

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII EXAMINATION – SUMMER 2016****Subject Code:172902****Date:16/05/2016****Subject Name:Modern Weaving Technology****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.

- Q.1** (a) With sketch explain timing diagram of relay nozzle based air jet loom. What is called lead angle? **07**
- (b) What are the requirements of weft yarn to be used on shuttleless looms? What is the role of weft accumulator/measuring mechanisms? Calculate the speed of weft yarn with and without accumulator in case of projectile loom running at 310 RPM having 89% efficiency and 101 inches R.S. **07**
- Q.2** (a) Explain how the movement of rapier and sley is synchronized on loom? Discuss rapier drive. **07**
- (b) Discuss in short on following mechanism of modern weaving machinery: - **07**
WBS, TAPO, PSC, FDP, ESS, F-Kick & R-kick.
- OR**
- (b) Discuss pre-requisites of water jet loom. Also discuss advantages and disadvantages of water jet loom. **07**
- Q.3** (a) Which Quick Style Change features are available on modern shuttleless looms? Discuss any three in detail. **07**
- (b) Discuss need for modernization in weaving machine in India and pre-requisites for the shuttleless loom. **07**
- OR**
- Q.3** (a) With a neat sketch explain tip transfer and loop transfer mechanism on rapier loom. **07**
- (b) Write in detail on various possibilities available with shedding mechanisms of projectile loom. **07**
- Q.4** (a) With a neat sketch explain construction and working of picking mechanism of projectile loom. **10**
- (b) What are the limitations of rapier loom with reference to width changes? Which changes are to be made on loom when the width change is to be done? **04**
- OR**
- Q.4** (a) Discuss modern features of Tsudakoma 9100 and Toyota 710 airjet looms. **07**
- (b) Write in detail on latest features of warping and sizing machines to prepare yarn for shuttleless looms. **07**
- Q.5** (a) With neat sketch explain working of picking mechanism of water jet loom. **07**
- (b) Write briefly on any two methods of picking of multiphase weaving looms. **07**
- OR**
- Q.5** Write short note on following: **14**
1. Projectiles
 2. Triaxial fabric forming
