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**BOARD DIPLOMA EXAMINATION, (C-20)**  
**NOVEMBER/DECEMBER—2022**  
**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. Differentiate between direct irrigation and storage irrigation.
2. What are the types of rain gauges.
3. List out any three factors affecting run-off.
4. Mention the component parts of weir.
- \* 5. Define spillway? List any three types of spillways.
6. State any three situations that are suitable for construction of earthen dams.x
7. Write a short note on balancing depth of cutting.
8. State the need for canal lining.
9. List different stages of flow of rivers.
10. State the duties of water user associations.

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**PART—B**

8×5=40

- Instructions :** (1) Answer all **five** questions.  
(2) Each question carries **eight** marks.  
(3) Answers should be comprehensive and the criteria for valuation are the content but not the length of the answer.

**11.** (a) Derive the relation between duty, delta and base period.

**( OR )**

(b) Explain any eight factors affecting the duty of water.

**12.** (b) Explain the head regulator with the help of a neat sketch.

**( OR )**

(b) Explain the component parts of a weir a neat sketch.

**13.** (a) Draw the elementary and practical profile of a gravity dam and label the parts.

**( OR )**

(b) Explain preventive measures for failure of earthen dams.

**14.** (a) Explain any two types of cross-drainage work with the help of a neat sketch.

**( OR )**

(b) What are the advantages and disadvantages of canal lining?

**15.** (a) Explain different types of guide banks with neat sketches.

**( OR )**

(b) State the causes of water logging.

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[ Contd...

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**PART—C**

10×1=10

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

**16.** Explain the different methods of aligning a canal with neat sketch.

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