

MA GEOGRAPHY
First Semester
ENVIRONMENT & ECOLOGY
(MGE - 103)

Duration: 3Hrs.

Full Marks: 70

Part-A (Objective) =20
Part-B (Descriptive) =50

(PART-B: Descriptive)

Duration: 2 hrs. 40 mins.

Marks: 50

Answer any *five* of the following questions:

1. What is Biodiversity and how many biodiversity hotspots are in India? Why biodiversity regions are under threat? Discuss briefly about the conservational strategy of Biodiversity. (2+3+5=10)
2. What do you mean by Biosphere? Explain different components of Biosphere with illustration of suitable examples. (5+5=10)
3. What is Ecosystem? Describe different components of Ecosystem with suitable examples. (5+5=10)
4. Define Soil. Give in detail the basic components of soil. (5+5=10)
5. Discuss the following issues of Environmental importance: (5+5=10)
 - a) Rise in sea level due to melting of ice.
 - b) Global Warming and fast multiplying diseases.
6. What are the 'solid wastes' and what are their different types? Discuss the effects of urban solid wastes. Briefly describe the Idea of 'solid waste management' stating suitable examples. (3+4+3=10)
7. What are the salient features of coastal ecosystem? Why coastal ecosystem is under threat? How mangroves play an important role in conserving coastal ecosystem?

(2+4+4=10)

8. What do you understand by Environmental management? What are the basic components of Environmental Management and what are its aspects? Why Environmental monitoring is need for effective management? (2+6+2=10)

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Duration: 20 minutes

Marks – 20

(PART A- Objective Type)

I. Choose the correct answer:

1×20=20

1. The Tsunami 2004 made people realize that mangroves can serve as a reliable safety hedge against coastal calamities. How do mangroves function as a safety hedge?
- a) The mangrove swamps separate the human settlements from the sea by a wide zone in which people neither live nor venture out.
 - b) The mangroves provide both food and medicines which people are in need of after any natural disaster.
 - c) The mangrove trees are tall with dense canopies and serve as an excellent shelter during a cyclone or Tsunami.
 - d) The mangrove trees do not uprooted by storms and tides because of their extensive roots.

2. Biodiversity forms the basis of human existence in the following ways-
- 1. Soil formation
 - 2. Recycling of Waste
 - 3. Prevention of soil erosion
 - 4. Pollination of crops

Select the correct answer using the codes given below-

- a) 1, 2 and 3
 - b) 2, 3 and 4
 - c) 1 and 4
 - d) 1, 2, 3 and 4
3. Which one of the following is not a site for *in-situ* method of conservation of flora?
- a) Biosphere reserve
 - b) Botanical garden
 - c) National Park
 - d) Wildlife Sanctuary

4. Consider the following:

1. Carbon dioxide 2. Oxides of Nitrogen 3. Oxides of Sulphur

Which of the above is/are the emission/emissions from coal combustion at thermal power plants ?

- a) 1 only
 - b) 2 and 3
 - c) 1 and 3
 - d) 1, 2 and 3
5. Under national Air quality monitoring programme (NAMP) which of the following pollutants have been identified for regular monitoring at all locations?
- 1. Respirable lead
 - 2. SO₂
 - 3. Oxides of Nitrogen (NO)

- 4. Suspended Particulate Matter (SPM)
- 5. Polycyclic Aromatic Hydrocarbons
- 6. Respirable Suspended Particulate Matter (RSPM)

Codes:

- a) 1, 2, 3, 4,5 b) 1, 2, 4, 5,6 c) 1,2,3,4,6 d)1, 2, 3,5, 6

6. Which of the following is a part of the biogeochemical cycle?
 1. soils 2. plants 3. atmosphere 4. oceans

Select the correct answer using the codes given below.

- a) 1, 2 and 3 only b) 1 ,3 and 4 only
 c) 2 ,3 and 4 only d) 1 ,2, 3 and 4

7. With reference to forest ecosystems, consider the following statements:

- 1. The number pyramid is neither inverted nor upward.
- 2. The biomass pyramid is inverted.

Which of the statements given above is/are correct?

- a) 1 only b) 2 only
 c) Both 1 and 2 d) Neither 1 nor 2

8. Which of the following environmental disaster has highest killing-

- a) Minamata mercury poisoning b) Bhopal gas tragedy
- c) Chernobyl nuclear disaster d) Tsunami, 2004

9. Match the List I and List II and select the correct answer from the codes given below the lists:

List I

List II

(Noise level (in dB)(Effects)

- A) Up to 30
- B) 30-60
- C) 60-120
- D) Above 120

- i. Painful effects in long run
- ii. Tension, psychological effects illness, heart problems
- iii. Severe health problems and diseases
- iv. Almost no disturbance

Codes:

- | | | | |
|-------|-----|-----|----|
| A | B | C | D |
| a) i | ii | iii | iv |
| b) ii | i | iii | iv |
| c) iv | ii | iii | i |
| d) iv | iii | ii | i |

10. The aspects which require monitoring of sustainability include –

- 1. Climate change 2. Biodiversity
- 3. Disposal of hazardous and toxic wastes
- 4. Disposal of pollution generating industries
- 5. Food and ecological security.

Select correct code from the following:

- a) 1, 2and 3 b) 3 and 4 c) 2 and 5 d) All the above

11. Algal bloom results in –
- a) Global Warming
 - b) Salination
 - c) Eutrophication
 - d) Biomagnification
12. Assertion (A): Chlorofluorocarbons deplete ozone.
Reason (R): These compounds contain Chlorine, Bromine and Fluorine.
- a) Both (A) and (R) are true and (R) is the correct explanation of (A).
 - b) Both (A) and (R) are true but (R) is not the correct explanation of (A).
 - c) (A) is true but (R) is false.
 - d) (A) is false but (R) is true.
13. Which one of the following is the most permanent attribute of soils?
- a) Colour
 - b) Consistency
 - c) Structure
 - d) Texture
14. Plant roots and soil micro-organism are rare in the:
- a) A horizon
 - b) B horizon
 - c) C horizon
 - d) O horizon
15. Each Layers of Soil profile is referred to as:
- a) Soil horizon
 - b) Soil band
 - c) Soil type
 - d) Soil layer
16. Forest is a part and partial to:
- a) Terrestrial ecosystem
 - b) Aquatic ecosystem
 - c) Desert ecosystem
 - d) Marine ecosystem
17. Solar energy, which form the _____ part of nature.
- a) Abiotic
 - b) Biotic
 - c) Neutral
 - d) None of these
18. The sphere of life form is:
- a) Atmosphere
 - b) Lithosphere
 - c) Hydrosphere
 - d) Biosphere
19. Soil is composed of _____ basic components.
- a) Five
 - b) One
 - c) Three
 - d) Four
20. The term 'Umbric' meaning shade (dark) is derived from the word:
- a) Latin
 - b) Greek
 - c) German
 - d) Sanskrit
