

Five Year Integrated M.Sc. Examinations 2024
Semester-V
Paper: EES-3-5-2
(Water Pollution)

Time: 4 hours

Full Marks: 80

Questions are of values 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. 4 × 4=16
 - (a) ORP
 - (b) Toxic effects of fluoride
 - (c) Acid mine drainage
 - (d) Structure of DDD and DDE
 - (e) Henry's law
 - (f) Chemical speciation
2. Discuss the following:
 - (a) What are the sources and type of acidity in surface water?
 - (b) Discuss the significance of dissolve oxygen and factors affecting it in surface water.
 - (c) What is water disinfection? Discuss various types of disinfection processes for drinking water.(2+4)+(4+2)+(2+2)=16
3.
 - (a) Define POPs? Enumerate them. Give a note on toxic effects of any two POPs.
 - (b) What are the physico chemical parameters that influence the fate of POPs in the aquatic environment?(2+4+ 4)+ 6=16
4.
 - (a) What are the major sources of arsenic in the environment?
 - (b) Discuss the methods to mitigate it.
 - (c) Write a brief note on the toxic effects of Arsenic.3+8+5 =16
5.
 - (a) Enumerate the effects of Exxon Valdez
 - (b) What are the physico chemical factors that influence the fate of oil spill in the marine environment?
 - (c) Give a note on its remediation.2+6+8=16
6. Give a short note on the following:
 - (a) Eh-pH diagram with a suitable example.
 - (b) Phenolphthalein and total alkalinity
 - (c) Eutrophication and management strategies4+6+6 = 16
7. Give a short note on the following:
 - (a) Surface water turbidity and its environmental impact
 - (b) Carbonaceous and nitrogenous BOD
 - (c) What is heavy metals (HMs) ?. Write the sources and effect of Pb on human health4 +6+6 = 16