

B.E DEGREE EXAMINATIONS: APRIL/MAY 2014

(Regulation 2009)

Fifth Semester

CIVIL ENGINEERING

CEE111: Irrigation Engineering

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. ----- is the unit of duty in SI System of units
 - a) cusec/acre
 - b) Acre/cusec
 - c) Hectare/cumec
 - d) Cumec/hectare
2. Drainage gallery in a gravity dam is not provided for_____
 - a) Entertaining visitors
 - b) inspection
 - c) Grouting
 - d) Drainage
3. In a gravity dam, the main overturning force is _____
 - a) Self toward the heel
 - b) wind pressure
 - c) Water pressure
 - d) uplift pressure
4. The irrigation method that involves minimum evaporation loss is -----irrigation
 - a) Basin
 - b) Drip
 - c) Furrow
 - d) Sprinklers
5. In an arch dam, loads are resisted by_____
 - a) Weight of dam
 - b) arch action
 - c) Both weight of dam and arch action
 - d) neither weight of dam nor arch action
6. Arch dam is suitable when _____
 - a) Foundation is very strong
 - b) sides are very strong
 - c) Length of the dam is small
 - d) length of the dam is large
7. The operation ,which washes out salts from the upper zone of the soil,is called -----
 - a) cavitation
 - b) Leaching
 - c) Washing
 - d) separation
8. In the design of weir on impervious soil, _____need not be considered.
 - a) Weight of weir
 - b) hydrostatic pressure force
 - c) Uplift force
 - d) wind force

9. To prevent silt particles getting into a canal, the canal bed level has to be_____
 - a) Above
 - b) Below
 - c) At the same level
 - d) Above or below
10. ----- will aid proper relation between the communities and the water resources
 - a) Proper irrigation method
 - b) Canal management
 - c) On-farm development
 - d) Participatory irrigation management

PART B (10 x 2 = 20 Marks)

11. Write cropping seasons in India.
12. Distinguish between evapotranspiration and consumptive use.
13. Mention any two advantages of drip irrigation.
14. What is the main difference between basin irrigation and boarder irrigation?
15. What are the various kinds of dam?
16. Listout the different types of spillway.
17. What is the need for a canal drop along a canal?
18. Define on –farm development works.
19. Define canal regulation works. List out some examples.
20. How to minimize the irrigation water losses?

PART C (5 x 14 = 70 Marks)

21. a) (i) Explain the term Duty and Delta and derive their relationship. (8)
(ii) Discuss the need for irrigation project in the Indian context. (6)
(OR)
b) (i) Listout the various types of irrigation efficiencies and discuss any four. (8)
(ii) Discuss the need for irrigation projects. (6)
22. a) List the various types of irrigation methods. Discuss any four flooding methods with neat sketches.
(OR)
b) (i) Discuss the factors to be considered before choosing an irrigation method. (8)
(ii) Compare drip and sprinkler irrigation. (6)
23. a) Discuss in detail the various forces acting on a dam with a neat sketch.
(OR)
b) (i) What are the types of failure that may occur in the weir constructed on pervious foundation? (8)

(ii) List the factors affecting the selection of a site for a dam. (6)

24. a) Define River training works. Discuss about following three types of river training works with neat sketches,
i) Marginal embankments
ii) Groynes
iii) Guide banks

(OR)

- b) What is meant by cross drainage works? Explain their classification with neat sketch.

25. a) Discuss in detail about various aspects of on-farm development works.

(OR)

- b) What is the need for water users association? Draw a schematic diagram of various tiers of water users association.
