

Future Secure Institute®
Irrigation

1. The ratio of the quantity of water stored in the root zone of the crops to the quantity of water actually delivered in the field is known as

- (a) Water use efficiency (b) Water conveyance efficiency
(c) Water application efficiency (d) Water storage efficiency

2. Irrigation efficiency of an irrigation system is the ratio of:

- (a) Water actually stored in root zone to water delivered to the farm
(b) Water actually utilized by growing crops to water delivered from the source
(c) Water reaching the farm to water delivered from the source
(d) Crop yield to total amount of water used in a field

3. The water utilizable by plants is available in the form of

- (a) Gravity water (b) Hygroscopic water (c) Capillary water (d) Chemical water

4. The discharge capacity required at the outlet to irrigate 2600 ha of sugarcane having a kor depth of 17 cm and a period of 30 days.

- (a) 2.3 m³/s (b) 1.71 m³/s (c) 14.7 m³/s (d) 0.18 m³/s

5. In designing hydraulic structure in alluvial river, the equation that is used to calculate the normal depth of scour R for a discharge intensity of q m³/s/m is:

- (a) $R = 1.35 (q / f)^{2/3}$ (b) $R = 1.2 (q / g)^{1/3}$ (c) $R = 1.35 (q^2 / f)^{1/3}$ (d) $R = 4.35 (q)^{1/2}$

6. For the irrigation of a crop, the base period B (in day), depth of water Δ (in meter) are related to the duty D (in ha/cumec) at the field as:

- (a) $D = 0.864B/\Delta$ (b) $D = 0.864 \Delta/B$ (c) $D = 8.64B/\Delta$ (d) $D = 1.98B/\Delta$

7. Lining of irrigation channel

- (a) Increases the water-logging area (b) Decreases the water-logging area
(c) Does not change water-logging area (d) None of the above

8. For unlined canals, the freeboard is measured for the

- (a) Full supply level to top of the bank (b) Top of the bank to bed of the canal
(c) Full supply level to top of the dowel (d) None of the above

9. For lined canals, the freeboard is measured from the

- (a) Top of the bank to the top of the lining (b) Full supply level to the top of the dowel
(c) Full supply level to the top of the lining (d) Full supply level to the top of the bank

10. The best alignment for a canal is when it is aligned along

- (a) Contour line (b) Ridge line (c) Valley line (d) Stream line

11. An earthen channel has been designed on Lacey formula to carry a full supply discharge of 30 m³/s. The mean velocity of flow at this discharge is:

- (a) 0.98 m/s (b) 0.76 m/s (c) 2.2 m/s (d) 1.36 m/s

12. A channel aligned nearly parallel to the contours of a country, is called

- (a) Side slope channel (b) Watershed channel (c) Ridge channel (d) Contour channel

13. The coefficient of roughness for an earthen canal, in excellent condition, is taken as

- (a) 0.01 (b) 0.0225 (c) 0.025 (d) 0.7

14. The dimensions of Chezy's C is?

- (a) L/T (b) non-dimensional (c) $[L/T^2]^{1/2}$ (d) LT

15. Lined section of canal may designed using the following

- (a) Kennedy's or Lecey's formulae (b) Manning's or Chezy's formulae
(c) Lane's or Bligh's formulae (d) Khosla's formulae

16. What is the uniformity coefficient of filter sand?

- (a) D50 / D5 (b) D50 / D10 (c) D60 / D5 (d) D60 / D10

17. Main part of regulation works are

- (a) Canal falls (b) Divide wall (c) Head regulator (d) Distributary

18. Canal outlets are also called

- (a) Canal escape (b) Canal modules (c) Canal of frakes (d) Canal openings

19. The Garret diagram are based on

- (a) Lacey's theory (b) Khosla's theory
(c) Bligh's theory (d) Kennedy's theory

20. A ridge canal is also called a

- (a) Watershed canal (b) Contour canal
(c) Side slope canal (d) None of these

21. The major resisting force in a gravity dam is

- (a) Water pressure (b) Wave pressure
(c) Self-weight of dam (d) Uplift pressure

22. From the surface of reservoir, evaporation may be minimized by sprinkling

- (a) Spirit (b) Hydrochloric acid (c) Acetyl alcohol (d) Methane

23. In a gravity dam, the shear friction factor against sliding should be:

- (a) 1 (b) 2 (c) 3 to 4 (d) More than 5

24. Seepage through foundation in an earthen dam is controlled by providing:

- (a) Rock-toe (b) Horizontal blanket
(c) Impervious cut - off (d) Chimney drain

25. River training works may be classified as

- (a) Training for discharge (b) Training for depth
(c) Training for sediment (d) All of the above

26. A divide wall is provided

- (a) At right angles to the axis of the barrage
- (b) Parallel to the axis of the barrage and upstream
- (c) Parallel to the axis of the barrage and downstream
- (d) None of the above

27. The nodal agency for flood forecasting in India, is

- (a) Ministry of home affairs
- (b) Ministry of agriculture
- (c) Ministry of earth science
- (d) Central water commission

28. Which of the following does not contribute to water-logging?

- (a) Inadequate drainage
- (b) Excessive tapping of water
- (c) Seepage from unlined canals
- (d) Frequent flooding

29. The measure adopted to reclaim water-logged areas are

- (a) Installation of lift irrigation schemes
- (b) Lining of canals
- (c) Lowering of full supply level
- (d) All of the above

30. Ram Ganga project is situated in

- (a) Uttar Pradesh
- (b) UK
- (c) Haryana
- (d) Himachal Pradesh

31. The elementary profile of a dam is

- (a) A rectangle
- (b) A trapezoidal
- (c) An equilateral triangle
- (d) A right-angled triangle

32. In a multipurpose project, the dead storage is provided for the purpose of

- (a) Irrigation
- (b) Power generation
- (c) Flood control
- (d) All of the above

33. Evaporation is measured by using

- (a) An open pan
- (b) Lysimeter
- (c) Infiltrometer
- (d) A neutron tube

34. For crops like potato and sugar-beets, the commonly adopted method of surface irrigation is

- (a) Check flooding
- (b) Free flooding
- (c) Basin flooding
- (d) Furrow irrigation

35. S-hydrography is used to obtain unit hydrograph of

- (a) Shorter duration from longer duration
- (b) Longer duration from shorter duration
- (c) Both (a) and (b)
- (d) None of the above

36. A rain gauge should preferably be fixed

- (a) Near the building
- (b) Under the tree
- (c) In an open space
- (d) In a closed space

37. Under the same condition, which of the following shapes of water surface will give the highest rate of evaporation?

- (a) Convex water surface
- (b) Flat water surface
- (c) Concave water surface
- (d) Independent of shape of water surface

38.is the result from lifting of warm moisture laden air masses due to topographic barriers.

- (a) Convective precipitation (b) Orographic precipitation
(c) Cyclonic precipitation (d) Hydrography precipitations

39. Hydrology is the science which deals with

- (a) Rain water (b) River water
(c) Sea water (d) surface and underground water

40. Unit hydrograph theory was enunciated by

- (a) Merrill Bernard (b) W.W. Horner
(c) Lo-Roy K. Sherman (d) Robert E. Horten

41. Hydrology is necessary for civil engineers for

- (a) Designing and construction of irrigation structure
(b) Designing and construction of ridges and culverts
(c) Flood control works
(d) All of these

42. The volume of rainfall which produces equal run – off is called

- (a) Point rainfall (b) Effective rainfall
(c) Average rainfall (d) None of the above

43. The ratio of actual evapo-transpiration to potential evapo-transpiration is in the range.

- (a) 0.0 to 0.4 (b) 0.6 to 0.9 (c) 0 to 1 (d) 1.0 to 2.0

44. The plot b/w rainfall intensity and time is called

- (a) Mass curve (b) Hyetograph (c) Isohyetal line (d) Hydrograph

45. Humidity is measured by:

- (a) Hydrometer (b) Hygrometer (c) Hycrometer (d) Anemometer

46. The optimum depth of core watering for rice is

- (a) 135 mm (b) 165 mm (c) 190 mm (d) 215 mm

47. Ozone acts as a pollutant when resides in

- (a) Troposphere (b) Stratosphere (c) Mesosphere (d) Thermosphere

48. Method of pricing irrigation water is

- (a) Flat rate pricing (b) Volumetric method of pricing
(c) Both (a) and (b) (d) None of the above

49. The soil becomes practically infertile when its pH value is about

- (a) 0 (b) 7 (c) 11 (d) None of the above

50. Which of the following is not a cash crop?

- (a) Jute (b) Tea (c) Rice (d) Sugarcane