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C09–C–403

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BOARD DIPLOMA EXAMINATION, (C–09)
OCT/NOV—2017
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. State three methods of expressing duty.

2. State any three objectives of river gauging.

3. Distinguish between weirs and barrages.

4. State any three component parts of a weir.

5. Distinguish between low and high dams.

* 6. Define drainage gallery and state any two functions of it.

7. Define saturation gradient and phreatic lines.

8. Draw a neat sketch of canal in partial cutting and partial embankment.

9. State three necessities of watershed management.

10. List any three objective of watershed management.

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PART—B　　　　　　　　10×5=50

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Instructions : (1) Answer *any* **five** questions.

　　　　　　　　(2) Each question carries **ten** marks.

　　　　　　　　(3) Answers should be comprehensive and the criterion for valuation is the content but not the length of the answer.

11. *(a)* Find the duty of water if a crop requires a total depth of 920 mm of water for a base period of 120 days.

　　(b) State five methods of estimating the maximum flood discharge and explain any one method.

12. State two types of rain gauges and explain any one of them with a neat sketch.

13. State the factors to be considered for selection of suitable site for construction of diversion head works.

14. Sketch and explain the following :

　　(a) Elementary profile of a dam

　　(b) Practical profile of dam

15. Sketch and explain about three types of earth dams.

16. Briefly explain the causes of failure of gravity dams and their remedial measures.

17. State different types of canal alignments and explain briefly with neat sketches.

18. Briefly explain the characteristics of watershed.

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