

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

B.Tech. (AE) (Sem.–4th)

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. What is a smoke emission in C.I engine?
- b. Draw with neat sketch Pressure-Time Diagram of combustion for four strokes S.I Engine.
- c. Write any one reason for Low CO and Hydrocarbon emission in S.I. Engine.
- d. What are causes of knock in C.I. engines?
- e. What is effect of compression ratio on concentration of NO_x emissions?
- f. What is the basic principle of air injection PCV system?
- g. What is catalytic converter?
- h. Draw with neat sketch smoke sampler.
- i. What is exhaust gas recirculation?
- j. What is chromatography?

SECTION-B

2. Describe the construction and working of the PCV valve under various conditions.
3. Discuss the effect of operating variables on emission formations.
4. Explain with the help of neat diagram of exhaust treatment in S.I. engine.
5. How the temperature of cylinder gases and flame speed are affected by A/F ratio in C.I engine?
6. Explain particulate emissions in diesel engines.

SECTION-C

7. How does an automobile contribute towards pollution of the atmosphere? Discuss various methods to reduce the emission of pollutants in exhaust gases.
8. Describe the phenomenon of detonation or knocking in S.I engines. How can it be controlled?
9. Write the short notes on following :
 - (i) Hart ridge
 - (ii) Use of unleaded petrol