



IQRA NATIONAL UNIVERSITY, PESHAWAR

DEPARTMENT OF CIVIL ENGINEERING

FINAL TERM EXAMINATION

Subject: Irrigation Engineering **Duration:** 6 hrs.
Instructor: Prof. Dr. Jahangir Durrani **Total Marks:** 50
Course code: CE-324

Note: Attempt all questions. Manage your time properly. Understanding question paper is the part of examination. Draw diagrams wherever necessary.

No. (01) (5+5+5)

- Explain anti water-logging measures.
- Differentiate between saline and alkaline soils.
- How do you reclaim salt affected lands?

No. (02) (7+7)

- Explain the procedure of designing of an irrigation canal by Kennedy's theory.
- Design an irrigation channel by Kennedy's theory to carry a discharge of 30 cumecs with c_{vr} (m) of 1 and N as 0.0225 and bed slope of 1 in 5000. Assume the depth (D) as 2.3 m.

No. (03) (5+6)

- Differentiate between initial regime and final regime in accordance to Lacey's theory.
- Design a regime channel by Lacey's theory for discharge of 30 cumecs and mean diameter of silt particle of 0.56mm.

No. (04) (5+5)

- Explain the components of headworks with neat diagram.
- What are the functions of Head regulators?