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Printed Pages : 3

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BT-5/D-13

**FABRIC MANUFACTURING-III**

**Paper-TT-305-A**

*Time allowed : 3 hours*

*[Maximum marks : 100]*

*Note : (i) Attempt any five questions taking at least one question from each unit.*

*(ii) All questions carry equal marks.*

**Unit-I**

1. Discuss the advantages and disadvantages of Shuttle and Shuttleless weaving. Also discuss the features of unconventional weaving. What are weft accumulators ? With the help of sketches, the passage of weft yarn through weft accumulator.— Discuss. 4+4+2+10
2. Discuss various types of Projectile weaving machines. With the help of neat sketches, explain the working Principle of Shedding, Picking and Beating-up of any Projectile weaving machine. 4+16

**Unit-II**

3. What is Rapier Loom ? How to classify Rapier Loom ? With the help of neat sketches explain the sequence of weft insertion

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for Gabler and Dewas system. Also discuss the driving system of Rigid and Flexible Rapier. 2+4+8+6

4. With the help of neat sketches, explain the sequence of weft insertion through nozzles of air-jet weaving machine. Also discuss the controlling of air stream by relay nozzle. With the help of neat diagram, discuss the design of profile reed and air-jet nozzle. 8+4+8

**Unit-III**

5. Discuss the merits and demerits of water-jet loom. Also discuss the weft insertion mechanism of water-jet loom. Also discuss the different types of water-jet nozzles with the help of sketches. How fabric drying takes place on water-jet looms ? Discuss. 4+8+4+4
6. What are the multi-phase weaving machines ? Discuss. Compare between circular loom and multiphase looms with the help of neat diagrams, explain the working principle of Hunt's let-off motion. 6+4+10

**Unit-IV**

7. Discuss the fibre properties requirements of non-wovens. Also discuss the application of various non woven fabrics.

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With the help of neat diagram, explain the working principle of parallel and cross-laid techniques of web formats.

4+4+12

8. (a) With the help of neat sketches, explain the spunbond and thermal bond technique of web bonding. 10
- (b) Describe the working principle of Needle-Punching and Chemical Bonding Techniques. 10