

FACULTY OF ENGINEERING

B.E. 4/4 (AE) I – Semester (Main) Examination, November 2013

Subject : Automotive Pollution and Control

Time : 3 hours

Max. Marks : 75

Note: Answer all questions from Part–A. Answer any FIVE questions from Part–B.

PART – A (25 Marks)

1. Define the term “Pollution”.
2. What is meant by global warming?
3. List some of emissions from gasoline powered automobile.
4. What are the factors affecting smoke formation in CI engines?
5. What is meant by EGR? What for it is used?
6. What are the various chemicals used in Orsat apparatus?
7. Name some emission standards used in India.
8. What is meant by FID? What for it is used?
9. What is meant by CVS?
10. Name some emissions measuring instruments.

PART – B (50 Marks)

- 11.a) What are the sources of pollutants from gasoline engine? Explain.
b) Explain in detail how pollution effects on human health and environment.
12. What is the mechanism of HC and CO formation in 4-stroke and 2-stroke SI Engines? Explain in detail.
13. What are the effects of design and operating variables on emission formation? Explain in detail.
14. What are the main causes of No_x formation and how it can be decreased? Explain in detail.
- 15.a) Differentiate between open PCV system and closed PCV system.
b) Explain how to optimize the engine operating various in order to control the emissions.
16. Explain the construction, working and limitations of chemiluminescent detector. What for it is used?
17. Write a short notes on the following :
 - a) Thermal reactors
 - b) NDIR
 - c) Emission standards in India