

M. Sc. Semester-IV Examination 2017
Environmental Science
Course: MEO-443
(Hydrology and Water Management)

Time : Three 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) Concept of Green and Blue Water
 - (b) Cone of Depression
 - (c) Water security
 - (d) Watershed delineation
 - (e) Water and sanitation
 - (f) Perched aquifer
 2. (a) Give an account of water balance describing the inflow and outflow of water across the global reservoirs. 4+4=8
(b) Write a note on water resources in India.
 3. What are the different methods for development of water resources? Describe the advantage and disadvantage of big dams. 2+6=8
 4. (a) Describe the basic concept and methods of Rain water harvesting (RWH). What are the limitations of RWH? (3+1)+(2+2)=8
(b) Give examples of traditional methods of rain water harvesting from different parts of India. Suggest the suitable RWH methods for different climatic zones of India.
 5. Discuss the future challenges for management of water resources emphasizing the issue of climate change. What should be our approaches to deal with such uncertainties? 5+3=8
 6. Describe the characteristics of confined and unconfined aquifer with diagrams. With Darcy's equation explain the flow of ground water in an aquifer. 4+4=8
 7. (a) Discuss the Linkages between water and energy. 8
(b) Describe the application of isotope techniques in groundwater management.
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