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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)**B.Tech III Year I Semester Regular & Supplementary Examinations Nov/Dec 2019****IRRIGATION AND DRAINAGE ENGINEERING****(Agricultural Engineering)**

Time: 3 hours

Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)**UNIT-I**

- 1 a Derive relationship between duty and delta and list out the factors affecting duty. **7M**
b Explain briefly about the classification of irrigation projects. **5M**

OR

- 2 a Write in detail about development of irrigation in India. **7M**
b Define the following terms. **5M**
(i) base period (ii) crop period (iii) Gross command area
(iv) Culturable command area (v) Irrigation interval.

UNIT-II

- 3 a Explain different components and functions of sprinkler irrigation system with neat diagram. **6M**
b Explain about the major factors influencing the design capacity of drip irrigation. **6M**

OR

- 4 a Explain briefly about the design procedure of sprinkler irrigation system. **6M**
b What are the specific advantages of drip irrigation system over sprinkler irrigation system. **6M**

UNIT-III

- 5 a Define the clogging and classify different types of clogging. **6M**
b What are the steps necessary in preventing the leakage in drip irrigation system? **6M**

OR

- 6 a Explain how Chlorine treatment is carried out in drip system. **6M**
b Explain briefly about the maintenance of micro irrigation system. **6M**

UNIT-IV

- 7 a Explain about the reclamation of saline and alkaline soils. **6M**
b Write about the causes and impact of water logging. **6M**

OR

- 8 a Derive Hooghoudt equation with neat diagram. **6M**
b Explain about conjunctive use of saline and fresh water. **6M**

UNIT-V

- 9 a Explain the design of open ditches. **6M**
b Explain about manning's equation and its applications. **6M**

OR

- 10 a Derive Ernst equation with neat diagram. **6M**
b Explain the estimation of hydraulic conductivity with auger hole method. **6M**

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