

Seat No.: _____
No. _____

Enrolment

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

Subject code: 711102N

Date: 02-12-2014

Subject Name: Fundamentals of IC Engine and Automobile

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.

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|------------|---|-----------|
| Q.1 | (a) Explain mixture requirements in S.I engine. | 07 |
| | (b) Describe multipoint fuel injection system with diagram. | 07 |
| Q.2 | (a) Explain with a neat sketch the working of multiplate clutch. | 07 |
| | (b) Write short note on recent developments in I. C. Engine. | 07 |
| | OR | |
| | (b) Briefly explain a typical electronic engine management system. | 07 |
| Q.3 | (a) Explain selection of material for piston and write design procedure to design piston head | 07 |
| | (b) Explain Air capacity of four stroke engine | 07 |
| | OR | |
| Q.3 | (a) Discuss in detail the effect of following on fuel air Otto cycle.
(i) Burning time losses.
(ii) Rubbing friction losses. | 07 |
| | (b) Explain electronic ignition system. | 07 |
| Q.4 | (a) Explain working of stratified charge engine | 07 |
| | (b) Explain with a neat sketch the valve timing diagram for 4 -stroke diesel engine | 07 |
| | OR | |
| Q.4 | (a) Explain with a neat sketch the scavenging process in 2-stroke engine | 07 |
| | (b) Explain with a neat sketch the valve timing diagram for 4 -stroke petrol engine | 07 |
| Q.5 | (a) Describe fuel injection pump with a neat sketch. | 07 |
| | (b) Describe with diagram the working of telescopic hydraulic shock absorber. | 07 |
| | OR | |
| Q.5 | (a) Classify various steering linkages. Explain with diagram the working of rack and pinion steering system. | 07 |
| | (b) Explain why rich mixture is required for the following:
(i) Idling
(ii) Maximum Power | 07 |
