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**Question Paper Code : 20159**

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2018.

Seventh Semester

Automobile Engineering

AT 6703 – AUTOMOTIVE POLLUTION AND CONTROL

(Regulations 2013)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. What are the causes for pollutions?
2. What is meant by regulated emission?
3. How CO emission is formed in Petrol Engine?
4. When Photochemical Smog is formed?
5. How white smoke is farmed from CI Engine?
6. When Aldehyde emission is formed in Diesel Engine?
7. What are the control techniques used for reduction of emission in Engine?
8. What are the uses of unleaded petrol?
9. What is the principle used in NDIR Analyser?
10. What is meant by Ringelmann Chart?

PART B — (5 × 13 = 65 marks)

11. (a) Explain in detail about the emission effects on health and environment.

Or

- (b) Discuss in detail about the formation of CO formation in SI Engine.

12. (a) Discuss in detail about the various causes for Hydrocarbon emission from SI Engine.

Or

- (b) Explain the formation of NO<sub>x</sub> emission in SI Engine.

13. (a) Explain in detail about particulate formation in diesel engine.

Or

- (b) Explain the formation of Hydrocarbon emission from CI Engine.

14. (a) With neat sketch, explain the working principle of Three way catalytic Converter.

Or

- (b) Explain the intake manifold open type positive crankcase ventilation system with neat sketch.

15. (a) Explain the various methods of smoke measurement in engines with neat sketch.

Or

- (b) Explain the instrument used for measurement of hydrocarbon emission from engine with neat sketch.

PART C — (1 × 15 = 15 marks)

16. (a) Describe with sketches the effect of operating variables on HC, CO & NO<sub>x</sub> emissions.

Or

- (b) How diesel combustion is different from petrol combustion? Mention the key differences and their effects on emissions.