



Name :

Roll No. :

Invigilator's Signature :

CS/B.Tech (APM)/SEM-3/APM-303/2009-10

2009

BASICS OF TEXTILE MANUFACTURE – I

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for the following : $10 \times 1 = 10$
 - i) A textile fibre should have which of the following characteristics ?
 - a) Hardness
 - b) Lustre
 - c) l/d ratio > 1000
 - d) Hygroscopics.
 - ii) A textile fibre having 30% moisture cannot feel wet and that is
 - a) cotton
 - b) wool
 - c) viscose
 - d) silk.
 - iii) A sewing thread must be
 - a) glazed
 - b) mercerised
 - c) lubricant finished
 - d) soft finished.
 - iv) In cotton ginning approximate proportion of clean cotton to seed is
 - a) 2 : 3
 - b) 1 : 1
 - c) 1 : 3
 - d) 3 : 1.



- v) Texture yarn has its characteristics of
- a) smoothness b) straightness
c) drapability d) bulkiness.
- vi) In clasimate R system the yarn faults are classed into
- a) 24 b) 20
c) 23 d) 22.
- vii) Air jet spinning is suitable for
- a) 40s - 80s b) cotton only
c) 4.5s - 18s d) recovered waste.
- viii) In "two for one twister" ratio of twist insertion/min to spl turn/min is
- a) 1 : 1 b) 2 : 1
c) 1 : 2 d) 3 : 1.
- ix) Immature cotton fibre
- a) is finer b) is smaller lumen
c) is longer d) does not have twist.
- x) The only natural fibre which can be directly be woven or knitted in raw state is
- a) wool b) cotton
c) silk d) jute.

GROUP - B

(Short Answer Type Questions)

Answer any *three* of the following. 3 × 5 = 15

2. What is the object of ginning ? Compare and contrast between Saw gin and Roller gin.
3. Discuss the importance of each machine (for yarn manufacture) used for cotton yarn making.
4. What is meant by yarn count ? What is its importance ? Describe cotton, tex, denier system.



5. What are the two major groups of natural fibre ? Identify the fibre and their sources in each group. Classify manmade fibres according to basic composition. Identify the fibre in each group.
6. Compare woollen and worsted yarn and their uses.

GROUP - C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. a) Describe any standard blowroom line. 4
- b) What is the object and value of combing operation ?
3 + 3
- c) What are single yarn and plied and cabled yarn ? 5
8. a) What is the object of yarn folding ? 3
- b) What are the different types of yarn folding machine ? 2
- c) Describe the working of two for one twister with neat sketch. 6
- d) Describe imperfection and thick & thin places for staple spun yarn. 4
9. a) Name three commercially viable open-end spinning. 2
- b) What is the advantage of open-end spinning over ring spinning ? State disadvantages also. 3 + 3
- c) What is the advantage of ring spinning ? 3



- d) Compare the properties of yarn produced from ring spinning and friction spinning system as regard
- i) strength
 - ii) evenness
 - iii) stiffness
 - iv) hairiness. 4
10. a) What is the popular variety of silk ? What is wild silk ?
Give example. 1 + 2 + 1
- b) State the important varieties of silk and their sources. 5
- c) Name a good quality wool and its source and significant difference from the other origin. 2 + 1 + 3
11. a) What is sewing thread ? What are the basic properties of sewing thread ? 2 + 3
- b) Discuss the type of cotton sewing. 3
- c) What is textured yarn ? Give its classification and properties. 2 + 2 + 3
12. a) What is chemical nature of polyester fibre ? Name two polyester fibres and describe the way of obtaining those two fibres. How is polyester effected by heat, acid, mildew/moth ? 1 + 4 + 3
- b) What is the chemical nature of viscose fibre ? What is ripening ? What is the source of rayon ? What natural fibre does rayon resemble chemically ? 1 + 2 + 2 + 2