

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2023
(Third Semester)

Branch - ENVIRONMENTAL SCIENCE

INDUSTRIAL PROCESS AND ENVIRONMENTAL SAFETY

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks (5 x 1 = 5)

- 1 Which category of industries does not require consent to operate from CPCB/SPCB?
(i) White (ii) Red (iii) Orange (iv) Green
- 2 Name a pressurized device that releases a uniform pulp slurry on the wire through the slice.
(i) Aluminator (ii) Heat gear
(iii) Head gear (iv) Heat box
- 3 State the waste treatment process that involves the combustion of substances is called
(i) Incineration (ii) Composting
(iii) Autoclaving (iv) Chemical disinfecting
- 4 Identify the shape of the Cleaner Production hierarchy.
(i) Circular (ii) Square
(iii) Triangular (iv) Retangular
- 5 Identify the process for obtaining consent to establish comes under which act?
(i) Water (Prevention & Control of Pollution) Act, 1974
(ii) Air (Prevention & Control of Pollution) Act, 1981
(iii) Hazardous Waste Management Rules, 2016
(iv) Both (i) & (ii)

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks (5 x 3 = 15)

- 6 a Assess the specific environmental impacts of industrial effluents on local water bodies.
OR
b Classify the characteristics of waste in the dairy industry.
- 7 a Discuss about source and characteristics of waste in the textile industry.
OR
b Recommend/list the guidelines to be followed to reduce the waste in the plastic manufacturing industry.
- 8 a Explain the process of calcination in cement manufacturing.
OR
b Discuss the characteristics of effluent produced in oil refineries.
- 9 a Discuss techniques involved in the strength reduction of municipal solid waste.
OR
b Explain the Zero Liquid Discharge (ZLD) system.

Cont...

- 10 a State biomedical waste and list its waste management colour code.
OR
b Explain the difference between Consent to Establish (CTE) and Consent to Operate (CTO).

SECTION -C (30 Marks)

Answer ALL Questions.

ALL questions carry EQUAL Marks (5 x 6 = 30)

- 11 a Enumerate the standards for discharge of industrial effluent in wastewater.
OR
b Compare sugar industry wastewater treatment processes to other industrial wastewater treatment.
- 12 a Interpret the difficulties that exist in wastewater treatment from case studies.
OR
b Design a control method in wastewater treatment plants in tanneries to prevent pollution.
- 13 a Differentiate the source of waste in the pharmaceutical and food industries.
OR
b Categorize the control methods to be applied in thermal power stations to control air pollution.
- 14 a Enumerate steps involved in creating a Recycle, Reuse, and Recovery-based management approach for industries.
OR
b Assess the status and difficulties involved in implementing ZLD.
- 15 a Differentiate the categorisation of waste management in plastic and battery industries.
OR
b Classify the steps involved in issuing consent and authorisation for different categories of industries.

Z-Z-Z

END