



CBCS SCHEME

15CV73

Seventh Semester B.E. Degree Examination, June/July 2023 Hydrology and Irrigation Engineering

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. With a table, explain the global and Indian water availability. (08 Marks)
b. Explain with a neat sketch, Horton's engineering representation of hydrological cycle. (08 Marks)

OR

- 2 a. Define precipitation? Explain the different forms of precipitation. (08 Marks)
b. With a neat sketch explain the working principle of Simmon's rain gauge. (08 Marks)

Module-2

- 3 a. Explain the various factors affecting the evaporation. (05 Marks)
b. Describe the ISI standard evaporation pan with a neat sketch. (06 Marks)
c. Explain the various methods of evaporation control or reduction. (05 Marks)

OR

- 4 a. Explain the various factors affecting the infiltration. (08 Marks)
b. With a neat sketch explain the method of determining infiltration capacity using double ring infiltrometer. (08 Marks)

Module-3

- 5 a. Define runoff. Explain the factors affecting the runoff. (08 Marks)
b. Explain the assumptions of unit hydrograph theory. (08 Marks)

OR

- 6 a. Explain components of hydrograph with a neat sketch. (08 Marks)
b. Explain the limitations of Unit hydrographs. (08 Marks)

Module-4

- 7 a. Define irrigation. Explain the advantages and disadvantages of irrigation. (08 Marks)
b. Explain the factors affecting the duty of irrigation water. (08 Marks)

OR

- 8 a. Explain with a neat sketch the bandhara irrigation. List the advantages and disadvantages of bandhara irrigation. (08 Marks)
b. The isohyets due to storm in catchment were drawn and areas of catchment bounded by isohyets are tabulated below. Calculate the mean rainfall at the region.

ISOHYTE In cm	AREA in cm ²
80 – 100	9.3
100 – 120	6.95
120 – 140	3.30
140 – 160	0.65
160 – 180	4.3
180 – 190	0.3

(08 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and/or equations written eg, 42+8 = 50, will be treated as malpractice.

Module-5

- 9 a. Define Canals. Explain the different types of canals. (08 Marks)
b. Define the following terms:
i) Grass command area
ii) Cultural command area
iii) Intensity of irrigation
iv) Time factor. (08 Marks)

OR

- 10 a. With a neat sketch explain the various zones of reservoir. (08 Marks)
b. Explain the various investigation datas required for planning the dams and reservoir. (08 Marks)

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