

JK Lakshmipat University Jaipur
INSTITUTE OF ENGINEERING AND TECHNOLOGY

End Term Examination (Backlog), April, 2024
B. Tech. in Civil Engineering, Semester VI

Roll No.....

Course Code and Name : CE 1203 Irrigation Engineering

Time: 2.5 hours

Max. Marks: 40

Instructions to students:

1. Do not write anything other than your roll number on question paper.
2. Assume suitable data wherever required and mention it clearly.
3. Writing appropriate units, nomenclature, and drawing neat sketches/schematics/ flow chart wherever, required are an integral part of the answer.

1. What is duty and delta? On what factors duty depends? What are the various methods to improve the duty?
(3) LO 1
2. Derive the relation between Base period, duty and delta.
(3) LO 1
3. Design an alluvial canal with Kennedy's theory for the following data. Full supply discharge = 20 cumec; bed slope 1 in 5000; $N = 0.0225$, critical velocity ratio, $m = 1$, side slope 0.5 H to 1 V. Take 2 iteration for the design.
(8) LO 3
4. Design a rigid bed canal for 30 cumec (m^3/sec) discharge with manning's roughness coefficient (n) = 0.016 and bed slope 1 in 6000. The side slope is 1 H : 1 V.
(8) LO 3
5. What do you understand by cross-drainage work? What are the different types of cross-drainage work used in the field?
(6) LO 4,5
6. What are the various forces acting on a gravity dam? Draw a neat sketch of a gravity dam which shows all the forces acting on it.
(6) LO 6
7. What do you understand by sustainability? What are the different types of irrigation methods which give better efficiency?
(6) LO 7