

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
B.Tech. Winter 2022 - 23 Examination

Semester: 7
Subject Code: 03104402
Subject Name: Water Resources & Irrigation Engineering

Date: 06/10/2022
Time: 10:30am to 1:00pm
Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

Q.1 Objective Type Questions - (Fill in the blanks, one word answer, MCQ-not more than Five in case (15)

of MCQ) (All are compulsory) (Each of one mark)

1. The most desirable alignment of an irrigation canal is along _____
2. According to Khosla's theory, undermining of the floor starts from _____
3. The gross irrigable area minus the area not available for cultivation is called _____
4. Blanket in earth dams is provided at the ground level on the _____
5. According to Khosla's theory, the exit gradient in the absence of down-stream cut off is _____
6. What is the use of spillway?
7. Define irrigation.
8. What is net irrigation requirement?
9. Define field capacity.
10. Define canal fall.
11. A canal aligned at right angle to the contours is called
(a) Ridge canal (b) contour canal (c) Side slope canal (d) none of the above
12. The total number of independent equations that form the Lacey's regime theory are
(a) 2 (b) 3 (c) 4 (d) 5
13. What type of cross drainage work is provided when canal runs below the river?
(a) Aqueduct (b) super passage (c) level crossing (d) siphon aqueduct
14. Earth dam could be constructed with only
(a) clay (b) sand (c) rock (d) gravel
15. The soil moisture useful in the plant growth is
(a) hygroscopic water (b) Capillary water (c) chemical water (d) none of the above

Q.2 Answer the following questions. (Attempt any three) (15)

- A) Write down merits and demerits of irrigation.
- B) Enlist types of canal and explain in detail.
- C) Explain soil-water relationship of crop in detail with neat sketch.
- D) Enlist types of dam and explain in detail.

Q.3 A) Explain types of canal fall in detail. (07)

B) Explain different parts of dam in detail with neat sketch. (08)

OR

B) Write down short note on cross drainage works. (08)

Q.4 A) Write down short note on components of diversion head work with neat sketch. (07)

OR

A) Write down short note on forces acting on gravity dam. (07)

B) Explain factors governing selection of types of dam in detail. (08)