



VI SEMESTER B. TECH END SEMESTER EXAMINATIONS, APRIL 2018

SUBJECT: INTRODUCTION TO ALTERNATIVE FUELS AND APPLICATIONS [MME 3285]

REVISED CREDIT SYSTEM

Time: 3 Hours

MAX. MARKS: 50

Instruction to Candidates:

❖ Answer **ALL** the questions.

- 1A.** “Alternative fuel sources is expected to solve the twin problems of pollution and energy security”. Explain this statement. **04**
- 1B.** What are the barriers in implementing alternative fuels? Explain. **04**
- 1C.** What are applications of Di ethyl ether (DEE)? **02**
- 2A.** How methanol is produced from syngas? Explain the process with chemical equations. **04**
- 2B.** Explain the hazards of methanol. **03**
- 2C.** Differentiate between ethanol and biodiesel. **03**
- 3A.** Describe the benefits of straight vegetable oil in a country like India. **03**
- 3B.** Describe the production of biodiesel. **03**
- 3C.** Explain the role of Ignition accelerators in CI engine liquid fuel combustion. **02**
- 3D.** What are the limitations of preheating of CI engine liquid fuels? **02**
- 4A.** What are the different methods of storage of hydrogen? Explain any one of them. **04**
- 4B.** Differentiate between CNG and LPG with respect to their properties. **03**
- 4C.** Explain the advantages and hazards of producer gas. **03**
- 5A.** What are the challenges of hybrid vehicle **02**
- 5B.** With a neat sketch, explain the working of hydrogen fuel cell. **03**
- 5C.** What are the benefits of parallel configuration hybrid vehicle? **02**
- 5D.** With a neat sketch explain the configuration of parallel hybrid vehicle design. **03**