

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII • EXAMINATION – WINTER • 2014****Subject Code: 172902****Date: 25-11-2014****Subject Name: Modern Weaving Technology****Time: 10:30 am - 01:00 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) 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 330 rpm having 90% efficiency and 330 cm R.S. **07**
- (b) What is stretch control mechanism, pre wetting, and vertical exit on a modern sizing machine? What are the benefits of the same? With sketch discuss features of any one type of pre wetting arrangement. **07**
- Q.2** (a) Which Quick Style Change features are available on modern shuttleless looms? Discuss any three in detail. **07**
- (b) Write in short on salient features of Autoconer winding machine. **07**
- OR**
- (b) Discuss need for modernization in weaving machine in India and pre-requisites for the shuttleless loom. **07**
- Q.3** (a) What are the provisions on modern air jet weaving machines for stable weft insertion? With change in speed how the propelling force is to be adjusted? State its relation with other parameters. **07**
- (b) Discuss features of modern weaving machines to overcome the problem of starting marks. **07**
- OR**
- Q.3** (a) With sketch explain timing diagram of relay nozzle based air jet loom. What is called lead angle? **07**
- (b) Write in detail on various possibilities available with shedding mechanisms of projectile loom. **07**
- Q.4** (a) Discuss in short on braking mechanism on projectile loom. Also write in short on tucked in selvedge as formed on projectile loom. **07**
- (b) With a neat sketch explain tip transfer and loop transfer mechanism on rapier loom. **07**
- OR**
- 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**
- Q.5** (a) With a neat sketch explain working of any one type of rapier drive. How stroke is adjusted? **09**
- (b) Discuss pre-requisites of water jet loom. Also discuss advantages and disadvantages of water jet loom. **05**
- OR**
- Q.5** Write short note on following: **14**
1. Multiphase looms.
 2. Triaxial fabric forming
