

[Total No. of Questions - 9] [Total No. of Printed Pages - 2]
(2126)

16334(D)

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 five questions, one each from section ABCD and Section E is compulsory. Make the diagram essentially wherever it is required. Marks are assigned against each question.

SECTION - A

1. (a) Explain the hydrological cycle and formation of ground water. (10)
(b) Illustrate the Darcy's law, its application and limitations. (10)
2. (a) Define the water divide in watershed and parameter for its demarcation. (8)
(b) Describe the important components of Watershed and their importance. (12)

SECTION - B

3. (a) Describe the merit and demerits of participatory approach in any Watershed. (10)
(b) Explain the role of rain water harvesting for Watershed development. (10)
4. (a) Illustrate the need of micro watershed management in hilly area. (10)
(b) Importance of Capacity Building in sustainable development of Watershed Management. (10)

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SECTION - C

5. (a) Describe the Concept of Environment Impact Assessment in Watershed. (10)
(b) Importance of drainage analysis in Watershed. (10)
6. (a) Illustrate the contour bindings and their importance. (10)
(b) Explain the merit of minor water conservation structure over major water conservation structures. (10)

SECTION - D

7. (a) Explain the geogenic contamination of groundwater and illustrate with example. (10)
(b) Describe the methodologies for Integrated Watershed Management. (10)
8. (a) Explain the factors for disintegration of any watershed and its rehabilitation. (10)
(b) Describe the parameters to assess the cost benefit analysis of any Watershed. (10)

SECTION - E

9. 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)