

Total No. of Questions : 12]

SEAT No. :

**P1688**

**[4859]-19**

[Total No. of Pages : 3

**B.E. (Civil)**

**d-ADVANCED ENVIRONMENTAL MANAGEMENT  
(2008 Course) (Semester-II) (Elective-III)**

*Time : 3 Hours]*

*[Max. Marks : 100*

*Instructions to the candidates:*

- 1) *Solve Q. 1 or Q. 2, Q. 3 or Q. 4, Q. 5 or Q. 6 from Section-I and Q. 7 or Q. 8, Q. 9 or Q. 10, Q. 11 or Q. 12 from Section-II.*
- 2) *Answers to the two sections should be written in separate books.*
- 3) *Neat diagrams must be drawn wherever necessary.*
- 4) *Figures to the right indicate full marks.*
- 5) *Use of logarithmic tables, slide rule, Mollier charts, electronics pocket calculator and steam tables is allowed.*
- 6) *Assume suitable data, if necessary.*

**SECTION-I**

**Q1)** Discuss the following with respect to ISO 14000 series. **[3 × 6 = 18]**

- a) Background & development of the series.
- b) Principles & elements of the series.
- c) Environmental Management System Standard.

OR

**Q2)** a) Discuss the Importance of ISO 14000 series. **[9]**

- b) Discuss the ISO 14001. Environmental Management system standards. **[9]**

**Q3)** a) Discuss the salient features of water Act 1974 (P & CP). **[8]**

- b) Discuss the Important Provisions of Hazardous waste management & handling rules 1989. **[8]**

OR

**P.T.O.**

**Q4)** Write a short note on following:

- a) Air Act 1981 (P & CP). [8]
- b) MSW Rules, 2000. [8]

**Q5)** Thermal power plant burns 8000 TPD of Indian coal. Discuss the various air pollution control devices to be provided to limit SO<sub>2</sub> emissions within the CPCB standard. Also calculate the stack height requirements on the basis of SO<sub>2</sub> & particulate matter emissions. [16]

OR

- Q6)**
- a) Discuss how the metrological parameters affects the dispersion of air pollutants in the atmosphere. [8]
  - b) Design a parallel type ESP with 10 channels to handle 10,000 m<sup>3</sup>/hr of gas for efficiency of [8]
    - i) 90%.
    - ii) 99%.
    - iii) 99.9%.

## **SECTION-II**

**Q7)** Discuss how will you carry out the treatability study for a trade effluent from active pharmaceutical industry. Also discuss the treatment options for the trade effluents. [18]

OR

- Q8)**
- a) Discuss in detail Biological nitrification denitrification for removal of nitrogen from wastewater. [9]
  - b) Discuss the various methods of phosphorus removal from waste water. [9]

**Q9)** For a superspeciality hospital located in rural area, discuss how will you manage the solid waste and biomedical waste generated from the said hospital. [16]

OR

**Q10)a)** Discuss the Environmental hazards associated with the storage of hazardous chemicals. **[8]**

b) Discuss the Energy recovery from MSW. **[8]**

**Q11)** Discuss how the prediction of impact for Air, Water, Noise and Soil is done in EIA studies. **[16]**

OR

**Q12)a)** Explain the significance of Environmental audit report related to air, water and noise pollution from industries. **[8]**

b) Discuss the Environmental Impact Assessment of cement manufacturing industry. **[8]**

●●●●●