JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- February 2022

B.Tech IV Semester

COURSE CODE: 18B11CE414   MAX. MARKS: 15

COURSE NAME: Water Resource Engineering

COURSE CREDITS: 3   MAX. TIME: 1 HR

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. Assume suitable data if required.

1. Give a detailed description of cyclonic phenomenon of precipitation and its forms. [3]

2. In a certain river basin, there are 4 rain gauge stations with their normal annual precipitations amounting to 800, 520, 440 and 400 mm respectively. Determine the optimum no. of rain gauge stations required limiting the error in calculation of mean precipitation to 12%. **[3]**

3. A square catchment area has its left lowermost coordinates as (0,0) and its stretch is of 6 km.s. The rainfall stations installed have coordinates (1.5,1.5), (4.5,1.5), (4.5,4.5) and (1.5,4.5) with precipitations of 5, 10, 8 and 12 cm.s respectively. Determine the mean precipitation of the given catchment area using Theissen's polygon method (with proper figures and calculations). **[4]**

4. Describe with figure, the working of a "weighing bucket type" rain gauge.   **[4]**