

22511

22223

3 Hours / 70 Marks

Seat No.

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- 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) Assume suitable data, if necessary.
 - (6) Use of Non-programmable Electronic Pocket Calculator is permissible.
 - (7) 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) Define Biotic and Abiotic components.
 - b) List any two gases causing global warming.
 - c) Name any four man made air pollutants.
 - d) List any four gaseous pollution control equipments / methods.
 - e) Define BOD.
 - f) Define sloughing in trickling filter.
 - g) Write any two functions of pollution control board.

- 2. Attempt any THREE of the following: 12**
 - a) Describe aquatic ecosystem with neat sketch.
 - b) Draw neat sketch of electrostatic precipitator and write its two application.
 - c) Write down the characteristics of municipal solid waste.
 - d) Write any eight business benefits of ISO 14000.

P.T.O.

- 3. Attempt any THREE of the following:** **12**
- a) Explain construction and working of cyclone separator.
 - b) Explain 3R principle in context with solid waste management.
 - c) Draw neat sketch of trickling filter and name the parts.
 - d) Describe effects of any two pollutants on human health.
- 4. Attempt any THREE of the following:** **12**
- a) Explain green house effect with causes and possible solution.
 - b) Explain any one method for recovery of energy from waste.
 - c) Describe love canal episode and lesson learned from it.
 - d) Describe application of RO in waste water treatment.
 - e) Write down the salient features of Air Pollution Control Act 1981.
- 5. Attempt any TWO of the following:** **12**
- a) List out the measures to be taken for controlling air pollution in sulfuric acid plant.
 - b) With neat sketch describe sanitary landfill methods.
 - c) Explain activated sludge treatment method with neat sketch.
- 6. Attempt any TWO of the following:** **12**
- a) Explain carbon cycle. State its role in environment.
 - b) Explain working of thermal incinerator with neat sketch.
 - c) List primary and secondary methods of waste water treatment. Explain sedimentation method to remove solids in waste water.
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