

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(AE) (2011 Onwards) (Sem.-4)
AUTOMOTIVE FUELS AND EMISSIONS
Subject Code : BTAE-405
Paper ID : [A1165]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

Q1 Answer briefly :

- a) Brief about roadmap for alternative fuels.
- b) What should be properties of automotive fuels?
- c) Write short note on wood gas.
- d) Are DEE and DME liquefied petroleum gases? Give reason.
- f) Brief about hydrogen boosters.
- g) What is basic chemistry combustion in 4 stroke SI engine?
- h) Define hart ridge.
- i) What are applications of ammonia as fuel?
- j) Define aldehyde emissions.

SECTION-B

- Q2 What advantages and disadvantages of biogas as fuel for automotive?
- Q3 Discuss about technological up gradations required in relation with fuel.
- Q4 Explain the water process and features of boron.
- Q5 Illustrate about the emissions of CI engines as pollutant sources.
- Q6 Brief about :
- a) Compressed natural gas and
 - b) Orsat apparatus.

SECTION-C

- Q7 To reduce pollution explain different post combustion treatments.
- Q8 Discuss about the properties, production and storage of emulsified fuels.
- Q9 Explain in detail about the analyzer for NO_x and Chemiluminescent analyzer.