

M.E. CHEMICAL ENGINEERING FIRST YEAR FIRST SEMESTER EXAM 2025

ENVIRONMENTAL POLLUTION CONTROL

Time: 3 Hours

Full Marks 100

Answer Question no. 1 and any four from the rest

All symbols have their usual meaning

Assume for any missing Data

1.

- a) What are the major components of environment and how Biotic and Abiotic components help to maintain environment?
- b) Define environmental sustainability and how eutrophication is related to environmental pollution?
- c) Explain Environmental Impact Assessment and its importance?
- d) Explain the terms Temporary Threshold Shift (TTS) and Noise -induced permanent threshold shift (NIPTS) in reference to noise pollution.
- e) Write down the application of Respirable Dust Sampler (RDS) and VOC sensor.

4×5=20

2. a) Explain importance of DO, BOD and COD on water pollution.

b) Calculate theoretical COD of samples containing 300mg/L of (i) butanol and (ii) ortho-chlorophenol.

10+10= 20

3. a) Mention the strategies of maintaining water sustainability.

b) Mention various environmental components, and natural cycle for clean Environment.

10+10=20

4. a) Write a brief sketch of natural and anthropogenic sources of soil pollution.

b) What is grey water? What are the disadvantages of using recycled grey water?

10+10= 20

5. a) What is Environmental Management Plan (EMP)? Mention the control measures of particulate matter and gaseous pollutants.

b) Explain the working principle of Electrostatic Precipitators

(5+5)+10=20

[Turn over

6. a) Mention the elements involve in noise pollution problem. How the noise pollution is quantified? Suggest some controlling measures to be taken for noise pollution at receivers end.

b) Mention 4 steps of risk management process.

10+10=20

7. a) Mention the different types of smog based on the component involved. Explain petrochemical Smog and how it affects environment and human health?

b) With a neat sketch describe the principle of Gravitational settling chamber.

10+10=20