



Code No. : 6447/S

FACULTY OF ENGINEERING
B.E. 4/4 (AE) I Semester (Suppl.) Examination, June 2014
AUTOMOTIVE POLLUTION AND CONTROL

Time : 3 Hours]

[Max. Marks : 75

Note : Answer **all** questions from Part – A and **any five** questions from Part – B.

PART – A

(25 Marks)

1. Differentiate the terms “emission” and “pollution”.
2. What is meant by photochemical smog ?
3. Name different types of emissions.
4. How unburned hydrocarbons are formed in SI engines ?
5. What do you mean by exhaust gas recirculation ?
6. What is meant by PCV system ? What for it is used ?
7. What is meant by FID and NDIR ?
8. What are Bharat and Euro Norms ?
9. Name some of catalysts used in catalytic converter.
10. What is meant by secondary air injection ?

PART – B

(50 Marks)

11. a) Name some pollutants given by automobile engines and what are their effects on environment.
b) What are the main causes of global warming ? Explain how it can be controlled ?
12. Explain in detail about the effect of spark timing, compression ratio and engine load on UBHC and CO formation in SI engines.
13. What are the main causes of noise pollution from automobiles ? Explain how these can be controlled in detail.
14. Explain the CVS-3 system with a neat sketch. What for it is used ? Also write the FTP for taking emission sample from a vehicle.
15. Explain in detail about a three way catalytic converter with a neat sketch. What are its advantages and disadvantages ?
16. Explain the construction and working principle of Gas chromatograph. And list its advantages and limitations.
17. Write a short notes on the followings :
 - a) Mechanism of HC and CO formation
 - b) NOX formation and control
 - c) Emission standards used in India.