

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**ME Semester –I Examination Feb. - 2012**

**Subject code: 711402N****Date: 13/02/2012****Subject Name: Construction Techniques****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 is meant by AUTOMATION? Discuss advantages and disadvantages of AUTOMATION w.r.t. Indian Construction Industry. **07**
- (b) Enlist methods of mechanical compaction of concrete. Discuss Do's and Dont's of mechanical vibration. **07**
- Q.2** (a) Discuss rules to be followed to pump Ready Mixed Concrete successfully. **07**
- (b) Explain modular co-ordinaton. Discuss benefits of modular co-ordinaton. **07**
- OR**
- (b) Discuss main steps to be followed for planning of auxillary structures. **07**
- Q.3** (a) Enlist typical metal scaffold fittings. Sketch and state functions of each such fittings. **07**
- (b) Describe with sketches suitable method of timbering of trench 1.5m wide and 2.00 depth in dry soft soils. **07**
- OR**
- Q.3** (a) Discuss scaffolding for maintenance of external surfaces of multi storeyed structures. **07**
- (b) What is meant by no-dig technology? Enlist such techniques for underground utilities. Discuss any one with sketches. **07**
- Q.4** (a) Suggest and describe suitable method for dewatering soil densification of loose granular soil. **07**
- (b) Describe with sketches construction and operation of horizontal moving formwork to construct roof of large size hall. **07**
- OR**
- Q.4** (a) Sketch typical slip form system to construct cooling tower. Label each element. **07**
- (b) Explain with sketches different methods for string of precast concrete elements. **07**
- Q.5** (a) Enlist various tests required for SCC. Discuss any one test. State field problems in using SCC. **07**
- (b) Discuss about nanotechnology and coatings. **07**
- OR**
- Q.5** (a) Describe with sketches process of vaccum dewatering of concrete pavements. **07**
- (b) Explain with sketches erection of precast column with balance bar. **07**

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