

Assignment - 1	INTRODUCTION
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1. Explain with neat sketch classification of soil-water in detail. A
2. What do you understand by total planning concept (scope) of irrigation project? R
3. Define saturation capacity, field capacity and wilting point. A
4. What are the benefits and ill effects of irrigation? A

ASSIGNMENT QUESTION	1,3,4
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Assignment - 2	WATER REQUIREMENTS OF CROPS
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1. Define duty, Base period and delta. Derive a relationship between duty and delta for a given base period. Also briefly discuss factors affecting duty. A
2. What is consumptive use of water? Describe any one method of determining the consumptive use of water. A
3. Discuss various methods of assessment of irrigation water. R
4. Define the terms: crop ratio, overlap allowance, capacity factor, full supply coefficient, transpiration, evapotranspiration and consumptive use. R
5. Develop a relationship between depth of irrigation water, field capacity, permanent wilting point, root zone depth and dry density of soil. Knowing the daily evapotranspiration how you will decide the irrigation interval. A
6. Define: Water application efficiency, Water conveyance efficiency and water distribution efficiency. A

ASSIGNMENT QUESTION	1,2,5,6
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Assignment - 3	METHODS OF IRRIGATION
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1. Explain Border strip method of irrigation in detail. R
2. Explain the salient features of the drip irrigation system. What are the advantages and disadvantages of drip irrigation? R

3. Give classification of various irrigation methods. A
4. Compare drip and sprinkler irrigation systems with their advantages and disadvantages. A

ASSIGNMENT QUESTION	3,4
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Assignment – 4	DIVERSION OF HEAD WORKS
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1. Define diversion headwork. Describe the function of each component of Diversion head work with a neat diagram. A
2. Describe Bligh's creep theory for the design of weir over pervious foundation. A
3. With the help of neat sketches explain the working of the following components of a weir: silt excluder and fish ladder, under sluice, Divide wall and Upstream block protection. A
4. Draw sectional view of a typical barrage. Compare different aspects of a weir and barrage. R
5. Define exit gradient & scour depth and explain their utility in weir design. R
6. Discuss Khosala's method of independent variables to design a weir. A
7. Explain the different stages of river. R
8. Discuss on equipotential lines and stream line. R

ASSIGNMENT QUESTION	1,2,3,6
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Assignment - 5	STORAGE WORKS
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1. Describe with neat sketches various methods adopted for controlling seepage through the body of an embankment dam and through foundation. A
2. Discuss in brief the causes and failure of earthen dams. A
3. Enlist various forces acting on gravity dam as per IS: 6512 and discuss in detail uplift and wave pressure. R

4. Explain uplift forces and arrangements done in the gravity dam to release uplift forces. R
5. Give classification of dams. A
6. Explain method to draw seepage line through homogeneous earth dam. R
7. List out the components of earthen dam with detail functions. A
8. Give the functions of drainage gallery in dam section. A

ASSIGNMENT QUESTIONS	1,2,5,7,8
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Assignment - 6	DAM OUTLET WORKS
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1. Write short note on spillway crest gates. R
2. Discuss use of hydraulic jump, as an energy dissipation device in design of hydraulic structure. R
3. Explain radial gate and drum gate for spillway. R

Assignment - 7	DISTRIBUTION WORKS
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1. Explain the procedure for designing an irrigation channel using Lacey's theory. A
2. Describe Kennedy's theory for the design of irrigation channel in alluvial soil. (both case), What are the limitations of Kennedy's theory? A
3. Define Canal. With the help of a neat sketch illustrate the classification of canals based on their alignment. R
4. Explain for which alignment the number of cross drainage works will be minimum and maximum respectively. R
5. Explain Lacey's concept of initial, final and permanent regime. A
6. Draw neat sketches to explain canal cross section in cut, in fill and canal section partially in cut partially in fill. Obtain an expression for balancing depth in terms of section geometry. R
7. Explain the term "most economical cross sections in canal." A

8. Give the comparison between Kennedy's and Lacey's theory. A

ASSIGNMENT QUESTION	1,2,5,7,8
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Assignment - 8	REGULATING AND CROSS DRAINAGE WORKS
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1. What is the function of Canal escape? Discuss different types of Canal escapes. R
2. What is canal fall? Why is it necessary to provide a fall in a canal? Explain with sketch Ogee fall. State the consideration for the location of canal falls. A
3. List out the various silt control devices used for sediment control in the off taking channel? Explain any two in detail. R
4. Define Canal Outlet. Explain submerged pipe outlet and Kennedy's Gauge outlet in detail. A
5. Draw a sectional sketch of a head regulator to explain its components and explain how it functions as a drowned weir. R
6. Define super passage, aquaduct and siphon aquaduct. A
7. With the help of a neat sketch explain the working principle and utility of parshall flume in flow measurements of irrigation channels. A
8. State the functions of the following: bed bars, skimming platforms, canal fall cisterns. A
9. Write design procedure for Sarda type of fall. A

ASSIGNMENT QUESTIONS	2,4,6,7,8,9
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ASSIGNMENT-9	WATER LOGGING AND DRAINAGE
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1. Define water logging? Discuss causes and remedial measures of water logging. A
2. Explain different layout of tile drains with sketch. R
3. Write a note on land reclamation with its measures. A
4. Give a comparison of sub surface drainage and surface drainage used for land reclamation. A

ASSIGNMENT QUESTION

1,3,4