



c16-c-406

5619

BOARD DIPLOMA EXAMINATION, (C-16)
MARCH/APRIL—2018
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 the principal crops in India and their seasons. 1½+1½
- * 2. Define the following : 1½×2=3
 - (a) Perennial irrigation
 - (b) Inundation irrigation
3. Write any three objectives of river gauging. 3
4. What are the main functions of apron in Weir Section? 3
5. Distinguish between low dam and high dam. 3
6. Define the following : 1½×2=3
 - (a) Phreatic line
 - (b) Saturation gradient
7. What are the advantages of providing berms? 3

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8. Draw the cross-section of a canal in partial embankment and partial cutting. 3
9. Write any six different soil moisture conservation methods. 3
10. Write any three objectives of watershed management. 3

PART—B

10×5=50

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) Derive the relationship among duty, delta and base period. 6
 (b) The duty of water in a canal for tobacco crop was estimated as 1500 ha/cumec. First watering was done on 14th November and last watering was done on 17th April. Calculate delta for that crop. 4
12. With a neat sketch, explain the working of float-type automatic rain gauge. 3+7
13. Draw the typical layout of head work and explain about its component parts. 4+6
14. Describe the working of siphon spillway with a neat sketch. 3+7
15. (a) Explain the types of failure of gravity dam. 8
 (b) Why are drainage galleries provided in a gravity dam? 2
16. Explain two methods of constructing earth dam. 5+5
17. Explain different methods of aligning a canal with sketches. 10
18. Explain different types of cross-drainage works and write the need of cross-drainage works. 3+7
