

### SECTION-D

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

- Q.23 What is water logging? Write any two causes and effects? Describe any two preventive methods and two remedies.
- Q.24 Explain the terms: Crop period, Base period, Duty, Delta, Derive the relationship between Duty and Delta.
- Q.25 Define runoff: Explain the factors affecting runoff and the method to estimate it for a given catchment.

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### 4th Semester/Civil Subject: Irrigation Engineering

Time : 3 Hrs.

M.M. : 60

### SECTION-A

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

- Q.1 What is the primary purpose of irrigation?
- a) Drainage improvement
  - b) Increase in temperature
  - c) Supplying water to crops
  - d) Reducing groundwater levels
- Q.2 Which of the following is a non-automatic rain gauge?
- a) Tipping bucket
  - b) Floating type
  - c) Supplying water to crops
  - d) Symons rain gauge
- Q.3 The time between sowing and harvesting of a crop is known as :
- a) Base period
  - b) Crop period
  - c) Duty
  - d) Delta

- Q.4 A gravity dam resists water pressure mainly by :
- a) Arch action                      b) Weight  
c) Tension                              d) Cantilever Action
- Q.5 Canal regulators are used to:
- a) Close canal permanently  
b) Regulate flow and control sediment  
c) Increase velocity  
d) Divert flow to rivers
- Q.6 Cross drainage works are needed when:
- a) A road crosses a river  
b) Two rivers meet  
c) A canal crosses a natural drain or river  
d) Canal is dry

### SECTION-B

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

- Q.7 A canal aligned along the ridgeline is called a \_\_\_\_\_ canal.
- Q.8 \_\_\_\_\_ sluices are provided in head works to remove sediment from the riverbed.
- Q.9 The movement of water through different stages like evaporation and precipitation is called the \_\_\_\_\_ cycle.
- Q.10 Water lifted from below ground using mechanical means is known as \_\_\_\_\_ irrigation.

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- Q.11 Drip Irrigation is also called \_\_\_\_\_ Irrigation.
- Q.12 A \_\_\_\_\_ is a diversion structure with adjustable gates for water control.

### SECTION-C

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

- Q.13 Enlist any five necessity of Irrigation in agriculture.
- Q.14 Define duty and delta. Explain their relationship with a suitable formula.
- Q.15 What is a hydrograph? Explain the concept of a unit hydrograph.
- Q.16 Define lift irrigation. Describe any two types of tube wells used in lift irrigation.
- Q.17 Differentiate between a weir and a barrage. (Any four)
- Q.18 What is a cross drainage work Write four necessity with examples.
- Q.19 What are confined and unconfined aquifers? Give two differences.
- Q.20 Distinguish between Kharif and Rabi crops with examples.
- Q.21 Describe any two types of rain gauges.
- Q.22 What are canal appurtenances? Enlist the functions of any two.

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