

GUJARAT TECHNOLOGICAL UNIVERSITY
M. E. - SEMESTER – I • EXAMINATION – SUMMER • 2014

Subject code: 711102N**Date: 17-06-2014****Subject Name: Fundamentals of IC Engine and Automobile****Time: 02:30 pm - 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) Explain with neat sketch valve timing diagram of 4 stroke CI engine. **07**
(b) Explain MPFI system with its working and advantages of it. **07**
- Q.2** (a) Give application of micro processor and micro computer in automobile. **07**
(b) Discuss selection of material for piston and write design steps to design piston head. **07**
- OR**
- (b) Discuss selection of material for connecting rod and write design procedure of it. **07**
- Q.3** (a) Explain working of synchromesh gearbox with neat sketch. **07**
(b) Explain working of stratified charge engine. **07**
- OR**
- Q.3** (a) Explain cam less engine. **07**
(b) Discuss recent development in I C engine. **07**
- Q.4** (a) Explain with neat sketch working of valve mechanism for over head cam shaft (OHC) engine. **07**
(b) List disadvantage of conventional (battery and magneto) ignition system. Sketch electronic ignition system. **07**
- OR**
- Q.4** (a) State various troubles occurring in suspension system their probable causes and remedies. **07**
(b) Explain with neat sketch the construction of an automobile tyre. **07**
- Q.5** (a) Explain working of jerk pump fuel injection system. **07**
(b) Types of carburetor. Explain with neat sketch any one of it. **07**
- OR**
- Q.5** (a) Draw and describe typical layout of electric system of automobile. **07**
(b) Explain mixture requirement in SI engine. **07**
