

**B.TECH**  
**(SEM-III) THEORY EXAMINATION, 2019-20**  
**YARN MANUFACTURE-I**

**Time: 3 Hours****Total Marks: 70****Note: 1. Attempt all Sections. If require 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 is the purpose of mixing and blending?
c.	Write the machine sequence of machines in modern blow-room lines.
d.	What is the function of beaters in blow-room machines?
e.	What is the function of licker-in in carding process?
f.	Why grid bars are used under the beaters?
g.	What is stripping action in carding process?

**SECTION B****2. Attempt any three of the following: 7 x 3 = 21**

a.	What are the objectives of Ginning? Explain the working of Saw Gin with neat labeled diagram.
b.	Describe the salient features of various machines in Blow-room line.
c.	What are the main parts of carding machine? Explain in brief the functioning of these parts with neat diagram.
d.	Explain briefly why metallic card clothing is preferred over flexible card clothing for short & medium cotton fiber processing.
e.	Why grinding of wires are required? Explain the working of traversing or horse-fall grinder.

**SECTION C****3. Attempt any one part of the following: 7 x 1 = 7**

(a)	What is fiber impurity? What are various types of impurities in cotton fiber? Explain briefly.
(b)	How carded and combed yarn are different in terms of physical properties. Write the sequence of machines for carded and combed yarn manufacturing process.

**4. Attempt any one part of the following: 7 x 1 = 7**

(a)	Explain the various defects in card web/sliver in carding process.
(b)	What is Tandem carding? Explain in brief with neat diagram.

**5. Attempt any one part of the following: 7 x 1 = 7**

(a)	If cylinder and doffer wires are having following particulars, than calculate their point density per square inch. (i) Height - 2.8 mm, Teeth/inch – 14.1, Rib thickness – 0.8 mm (ii) Height – 4.0 mm, Teeth/inch – 12.7, Rib thickness – 0.9 mm
(b)	What are the major developments in the high production cards in the recent past?

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6. Attempt any *one* part of the following: 7 x 1 = 7

(a)	Which type of auto-leveler is used in carding machine? Explain briefly the working of Auto leveler in carding.
(b)	What is the advantage of automatic waste removal system in high production cards?

7. Attempt any *one* part of the following: 7 x 1 = 7

(a)	Write about the latest developments in the blow-room machines and their impact on yarn quality.
(b)	Calculate the production of carding machine per shift of 8 hours with following data: <div style="margin-left: 40px;">Doffer diameter - 27 inch, Doffer speed- 40 rpm, Sliver hank- 0.14, Efficiency- 85%</div>