

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) EXAMINATION – SUMMER 2024****Subject Code: 3152909****Date: 27-05-2024****Subject Name: Fabric Formation III****Time: 02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) Give the brief classification of nonwoven.	03
	(b) Discuss advantages & disadvantages of shuttle loom & shuttle less looms.	04
	(c) With the help of neat diagram, explain double rapier tip transfer type weft insertion system in detail.	07
Q.2	(a) Define narrow fabrics. List out the machines used for manufacturing the same.	03
	(b) Explain the main characteristic feature of leno fabrics with the help of neat sketch. List the methods of constructing the same.	04
	(c) With the help of neat diagram, explain the principle of working of picking mechanism on needle/tape loom.	07
	OR	
	(c) With the help of neat diagram, explain the principle of working of Electronic Let-off mechanism of Air Jet loom.	07
Q.3	(a) With the help of neat sketch, explain the construction and significance of profile reed.	03
	(b) Explain the principle of weft insertion on air jet weaving machine.	04
	(c) With the help of neat diagram, explain the principle of working of Torsion Bar Picking mechanism of Projectile loom.	07
	OR	
Q.3	(a) Give classification rapier looms.	03
	(b) Explain tip transfer and loop transfer mechanism on rapier loom with the help of a neat diagram.	04
	(c) With the help of neat diagram, explain the principle of working of Water Jet loom.	07
Q.4	(a) Discuss the applications of nonwovens in medical & hygiene.	03
	(b) Give the significance of pore size in nonwovens and also give the methods of measuring the same.	04
	(c) Explain various methods of dry web laying. How does fibre orientation in the web affect fabric properties?	07
	OR	
Q.4	(a) Write a brief note on “Chemical Finishing of Nonwovens”.	03
	(b) With the help of neat diagram, explain the principle of melt blown process.	04
	(c) With the help of neat diagram, explain the principle of working of needle punching loom.	07

- Q.5** (a) Compare 2D woven fabric with 3D woven fabric. **03**
(b) Write a brief note on “Strain on Warp & Weft on needle/tape loom” **04**
(c) With the help of neat diagram, explain the principle of working of wave shedding mechanism on circular loom. **07**

OR

- Q.5** (a) Discuss the applications of braided fabrics. **03**
(b) Briefly explain how gauze & tug mechanism is used for weaving leno fabrics. **04**
(c) With the help of neat diagram, explain the principle of working of tubular braiding machine. **07**
