

M.Sc. ENVIRONMENTAL SCIENCE
First Semester
Environmental Pollution
(MEV - 03)

Duration: 3Hrs.

Full Marks: 70

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

(PART-B: Descriptive)

Duration: 2 hrs. 40 mins.

Marks: 50

1. Write short notes on the following: (any five)

2×5=10

- a) What is secondary pollution? Give a suitable example of secondary air pollutant.
- b) What is O₃ hole?
- c) What is biopollution? Give one example of biopollutant.
- d) What are the sources of soil pollution?
- e) What is LD₅₀?
- f) What is Ecomark?
- g) What is environmental toxicology? Differentiate between acute toxicology and chronic toxicology.

2. Write short notes on the following: (any five)

3×5=15

- a) What are the objectives of the Air (Prevention and Control of pollution) Act, 1981?
- b) Describe Bio-indicators with suitable example.
- c) How thermal pollution can be controlled?
- d) Describe the secondary process of waste water treatment?
Why it is known as biological treatment process.
- e) Write a short note on EIA.
- f) What do you mean by greenhouse effect and climate change?
- g) What are the sources of radioactive pollution?

3. Answer the following questions in details: (any five)

5×5=25

- a) What is acid rain? What are the negative impacts of acid rain on environment?
- b) How O₃ is depleted in the atmosphere? Explain it.
- c) Discuss the different committees who look after the Eco Mark scheme.
- d) What is noise pollution? What are the important causes of noise pollution and its effect on human health? 1+2+2
- e) How different toxic substances affect the living organisms at cellular and genetic level?
- f) What is oil pollution? Discuss the adverse effects of oil pollution on environment.
- g) What are the processes of ambient air quality monitoring?

M.Sc. ENVIRONMENTAL SCIENCES

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(The figures in the margin indicate full marks for the questions)

Duration: 20 minutes

Marks – 20

PART A- Objective Type

I. Choose the correct options from the following: 1×20=20

1. Which of the following produces another air pollutant by reacting with oxides of Nitrogen in presence of sunlight?
a) HCl b) SO₂ c) O₃ d) HCN gas
2. Which of the following are significant in maintaining the heat budget of the earth?
a) Nitrogen & Oxygen b) Ozone & Helium
c) Water vapour & Carbon dioxide d) Water vapour
3. Which of the following air pollutants reacts with lead based? paints, causing discolouration?
a) SO₂ b) H₂SO₄ c) HNO₃ d) H₂S
4. DDT is banned because of
a) long persistence in environment
b) highly toxic to human
c) kill good insects like butterfly
d) used against mosquito killing
5. O₃ undergoes photodissociation by absorbing UV radiation of wavelength
a) < 230 nm b) < 240 nm
c) ≈ 230 – 320 nm d) ≈ 320 – 340 nm
6. 1 curie is equal to
a) 3.7 X 10¹⁰ disintegration per second
b) 3.7 X 10⁻⁷ erg
c) 3.7 X 10⁻¹⁰ Becquerel
d) 3.7 X 10⁻¹⁰ Rem

7. Malathion is a _____
- a) Chlorinated pesticide
 - b) Organo phosphorus pesticide
 - c) Carbonated pesticide
 - d) all the above
8. Which of the following has most penetrating capacity?
- a) α -particle
 - b) β -particle
 - c) γ -rays
 - d) all have same penetrating capacity
9. Agent Orange contains
- a) 2, 4, 5 trichloro phenoxy acetic acid
 - b) 2, 4 dichloro phenoxy acetic acid
 - c) Dioxin
 - d) All the above
10. 0.1 Gray is equivalent to
- a) 10 Rad
 - b) 100 Rad
 - c) 1000 Rad
 - d) 0.1 Rad
11. Man dies in the atmosphere of CO because it
- a) dries up blood
 - b) combine with O₂ present in the body
 - c) reduces the organic matter of tissue
 - d) combines with Hb of blood making it incapable of absorbing O₂
12. Kyoto protocol is related to
- a) climate change
 - b) O₃ depletion
 - c) biodiversity
 - d) greenhouse gases
13. High volume sampler is used to
- a) control air pollution
 - b) estimate suspended particle in air
 - c) estimate air pressure and temperature
 - d) control water pollution
14. Montreal Protocol (1987) is related to
- a) greenhouse gases
 - b) climate change
 - c) O₃ depletion
 - d) biodiversity
15. Normal range of thickness of O₃ layer is
- a) 200 – 500 DU
 - b) 300 – 500 DU
 - c) 200 – 400 DU
 - d) 150 – 550 DU
16. Mauna Loa in Hawaii is famous for
- a) Botanical garden
 - b) Monitoring sea level raise since 1950
 - c) Biggest collection of mammals fossils
 - d) Continuous monitoring of atmospheric CO₂ since 1957

17. Human ear can hear sound of range between

- a) 20-2,00,000hz
- b) 20-200 hz
- c) 20-2,000 hz
- d) 20-20,000 hz

18. The Water (Prevention and Control of Pollution) Act was passed in

- a) 1979
- b) 1977
- c) 1978
- d) 1974

19. The key nutrient responsible for eutrophication is/are

- a) nitrogen
- b) phosphorous
- c) both a & b
- d) none of above

20. Cooling pond is method used for the control of

- a) water pollution
- b) air pollution
- c) thermal pollution
- d) noise pollution
