

[5254]-6

B.E. (Civil)

AIR POLLUTION AND CONTROL

(2008 Pattern) (Elective - I)

Time : 3 Hours]

[Max. Marks : 100

Instructions to the candidates:

- 1) Answers to the two sections should be written in separate answer-books.
- 2) Your answer will be valued as a whole.
- 3) Neat diagrams must be drawn wherever necessary.
- 4) Use of logarithmic tables, slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.
- 5) Assume suitable data, if necessary.
- 6) Answer any three questions from Section - I and any three questions from Section - II.

SECTION - I

Q1) Attempt the following

- a) Explain in detail about the Metrological Parameters. [6]
- b) How the Scales of Metrology is important. Give suitable example. [5]
- c) Explain with suitable sketches about Plume Behaviour. [6]

OR

Q2) Answer the following.

- a) How ground level concentration can be measured? Explain in brief. [9]
- b) Calculate effective stack height from following data. [8]
 - i) Physical stack is 203 m tall
 - ii) Inside Diameter 1.07 m
 - iii) Wind velocity is 3.56 m/s
 - iv) Air temperature is 13°C
 - v) Barometric pressure is 1000 millibars
 - vi) Stack gas velocity is 9.14 m/s
 - vii) Stack gas temperature is 149°C

P.T.O.

Q3) Answer the following.

- a) What is Air pollution survey? Discuss the process. [8]
- b) How sampling of gases carried out? Explain in detail. [8]

OR

Q4) Answer the following.

- a) What are the methods available in air sample analysis? Explain any one in detail. [8]
- b) Discuss Air Quality Monitoring. [8]

Q5) Answer the following.

- a) How you can modify the indoor air quality? Explain in brief. [8]
- b) What is air pollutant? Give its sources and effects. [9]

OR

Q6) Answer the following.

- a) What are the sources of odor? How odor can be measured? [8]
- b) Enlist the controlling methods for odor. Explain any one in detail. [9]

SECTION - II

Q7) Answer the following.

- a) Give note on air pollution control by [10]
 - i) Process Modification
 - ii) Change of Raw Material
- b) List out the types of control equipments. Explain settling chamber to remove minimum size of the particle. [7]

OR

Q8) Answer the following.

- a) A fabric filter is to be constructed using bags that are 0.3 m in diameter and 6.0m long. The bag house is to receive 10 m³/sec of air, and the appropriate filtering velocity has been determined to be 2.0 m/min. Determine the number of bags required for a continuously cleaned operation. [10]
- b) Discuss about Wet scrubber. [7]

Q9) Answer the following.

- a) What is land use planning? Discuss. [8]
- b) Give a note on economics of air pollution control. [8]

OR

Q10) Answer the following.

- a) Discuss Air (Prevention and Control) Pollution Act 1981 with recent amendment. [8]
- b) What are the emission standards in India for mobile and stationary sources? Discuss. [8]

Q11) Answer the following :

- a) Who are the regulatory agencies and their role to obtain environmental clearance for project? [9]
- b) How the public hearing and role of general public is important in environmental clearance? [8]

OR

Q12) Answer the following.

- a) In what way water resource project impact on environment? Discuss. [9]
- b) Explain in detail Environmental management plan. [8]

