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10AU74

Seventh Semester B.E. Degree Examination, Dec.2016/Jan.2017
Automotive Air Pollution and Control

Time: 3 hrs.

Max. Marks:100

Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.

PART – A

- 1 a. Discuss the influence of actual traffic conditions and vehicle maintenance on the pollution. (10 Marks)
b. Explain the following terms :
i) Exhaust pollutants ii) Regulatory test procedure. (10 Marks)
- 2 a. Describe the mechanism of formation of oxides of Nitrogen in CI engines. (10 Marks)
b. Discuss the reasons for the liberation of carbon monoxide after the combustion. (10 Marks)
- 3 a. What is UBHC? Explain the sources of UBHC. (10 Marks)
b. Explain the terms :
i) Soot formation ii) Pollution control measures in SI engine. (10 Marks)
- 4 a. Discuss the effects of following on Pollution control :
i) EGR ii) Fuel additives. (10 Marks)
b. Explain the effects of fuel properties on the pollution. (10 Marks)

PART – B

- 5 a. What are the exhaust gas contents before the treatment? (04 Marks)
b. With a suitable sketch, explain the construction and working of a catalytic converter. (10 Marks)
c. Discuss about the Diesel trap oxidizer. (06 Marks)
- 6 a. Discuss the effects of air pollutants on the following :
i) Human being ii) Plants iii) Environment. (15 Marks)
b. Discuss the effects of global warming. (05 Marks)
- 7 a. List out the different gas sampling methods and explain any two in detail. (12 Marks)
b. Explain about the filter type of smoke meter. (08 Marks)
- 8 a. Explain the construction and working of a Orsat gas analyser, with neat sketch. (10 Marks)
b. With a neat sketch, explain the working of Bosch smoke meter. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any recalling of identification, appeal to evaluator and /or equations written eg. 42+8 = 50, will be treated as malpractice.