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Roll No. .....

CE–502(O)

B. E. (Fifth Semester) EXAMINATION, Dec., 2009

(Old Scheme)

(Civil Engg. Branch)

WATER RESOURCE ENGINEERING

[CE – 502(O)]

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : Attempt any *five* questions. Assume suitably any missing or misprint data.

1. (a) Explain Hydrological cycle with the help of a neat sketch. 10

   (b) What are the various self recording type of rain gages ? Explain the working of any *one* in detail. 10

2. (a) Explain the following : 10

   (i) Rain Gage Network

   (ii) Estimation of missing rainfall data

   (b) Determine the discharge in a stream flow from the ahead data : 10

P. T. O.

Distance from left water edge (m)	Depth (m)	Average velocity (m/s)
0	0	0
1	0·5	0·3
3	1·2	0·5
5	2·1	0·8
7	2·5	1·0
9	2·0	0·75
11	1·3	0·6
13	0·7	0·4
14	0	0

3. (a) Discuss various factors which affect runoff. 10

   (b) What are the various methods of developing synthetic unit hydrograph ? Explain any *one* method in detail. 10

4. (a) Discuss various measures adopted for flood control. 10

   (b) Write a detailed note on economics of flood control. 10

5. (a) Explain briefly various methods for improving ground water. 10

   (b) Explain the following : 10

   (i) Infiltration Gallery

   (ii) Unconfined and confined aquifer

6. (a) Define water logging. Discuss the effects and prevention of water logging. 10

   (b) Discuss Water Harvesting in detail. 10

7. (a) Discuss the role of water in the environment. 10

   (b) How planning of water resource projects is done ? 10

8. Write short notes on any *four* of the following : 5 each

(i) Mass rainfall curve

(ii) S-curve hydrograph

(iii) Reclamation of water logged area

(iv) Salt efflorescence

(v) Precipitation measurement

(vi) Influence among wells