

1. Define irrigation. Write down the necessity of irrigation.
2. State the advantages and disadvantages of irrigation.
3. Describe various types of irrigation.
4. Differentiate between the lift irrigation and flow irrigation.
5. Name the methods of distribution of water adopted for the following crops and describe the methods with diagram:
 - a. Potato
 - b. Orchard
6. Discuss in brief various methods of surface irrigation
7. Write a short note on sub-surface irrigation, stating clearly the conditions under which this method is suitable.
8. Describe sprinkler method of irrigation with suitable diagram.
9. What should be standard of irrigation water?
10. Describe with the help of diagram various forms of soil moisture. What do you understand by the available moisture?
11. Write notes on:
 - a. Field capacity
 - b. Wilting point
 - c. Optimum water
12. Define base, delta and duty. Derive relation between them.
13. What are the factors affecting duty?
14. Define the following terms:
 - a. Gross command area
 - b. Culturable command area
 - c. Intensity of irrigation
 - d. Crop ratio
 - e. Kharif season
 - f. Rabi season
 - g. Cash crop
 - h. Crop rotation
 - i. Crop period
 - j. Kor watering
 - k. Paleo irrigation
15. What are the different types of irrigation efficiencies?
16. A field channel has culturable command area of 2000 hectares. The intensity of irrigation for gram is 30% and for wheat is 50 %. Gram has a core period of 18 days and kor depth of 12 cm, while wheat has a kor period of 15 days and a kor depth of 15 cm. Calculate the discharge of the field channel.
17. Find the delta for a crop if the duty for a base period of 110 days and area is: i) 89 ha/cumec ii) 2000 ha/cumec.
18. Explain the factors affecting site selection of dam.
19. Write down the factors affecting selection of dam for available site conditions.
20. Name the forces acting on Gravity dam Enumerate any four with sketches wherever necessary.
21. Explain elementary profile of gravity dam.

22. Distinguish between elementary profile and practical profile.
23. What are the different modes of failure of gravity/ earthen dam?
24. Explain clearly how the dam is recognized as low dam and high dam.
25. Explain high dam. Explain the criteria considered to calculate width of dam against sliding and shear.
26. Explain Drainage gallery and its effect on uplift pressure.
27. What useful purpose is served by dam? What are the ill-effects of construction of dam?
28. How do you classify dams according to their use, hydraulic design and materials of construction?
29. Explain the various levels in reservoir with suitable drainage.
30. Define Arch dam. Describe various types of arch dam with suitable diagram.
31. Define Buttress dam. Describe various types of arch dam with suitable diagram.
32. Define Gravity dam. Describe various types of arch dam with suitable diagram.
33. Write down the different classification of various joints provided in dam.
34. Define phreatic line. Write down its characteristics with and without filter.
35. Explain in short: Swedish circle method of slope stability.
36. Explain drainage in earthen dam.
37. Describe various types of reservoirs.
38. Explain in detailed: Reservoir yield.
39. Explain the relation between reservoir capacity and yield.
40. A masonry dam 10 m high is trapezoidal in section with a top width of 1 m and bottom width of 8.25 m. the face exposed to water has a batter of 1:10. Test the stability of the dam. Find out the maximum stresses at the toe and the heel of the dam. Assume unit weight of masonry as 2240 kg/m^3 , w for water = 1000 kg/m^3 .
41. What do you mean by spillways? Why are spillways provided in dams?
42. Explain the location of spillways.
43. Describe various types of spillways with neat diagram.
44. Name the different types of weirs and describe each type with a neat sketch.
45. Distinguish between a weir and a barrage.
46. Explain Kennedy's silt theory.
47. Explain Lacey's silt theory.
48. Explain Bligh's creep theory and state its limitations.
49. Explain cross drainage works in detail.
50. Distinguish between storage headwork and diversion head works.
51. Why should lining be provided in canals? What are the merits and demerits of canal lining?
52. Describe the various types of canal lining with neat labelled diagram.
53. What are the comparative advantages of well and canal irrigation?
54. Explain various components of lift irrigation.
55. Explain the types of tube wells with neat sketches.
56. Define aquifer and write down its types.
57. Define the following terms:
 - a. Aquicludes
 - b. Aquifuges
 - c. Aquitards
 - d. Specific yield
 - e. Specific retention
 - f. Specific capacity
 - g. Yield of well
58. Compare shallow well and deep well
59. Define Hydrological Cycle. Explain with neat sketch.
60. Explain various forms of precipitation.
61. What are the different types of precipitation? Describe with neat sketches.

62. What are the different types of rain gauges? Describe with neat sketches.
63. Explain Unit hydrograph.
64. What are the different methods of computing average depth of precipitation? Describe the procedure of anyone.
65. Define the following terms:
 - a. Catchment area
 - b. Residence time
 - c. Hyetograph
 - d. Base flow
 - e. S Hydrograph
 - f. Runoff
 - g. Infiltration
66. Rainfall over six rain gauge stations in water shed is given in the table, find out the mean value using Thiessen Method.

Station	A	B	C	D	E	F
Depth (mm)	470	465	435	525	480	510
Area (ha)	95	100	98	80	85	92

67. What is water logging?
68. What are its ill-effects?
69. What are the causes of water logging?
70. Describe the methods of controlling water logging.
71. Enumerates the process of reclamation of land effected by water logging.
72. Explain groundwater recharge technique
73. What do you mean by rain water harvesting? Explain briefly.

Note: This question bank is for reference only.

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