B. TECH
(SEM-III) THEORY EXAMINATION 2018-19
PRINCIPLE OF YARN MANUFACTURE

Time: 03:00 hrs   *Total Marks: 70*

Note: Attempt all sections as directed. If required any missing data; then choose suitably

SECTION – A

1. **Attempt all questions in brief.**   **(2 x 7=14)**

   (a) What is ginning process?
   (b) What are the objectives of mixing process?
   (c) What is the function of beaters in blow-room machines?
   (d) What do you mean by carding process?
   (e) What are the objectives of draw-frame?
   (f) What do you understand by comber preparatory process?
   (g) Write the function of flyer in speed frame machine.

SECTION – B

2. **Attempt any three of the following.**   **(7 x 3=21)**

   (a) Describe the functioning of main parts of carding machine with neat diagrams.
   (b) What is the need of Comber? Explain the working of various parts of Comber.
   (c) Explain the salient features of various machines in Blow-room line.
   (d) Explain briefly the mechanism of winding in speed frame with neat diagram.
   (e) Write the need of draw-frame. Discuss the working of Draw-frame showing the passage of material with neat labeled diagram.

SECTION – C

3. **Attempt any one of the following.**   **(7 x 1=7)**
   (a) Mention the objectives of Ginning. Explain the working of Saw Gin with neat labelled diagram.
   (b) Explain briefly why metallic card clothing is preferred over flexible card clothing for short & medium cotton fibre processing.

4. **Attempt any one of the following.**   **(7 x 1=7)**
   (a) Explain the working of sliver lap, ribbon lap and super lap/unilap machines.
   (b) Calculate the production of a Comber machine in Kg/Shift using the following data.

Speed of comber (Nips/min)	:	350
Lap Weight (gm/meter)	:	65
Feed /Nip (mm)	:	5.7
Machine Efficiency (%)	:	96
Number of Heads	:	8
Noil Extracted (%)	:	16

5. **Attempt any one of the following.**   **(7 x 1=7)**
   (a) Discuss the types of drafting systems in Draw-frame with neat labelled diagram.
   (b) What are the objectives of Speed frame? Write the working of various parts of speed frame.

6. **Attempt any one of the following.**   **(7 x 1=7)**
(a) Describe briefly the 3 over 3 drafting mechanism in speed frame with neat diagram.
(b) Calculate the production of Speed frame in Kg/Shift/Spindle with the following data.

Spindle Speed (rpm)	:	1250
TPI	:	1.25
Machine Efficiency (%)	:	94
Hank of roving	:	1.0

7. **Attempt any one of the following.**   **(7 x 1=7)**
(a) What are the objectives of Ring frame? Briefly describe the working of various parts of ring frame machine.
(b) Calculate the production of a Ring frame in Kg/Shift with the following data.

Spindle Speed (rpm)	:	16000
TPI	:	24
Machine Efficiency (%)	:	97
Count	:	30^s
Number of spindles	:	1200