

IRRIGATION ENGINEERING

Course code	Course title	No. of period/week	Total no. of periods	Marks for Formative Assessment	Marks for Summative Assessment
C-405	Irrigation Engineering	04	60	20	80

Model Test Paper

State Board of Technical Education and Training, A.P.

Diploma in Civil Engineering (DCE)

Fourth Semester: C - 405 IRRIGATION ENGINEERING

Time: 90 Minutes

Unit Test – I

Maximum Marks: 40

PART – A

16 Marks

Instructions:

- (i) Answer all questions
 - (ii) First question carries FOUR marks.
 - (iii) Remaining questions carries THREE marks.
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1. (i) The inundation irrigation system is functional through the year. (True/False) (C01)

(ii) The process of measurement of discharge and water level of a river is known as _____. (C02)

(iii) When the percolating water exerts pressure and when the apron is not sufficiently strong, it fails due to _____. (C02)

(iv) The difference between 'Gross Storage' and 'Dead Storage' is known as _____. (C03)
 2. Define the terms (a) Delta, (b) Base period and (c) Crop period. (C01)
 3. List the use of rainfall records. (C02)
 4. Sketch the cross section of a weir and show the components. (C02)
 5. List any three situations where earthen dams are suitable. (C03)

PART – B

3 X 8 = 24 Marks

Instructions:

- (i) Answer all questions
- (ii) Each question carries EIGHT marks.
- (iii) Answer should be comprehensive and the criterion for valuation is the content but

not the length of the answer.

6. (A) Explain the method of measurement of rainfall using Symons's rain gauge. (C02)

OR

- (B) State any ten points to be considered for site selection of canal head works. (C02)

6. (A) Draw the layout of head works and explain any four component parts of head works. (C02)

OR

- (B) State any eight points to be considered for selection of site for a gravity dams. (C02)

7. (A) Define spillway and list any six types of spillways provided in a gravity dam. (C03)

OR

- (B) Write short notes on (i) Drainage gallery and (ii) Construction joints in a dam. (C03)

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Model Test Paper

State Board of Technical Education and Training, A.P.

Diploma in Civil Engineering (DCE)

Fourth Semester: C - 405 IRRIGATION ENGINEERING

Time: 90 Minutes

Unit Test – II

Maximum Marks: 40

PART – A

16 Marks

Instructions:

- (i) Answer all questions
- (ii) First question carries FOUR marks.
- (iii) Remaining questions carries THREE marks.

1. (i) Which of the following statement is correct with reference to earthen dams? (C03)
- (a) These dams are very costly as compared to other types.
 - (b) Gravity dams are less susceptible to failure as compared to rigid dams.
 - (c) Highly skilled labour is generally not required.
 - (d) These dams are suitable for construction on almost every type of foundation.
- (ii) The entire system of canals by which the irrigation water is carried from the head works to the irrigated lands with necessary regulation works is called _____. (C04)
- (iii) Pick the correct sequence of the part of a canal system from the following, (C04)
- (a) Head works-distributaries-branch canal-minor.

- (b) Head works-main canal-branch canal-distributaries-minor.
- (c) Head works-main canal-branch canal-minor-distributaries.
- (d) Head works-branch canal-main canal-distributaries-minor.

(iv) The process in which the soil is made infertile and non-productive due to excessive moisture being present in its pores creating anaerobic conditions is called _____. (C05)

2. State any three situations that are suitable for construction of earthen dams. (C04)
3. Draw typical cross sections of canal in cutting, partial cutting and embankment. (C04)
4. State any three objectives of river training works. (C05)
5. State any three advantages of drip irrigation. (C05)

PART – B

3 X 8 = 24 Marks

Instructions:

- (i) Answer all questions
- (ii) Each question carries EIGHT marks.
- (iii) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.

6. (A) List different types of earthen dams and draw neat sketches showing each type. (C03)

OR

- (B) Explain any four causes of failure of earthen dams and their preventive measures. (C03)

7. (A) List out cross drainage works and explain about any two types. (C04)

OR

- (B) Explain two methods of aligning a canal with neat sketches. (C04)

8. (A) Explain any four types of groynes with neat sketches. (C05)

OR

- (B) List the methods of land reclamation and explain any two methods. (C05)

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Model Test Paper

State Board of Technical Education and Training, A.P.

Diploma in Civil Engineering (DCE)

Fourth Semester: C - 405 IRRIGATION ENGINEERING

Time: 180 Minutes

End Examinations

Maximum Marks: 80

PART – A

3 x 10 = 30 Marks

Instructions:

- (i) Answer all questions
- (ii) First question carries THREE marks.
- (iii) Answer should be brief and straight to the point and shall not exceed five simple sentences.

1. State any three advantages of irrigation. (C01)
2. List any three functions of a canal head regulator. (C02)
3. Write any three characteristics of good catchment area. (C02)
4. State any three situations where earthen dams are suitable. (C03)
5. List the loads coming on gravity dams. (C03)
6. What is meant by 'balancing depth of cutting'. (C04)
7. State the classification of canals based on their alignment. (C04)
8. State any three effects of water logging. (C05)
9. State the ill effects of soil erosion (C05)
10. What are the methods of water harvesting through check dams. (C05)

PART – B

5 x 10 = 50 Marks

Instructions:

- (iv) Answer any FIVE questions
 - (v) Each question carries TEN marks.
 - (vi) Answer should be comprehensive and the criterion for valuation is the content but not the length of the answer.
11. Explain the functions of different component parts of a weir with a neat sketch. (C02)
 12. Sketch and explain briefly the working of Symon's rain gauge. (C02)
 13. Explain any four failures of gravity dams. (C03)
 14. Explain about any four types of common spill ways. (C03)

15. Compare between Kennedy's and Lacey's silt theories. (C04)
16. Explain the need for canal lining. And write two advantages and two disadvantages of canal lining. (C04)
17. Describe about Warabandi system of water management. (C05)
18. Explain artificial recharges of ground water using percolation tanks. (C05)

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