

17569

11819

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.

Marks

1. Attempt any FIVE :

20

- (a) Classify the shuttle less loom.
- (b)
 - (i) State the function of welt accumulators.
 - (ii) Enlist various types of selvages used for shuttle less loom.
- (c)
 - (i) State the concept of non-woven process.
 - (ii) Classify non-woven manufacturing processes.
- (d) State applications of non-woven fabrics.
- (e) Explain function of geotextiles.
- (f) Explain need for shuttle less technology.
- (g) Give the detail classification of geotextiles.

2. Attempt any TWO :

16

- (a)
 - (i) Explain merits and demerits of shuttle loom.
 - (ii) Compare between projectile and rapier weaving.
- (b) Describe construction and working of projectile picking mechanism.
- (c) Explain method of preparation of web by mechanical means in non-woven manufacturing.

- 3. Attempt any TWO :** **16**
- (a) (i) State salient features of rapier loom.
 - (a) (ii) Describe the working of any one “Rigid rapier drive”.
 - (b) Explain construction and working of mono-jet air-jet loom.
 - (c) Explain various uses of geotextiles in detail.
- 4. Attempt any TWO :** **16**
- (a) (i) State salient features of water-jet loom.
 - (a) (ii) Differentiate between water-jet and air-jet loom.
 - (b) Explain objectives of carding in geotextile manufacturing process. Also, explain different configurations of cards.
 - (c) Describe the application of geotextile in “Railway tracks” and “Non-paved roads”.
- 5. Attempt any TWO :** **16**
- (a) (i) Explain need for Air stream control on air-jet loom.
 - (a) (ii) Explain various developments in nozzles and reed to control air stream.
 - (b) (i) Compare loop transfer and Tip transfer of welt in rapier.
 - (b) (ii) State the working of loop transfer in rapier weaving.
 - (c) Sketch and describe mechanical method of manufacturing and non-woven.
- 6. Attempt any TWO :** **16**
- (a) What is adhesive bonding ? Enlist various methods of adhesive bonding. Explain any one of them in details.
 - (b) Describe the working of impulsive beatup mechanism.
 - (c) (i) Explain bi-phase rapier weaving machine.
 - (c) (ii) Explain the yarn requirements on shuttle less looms.
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