

314311

12526

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) Use of Non-programmable Electronic Pocket Calculator is permissible.
(6) 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) List the main sources of air pollution in chemical industry.
 - b) Define total suspended solid in wastewater.
 - c) Compare open burning and incineration method.
 - d) List the four names of industries typically generate hazardous waste.
 - e) List the objective of air pollution control act.
 - f) Give the types of air pollutants.
 - g) Classify the sources of solid waste from industry.
- 2. Attempt any THREE of the following :** **12**
- a) Explain the importance of measuring BOD in wastewater.
 - b) What are the key practices involved in the collection of industrial solid waste.
 - c) Explain the health consequence of poor industrial hazardous waste disposal.
 - d) Explain the factors responsible for hazardous waste prevention and minimization.

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- 3. Attempt any THREE of the following : 12**
- a) Explain cyclone separator for removing particulate matter from industrial gases.
 - b) What is RO, and how is it used in wastewater treatment.
 - c) Draw neat sketch of pyrolysis process and explain it.
 - d) Explain role of central and state pollution control board.
- 4. Attempt any THREE of the following : 12**
- a) Explain electrostatic precipitator to control the air pollution.
 - b) Explain trickling filter method for wastewater treatment.
 - c) Utilize the proper steps for industrial solid waste management.
 - d) Explain collection and storage process of hazardous waste.
 - e) Apply water pollution control act to any chemical industry.
- 5. Attempt any TWO of the following : 12**
- a) Explain sedimentation process for wastewater treatment.
 - b) A 50 mL wastewater sample is tested for COD using the potassium dichromate method. The volume of Ferrow ammonium sulfate used for the blank filtration is 12.0 mL, and the volume of fAS used for the wastewater sample is 5.0 ML, the normality of FAS is 0.1 N. Calculate the COD of wastewater in mg/L.
 - c) Apply aerobic and anerobic treatent method for hazardous water management.
- 6. Attempt any TWO of the following : 12**
- a) Explain the environmental consequences of sea dumping for industrial waste.
 - b) Apply any one air pollution control method in sulphuric acid plant.
 - c) Explain salients features of hazardous waste management rule 2016.
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