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Seventh Semester B.E. Degree Examination, Dec.2019/Jan.2020
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. Define the driving cycle. Explain the ECE used for the regulatory test with the help of a neat sketch. (10 Marks)
- b. Explain the influence of actual traffic condition and maintenance of vehicles on Exhaust Emission. (10 Marks)
- 2 a. Explain the nitric oxide formation in SI engine. (10 Marks)
- b. Explain the formation of unburnt hydrocarbons in SI engine and briefly discuss about the factors influencing UBHC. (10 Marks)
- 3 a. Explain any five different measures in engine to control diesel emissions. (10 Marks)
- b. With neat sketch, explain the significance and working of positive crankcase ventilation. (10 Marks)
- 4 a. Explain the effects of fuel properties on the pollution. (10 Marks)
- b. Discuss the effects of following of pollution control :
 i) EGR ii) Fuel additives. (10 Marks)

PART - B

- 5 a. Explain with neat sketch, the different types of Catalytic converters. (10 Marks)
- b. Explain the thermal reactors used to treat exhaust gases, with a neat sketch. (10 Marks)
- 6 a. Explain the effect of air pollution on i) Animals ii) Plants. (12 Marks)
- b. Explain the Global warming and its effect. (08 Marks)
- 7 a. List out the different gas sampling methods and explain any two in detail. (10 Marks)
- b. Explain the filter type of smoke meter. (10 Marks)
- 8 a. With a neat sketch, explain Orsat apparatus for Exhaust Gas Analysis. (10 Marks)
- b. Explain the working principle of NDIR Analyzer, with a neat sketch. (10 Marks)
