

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE – SEMESTER- V EXAMINATION-SUMMER 2023

Subject Code: 3150210

Date: 28/06/2023

Subject Name: Automobile Engines

Time: 02:30 PM TO 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.
4. Simple and non-programmable scientific calculators are allowed.

- Q.1** (a) What do you mean by Engine Tune-Up? **03**
(b) Explain Engine firing order and its significance. **04**
(c) Explain valve timing diagram for four stroke petrol engine with neat sketch. **07**
- Q.2** (a) Why cooling system is necessary? Classify types of cooling system **03**
(b) Explain the working principle Carburetor. **04**
(c) Explain distributor type injection pump with neat sketch. **07**
- OR**
- (c) Explain Wet sump and dry sump lubrication system with neat sketch. **07**
- Q.3** (a) What do you mean by Injection pump calibration & phasing? **03**
(b) Explain Thermosyphon cooling system. **04**
(c) Explain working principle of Mechanical governor with neat sketch. **07**
- OR**
- Q.3** (a) What is pre-ignition? How it occurs? **03**
(b) Compare Air injection system & solid Injection system **04**
(c) Explain Jerk type injection pump with its effective strokes. **07**
- Q.4** (a) Explain Mist lubrication system. **03**
(b) Explain MPFI systems for petrol engine. **04**
(c) Explain Solex carburetor with neat sketch. **07**
- OR**
- Q.4** (a) Enlist the effects of knocking on I.C Engine components. **03**
(b) Explain following properties of C.I Engine fuel : Viscosity, Flash & Fire point, Cloud point **04**
(c) Explain combustion phenomenon in C.I Engine with P-θ diagram. **07**
- Q.5** (a) Define scavenging. **03**
(b) Compare the knocking (abnormal Combustion) in S.I Engine & C.I Engine. **04**
(c) Classify the superchargers. Explain Centrifugal supercharger with neat sketch. **07**
- OR**
- Q.5** (a) Differentiate supercharger & turbocharger. **03**
(b) Explain different types of scavenging methods. **04**
(c) Enlist different methods of Turbo-charging. Explain - Pulse turbo charging method. **07**
