

GUJARAT TECHNOLOGICAL UNIVERSITY**PDDC - SEMESTER-V • EXAMINATION – WINTER 2013****Subject Code: X 51904****Date: 11-12-2013****Subject Name: Internal Combustion Engines****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) Compare air standard cycle and fuel-air cycle. **07**
(b) Discuss the important qualities of an SI and CI engine Fuel. **07**
- Q.2** (a) What are the advantages and disadvantages of using LPG in SI engine **07**
(b) Explain valve timing diagram of a four stroke SI engine. **07**
- OR**
- (b) Explain valve timing diagram of a four stroke CI engine. **07**
- Q.3** (a) What are functions of nozzle? With sketches explain the various types of nozzles. **07**
(b) Explain different types of fuel injection system used in CI engines. **07**
- OR**
- Q.3** (a) With a neat diagram explain working of a simple carburetor. Discuss limitation of simple carburetor. **07**
(b) With a neat diagram explain working of a Distributor type fuel injection pump. **07**
- Q.4** (a) Explain MPFI Sytem with a diagram. **07**
(b) With a neat sketch explain the magneto ignition sytem. **07**
- OR**
- Q.4** (a) Compare Battery Ignition system and Magneto ignition system. **07**
(b) Explain the phenomenon of knocking in SI Engines. **07**
- Q.5** (a) Give brief account of air pollution caused due to Ic engines emissions. **07**
(b) Explain various alternative fuels for IC engines. **07**
- OR**
- Q.5** (a) Discuss methods of measurement of Brake power. **07**
(b) Explain supercharging. Discuss various types of superchargers. **07**
