

17569

16117

3 Hours / 100 Marks

Seat No.

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Instructions : (1) All Questions are *compulsory*.

(2) Answer each next main Question on a new page.

(3) Illustrate your answers with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

(6) Use of Non-programmable Electronic Pocket Calculator is permissible.

(7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE :

20

- (a) List down various limitations of shuttle looms.
- (b) Explain the principle of Projectile weft insertion.
- (c) Give detailed classification of Rapier looms.
- (d) State objectives of the following parts on air jet loom :
 - (i) Relay nozzles
 - (ii) Profile reed
 - (iii) Confuser
- (e) State advantages and disadvantages of water jet weaving machine.
- (f) Give detailed classification of non-wovens.
- (g) List down various applications of non-woven.
- (h) List down various types of geo-textiles you are aware of.

- 2. Attempt any TWO : 16**
- (a) (i) Classify shuttle less looms in various categories.
 - (ii) Describe various features of projectile weaving.
 - (b) Describe picking cycle on projectile loom with the help of a neat diagram.
 - (c) Describe cycle of operation on flexible rapier loom.
- 3. Attempt any TWO : 16**
- (a) What are the requirements of air quality, compressor and distribution system on airjet weaving machine ?
 - (b) (i) Compare between airjet and water jet loom.
 - (ii) What is the objective of weft accumulator ? List down types of weft accumulator. Describe working of any one with help of a neat diagram.
 - (c) Draw diagrams of different types of selvages used on shuttleless loom.
- 4. Attempt any TWO : 16**
- (a) Describe sequence of weft insertion on airjet loom with the help of a schematic diagram.
 - (b) Give brief account for yarn requirement for shuttleless weaving. Also enlist various precautions to be taken during winding, warping, sizing and drawing – in departments.
 - (c) Describe various dry methods of web preparation being used for manufacturing non-wovens.
- 5. Attempt any TWO : 16**
- (a) Give detailed account for various functions of geo-textiles.
 - (b) (i) Describe aerodynamic method of web production.
 - (ii) Describe various web laying methods.
 - (c) Explain needling technique and its various configurations. Draw labelled diagram of needle. List down various factors affecting properties of needle punched non-woven fabric.

6. Attempt any TWO :**16**

- (a) Describe use of geo-textile in River-bed, canals and sea-bed erosion control with the help of a neat diagram.
 - (b) (i) Give brief account of adhesive bonded non-woven on following points :
 - (p) Types of adhesives used
 - (q) Types of bonds formed
 - (r) Different methods of manufacturing
 - (ii) Describe thermal bonding method of non-woven production.
 - (c) Describe the drive to flexible rapier with the help of a neat diagram.
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