

**KADI SARVA VISHWAVIDHYALAYA**

**B. E AUTOMOBILE ENGINEERING SEMESTER-VII**

Subject Code: AE702

Subject Name: Automobile pollution and control

DATE: 12<sup>th</sup> November 2016

TIME: 10:30 to 1:30 TOTAL MARKS: 70

**INSTRUCTIONS:**

- Answer each section in separate answer sheet.
- Use of scientific calculator is permitted.
- All questions are compulsory.
- Indicate clearly, the options you attempt along with its respective question number.
- Use the last page of main supplementary of rough work.

**SECTION-I**

**Q-1 ALL COMPULSORY**

- (A) Define pollution and air pollution. Which are the major sources of air pollution? 05
- (B) Which are the main pollutants emitted by petrol engine. Explain in detail. 05
- (C) How the automobile emission contribute to green house effect. 05

**OR**

- (C) Explain the factors affecting green house effect. 05

**Q-2 ANSWER THE FOLLOWING QUESTIONS**

- (A) What are the sources of HC formation in petrol engine? Explain different factors which affect HC formation. 05
- (B) Explain the effect of the following factors on the exhaust emission (1) A:F ratio (2) surface volume ratio. 05

**OR**

- (A) Explain the factors affecting the odour production. 05
- (B) Write short note on formation of pollutants in diesel engines. 05

**Q-3 ANSWER THE FOLLOWING QUESTIONS**

- (A) Write short note on diesel engine smoke emission. 03
- (B) Enlist factors affecting smoke formation and explain any two. 07

**OR**

- (A) What are the bad effects of sound on human health? 05
- (B) Explain the effect of exhaust back pressure and valve overlap on hydrocarbon and CO emissions. 05



## SECTION-II

### Q-4 ALL COMPULSORY

- (A) How hydrocarbon, Nox and CO emission can be decreased? 05  
(B) Write short note on open PCV system. 05  
(C) Write short note on exhaust gas recirculation. 05

OR

- (C) Write short note on carburetor evaporative losses. 05

### Q-5 ANSWER THE FOLLOWING QUESTIONS.

- (A) Write short note on gas turbine pollution and its control. 05  
(B) Write short on infra red absorption gas analyser for measuring CO. 05

OR

- (A) When Euro-II norms effective in india? Write down Euro –II standards for petrol driven and diesel driven vehicles. 05  
(B) Explain the water injection, direct air injection and ammonia injection methods for emission control. 05

### Q-6 ANSWER THE FOLLOWING QUESTIONS

- (A) Write short note on thermal reactors. 05  
(B) Write short note on Hartridge smoke meter. 05

OR

- (A) Compare Euro I,II,III emission norms. 05  
(B) Write short note on sound pollution and its control. 05