

Total No. of Questions : 10]

SEAT No. :

P3580

[Total No. of Pages : 2

[4959]-1200

B.E. (Instrumentation & Control)

ENVIRONMENTAL INSTRUMENTATION

(2012 Pattern) (Elective - II) (Semester - I)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8, Q9 or Q10.
- 2) Neat diagrams must be drawn wherever necessary.
- 3) Figures to the right side indicate full marks.
- 4) Assume suitable data, if necessary.

- Q1)** a) Explain the need of Instrumentation & control for environment. [5]
b) Explain the role of gas chromatography in environmental analysis. [5]

OR

- Q2)** a) Explain working of total hydrocarbon analyzer using flame ionization detector. [6]
b) Explain in short : pH analyzers [4]

- Q3)** a) Explain opacity Monitors. [5]
b) Discuss water quality standards for raw and treated water. [5]

OR

- Q4)** a) Explain thermal conductivity detectors used in water treatments. Discuss their advantages. [6]
b) Explain the design criteria of settling tank. [4]

- Q5)** a) Explain in short : Coagulation. [8]
b) What is floating? Explain its types. [8]

OR

P.T.O.

- Q6)** a) Explain the instrumentation in assessment of soil & ground water pollution. [8]
b) Explain the Ground water monitoring system. [8]

- Q7)** a) Define air pollution. Explain air pollution from thermal power plant and their characteristics. [10]
b) Discuss the waste water measurement techniques. [8]

OR

- Q8)** a) Draw and explain the Instrumentation set up for waste water treatment plant and list out the latest methods of waste water treatment plants. [10]
b) Discuss the Air sampling methods & equipments. [8]

- Q9)** a) Explain the necessity of Rain water harvesting. List the methods of same. [8]
b) Define Sound pollution. Explain its effect to environment. [8]

OR

- Q10)** Write short notes on : [2 × 8 = 16]
a) Virtual Instruments Environmental Engineering Laboratory.
b) Rover Environmental Monitoring Station (REMS)

