

Reg. No. :

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R 3168

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2007.

Fifth Semester

(Regulation 2004)

Civil Engineering

CE 1301 — IRRIGATION ENGINEERING

(Common to B.E. (Part-Time) Fourth Semester Regulation 2005)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Write the cropping seasons in India.
2. Distinguish between evapotranspiration and consumptive use.
3. Why evaporation losses are less in furrow irrigation.
4. Differentiate Weir and Dam.
5. What are the various kinds of dam?
6. How a spill way differs from a sluice? List the different types of spillways.
7. What is the need for a canal fall along a canal?
8. Define : Canal regulation works. List out some examples.
9. How to minimise the irrigation water losses?
10. Define : Participatory irrigation management.

PART B — (5 × 16 = 80 marks)

11. (a) (i) Explain the term 'Duty' and 'Delta' and derive their relationship. (8)
(ii) Discuss the need for irrigation projects in the Indian context. (8)

Or

- (b) (i) Draw a layout of a canal system and how duty varies between various locations from main canal to field channel. Discuss the methods to improve duty in that system. (10)
(ii) List the various type of irrigation efficiencies and discuss any four. (6)
12. (a) (i) Write short notes on :
(1) Canal irrigation (4)
(2) Tank irrigation. (4)
(ii) Differentiate drip and sprinkler irrigation. (8)

Or

- (b) List the various types of irrigation methods. Discuss any four flooding methods with a neat sketch. (16)
13. (a) (i) What are the types of failures that may occur in the Weirs constructed on pervious foundations? (8)
(ii) List the factors affecting the selection of a site for a dam. (8)

Or

- (b) Discuss in detail about the various forces acting on a dam with a neat sketch. (16)
14. (a) (i) Classify the canals with respect to its alignment. (8)
(ii) Differentiate with a neat sketch (8)
(1) Aqueduct and canal syphon
(2) Syphon aqueduct and super passage.

Or

- (b) Define : River training works. Discuss about following three type of river training work with neat sketch. (16)
(i) Marginal embankments
(ii) Groynes
(iii) Guide banks

15. (a) Discuss in detail about various aspects of on-farm-development works. (16)

Or

(b) What is the need for water user's association? Draw a schematic diagram of various tiers of water user's association. (16)
