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B. E. (Eighth Semester) Examination, April-May 2021

(New Scheme)

(Mech. Engg. Branch)

ENVIRONMENT POLLUTION & CONTROL

Time Allowed : Three hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : Attempt all questions. Part (a) is compulsory of 2 marks. Attempt any two parts from (b), (c) and (d) which carry 7 marks.

Unit-I

1. (a) Define primary and secondary pollutants.
(b) Define smoke, mist and fog. What are the harmful effects of polluted air on human beings?

- (c) Discuss the effects of NO_2 , CO , SO_2 , Lead, O_3 on the environment.
- (d) Explain how air pollution affects building materials, rubber and electronic industry.

Unit-II

2. (a) Define photochemical air pollution.
- (b) Draw the line diagram of ferrous metallurgical operation and explain different types of pollution and ferrous metallurgical operation.
- (c) Explain various types of pollutions emitted by thermal power plant with the help of block-diagram.
- (d) Describe the effect of air fuel ratio, combustion chamber surface to volume ratio and compression ratio on exhaust emission.

Unit-III

3. (a) Define the term "Pollutants".
- (b) What do you mean by smoke? Explain the working of Hartridge smoke meter.

- (c) Explain the various methods of smoke prevention.
- (d) How gaseous contaminants of combustion are controlled?

Unit-IV

4. (a) Write any two objectives of using control equipment.
- (b) Explain the working principle of cyclone separator. Also state its application.
- (c) Explain the working principle of electrostatic precipitators. Also state its application.
- (d) Explain the working principle of inertia separator. Also state its application.

Unit-V

5. (a) Define Air Pollution Index.
- (b) What are the causes and remedies of Acid rain?
- (c) What are the causes and prevention techniques used for green house effects.

(d) Discuss about the Environmental Act, 1989 and the Act, 1981.