

B.TECH SEM – IV (2007 COURSE) (MECHANICAL ENGG.) :

SUMMER - 2018

SUBJECT : INTERNAL COMBUSTION ENGINES

Day : **Tuesday**
Date : **05/06/2018**

S-2018-2631

Time **10.00 AM TO 01.00 PM**
Max. Marks : 80

N.B.

- 1) Q.1 and Q.5 are **COMPULSORY**. Out of the remaining attempt any **TWO** questions from Section I and Section – II.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer book.
- 4) Assume suitable data if necessary.

SECTION – I

- Q.1** a) Explain the classification of IC Engine. (05)
b) Explain the need of lubrication system of IC Engine. (05)
c) Explain the fuel feeding system for diesel engine. (04)
- Q.2** Explain and derive the expression for Air standard efficiency of Otto cycle with P-V and T-S diagram. Also give difference between Otto and Diesel cycle for constant compression ratio. (13)
- Q.3** Explain the function of Nozzles and explain in brief the working of fuel injector for IC Engines. (13)
- Q.4** Give the classification of cooling systems used for IC Engines. Explain dry sump lubrication system. (13)

SECTION – II

- Q.5** a) Explain motoring test for measurement of FP. (05)
b) Explain the catalytic converts and their function. (05)
c) Explain the diesel knocking. (04)
- Q.6** Explain and give classification of dynamometers. Explain Morse test for measurement of friction power. (13)
- Q.7** Give the different types of hybrid vehicles in market. Explain about alternative fuels for IC Engines. (13)
- Q.8** Explain the stages of combustion in SI Engines. And also classify types of combustion chambers in S.I. Engines.

* * *