

R09

Code No: 09A70104

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B. Tech IV Year I Semester Examinations, May/June - 2013

Watershed Management

(Civil Engineering)

Time: 3 Hours

Max. Marks: 75

**Answer any Five Questions
All Questions Carry Equal Marks**

- 1.a) Discuss the objectives of watershed management.
- b) Explain the need for watershed development in India. [7+8]
2. Discuss in detail about the characteristics of watershed. [15]
- 3.a) Explain the methods adopted for the computation of runoff from a watershed?
- b) The maximum annual flood discharges in m^3/s observed in a watershed from 1973 to 2004 are as follows:
395, 619, 766, 422, 282, 887, 705, 528, 520, 436, 697, 624, 496, 489, 598, 359, 696, 726, 527, 310, 408, 721, 814, 459, 440, 632, 343, 634, 464, 373, 289, 371.
Find the discharge with a return period of 50 years using Gumbell method of analysis. [7+8]
- 4.a) What are the different types of erosion and explain the factors affecting erosion?
- b) Describe about ploughing, furrowing, trenching, bunding, terracing and gully control to control erosion? [7+8]
- 5.a) Describe the different ways in which the rainwater harvesting and catchment harvesting is carried out?
- b) Explain how water harvesting can be done through farm ponds and percolation tanks? [7+8]
- 6.a) Explain how landuse and landcover can be interpreted from satellite imageries?
- b) Describe about the land capability classification and forest management. [7+8]
- 7.a) Discuss about crop husbandry and soil enrichment.
- b) Write about strip cropping and cropping pattern. [7+8]
8. Explain in detail the different methods followed for reservoir routing. [15]

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