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PGIIS-828 A-21
M.Sc. III Semester (Scheme CBCS) Degree Examination
ENVIRONMENTAL SCIENCE
Environmental Sampling and Statistics
Paper : SCT - 3.1

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

- 1) *Answer All Sections.*
- 2) *Section - A is compulsory.*

SECTION - A

Answer any **TEN** of the following.

(10×2=20)

1. a) Impingement method.
- b) Random sample
- c) Mode
- d) T-test
- e) Experimental Design
- f) Null hypothesis
- g) Air sampling
- h) BOD
- i) RSPM
- j) Solid waste
- k) Variance
- l) SO₂

SECTION - B

Answer any **SIX** of the following.

(6×5=30)

2. Write note on role of sampling methods.
3. Explain the working of high volume sampler.
4. Explain water quality parameters.
5. Give details of soil sample preservation methods.
6. With example explain the tabulation of data.
7. Highlight the importance of Regression analysis.
8. Explain the limitations of statistics.
9. Explain the significance of graphical presentation of data.

SECTION - C

Answer any **THREE** of the following.

(3×10=30)

10. Discuss the role of descriptive statistics in water quality data.
 11. With example explain the applications of two way ANOVA.
 12. Explain methods involved in the collection and handling of soil and solid waste samples.
 13. Discuss the physic-chemical parameters of soil and their analysis.
 14. Discuss the importance of field measurement techniques in environmental analysis.
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PGIIS-826 A-21
M.Sc. III Semester Degree Examination
ENVIRONMENTAL SCIENCE
Environmental Engineering and Technology
Paper : HCT 3.1

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

Answer All sections. Section - A is Compulsory.

SECTION - A

1. Answer any TEN of the following: (10×2=20)
- a) Flocculation.
 - b) Oxidation pond.
 - c) Permanent Hardness in water.
 - d) SPM.
 - e) Grit chamber.
 - f) In-situ bioremediation.
 - g) Fabric filters.
 - h) Membrane separators.
 - i) Photochemical smog.
 - j) Radioactive waste.
 - k) Cyclone collectors.
 - l) Activated Sludge.

SECTION - B

Answer any Six of the following: (6×5=30)

2. Describe the importance of ground water recharge.
3. Explain the methods of disinfection of water.
4. Describe the techniques for control of gaseous air pollutants.
5. Explain the methods of solid waste disposal.

6. What is Noise pollution? Explain its control measures.
7. Describe the importance of bunding in land reclamation.
8. Explain the Zeolite process of water softening.
9. Explain how energy can be obtained from Agricultural waste.

SECTION - C

Answer any **THREE** of the following:

(3×10=30)

10. Describe the water standards for drinking, irrigation and industrial use.
 11. Explain the defluoridation mechanism and health impacts of excess fluoride in water.
 12. Discuss the methods of waste water disposal and reuse.
 13. Explain the control measures of automobile emissions.
 14. Discuss the advances in hazardous waste management.
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PGIIS-829 A-21
M.Sc. III Semester (Scheme CBCS) Degree Examination
ENVIRONMENTAL SCIENCE
Solid Waste Management
Paper : OET 3.1

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

Answer All Sections. Section - A is compulsory.

SECTION - A

Answer any **TEN** of the following:

(10×2=20)

1. a) Incinerator.
- b) Garbage.
- c) MSW.
- d) Mercury waste.
- e) Segregation.
- f) Hepatitis B.
- g) Agricultural residue.
- h) Anaerobic digestion.
- i) TMRF.
- j) Sharps.
- k) Disposal points.
- l) Infectious waste.

SECTION - B

Answer any **SIX** of the following:

(6×5=30)

2. Explain different categories of solid waste.
3. Give a detailed account on various sources of solid waste.
4. Explain the disinfection methods of solid waste.

5. Explain in brief on techniques conversion of waste to wealth.
6. What is pyrolysis and explain its process?
7. Explain the segregation method of hazardous waste.
8. Define the status of plastic waste in India.
9. Discuss in brief on agro-industrial waste.

SECTION - C

Answer any **THREE** of the following:

(3×10=30)

10. Give an account on characteristics and composition different solid waste.
 11. Describe the awareness in the public on generation and disposal of solid wastes.
 12. Explain the biomedical waste collection methods and their disposal techniques.
 13. Explain the effect and management of plastic wastes in the ecosystem.
 14. Explain the types of radioactive waste and its control and management in India.
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PGIIS-827 A-21
M.Sc. III Semester (Scheme CBCS) Degree Examination
ENVIRONMENTAL SCIENCE
Environmental Law and Audit
Paper : HCT 3.2

Time : 3 Hours

Maximum Marks : 80

Instructions to Candidates:

Answer All Sections.

Section - A is compulsory

SECTION - A

Answer any **TEN** of the following:

(10×2=20)

1. a) Soft law.
- b) Voluntary partnerships.
- c) CPCB.
- d) Environment legislation.
- e) Biodiversity bill 2006.
- f) Non- hazardous waste.
- g) CZR.
- h) E-waste.
- i) Public liability.
- j) Polluter pay principles.
- k) Water audit.
- l) Eco-audit.

SECTION - B

Answer any **SIX** of the following:

(6×5=30)

2. Discuss the salient features of wildlife (protection) act, 1972.
3. Explain the international efforts for environmental protection.
4. Explain the function of state pollution control board as per water act, 1974.

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5. Comment on convention on biodiversity.
6. Discuss the provisions of forest conservation act, 1980.
7. Explain basic concept of environmental audit.
8. Explain the importance of reuse and conservation of water.
9. Discuss the environmental and economic benefits of environmental audit.

SECTION - C

Answer any **THREE** of the following:

(3×10=30)

10. Explain in detail the international and national efforts for environmental protection.
 11. Discuss in detail environment (protection) act, 1986.
 12. Explain the salient features of biomedical waste (management & handling) rules, 1998.
 13. Discuss procedural requirement of conducting environment audit.
 14. Explain the concept of ISO 9000 and ISO 14000 series in environmental system Management.
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