

Total number of printed pages-3

53 (CE 716) IREN

2021

IRRIGATION ENGINEERING

Paper : CE 716

Full Marks : 100

Time : Three hours

**The figures in the margin indicate
full marks for the questions.**

Answer any five questions.

1. (a) Explain the Leaching process. 2
- (b) Explain various types of Canals, according to various classification system. 12
- (c) Distinguish between Sarda fall and Trapezoidal Notch fall. 6
2. (a) Explain the procedure of designing a channel with Kennedy's theory. 10

Contd.

- (b) Draw sketches to show the section of—
- (i) partly in cutting and partly in filling canal. 8
 - (ii) wholly in filling canal. 8
- (c) What is meant by the term waterlogging ? 2
3. (a) Design a channel section with the following data : 8
- (i) Full supply discharge = 10 cumecs
 - (ii) Mean dia. of silt particles = 0.33 mm
 - (iii) Side slope = 1/2 : 1, also find the Bed slope of channel.
- (b) Define canal fall and why it is necessary. 6
- (c) Define cross drainage work. Explain the function of canal regulator. 6
4. (a) Explain with the help of diagram, the various component parts of diversion head work. 15
- (b) Distinguish between Ridge Canal and Contour Canal. 5

5. (a) Explain in brief, Canal losses. 5
- (b) Elaborate Bligh's Creep theory. 7
- (c) Explain the various methods of reclamation of saline and alkaline land. 6
- (d) Define streamline and equipotential lines. 2
6. (a) Differentiate between Aqueduct and level crossing. 6
- (b) What is meant by Diversion head works? Explain various factors to be considered for the selection of site for diversion head work. 5
- (c) Explain various types of falls. 9