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Sub Code: NTT602

Roll No.

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B. TECH (TEXTILE TECHNOLOGY)
(SEM – VI) THEORY EXAMINATION 2017-18
YARN MANUFACTURE-IV

*Time: 3 Hours**Total Marks: 100***Note:** 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt all questions in brief **2 x 10 = 20**

- a. What are the objectives of ring spinning process?
- b. Write the names of top roller loading systems?
- c. What do you mean by yarn twist & direction of twist?
- d. How twist is imparted in the yarn at ring frame?
- e. Why ABC ring is used in ring spinning?
- f. How many types of waste are generated in ring spinning process?
- g. What is yarn C.V% & U%?
- h. What is plain and cross reeling?
- i. What is sewing thread?
- j. What do you mean by tyre cord?

SECTION B

2. Attempt any three of the following: **10 x 3 = 30**

- a. Explain the concept of twist multiplier. What are the TM values for different end product? How high and low TM values affect the yarn properties?
- b. Describe the construction & working of 3/3 double apron drafting system with neat sketch?
- c. Explain with the neat sketch different types of rings used in textile industry and their importance.
- d. What are the objectives of Ring doubling? Explain the passage of yarn in ring doubling with neat sketch. What are the disadvantages of this process?
- e. What is fancy yarn? Explain the construction of any **two** fancy yarns:
(i) Marl yarn (ii) Cork screw yarn (iii) Boucle yarn (iv) Slub yarn

SECTION C

- 3. Attempt any one part of the following** **10 x 1 =10**
- (a) What are the main parts of ring-frame machine? Explain the functioning of these parts with neat sketch.
- (b) What type of material is used for rings travellers? Mention different shapes of ring travellers with neat sketch and their importance.
- 4. Attempt any one part of the following** **10 x 1 =10:**
- (a) What are the recent developments in ring spinning system and their benefits to textile industry.
- (b) What are the disadvantages and limitations of ring spinning system?
- 5. Attempt any one part of the following** **10 x 1 =10**
- (a) Explain the cop winding process with neat line diagram. Why the movement of balloon control rings and lappet rail is important with the up and down movement of ring rail?
- (b) What are factors that affect the cop content in ring frame?
- 6. Attempt any one part of the following** **10 x 1 =10**
- (a) What is compact spinning system? What is the principle of yarn formation in compact spinning process?
- (b) What are the advantages of compact spinning system over normal ring spinning system?
- 7. Attempt any one part of the following** **10 x 1 =10**
- (a) What are various reasons of yarn breakages in ring frame and how it affects the pneumafil waste?
- (b) Calculate the production of Ring frame in Kg/Shift (8 Hours) with following data.
- | | | |
|------------------------|---|-----------------|
| Spindle Speed (rpm) | : | 15000 |
| TPI | : | 20 |
| Machine Efficiency (%) | : | 96 |
| Count | : | 36 ^s |
| Number of spindles | : | 960 |