

Roll No.

Total Pages : 3

019402

May, 2023

**B. Tech. (ENV) IV Semester
Industrial Processes and Pollution Control
(PCC-ENV-402)**

Time : 3 Hours]

[Max. Marks : 75

Instructions :

- 1. It is compulsory to answer all the questions (1.5 marks each) of Part -A in short.*
- 2. Answer any four questions from Part -B in detail.*
- 3. Different sub-parts of a question are to be attempted adjacent to each other.*

PART-A

1. (a) What is Air quality index? (1.5)
- (b) What are the sources of air pollution? (1.5)
- (c) Define pollutant and pollution. (1.5)
- (d) What are the characteristics of industrial waste water? (1.5)
- (e) Write concept of zero discharge effluent. (1.5)

- (f) Define noise pollution. (1.5)
- (g) What is a waste water stream? (1.5)
- (h) Define solid waste management? (1.5)
- (i) What are biodegradable organics in waste water? (1.5)
- (j) What are heavy metals in industrial waste water? (1.5)

PART-B

- 2. (a) What is meant by industrial pollution? Explain the effects of industrial waste discharge on streams. (10)
- (b) What are the sources of air pollution? (5)
- 3. (a) Explain aerobic and anaerobic treatment methods of solid wastes. (5)
- (b) State the requirements of an environmental management system and the duties of an environmental manager in an industry. (10)
- 4. What do you mean by hazardous wastes? Classify them based on their characteristics. (15)
- 5. (a) Why are solvents, grease, cyanide, phenol and sulphates considered undesirable for discharging into public sewers? Explain. (5)

- (b) Explain the effect of following air pollutants on human health and vegetation : (i) Particulate Matter (PM) in Oxides of Nitrogen (NOx) Carbon Monoxide (CO) (iv) Hydrocarbons (HCV) Ozone. (10)

- 6. (a) Enumerate the effects of discharging paper and pulp industrial wastes into water. (10)
- (b) What kind of wastes will origin from a typical dairy industry? Explain. (5)
- 7. Discuss any *one* case study on urban solid waste management. (15)