

THIRD SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020

(CCSS)

M.Sc. Environmental Science

ESW 3C 16—ENVIRONMENTAL DISASTER MANAGEMENT

(2019 Admissions)

Time : Three Hours

Maximum : 80 Marks

Part A*Essay Type -not to exceed 500 words.**Answer any two questions.**Each question carries 10 marks.*

1. Give an account of tools of disaster management.
2. Give a detailed account of forest management.
3. Write an essay on the hazards and impacts associated with earthquakes.

(2 × 10 = 20 marks)

Part B*Short Essay -not to exceed 250 words.**Answer any eight questions.**Each question carries 5 marks.*

4. Describe briefly about the Emergency Management Information System (EIMS).
5. What is global warming and the reasons behind this phenomena ?
6. Give an account of urban heat island.
7. Briefly explain the salt water intrusion.
8. Give a brief account of environmental impact analysis.
9. What is thermal inversion ?
10. Give an account of flood damage assessment.
11. Give an account of tornadoes.
12. Briefly explain the impacts of coastal erosion.
13. Explain the concepts of disaster management.

(8 × 5 = 40 marks)

Part C (Short Answer)

Answer any ten questions.

Each question carries 2 marks

14. Write an account of contaminated water and diseases.
15. Explain epicenter.
16. What is mitigation ?
17. What is vulnerability assessment ?
18. Give an account on primary hazards.
19. Explain LA NINA.
20. What is actual disaster phase ?
21. Explain briefly about recovery stage.
22. What is disaster ?
23. Briefly explain Kyoto Protocol.
24. What is a hurricane ?
25. What is magnitude ?

(10 × 2 = 20 marks)

THIRD SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020

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Environmental Science

ESW 3C 15—BIODIVERSITY AND CONSERVATION

(2019 Admissions)

Time : Three Hours

Maximum : 80 Marks

Part A (Essay Type)

*Answer any two questions.
not to exceed 500 words.*

1. Define Biodiversity. Explain the human intervention and biodiversity loss.
2. Give a detailed account of the level of biodiversity.
3. Explain how biodiversity can be conserved.

(2 × 10 = 20 marks)

Part B (Short Essay)

*Answer any eight questions.
not to exceed 250 words.*

4. What are the values of biodiversity ?
5. Write notes on Intellectual Property Rights (IPRs)
6. Explain the characteristics of biodiversity hotspots.
7. What is meant by extinction ?
8. Explain the IUCN categories.
9. Explain the Biodiversity Act.
10. Explain the types of biodiversity.
11. Give a note on the introduction of exotic species.
12. Write notes on endangered species of India.
13. Explain ex situ conservation ?

(8 × 5 = 40 marks)

Turn over

Part C (Short Answer)

Answer any ten questions.

14. What is Endemism ?
15. What are National parks ?
16. What is gene pool ?
17. What is beta diversity ?
18. What are wetlands ?
19. What are keystone species ?
20. Expand TRAFFIC.
21. Differentiate between genetic diversity and species diversity.
22. What is tissue culture ?
23. What is a biosphere reserve ?
24. What is meant by extinction ?
25. What are consumption values ?

(10 × 2 = 20 marks)

THIRD SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020

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Environmental Science

ESW 3C 14—ENVIRONMENTAL TOXICOLOGY AND OCCUPATIONAL HEALTH AND SAFETY

(2019 Admissions)

Time : Three Hours

Maximum : 80 Marks

Part A (Essay Type)*Not to exceed 500 words.**Answer any two questions.*

1. Define risk assessment and describe and various steps in performing risk assessments.
2. Give an account of environmental contaminated diseases.
3. Describe in detail occupation health hazards.

(2 × 10 = 20 marks)

Part B (Short Essay)*Not to exceed 250 words.**Answer any eight questions.*

4. Explain musculoskeletal disorders.
5. Give an account of ergonomics hazards.
6. Explain the role of safety department.
7. Explain the concept of dosimetry.
8. Explain briefly about the toxicity of heavy metals.
9. Explain the entry routes of environment pollutants into the ecosystems.
10. Give an account of global transport of pollutants.
11. Give a detailed account of vector borne diseases.
12. Explain the health problems related to cement factory.
13. Give an account of importance of industrial safety.

(8 × 5 = 40 marks)

Turn over

Part C (Short Answer)

Answer any ten questions.

14. Give an account of mutagens.
15. Explain bioaccumulation.
16. Define ecotoxicology.
17. What is single species test ?
18. Briefly explain LC 50.
19. Write a short note on sub lethal.
20. Give an account on safety and risk.
21. Expand BEI.
22. Briefly explain sub acute toxicity.
23. What is a bio indicator ?
24. Explain dose response relationship.
25. What is an isotope ?

(10 × 2 = 20 marks)

THIRD SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020

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Environmental Science

ESW 3C 13—ENVIRONMENTAL ASSESSMENT TOOLS AND MONITORING METHODS

(2019 Admissions)

Time : Three Hours

Maximum : 80 Marks

Part A*Answer any two questions.**Each question carries 10 marks.*

1. Write an essay on different methods of data analysis and its significance in environmental sample analysis.
2. Write an essay on qualitative and quantitative methods for environmental resource analysis and monitoring.
3. Prepare a draft EIA report of a hydroelectric power plant.

(2 × 10 = 20 marks)

Part B*Answer any eight questions.**Each question carries 5 marks.*

4. Calculate the standard deviation :

	[10,15)	[15,20)	[20,25)	[25,30)	[30,35)
<i>f</i>	3	5	7	4	2

5. Calculate the linear correlation coefficient for the following data. X = 4, 8, 12, 16 and Y = 5, 10, 15, 20.
6. A bag contains 2 red, 3 green and 2 blue balls. Two balls are drawn at random. What is the probability that none of the balls drawn is blue ?

Turn over

7. Calculate the skewness and Kurtosis from the following data :

X	Frequency
0	1
1	5
2	10
3	6
4	3

8. Give the regression equation, and interpret the coefficients in terms of this problem :

Semester	Students	Books
1	36	31
2	28	29
3	35	34
4	39	35
5	30	29
6	30	30
7	31	30
8	38	38
9	36	34
10	38	33
11	29	29
12	26	26

9. If electricity power failures occur according to a Poisson distribution with an average of '3' failures every twenty weeks, calculate the probability that there will not be more than one failure during a particular week.
10. Explain R for Statistical Analysis.
11. Explain Baeyer's formula.
12. Explain null hypothesis.
13. Explain eco informatics application in natural resource management.

(8 × 5 = 40 marks)

Part C

*Answer any ten questions.
Each question carries 2 marks.*

14. Screening in EIA process.
15. What are axioms of probability ?
16. What is EIS ?
17. What is comprehensive EIA ?
18. What is Curvilinear regression ?
19. What is testing of hypothesis ?
20. What is central limit theorem ?
21. What is the role of public participation in decision-making ?
22. What is sustainable development ?
23. What is simple space and events ?
24. Differentiate website and web browser.
25. What is eco informatics ?

(10 × 2 = 20 marks)

THIRD SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020

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M.Sc. Environmental Science

ES 3C 16—ECOSYSTEMS AND GLOBAL CLIMATE CHANGE

(2015 Admissions)

Time : Three Hours

Maximum : 80 Marks

Part A*Answer any two questions.**Each question carries 10 marks.*

1. Write an essay on earth's geological history.
2. Describe the role of oceans in shaping the climate on earth.
3. What is Ozone ? What is the significance of ozone layer ? What are the factors which deplete ozone layer ?

(2 × 10 = 20 marks)

Part B*Answer any eight questions.**Each question carries 5 marks.*

4. Write a brief note on Montreal Protocol.
5. How is climate change linked to spread of diseases ?
6. What is the relation of global warming and sea level ?
7. Human beings are the sole reason of global warming. Comment on the statement.
8. Describe the role of oceans as carbon sink.
9. Write a note on El Nino Southern Oscillation.
10. Discuss some records of climate change.
11. How are the earth spheres linked to each other ?

Turn over

12. Briefly write on climatic classifications and variability.
13. Write a short note on general circulation pattern of oceans.

(8 × 5 = 40 marks)

Part C

*Answer any ten questions.
Each question carries 2 marks.*

14. What is a Cyclone ?
15. Define Albedo.
16. Define Glaciation.
17. List out GHGs.
18. Define Coriolis force.
19. What do you mean by upwelling ?
20. What is temperature inversion ?
21. What is the composition of air ?
22. Define rock cycle.
23. What are Corals ? Why are they considered indicators of climate change ?
24. What is ozone hole ?
25. Write about some features of lithosphere.

(10 × 2 = 20 marks)

THIRD SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2020

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Environmental Science

ES 3C 14—WASTE AND WASTE MANAGEMENT

(2015 Admissions)

Time : Three Hours

Maximum : 80 Marks

Part A*Answer any two questions.**Each question carries 10 marks.*

1. Write an essay on the sources, characteristics and management strategies of biomedical wastes.
2. Detail the technique of vermicomposting describing the different phases. Support your answer with a brief case study.
3. Elaborate the treatment scheme for dairy waste water.

(2 × 10 = 20 marks)

Part B*Answer any eight questions.**Each question carries 5 marks.*

4. Write a brief note on agricultural wastes.
5. What do you mean by waste segregation ? What is the importance of this step ?
6. Write a short note on pyrolysis.
7. Discuss the considerations to be made while transporting hazardous wastes.
8. What are the general characteristics of tannery wastes ?
9. Give a short note on various sources of water pollution.
10. Write a note on enzyme immobilization technique for waste water treatment.
11. How can leachate and gas be managed in a landfill ?

Turn over

12. Write a short note on the earth worms used for vermicomposting.
13. What is meant by resource recovery ?

(8 × 5 = 40 marks)

Part C

*Answer any ten questions.
Each question carries 2 marks.*

14. What are the components of MSW ?
15. Compare a landfill and a sanitary landfill.
16. Define incineration.
17. What are the 5 Rs in waste management ?
18. What is the composition of syngas generated during pyrolysis ?
19. Define compost.
20. What is autoclaving ?
21. Why nuclear waste is considered dangerous ?
22. Define a sedimentation tank.
23. What is a sewage treatment plant ?
24. What is the Waste Management Act 1996 ?
25. What do you mean by open dumping ?

(10 × 2 = 20 marks)