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Roll No.

220746

**4th Sem. / Civil
Sub. : Irrigation Engineering**

Time : 3 Hrs.

M.M. : 60

SECTION-A

Note: Multiple choice Questions. All Questions are compulsory. (6x1=6)

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

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

Q.2 Lining of irrigation channels _____.

- a) Increase the water logged area
- b) Decreased the water logged area
- c) Does not change the water logged area
- d) None of these

Q.3 An aggrading river is a _____.

- a) Scouring river
- b) Silting river
- c) Both scouring & silting river
- d) Neither scouring nor silting river

Q.4 Hydrograph is the graphical representation of _____.

- a) Runoff the time
- b) Ground runoff and time
- c) Surface runoff and time
- d) Rainfall and time

Q.5 A water shed canal _____.

- a) Is most suitable in hilly areas
- b) Avoids the cross drainage works
- c) Irrigates only on one side
- d) None of these

Q.6 A land is water is water logged _____.

- a) When capillary fringe reaches the root zone of plants
- b) When the permanent wilting point is reached
- c) When gravity drainage has ceased
- d) None of these

SECTION-B

Note: **Objective/Completion type questions. All questions are compulsory.** **(6x1=6)**

- Q.7 Culturable commanded area (C.C.A.) + Unculturable Area = _____ (Intensity of Irrigation / Gross commanded area)
- Q.8 Hydrology is defined as the science dealing with the depletion and replenishment of water sources. (True/False)
- Q.9 The seepage loss from the field channels can be _____ by lining them. (Increased/Reduced)
- Q.10 An _____ is provided in the bank of canal to admit small drainage into it. (Inlet / Outlet)
- Q.11 In minor projects, the areas irrigated is less than _____ are single purpose in nature. (2000 Hectares / 10000 Hectares)
- Q.12 A dam constructed of stones, bricks, or concrete blocks set in mortar is known as _____ (Arched dam / Masonry dam)

SECTION-C

Note: **Short answer type Questions. Attempt any eight questions out of ten Questions.** **(8x4=32)**

- Q.13 Describe the process of rain water harvesting using “Recharge Shafts” and also write its advantages.
- Q.14 The base period of paddy is 120 days. If the duty of this crop is 900 hectares per cumec, find the value of delta.

- Q.15 Write a short note on a syphon aqueduct.
- Q.16 Describe the purpose and necessity of energy dissipators provided in the dams.
- Q.17 Describe the working principle of Symon's rain gauge.
- Q.18 Describe the factors affecting the surface runoff. (Any five)
- Q.19 Describe the various measures to be adopted for controlling the water-logging.
- Q.20 Write the main points to be considered while selecting a site for a gravity dam construction.
- Q.21 Describe Base period, Duty and Delta.
- Q.22 Write a short note on Guidebank, Groynes on spurs.

SECTION-D

Note: **Long answer questions. Attempt any two questions out of three Questions.** **(2x8=16)**

- Q.23 Enlist the various classifications of earthen dams and explain the construction of Zoned Earth Dam.
- Q.24 Explain the method of sprinkler irrigation with the help of diagram and write its advantages.
- Q.25 Explain the various causes of breaches in canal banks and how these can be controlled.