

5E1745

Roll No. _____

Total No. of Pages: **2****5E1745****B. Tech. V - Sem. (Main) Exam., February - 2023****Civil Engineering****SCE5 – 11 Air & Noise Pollution and Control (Elective-I)****Time: 3 Hours****Maximum Marks: 70****Instructions to Candidates:**

Attempt all ten questions from Part A, five questions out of seven questions from Part B and three questions out of five from Part C.

Schematic diagrams must be shown wherever necessary. Any data you feel missing may suitably be assumed and stated clearly. Units of quantities used /calculated must be stated clearly.

Use of following supporting material is permitted during examination. (Mentioned in form No. 205)

1. NIL2. NIL**PART – A****(Answer should be given up to 25 words only)****[10×2=20]****All questions are compulsory**

- Q.1 What are the sources of air pollution?
- Q.2 Explain Greenhouse effect.
- Q.3 What do you mean by indoor air pollution?
- Q.4 Explain the phenomenon of self-cleansing of atmosphere.
- Q.5 What is meant by "Smog"? State the harmful effects of smog.
- Q.6 What are the indices of air pollution?
- Q.7 What is meant by Acoustic reflex?
- Q.8 Differentiate between Air-borne noise and Structure-borne noise.
- Q.9 Differentiate between sound intensity and sound pressure levels.
- Q.10 What are the harmful effects of noise on human health?

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PART – B

(Analytical/Problem solving questions)

[5×4=20]

Attempt any five questions

- Q.1 Describe the primary and secondary meteorological parameters that influence air pollution.
- Q.2 Describe the working and advantages of cyclone separator as an equipment for control of air pollution.
- Q.3 Explain the natural and un-natural sources of air pollution.
- Q.4 What do you understand by biological air pollution control strategies?
- Q.5 What is Noise Pollution? What are the harmful effects of noise pollution?
- Q.6 Define dBA. What are the various standards of noise?
- Q.7 Differentiate between continuous, intermittent and impulsive noise.

PART – C

(Descriptive/Analytical/Problem Solving/Design Questions)

[3×10=30]

Attempt any three questions

- Q.1 What are the different methods for control of gaseous pollutants? Describe any one method in detail.
- Q.2 What do you understand by the terms RSPM, SPM and PM10? Explain the working of Electrostatic Precipitator alongwith its working principle.
- Q.3 Discuss the impact of atmospheric pressure and moisture on dispersion of air pollutants.
- Q.4 What is annoyance by noise? Explain Sonic booms in detail.
- Q.5 Distinguish between Temporary Threshold Shift (TTS), Permanent Threshold Shift (PTS) with respect to cause of hearing loss, duration of exposure and potential for recovery.

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