Reg. No. : | | | | | | | | | | |

Question Paper Code: 45016

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2017

Fifth Semester

Civil Engineering

14UCE506 - IRRIGATION ENGINEERING

(Regulation 2014)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Salinity in irrigation water is measured by

   (a) SAR value (b) electrical conductivity value
   (c) pH value (d) none of these

2. The water utilizable by plants is available in soils mainly in the form of

   (a) Gravity water (b) Capillary water
   (c) Hydroscopic water (d) Chemical water

3. What are kharif crops?

   (a) wheat (b) Potatoes (c) Rice (d) Gram

4. The duty is largest

   (a) At the head of water course (b) On the field
   (c) At the head of a main canal (d) Same at all place

5. Optimum depth of Kor watering for rice is

   (a) 135mm (b) 165mm (c) 190mm (d) 215mm

6. The maximum permissible eccentricity for no tension at the base of a gravity dam is

(a) B/2 (b) B/4 (c) B/6 (d) B/8

7. Irrigation canals are generally aligned along

(a) Ridge line (b) Contour line (c) Valley line (d) Straight line

8. The weed growth in a canal leads to

(a) Decrease in silting (b) Decrease in discharge
(c) Increase in discharge (d) Increase in velocity of flow

9. The components of on farm developments

(a) Crossing in field channel (b) Field drain
(c) Formation of field channel (d) All the above

10. Canal outlets are also called

(a) Canal escapes (b) Canal modules
(c) Canal off takes (d) Canal openings

PART - B (5 x 2 = 10 Marks)

11. What is the purpose of irrigation?

12. Define delta of a crop?

13. Define barrage.

14. What are alignments of canals?

15. What are the advantages of irrigation water management?

PART - C (5 x 16 = 80 Marks)

16. (a) Explain in detail about soil moisture measurement. (16)

Or

(b) Discuss the harmful effects of excess irrigation in agriculture. (16)

17. (a) Briefly explain about Irrigation efficiencies. (16)

Or

(b) Describe the different components of irrigation efficiency and give the mathematical expressions. (16)

18. (a) Briefly explain the different types of spillway. (16)

Or

(b) What are the different forces that may act on gravity dam? Discuss with sketches and write down the expressions of the forces. (16)

19. (a) Explain the subsurface methods of irrigation and discuss its merits and demerits. (16)

Or

(b) Discuss about different types of cross-drainage work with sketches. (16)

20. (a) Describe briefly about Participatory irrigation management. (16)

Or

(b) What kinds of participation are necessary for irrigation management activities? Explain in detail. (16)