

SL - 1003

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Seat No.	
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B.E. (Mechanical) (Part - IV) (Semester - VIII) (Revised)

Examination, May - 2017

ADVANCED I.C. ENGINES

Sub. Code : 68515

Day and Date : Wednesday, 03 - 05 - 2017

Total Marks : 100

Time : 02.00 p.m to 05.00 p.m.

- Instructions :**
- 1) All questions are compulsory.
 - 2) Figures to right indicate full marks to the question.

Q1) a) With the neat sketch explain the working of multi point fuel injection system. [8]

b) List different sensors and actuators used in petrol injection system and explain their functions. [9]

Q2) Answer Any Two:

a) What is ECU? Explain the role of ECU unit in improving the engine performance. [8]

b) Explain the design considerations for intake manifold and describe air and fuel flow phenomenon in S.I. engines [8]

c) With neat sketch, explain the distributor type diesel injection system. [8]

Q3) a) Describe thermodynamic analysis of S.I engine combustion. [9]

b) With neat sketch, explain the method of swirl measurement. [8]

Q4) a) What is fuel cell? Which types of fuel cells are used in Automobiles? [9]

b) With neat sketches explain the construction and working of LPG and CNG conversion kits. [8]

P.T.O.

Q5) Answer Any Two:

- a) Explain the formation mechanism of HC, CO and NO_x emissions. [8]
- b) Compare Euro and Bharat emission norms. [8]
- c) Explain in detail chemical methods used to control the engine exhaust emissions. [8]

- Q6) a) With neat sketch, explain the working of three way catalytic converter. [9]
- b) Explain the advantages of homogeneous charge compression ignition engine over conventional engine. [8]

