

**Subject: Automotive Pollution and Control Systems****Paper : AE - 208****Time : 3 Hours****Max. Marks: 60**

**Section - A is compulsory. Attempt any four questions from section – B and any two questions from section – C.**

**SECTION – A****2X10 = 20**

1. a) What is a vapour recovery system?
- b) What is a catalytic converter?
- c) Which catalyst is used for reduction of NO<sub>x</sub>?
- d) What are the sources of pollution in automobile?
- e) What is the effect of heating the supply air on the engine emission?
- f) Name the Indian emission standards.
- g) What is the function of PCV valve?
- h) What do you understand from breathing of the fuel tank?
- i) Why unleaded petrol is used for the engine employing catalytic converter?
- j) What is the use of Orsat apparatus?

**SECTION – B****5X4 = 20**

2. Discuss the effects of automotive pollution.
3. How does the fuel injection help to reduce automobile pollution? Discuss.
4. Which pollutants in the engine exhaust are controlled by air injection system and how? Discuss.
5. How exhaust emission is treated in S.I. engine to control pollution? Discuss.
6. Discuss the particulate emission from exhaust in diesel engine.

**SECTION – C****10X2 = 20**

7. Discuss the effect of operating variables on emission formation in S.I. engine combustion.
8. Describe clearly how you treat the engine exhaust gases to convert the pollutants therein into harmless constituents.
9. Write notes on:
  - a) NDIR analyzer
  - b) Fumigation