

<b>AT – 1/14</b>
<b>Textile Technology</b>
<b>Paper – I</b>

*Time : 2 hours*

*Full Marks : 100*

*The figures in the right-hand margin indicate marks.*

*Answer Q. No. 1 of Group – A which is compulsory  
and **four** questions from Group – B.*

**Group – A**

1. Answer **all** questions in brief:  $2 \times 20 = 40$
- (a) Why long man made fibres improve production rate in ring spinning ?
  - (b) Justify why finer fibres are suitable to produce strong and uniform yarn.
  - (c) For what reasons vibrating doffer comb in card is not suitable for high production machine ?
  - (d) State the purpose of placing floating condenser in a cotton speed frame.

- (e) State the functions of top comb in a cotton comber.
- (f) What is F. Q. I. and why it is important ?
- (g) Define span length of a fibre and its importance.
- (h) What is the purpose of mixing different cotton fibres in spinning ?
- (i) State the merits of chute feed system to card overlap feed system.
- (j) Define Nm and Lea count of yarn.
- (k) What do you mean by CVM % in Uster Yarn irregularity result ?
- (l) State the importance of Drape testing of apparel fabric.
- (m) What is the standard condition of testing of textile materials ?
- (n) What is RKM value of yarn and state its relation with tenacity (gm/tex) ?
- (o) State the purposes of sizing in warp preparation for weaving.

- (p) State the purpose of back rest in a power loom.
- (q) Differentiate between a projectile and a rapier loom.
- (r) Define a square fabric.
- (s) Classify the different weft insertion systems.
- (t) Differentiate between a cop and a pirn.

**Group – B**

- 2. (a) Discuss the properties of cotton fibres required to spin quality yarn. 6
- (b) What are the objects of blending ? What do you mean by compatible fibre for ideal blending ? 6
- (c) Define cleaning efficiency of a blow room. 3
- 3. (a) "Drafting generates irregularities" – Discuss. 6
- (b) "Lap preparation before comber is important in cotton processing system" – Discuss. 6
- (c) State the functions of flyer top. 3

4. (a) Discuss the limitations of ring spinning system and the ways to overcome them. 6
- (b) Classify modern spinning systems and their suitable yarn count range. 6
- (c) Distinguish structures amongst Ring, Rotor and Air-jet spun yarns. 3
5. (a) What are the advantages of winding ? Discuss the principle of Precision Winding. 6
- (b) Discuss the different types of take up motions used in various looms. 6
- (c) State the functions of a modern sow box. 3
6. (a) With the help of suitable sketches, discuss the mechanism of weft insertion in Air-jet loom. 6
- (b) Differentiate amongst Tappet, Dobby and Jacquard shedding mechanisms. 6
- (c) Discuss the functions of different components of a fly shuttle. 3

7. (a) What are the properties required to be tested to reproduce a fabric and name the instruments used to carry out the tests ? 6
- (b) What is yarn numbering and how it is classified ? Deduce a relation between Nm and Ne. 6
- (c) What is the importance of Twist Multiplier ? State the formula to calculate TPI, TM and Count of yarn (Ne). 3



