

Roll No.

Total No. of Pages : 02

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B.Tech. (Agriculture Engg.) (Sem.-6)

ENGINEERING HYDROLOGY

Subject Code : BTAG606-19

M.Code : 91604

Date of Examination : 14-07-22

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A

1. Write briefly :

- a) Explain infiltration capacity.
- b) List various forms of precipitation.
- c) What is a hydrograph?
- d) How is runoff classified?
- e) What are the various components of a flood hydrograph?
- f) What is unit hydrograph?
- g) Define basin.
- h) What do you mean by stream number?
- i) How are routing methods classified?
- j) How are droughts classified as per National Commission on Agriculture?

SECTION-B

2. Explain a procedure for checking a rainfall data for consistency.
3. Ordinates of a direct runoff hydrograph are given below :

Time (h)	0	6	12	18	24	30	36	42	48	54	60
DRH (m^3/s)	0	48	130	195	162	108	65	39	27	12	0
Avg. cumulative rainfall (cm)	0	3.7	10.4	18.3	18.3						

Compute the rate of infiltration for the basin. Take the catchment area of the basin as 200 sq. km.

4. Discuss various runoff characteristics of a stream.
5. List assumptions involved in the unit hydrograph theory. What are the limitations of unit hydrograph?
6. Describe Muskingum method of routing an inflow hydrograph through a channel reach. Assume the values of the coefficients K and x for the reach are known.

SECTION-C

7. Describe different types of evaporimeters in common use.
8. The coordinates of IUH of a catchment are given below :

Time (h)	0	1	2	3	4	5	6	8	10	12	14	16	18	20
Ordinates(m^3/s)	0	11	37	60	71	75	72	60	45	33	21	12	6	0

- a) What is the areal extent of the catchment?
 - b) Derive the 3-h unit hydrograph for this catchment.
9. Discuss briefly various methods adopted to control floods.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.