

**FIRST SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020****(CCSS)****Environmental Sciences****ESW 1C 04—ENVIRONMENTAL POLLUTION AND WASTE MANAGEMENT****(2019 Admissions)****Time : Three Hours****Maximum : 80 Marks****Section A (Essays)***Explain any two of the following questions.*

1. Write an essay on Chemistry of Air.
2. Explain the various steps involved in Municipal Solid Waste Management.
3. Write an essay on Waste Water Treatment.

**(2 × 10 = 20 marks)****Section B (Short Answer Questions)***Explain any eight of the following questions.*

4. Give an account of Environmental Pollution.
5. Give an account of Persistent Organic Pollutants (POP's).
6. Explain various Air Quality Monitoring techniques.
7. Explain Weathering.
8. Explain physical and chemical properties of Water.
9. Give an account of classification of types of Soil with reference to Kerala.
10. Explain Gibbs energy and Chemical Potential.
11. Explain Light pollution.
12. Explain Chemistry of Ozone layer.
13. Explain the success stories in India for management of different types of solid Waste.

**(8 × 5 = 40 marks)****Turn over**

**Section C (Very Short Answer Questions)**

*Answer any ten questions.*

*Each question carries 2 marks.*

14. What is BOD ?
15. What are Oxygen Demanding Wastes ? Give examples.
16. Write a short note on Nuclear Waste.
17. What are Particulate Air pollutants ?
18. What are the Physical and Chemical Properties of Water ?
19. What is Photochemical Smog ?
20. What are the sources of Water Pollution.
21. Write short note on Noise Pollution.
22. What are Radionuclides ?
23. Macro and Micro Pollutants in Soil.
24. What are Agrochemical Pollutants ?
25. Give an account of Transboundary Air Pollution.

(10 × 2 = 20 marks)

**FIRST SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020**

(CCSS)

Environmental Sciences

ESW 1C 03—ENERGY AND ENVIRONMENT

(2019 Admissions)

Time : Three Hours

Maximum : 80 Marks

**Part A (Essay)***Answer any two out of the following 3 questions.**Each question carries 10 marks.*

1. Write an essay on the various Non-Renewable sources of energy and their environmental impacts.
2. What are the impacts of energy production and consumption on the environment ? Add a note on its global pattern.
3. Write an essay on the classification of energy resources with examples ?

(2 × 10 = 20 marks)

**Part B (Short Answer)***Answer any eight out of the following 10 questions.**Each question carries 5 marks.*

4. Write a note on sun as an energy source.
5. What are the impacts of fossil fuels utilization ?
6. What is the technique involved in Solar Photovoltaics ?
7. What are the principles of sustainable energy management ?
8. Write a short note on the flow of energy in an eco-system.
9. What are the environmental issues created by multipurpose power projects in India ?
10. What is meant by Magneto Hydro Dynamic Power ?
11. What are the criteria for safe exposure to radioactivity ?

12. How can hydrogen be considered as an energy source ?
13. Discuss on alternate sources of energy.

(8 × 5 = 40 marks)

**Part C (Very Short Answer)**

*Answer any ten out of the following 12 questions.*

*Each question carries 2 marks.*

14. State the second law of thermodynamics.
15. Perpetual energy source.
16. Ocean as an energy source.
17. Geothermal energy.
18. Heavy radioactive elements.
19. Microbes as energy recovery.
20. Solar collectors.
21. Radiation dose.
22. Nuclear fission.
23. Green house effect.
24. Hazards related to hydroelectric projects.
25. Energy conservation.

(10 × 2 = 20 marks)

**FIRST SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020****(CCSS)****Environmental Sciences****ESW 1C 02—PHYSICAL PROCESSES IN THE ENVIRONMENT****(2019 Admissions)****Time : Three Hours****Maximum : 80 Marks****Part A (Essays)***Answer any two out of the following three questions.**10 marks each.*

1. Write a detailed note on the general circulation of atmosphere with emphasis on Indian Monsoon.
2. Write an essay on the history, development and evolution of earth systems.
3. Explain in detail the rock cycle and weathering processes.

**(2 × 10 = 20 marks)****Part B (Short Answers)***Answer any eight out of the following ten questions.**5 marks each.*

4. Differentiate between warm clouds and cold clouds.
5. Write a note on the different types of ecosystems.
6. Write a note on rock types and their classification.
7. Write a short note on Indian monsoons.
8. Explain the Hydrological cycle with neat sketches.
9. Explain the structure of earth with relevant diagrams.
10. Write a note on deep sea circulation.
11. What are the characteristics of convergence and divergence in oceans ?
12. Detail on the climatic zones of the world.
13. How do we manage our surface and ground water resources ?

**(8 × 5 = 40 marks)****Turn over**

**Part C (Very Short Answers)**

*Answer any ten out of the following twelve questions.*

*2 marks each.*

14. Aquifer.
15. ELR.
16. Stratus.
17. Tropopause.
18. Biosphere.
19. Composition of air.
20. Maritime climate.
21. Solar constant.
22. Isothermal process.
23. Aurorae.
24. Stream hydrograph.
25. Asthenosphere.

**FIRST SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020****(CCSS)****Environmental Sciences****ESW 1C 01—FUNDAMENTALS OF ECOLOGY AND ENVIRONMENT****(2019 Admissions)****Time : Three Hours****Maximum : 80 Marks****Section A (Essay)***Explain any two of the following questions.*

1. Discuss Biogeochemical Cycles with neat diagrams.
2. Explain the various Components of the Environment.
3. Write an essay on Population Characteristics.

**(2 × 10 = 20 marks)****Section B (Short Answer Questions)***Explain any eight of the following questions.*

4. Explain the distribution of Water Globally.
5. Explain Pyramid of Energy.
6. Explain the measures adopted for Soil Conservation.
7. Explain the Components of Ecosystem.
8. Explain Topographic factors.
9. Give an account of Primary Production.
10. What is Ecological Dominance ?
11. Define Ecosystem with examples.
12. Give an account of Parasitism and Predation.
13. Give an account of Ecological Succession.

**(8 × 5 = 40 marks)****Turn over**

**Section C (Very Short Answer Questions)**

*Answer any ten questions.*

14. Give an account of Importance of Water.
15. Energy Flow in an Ecosystem.
16. Process of Soil formation.
17. Give a short note on Detritus Food Chain.
18. Give an account of Mutualism.
19. What is Ecotone ?
20. Give a short note on Edaphic factors.
21. Write a short note on Species Diversity.
22. What is the role of soil in shaping the biosphere ?
23. List out major Ecological Adaptations.
24. What is Ecological Equivalence ?
25. Write a note on Edge effect.

(10 × 2 = 20 marks)