

**CERTIFICATE IN WATER HARVESTING  
AND MANAGEMENT**

**Term-End Examination**

**June, 2010**

**ONR-001 : INTRODUCTION TO WATER  
HARVESTING**

*Time : 2 hours*

*Maximum Marks : 50*

*Note : Attempt any five questions. All questions carry equal marks.*

1. (a) What is the India's average annual water resource potential (in cubic meter) and utilizable surface and ground water potential ? 4
- (b) Why are major irrigation projects comprising of large dams no longer viable ? 3
- (c) With the help of a figure, show the percent of fresh water in lakes, rivers etc, groundwater and glaciers. 3
2. (a) What is the percent of fresh water vis-a-vis saline water ? 1
- (b) What was the irrigation potential created during IV<sup>th</sup> and VIII<sup>th</sup> five year plans. 2
- (c) Explain the role of groundwater irrigation in India vis-a-vis surface irrigation for increasing agriculture production. 3

- (d) Distinguish between irrigation intensity and irrigation efficiency. 2
- (e) How can the high irrigation efficiency be achieved in irrigation commands ? 2
3. (a) What are different types of water pollution and how are they caused ? 5
- (b) Define rainwater harvesting. State the principle of rainwater harvesting. 2+3
4. (a) Why is rainwater harvesting essential in arid regions of the country ? 3
- (b) Show by examples that rainwater harvesting was practised in ancient time. 2
- (c) Explain the legislative measures adopted by different states of the country to enhance the availability of water in urban areas. 5
5. (a) Define watershed. Describe its concept. Using a flow diagram, show different watershed activities. 1+2+2
- (b) What does NWDPR stand for ? When was it initiated and by whom ? 2
- (c) How are per capita land and water availability expected to declining in future ? 3

6. (a) Explain the importance of bottom up approach in effective implementation of watershed projects. 4
- (b) What does institutional arrangement means for effective implementation of watershed projects ? 3
- (c) What does NRAA mean ? What is its role in watershed Projects ? 3
7. (a) List five important points to be considered for proper planning of a watershed. 5
- (b) What does integrated watershed management mean ? How is it helpful in full utilization of existing resources ? 5
8. (a) Explain the role and principle of PRA exercise ? 4
- (b) What is natural resource survey ? 2
- (c) What constitutes DWDU ? Explain its role in implementing watershed project. 4
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