



c09-c-403

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BOARD DIPLOMA EXAMINATION, (C-09)
MARCH/APRIL—2014
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 any three points to be considered for setting up of rain gauge station at a place.
 2. What is sprinkler irrigation? State the crops and soil conditions for which it is suitable.
 3. List the component parts of a weir.
 4. What is the purpose of providing a diversion headwork?
 5. State any three situations where earthen dams are suitable.
 6. What is a spillway? State two common types of spillways in gravity dams.
 7. What is the function of core wall in earth dams?
 8. What is a berm? What are the advantages of providing berms?
 9. State any six characteristics of watershed.
 10. What is a watershed? State the need for watershed development in our country.

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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 the criterion for valuation is the content but not the length of the answer.

- 11.** (a) Define duty and delta.
(b) An ayacut under a reservoir is 15000 hectares and the base period of a crop is 120 days. The duty of the crop at the head of canal is 90 hectares/cumec. Find the capacity of reservoir assuming 15% loss of water in reservoir.
- 12.** Explain the advantages and disadvantages of irrigation.
- 13.** Draw the layout of a diversion headwork and state the functions of head regulator, scouring sluices and guide banks.
- 14.** Why are joints necessary in a gravity dam? List different types of joints and their purpose.
- 15.** Draw and explain the elementary and practical profile of a gravity dam.
- 16.** Explain the points to be considered for selection of site for a dam.
- 17.** Explain the following with a neat sketch :
(a) Siphon aqueduct
(b) Superpassage
- 18.** Explain about the following terms :
(a) Rain water harvesting
(b) Soil moisture conservation
(c) Artificial recharge of water
