

[Total No. of Questions - 10] [Total No. of Printed Pages - 2]  
(2125)

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M. Tech 3rd Semester Examination

Watershed Management

WRE-116

Time : 3 Hours

Max. Marks : 100

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

**Note :** Attempt any nine questions. Make the diagram essentially wherever it is required. Marks are assigned against each question. Section E is Compulsory

1. (a) Explain the major components of Watershed. (5)  
(b) Describe the aquifer system in soft and hard rock area. (5)
2. (a) Define contour line and its application in Watershed. (4)  
(b) Concept and importance of Integrated Watershed Management (IWM). (6)
3. (a) Why concept of participatory approach is more useful in any Watershed? (5)  
(b) Describe the different methods of water conservation in hilly area. (5)
4. (a) Explain the different micro-irrigation techniques in drought prone area. (5)  
(b) Describe the concept of Technology transfer in any Watershed. (5)

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5. (a) Explain the process of Environment Impact assessment in watershed in hilly region. (5)  
(b) Concept of drainage analysis and its importance. (5)
6. (a) Illustrate the role of trenching in augmentation of groundwater. (5)  
(b) Describe the concept and importance of institutional financing in any Watershed. (5)
7. (a) Explain the factors responsible for deterioration of water quality in hilly watershed. (5)  
(b) Describe the methodologies for Integrated Watershed Management (5)
8. (a) Describe the steps for making healthy watershed. (5)  
(b) Describe the parameters to classify the watershed and their characteristics. (5)
9. Describe the methods for preparation of watershed Project in Desertic area. (10)

**SECTION - E**

10. Write short notes on followings:
    - (a) Isotherm
    - (b) Vertical Infiltration test and its importance.
    - (c) Catchment area treatment.
    - (d) Differentiate between specific yield and specific capacity.
    - (e) Micro Irrigation techniques.
    - (f) Mass curve technique.
    - (g) Ditch and Furrow method of water conservation.
    - (h) Reservoir siltation and its impact.
    - (i) Demerits of Major Dams in India.
    - (j) Preventive measures of erosion in watershed.
- (2×10=20)