

**M.Sc. Examination 2018**  
**Semester-III**  
**Environmental Science**  
**Course : MEC-33**  
**(Environmental Toxicology)**

**Time : 3 Hours**

**Full Marks : 40**

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. 2×4=8
    - a) Bioassays
    - b) Metallothionein
    - c)  $K_{ow}$  and  $K_{oc}$
    - d) Name four carcinogens and teratogens
    - e) Terminal settling velocity
    - f) Giardiasis
  2. a) What do you mean by biotransformation?
    - b) Phase 1 biotransformation process helps in reducing the toxic effect of a chemical- Explain with an example.
    - c) Explain with an example the role of microorganisms in degradation of pesticides? 1+4+3=8
  3. a) Name the important fields of toxicology.
    - b) Discuss in details how to solve the problems of a crime scene with the help of forensic toxicology. 2+6=8
  4. a) Differentiate between fine and coarse particulate matter.
    - b) Explain the structure of lung and the deposition of particulate matter. 3+(2+3)=8
  5. What are POPs? Enumerate them. Discuss how POPs are transported and circulated globally in air and water. 1+2+5=8
  6. Describe the mechanism of arsenic toxicity and its detoxification. 4+4=8
  7. a) Explain the physico-chemical changes in water quality and organism in a river below a discharge of an organic effluent.
    - b) Give a note on the mechanism of toxic effects of acidity on fish. (2+3)+3=8
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