

M.Sc. Examination 2018
Semester-IV
Environmental Science
Course : MEO-443
(Hydrology and Water Management)

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) Zone of Aeration
 - (b) Water Footprint
 - (c) Water-Energy Nexus
 - (d) Artificial Ground Water Recharge
 - (e) Objectives of National Water Policy
 - (f) Limitations of Rainwater Harvesting
 2. What do you mean by Hydro-geomorphologic processes? Discuss the fundamental principles and applications of Hydrogeomorphology. 2+(3+3)=8
 3. Explain the common types of floods and floodplains. Describe in brief the impact of riverine floods in India. Discuss the strategies and tools for floodplain management. 2+3+3=8
 4. Discuss the role of geospatial technology in management and development of water resources. 8
 5. (a) Describe the water quality standards for domestic and irrigation purposes. 4+4=8
(b) What is sea water intrusion? Describe the methods to control it.
 6. (a) With the help of Darcy's Law describe the ground water movement in porous media. 4+4=8
(b) Describe the needs and methods of ground water modeling.
 7. (a) Give an account of major river basins in India. 4+4=8
(b) Discuss how the water resources of India is likely to be affected by the climate change.
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