?
   (d) What is the main difference between hopper bale breaker and hopper blender?
   (e) How do you blend/mix the different type of fibres automatically in Blow Room?
   (f) What are merits and demerits of Blow Room? Write in brief.

3. Attempt any four from the following:
   (a) State the objectives of carding engine. How do you feed the material on a card engine automatically?
   (b) What are the improvements taken place on lifter-in region on a modern card engine?
(c) How do you achieve the carding action on card engine?  
(d) What are the different methods of doffing system on a card engine? Write in brief.  
(e) How do you measure the ‘Hooks’ of fibres of a carded material?  
(f) What are major faults of a carded sliver and how do you remove those?  

4. Attempt any four from following:

(a) State the different combed varieties with noil percentage. What are the different half laps/cylinders used on comber?  
(b) What is the difference between forward and backward feeding on comber? Is there any effect on noil percentage on comber? Explain briefly.  
(c) Mention the objects of draw frame. How the draw frame removes the hooks of the fibre?  
(d) If the path of material through the nose of a flyer in speed frame changes, is there any effect on twist of the roving? Explain.  
(e) Explain briefly any of the building mechanism on speed frame.  
(f) Explain briefly the auto-levelling system on modern draw-frame.
5. Attempt any four from following:

(a) State the objects of ring frame. How do you control the short fibres and the spinning angle on the ring frame?

(b) What are the different weighing methods applied on the drafting zone of a ring frame? Explain.

(c) State the yarn faults and explain briefly the remedial measures.

(d) How do you study the end breaks on ring frame? Why it is required?

(e) Explain briefly the limitations of ring frame.

(f) Draw a neat sketch of a full doffed bobbin of a ring frame and also show the different parts of this bobbin. Also explain how the bottom portion is made.