

22511

21222

3 Hours / 70 Marks

Seat No.

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15 minutes extra for each hour

- Instructions* – (1) All Questions are *Compulsory*.
- (2) Answer each next main Question on a new page.
- (3) Illustrate your answers with neat sketches wherever necessary.
- (4) Figures to the right indicate full marks.
- (5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

- 1. Attempt any FIVE of the following: **10****
- a) Name the biotic components of an ecosystem.
- b) Name the gases responsible for Green House effects.
- c) Define the term "Air Pollution."
- d) List any four man-made sources of air pollution.
- e) State the physical characteristics of waste water.
- f) Give the significance of chemical oxygen Demand.
- g) Give any four benefit of ISO 14000.
- 2. Attempt any THREE of the following: **12****
- a) Explain the Carbon Cycle, with a neat sketch.
- b) State the effect of air pollution on human health.
- c) Explain the 3R Principle for solid waste management.
- d) State the role of central pollution control Board.

P.T.O.

- 3. Attempt any THREE of the following:** **12**
- a) Explain the working of Bag filter with a neat diagram.
 - b) Explain the disposal method of hazardous waste.
 - c) Give the applications of Reverse Osmosis process for waste water treatment.
 - d) List the pollutants emitted from
 - i) Nitric acid plant
 - ii) Cement plant.
- 4. Attempt any THREE of the following:** **12**
- a) Explain 'Food Chain.' with suitable example.
 - b) Illustrate the importance of dewatering of sludge in sludge management.
 - c) Give the classification of Biomedical waste.
 - d) Explain the principle of membrane separation technology for waste water treatment.
 - e) Explain the accreditation, certification process in ISO 14000.
- 5. Attempt any TWO of the following:** **12**
- a) Explain the working of electrostatic precipitator with a neat diagram.
 - b) List the methods of solid-waste collection and explain sanitary landfill method of solid-waste processing.
 - c) Describe the working of Trickling filter with a suitable diagram.
- 6. Attempt any TWO of the following:** **12**
- a) Describe causes and effect in process of ozone Layer Depletion, in details.
 - b) Describe air pollution controlling method by using wet scrubber.
 - c) Explain the terms
 - i) Dissolved oxygen
 - ii) Total suspended solid
 - iii) Biological oxygen Demand
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