

GUJARAT TECHNOLOGICAL UNIVERSITY**ME SEMESTER – I EXAMINATION – SUMMER 2017****Subject Code: 2712502****Date: 10/05/2017****Subject Name: Theory and Design of Textile Machine I****Time: 02:30 p.m. to 05:00 p.m.****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** What is the practical approach to optimization? Discuss the optimization process related to licker in zone & cylinder region in carding machine. **14**
- Q.2** (a) Explain bale management principle in context of modern blow room line. **07**
 (b) Explain carding action, stripping action and derive formula for opening intensity of taker in. **07**
- OR**
- (b) Discuss step to improve blending uniformity in modern blow room line. **07**
- Q.3** (a) Explain the significance of blending delay in relation to modern blow room line. **07**
 (b) Explain the technological design changes in modern draw frame related to drafting arrangement & top roller weighing mechanisms. **07**
- OR**
- Q.3** (a) Explain the design development in ring and traveler at ring frame. **07**
 (b) Discuss why even no machine required between card and comber. **07**
- Q.4** (a) Which lap preparation sequence give maximum batt strength and cohesion in comber? Discuss. **07**
 (b) Discuss the modern development in carding machine. **07**
- OR**
- Q.4** (a) Discuss the modern development in rotor spinning machine to produce better quality yarn. **07**
 (b) Explain any three design modifications at ring frame for condensed spun yarn. **07**
- Q.5** (a) Justify the location of autleveller in spinning line? Give classification and principle of operation of autoleveller related to draw frame. **07**
 (b) Explain the modern development in speed frame machine. **07**
- OR**
- Q.5** (a) Discuss the limitation of conventional opening and cleaning machines. **07**
 (b) Explain the development done in card wire clothing for high production. **07**
