

4621**BOARD DIPLOMA EXAMINATION, (C-14)****MARCH /APRIL-2019****DCE - FIFTH SEMESTER EXAMINATION**

IRRIGATION ENGINEERING

Time: 3 Hours

Max.Marks: 80

PART-A**10x3=30M**

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

- 1) Differentiate between direct and storage irrigation.
- 2) State any three points to be considered for setting up of rain gauge station at a place.
- 3) Distinguish between barrages and weirs.
- 4) Define the terms a) Full reservoir level b) Gravity dam c) Free board
- 5) Explain 'balanced depth of cutting' and state its necessity.
- 6) State the need for canal lining.
- 7) With the help of a neat sketch, explain about sprinkler irrigation.
- 8) Describe the warabandi system.
- 9) State the need for watershed management.
- 10) State any three methods of artificial recharge of ground water.

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PART-B

5x10=50M

Instructions: 1) Answer any five questions. Each question carries ten marks.

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

11) a) State the different methods of expressing duty.

b) Explain the factors affecting duty of water.

12) a) State i) Ryve's formula & ii) Dickens formula for determining maximum flood discharge.

b) Six rain gauge stations are enclosed by catchment areas of 60,55,80,58,47 & 60 sq.Km. respectively. The rain fall recorded at the six stations are 250,300,230,350,320 & 410 mm respectively. Find the average rainfall over the entire catchment area by Thiessen's Polygon method.

13) Explain with a sketch the component parts of a weir

14) Describe the head regulator with the help of a sketch.

15) State different types of spillways and explain about any two of them with sketches.

* 16) Explain the causes of failures of earthen dams and their precautions.

17) With the help of neat sketches, explain about typical cross sections of canals.

18) a) State the ill effects of water logging.

b) Mention the purposes for which a groyne is provided in a river.

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