

Roll No.

Total No. of Pages : 2

Total No. of Questions : 09

B.Tech. (AE) (Sem.-4)

AUTOMOTIVE POLLUTION AND CONTROL SYSTEMS

Subject Code : AE-208

Paper ID : [A0712]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.

SECTION-A

1. Write briefly :

- a) Name the main pollutant in engine exhaust.
- b) What is the function of PCV valve?
- c) What is a catalytic converter?
- d) Which catalyst is used for reduction of No_x ?
- e) What is the effect of heating the supply air on the engine emission?
- f) What are various ways of controlling exhaust emission?
- g) What is the function of NDIR analyzer?
- h) What is the necessity of fuel control for emission control?
- i) Why unleaded petrol is used for engine employing catalytic converter?
- j) What are the sources of automobile pollution?

SECTION-B

2. Discuss the formation of HC and CO in a 4-stroke engine.
3. Discuss the effects of operating variables on emission formation.
4. Explain the effect of particulate emission in diesel engine towards automotive pollution.
5. What are emission standards? Discuss.
6. How emission is measured through smoke meters? Discuss.

SECTION-C

7. Discuss in detail the PCV system of emission control.
8. Discuss the air injection system technique of reducing the pollutants in the exhaust gas.
9. Write a note on Gas chromatograph.