

B.E. DEGREE EXAMINATIONS: NOV / DEC 2010

Fifth Semester

CIVIL ENGINEERING

U07CE501: Irrigation Engineering

Time: Three Hours

Maximum Marks: 100

Answer All Questions:-

PART A (10 x 1 = 10 Marks)

1. Useful soil moisture for plant growth is
(a) Capillary water (b) Gravity Water (c) Hygroscopic Water (d) Chemical Water
2. Base period is _____ crop period.
(a) Less than (b) Greater than (c) Equal to (d) Either less than or greater than
3. For cereal crops the most commonly adopted method of irrigation is
(a) Free Flooding (b) Check Method (c) Furrow Method (d) Sprinkler Method
4. For standing crops in undulating sandy fields the best method of Irrigation is
(a) Free Flooding (b) Check Method (c) Furrow Method (d) Sprinkler Method
5. Canals aligned along the watershed are known as _____ canals.
(a) Contour (b) Ridge (c) Side slope (d) Lined
6. For diversion of flood water of rivers the type of canal constructed is
(a) Ridge Canal (b) Perennial Canal (c) Inundation Canal (d) Drain
7. In a barrage, the crest level is kept
(a) Low with large gate (b) High with large gate
(c) High with no gate (d) Low with no gate
8. Cross drainage work where the bed levels of canal and drain are equal is called
(a) Aqueduct (b) Level Crossing (c) Superpassage (d) Siphon - Aqueduct
9. On farm development work is _____
(a) Levelling the field (b) Ploughing the field
(c) Protecting the bunds (d) All the above
10. Maximum water application efficiency is in
(a) Surface Irrigation (b) Lift Irrigation (c) Sprinkler Irrigation (d) Furrow Irrigation

PART B (10 x 2 = 20 Marks)

11. Define the term irrigation engineering.
12. What is meant by base period?

13. What is meant by flow irrigation system?
14. Differentiate gross command area from cultivable command area.
15. Distinguish between weir and barrage.
16. Mention the use of Inspection Galleries in dam.
17. Classify canal based on the function.
18. What is meant by cross drainage works?
19. Mention the need for management of Irrigation water.
20. What is the role of engineer in irrigation management?

PART C (5 x 14 = 70 Marks)

21. a) Derive the relationship between Duty and Delta. Discuss the factors affecting duty
(OR)
b) What is meant by irrigation efficiency? List various efficiencies under which irrigation performance is evaluated. Discuss each one.
22. a) Distinguish between Drip and Sprinkler Irrigation systems.
(OR)
b) What is meant by surface irrigation? Mention the advantages of surface irrigation. List out the methods of surface irrigation.
23. a) With a neat layout discuss the components of diversion head work.
(OR)
b) Discuss the essentials of a spillway. List out the types of spillway.
24. a) Discuss the points to be considered while aligning a canal. How canals are classified? Mention various types of canals.
(OR)
b) Discuss the functions of cross regulator and objectives of river training work.
25. a) Discuss the roles and responsibilities of government agencies and farmers in irrigation management.
(OR)
b) List various performance indicators for evaluating canal irrigation system. Explain any two in detail.
