

Five Year Integrated M.Sc. Examinations 2024
Semester - VII
Paper: EES-4-7-2
(Environmental Toxicology)

Time: 4 Hours

Full Marks: 80

Questions are of value as indicated in the margin.

Answer **Question No.1** and **any four** from the rest

1. Write short notes on **any four** of the following:
 - (a) Toxicodynamics
 - (b) Why “all toxins are toxicants, but not all toxicants are toxin”
 - (c) What is ID₅₀
 - (d) Endocrine disrupting chemicals
 - (e) Grasshopper effect
 - (f) K_{OW} and K_{OC}

4 x 4 = 16
2.
 - (a) Explain the processes of absorption and excretion of a toxicant briefly.
 - (b) Briefly describe how Phase I and Phase II enzymes help in biotransformation of chemicals.

6+10=16
3.
 - (a) What is therapeutic index? Define oxidative stress. Give some examples of detoxifying enzymes.
 - (b) How is additive effect differentiated from potentiation?

(4+4+2)+6= 16
4.
 - (a) What is Forensic toxicology? What can be the sources of samples for a toxicological death investigation in forensic toxicology?
 - (b) What are the analytic techniques involved in forensic toxicology? Define acute and subchronic toxicity.

2+5+5+4=16
5. Explain the toxic mechanism and effects of Cadmium on kidney and bone.

6+10=16
6.
 - (a) What is graded and quantal dose-response?
 - (b) Discuss the physico chemical and pollution biology of organic pollutants on a river?

4+12=16
7. Explain the toxicity of asbestos with special reference to its occupational health. Give a note on silicosis.

2+10+4=16