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Question Paper Code : 50306

B.E./B.Tech. DEGREE EXAMINATION, NOVEMBER/DECEMBER 2017

Seventh Semester

Civil Engineering

CE 6703 – WATER RESOURCES AND IRRIGATION ENGINEERING

(Regulations 2013)

Time : Three Hours

Maximum : 100 Marks

Answer ALL questions.

PART – A

(10×2=20 Marks)

1. What do you mean by storage and retarding reservoir ?
2. State the location where levees and flood walls can be used.
3. Enumerate the Water Allocation priorities of National Water Policy.
4. What do you mean by the term Water Budget ?
5. Define Field Capacity terminology.
6. Enumerate the factors affecting the duty of water canal system.
7. What do you mean by impounding structures ?
8. State the drawbacks of Kennedy's theory.
9. Under which favorable conditions the sub-surface irrigation is practiced ?
10. What are the objectives of participatory irrigation management ?

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PART – B

(5×16=80 Marks)

11. a) Briefly explain the steps involved in water resources planning. (16)
- (OR)
- b) Define storage capacity of the reservoir. List out and explain the storage zones of reservoir with neat sketch. (16)
12. a) Summarize the consumptive use of water and the factor affecting consumptive use of water. How will you measure it? (16)
- (OR)
- b) List the impurities which make water unfit for irrigation and discuss the effects of impurities in detail. (16)
13. a) State and explain in detail about the benefits and ill-effects of irrigation. (16)
- (OR)
- b) 800 m³ of water is applied to a farmer's rice field of 0.6 hectares. When the moisture content in the soil falls to 40% of the available water between the field capacity (36%) of soil and permanent wilting (15%) of the soil crop combination. Determine the field application efficiency. The root zone depth of rice is 60 cm. Assume porosity = 0.4. (16)
14. a) What are the different types of cross drainage works that are necessary on a canal alignment? State briefly the conditions under which each one is used. (16)
- (OR)
- b) Enumerate the requirements of good lining and discuss the factors which are responsible for selecting a suitable material. (16)
15. a) Discuss briefly the various techniques used for distributing water in the farms. (16)
- (OR)
- b) Enumerate and discuss the factors affecting the irrigation scheduling. (16)