

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2022
(Second Semester)

Branch – ENVIRONMENTAL SCIENCE

SOIL POLLUTION AND SOLID 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. Soil contaminated with organic contamination nucleoids and heavy metals could also be treated by _____.
a) Oxidation
b) Restoration
c) Phytoremediation
d) Aeration
2. The maximum C/N ratio in a municipal solid waste compost is
a) 10:1
b) 20:1
c) 30:1
d) 40:1
3. Regulatory quantities of wastes from paints, pigments, glue, varnish and printing ink waste as specified in the schedule of the Hazardous Waste Management Rules is
a) 250 Kg per year
b) 300 Kg per year
c) 350 Kg per year
d) 400 Kg per year
4. Rules regarding the manufacture, use, import, export and storage of hazardous microorganisms genetically engineered organisms or cells are published under the Act
a) The Wildlife (Protection) Act, 1972
b) The Environment (Protection) Act, 1986
c) The Water (Prevention and Control of Pollution) Act, 1974
d) The Air (Prevention and Control of Pollution) Act, 1981
5. Carry bags should conform with the Indian Standards _____ regarding its colour
a) IS 9854: 1981
b) IS 9822: 1981
c) IS 9844: 1981
d) IS 9833: 1981

SECTION - B (15 Marks)

Answer ALL Questions

ALL Questions Carry EQUAL Marks

(5 x 3 = 15)

6. a) Enlist the macro and micronutrients in the soil.
OR
b) What are the types of soil erosion?
7. a) Explain the pyrolysis process with an example.
OR
b) Classify the various composting methods.
8. a) State the classification of hazardous wastes.
OR
b) Sketch the methods of storage and transportation of hazardous wastes.

Cont...

9. a) Recommend methods for the use of fly ash in construction activities.
OR
b) Formulate emergency planning methods as per the Chemical Accidents Rules 1996.
10. a) Elucidate the classification of biomedical wastes.
(Or)
b) Outline the salient features of E-waste (Management and Handling) Rules 2011.

SECTION -C (30 Marks)

Answer ALL questions

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

11. a) 'Chemical fertilizers and pesticides causes serious soil pollution' - Discuss
OR
b) Elucidate the deleterious effects of industrial wastes and metals on soil.
12. a) Design an anaerobic digester for the treatment of municipal solid wastes
OR
b) Discuss the salient features of recent Municipal Solid Waste Management Regulations.
13. a) Formulate strategies for the recycling of hazardous wastes.
OR
b) Determine the criteria for hazardous wastes landfill sites.
14. a) Discuss the provisions of Batteries (Management and Handling) Rules 2001.
OR
b) Analyse the features of Rules for the Manufacture, Use import, Export and Storage of Genetically engineered Organisms or Cells 1989.
15. a) Interpret the Biomedical waste (Management and Handling) Rules 1998 and the role of common Biomedical waste Management facilities.
(OR)
b) Evaluate the Plastics (Manufacture, Usage and Waste Management) Rules 2009.

Z-Z-Z

END