M. TECH.
(SEM-II) THEORY EXAMINATION 2017-18
AIR AND NOISE POLLUTION & CONTROL

Time: 3 Hours   *Total Marks: 70*

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. **Attempt *all* questions in brief.**   **2 x7 = 14**
    a. Define air pollution.
    b. What do you mean by line and area source of air pollution?
    c. Explain various types of air pollutants with examples.
    d. Describe sampling.
    e. Enlist the various devices used in air quality monitoring.
    f. What is adsorption process?
    g. Elaborate the effects of noise pollution.

SECTION B

2. **Attempt any *three* of the following:**   **7 x 3 = 21**
    a. Define pollution. Also give the classification of various types of pollutions in detail.
    b. Describe AQS in detail.
    c. Calculate effective stack height : (a) Physical stack is 220 m tall with 1 m inside dia, (b) Wind velocity is 2.5 m/s, (c) Air temp. is 22ºC, (d) Barometric pressure is 1100 mb, (e) Stack gas velocity is 15 m/s, (f) Stack gas temperature is 140ºC.
    d. Explain the working principle of ESP with neat diagram
    e. Explain Gaussian plume in detail.

SECTION C

3. **Attempt any *one* part of the following:**   **7 x 1=7**
    (a) Describe wet scrubber along with diagram.
    (b) What are the various legal aspects for control of industrial air pollution?
4. **Attempt any *one* part of the following:**   **7 x 1= 7**
    (a) Define Air (Prevention and Control of Pollution) Act. Discuss its Salient features.
    (b) 'Pollution, poverty and population growth, all three are interconnected.' Comment on this statement.
5. **Attempt any *one* part of the following:**   **7 x 1= 7**
    (a) What is noise pollution? What are the sources of noise pollution? Also enlist its various impacts on environment as well as on human health.
    (b) Write short note on;
         a) Particulate and gaseous contaminants
         b) Vehicular pollution
6. **Attempt any *one* part of the following:**   **7 x 1= 7**
    (a) Explain various plume behavior with neat diagram.

    (b) What are the various policies adopted in India for control of air pollution?
7. **Attempt any *one* part of the following:**   **7 x 1= 7**
    (a) Explain different layers of atmosphere based on temperature and height.
    (b) Discuss various mathematical models related to dispersion and transport of air pollutants.