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**MANIPAL INSTITUTE OF TECHNOLOGY**  
**MANIPAL**

*A Constituent Institution of Manipal University*

**VII SEMESTER B.TECH. (AUTOMOBILE ENGINEERING)**

**MAKEUP EXAMINATIONS, NOV/DEC 2016**

**SUBJECT: AUTOMOBILE POLLUTION & CONTROL (AAE-471)**

**REVISED CREDIT SYSTEM**  
**(02/01/2017)**

Time: 3 Hours

MAX. MARKS: 50

**Instructions to Candidates:**

- ❖ Answer **ANY FIVE FULL** questions.
- ❖ Missing data may be suitable assumed.

- 1A. Write a note on ill effects of various pollutants on human health. (05)
- 1B. Describe the classification of automotive Emissions. (02)
- 1C. List the causes for HC emission In SI engines. (03)
- 2A. Define the following terms (i) Retention time (ii) Dead time (iii) Adjusted retention time. (03)
- 2B. Which instrument is used to measure particulate matter and how does it work? (03)
- 2C. Compare knocking in SI and CI engine. (04)
- 3A. What are the engine modifications that can be done to reduce engine emission? (03)
- 3B. With neat sketch explain the function of gulp valve. (03)
- 3C. Discuss about positive crank case ventilation system. (04)
- 4A. Give reason why we need to rely more on alternative fuels? (03)
- 4B. What are the fuel requirements for SI engine. (03)
- 4C. Write classification of fuel cell and explain any one with appropriate equations. (04)
- 5A. How costing is classified in economics of IC Engines. (04)
- 5B. Why combustion is incomplete in engines? (03)
- 5C. Define fuel octane number write significance of fuel octane number. (03)
- 6A. List the stages in biodiesel production and Explain trans esterification. (03)
- 6B. Write Short notes on (1) Smog (2) Ringlemann charts. (04)
- 6C. What is the greenhouse effect, and how does it affect the climate? (03)

