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B. E. (Eighth Semester) Examination, 2020
APR-May
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(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).

Unit-I

1. (a) Explain the term point source with respect to air pollution. 2
- (b) Write down the effects of air pollution on paper, textile and building material. 7

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- (c) Discuss the effects of following on human health
(any two) :
- (i) CO
 - (ii) SO_x
 - (iii) NO_x
 - (iv) Lead 7
- (d) What are particulate matters? Discuss their sources, types and effects on biological system. 7

Unit-II

2. (a) List the emission generated from gasoline powered vehicles. 2
- (b) What is crank case emission? What are the various approaches to minimize crank case emission? 7
- (c) Write notes on : (any two) 7
- (i) Air-fuel ratio
 - (ii) Compression ratio
 - (iii) Pollution from thermal power plants

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- (d) Explain the chemistry of formation of photochemical smog. 7

Unit-III

3. (a) Explain the relation between mass concentration and volume concentration of air pollutants. 2
- (b) What is ringelmann chart method for estimating the density of smoke? 7
- (c) Explain the characteristics and effect of smoke on public health. 7
- (d) Mention the common method of control of gaseous contaminants and describe any two of them in detail. 7

Unit-IV

4. (a) What are the objectives of using air pollution control devices? 2
- (b) Write notes on : (any two) 7
- (i) Cyclone collector
- (ii) Fabric filter
- (iii) Settling chamber

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- (c) (i) Distinguish between pipe type and plate type electrostatic precipitator
- (ii) Write a note on collection efficiency of an ESP
- (d) What are wet collection devices? Explain the working, advantage and disadvantage of any two wet collection devices. 7

Unit-V

5. (a) Write the major function of Central Pollution Control Board. 2
- (b) Explain the cause and effect of acid rain. Also write the steps needed to control acid rain. 7
- (c) What is green house effect? Explain the mechanism of green house effect. Write down the impact of green house effect. 7
- (d) What is air pollution index? What are the parameters used for calculating air pollution index. 7