



**c16-c-402**

**6425**

**BOARD DIPLOMA EXAMINATION, (C-16)  
AUGUST/SEPTEMBER—2021  
DCE - FOURTH SEMESTER EXAMINATION  
IRRIGATION ENGINEERING**

*Time : 3 hours ]*

*[ Total Marks : 80*

**PART—A**

3×10=30

- Instructions :** (1) Answer **all** questions.  
(2) Each question carries **three** marks.  
(3) Answers should be brief and straight to the point and shall not exceed five simple sentences.

1. List any three advantages of irrigation.
2. List three uses of rainfall records.
3. Distinguish between barrage and weir.
4. List different types of dams.
5. Draw a critical cross-section of canal in cutting.
6. State balance depth of cutting.
7. Define river training works.
8. List any three advantages of sprinkler irrigation.
9. State the need for ground water recharge.
10. State any three advantages of rainwater harvesting.

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## PART—B

10×5=50

- Instructions :** (1) Answer *any five* questions.  
(2) Each question carries **ten** marks.  
(3) Answers should be comprehensive and criterion for valuation is the content but not the length of the answer.

- 11.** (a) Derive the relation between duty, delta and base period.  
(b) Find the duty of water if a crop requires total depth of 920 mm of water for a base period of 120 days.
- 12.** Explain factors effecting run-off.
- 13.** (a) State the factors for selecting suitable site for diversion head works.  
(b) State the functions of scouring sluices.
- 14.** Explain the method of constructing earthen dam.
- 15.** Why are joints necessary in a gravity dam? Explain different types of joints and their purposes.
- 16.** Explain with neat sketch (a) super passage and (b) syphon aqueduct.
- 17.** (a) What are the ill effects of soil erosion?  
(b) Explain different types of guide banks with sketch.
- 18.** Explain different types of rainwater harvesting techniques.

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