

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2023
(Fourth Semester)

Branch – ENVIRONMENTAL SCIENCE

INDUSTRIAL PROCESS AND WASTE MANAGEMENT

Time: Three Hours

Maximum: 50 Marks

SECTION-A (5 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 1 = 5)

1. Which of the following industries doesn't use alcohol in their respective industries?
(i) Sugar industry (ii) Vinegar production
(iii) Pharmaceutical industry (iv) Cosmetic industry
2. The paper properties were mainly determined by
(i) Lignin (ii) Cellulose
(iii) Hemicellulose (iv) Glucose
3. The minimum thickness of plastic carry bags as per Plastic Waste Management Amendment Rules, 2021 is
(i) 30 microns (ii) 100 microns
(iii) 75 microns (iv) 120 microns
4. Crude oil is subjected to which distillation process?
(i) Steam distillation (ii) Simple distillation
(iii) Fractional distillation (iv) Zone distillation
5. Which of the following is not an application of electroplating?
(i) Decorative purposes (ii) Coating of metal
(iii) Metal protection (iv) Corrosion prevention

SECTION - B (15 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 3 = 15)

6. a. Determine the characteristics of sugar industry effluents.
OR
b. Discuss on the waste characteristics of Dairy industry.
7. a. Discuss the different types of pulping processes.
OR
b. Analyze the impacts of dyes rich effluents on waterbodies.
8. a. Classify the types of tanning.
OR
b. Differentiate thermoplastics and thermosetting plastics.

Cont...

- 9 a Enumerate the basics of nitrogen fertilizers.
OR
b Evaluate the characteristics of Indian oil refinery effluent water.
- 10 a List out the sources of wastes get generated from food processing industry.
OR
b Explain the possible effects of pharmaceutical industry effluents.

SECTION -C (30 Marks)

Answer ALL questions

ALL questions carry EQUAL marks

(5 x 6 = 30)

- 11 a Elucidate the treatment methods for distillery effluents.
OR
b Enumerate the details of dairy processes, sources and effects of effluents.
- 12 a Explain the paper manufacturing processes with suitable flow chart.
OR
b Design and explain the effective treatment strategies for textile wastewater.
- 13 a Evaluate the sources and the impacts of leather industry effluents.
OR
b Discuss the synthetic rubber manufacturing and wastes treatment methods.
- 14 a Assess the fertilizer industry effluent control methods in detail.
OR
b Formulate the treatment methods for oil refinery wastes.
- 15 a Analyze the control measures of cement industry wastes.
OR
b Construct and explain the electroplating processes.

Z-Z-Z

END