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Name of Examination : **Summer 2021** - (Preview)

Course Code & Course Name : **CE254U - Hydrology and Irrigation**

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Maximum Marks : **60**

Duration : **3 Hrs**

[Edit](#) [Print](#) [View Answer Key](#) [Close](#) **Answer Key Submission Type:** Marking scheme with model answers and solutions of numerical

Instructions:

1. All questions are compulsory.
2. Illustrate your answer with suitable figures/sketches wherever necessary.
3. Assume suitable additional data; if required.
4. Use of logarithmic table, drawing instruments and non programmable calculators is allowed.
5. Figures to the right indicate full marks.

1) Attempt any FOUR questions of the following.

- a) Define: i) Gravity water ii) Capillary water iii) Hygroscopic water [3]
- b) What is the Precipitation Gauges and state its type. [3]
- c) Define Hydrologic cycle with sketch [3]
- d) What is well irrigation and the main requirements for the success of well irrigation. [3]
- e) What is waterlogging? [3]

2) Attempt any THREE questions of the following.

- a) Explain any four factors affecting runoff. [4]
- b) Discuss the Uncontrolled Flooding and Border Strip Method methods of irrigation in brief with sketch. [4]
- c) Write the criteria for selection of site for rain gauge station. [4]
- d) Write a short note on Evapotranspiration. [4]

3) Attempt any THREE questions of the following.

- a) Describe the relation between duty, delta and base period. [4]
- b) State the various methods of estimation of peak flow and explain any one in detail. [4]
- c) Describe unit hydrograph in brief. [4]
- d) Write a short note on quality of water required for irrigation. [4]

4) Attempt any TWO questions of the following.

- a) How is water distribution managed in warabandi system. [6]
- b) i. Duty for Jawar is 2500 ha / cumec in kharif. Calculate delta (Δ). [3]
ii. If rice required about 10 cm depth of water at an interval of 10 days and base period for rice is 120 days. Find out the delta for rice. [3]
- c) Explain the Causes of Waterlogging [6]

5) Answer the following questions

- a) Classify various methods of irrigation, factors which depends choice of method selection and principal criteria for the design of a suitable irrigation method. [6]
- b) Explain in detailed about Summation Curve (or S-Curve) Method. [6]

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