



SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR
Siddharth Nagar, Narayanavanam Road – 517583

QUESTION BANK (DESCRIPTIVE)

Subject with Code : IDE (16AG706)

Course & Branch: B.Tech – AG

Year & Sem: III-B.Tech& I-Sem

Regulation: R16

UNIT-I

1. Briefly explain about the classification of irrigation projects.
2. Define irrigation and necessities of irrigation.
3. Explain the direct and indirect benefits of irrigation system.
4. Write short note on development of irrigation in India.
5. Explain the relationship between duty and delta and list out the factors affecting duty.
6. Express a duty of 1800 ha/cusec for a base period of 12 days in ha per million m³
7. Define the following: (a) base and crop period (b) Gross command area and culturable command area (c) Irrigation interval.
8. Briefly explain the rapid development of irrigation potential in India during the five year plan.
9. Which are largest west flowing rivers? Which are the major projects built on these rivers?
10. Describe the features of chain tanks in AP.

UNIT-II**SPRINKLER IRRIGATION SYSTEMS**

1. Explain different types of sprinkler irrigation.
2. Explain different components and functions of sprinkler irrigation system with neat diagram.
3. Briefly explain about the design procedure of sprinkler irrigation.
4. What is the uniformity coefficient and how to determine uniformity of irrigation system?
5. List out of adaptability and limitations of sprinkler irrigation system.
6. Explain the performance evaluation of sprinkler irrigation system.
7. What are the major factors influencing the design capacity of drip irrigation.
8. Explain in detail the design of drip irrigation system by considering one crop.
9. List out of adaptability and limitations of drip irrigation system.
10. What are the specific advantages of drip irrigation over sprinkler irrigation system.

UNIT III
MAINTENANCE OF MICRO IRRIGATION SYSTEM

1. Briefly explain the common organic containments and chemicals causes resulting in clogging of drippers.
2. Briefly explain about the maintenance of micro irrigation system.
3. Define the clogging and classify different types of clogging.
4. Explain how acid treatment is carried out in drip system.
5. Define fertigation and explain different methods of fertigation.
6. Advantages and disadvantages of fertigation.
7. Explain fertilizer solubility and their compatibility.
8. Explain the principle of hydro cyclone filter.
9. What are the steps necessary in preventing the leakage in drip irrigation system?
10. List the step by step procedure required in testing drip irrigation system after their installation.

Unit IV

1. Explain the objectives of drainage system
2. Define water logging, List and explain the causes and impact of water logging.
3. Define drainage and explain different types of drainage.
4. Explain the methods for estimation of hydraulic conductivity.
5. Derive Hooghoudt equation with neat diagram.
6. Explain leaching requirement.
7. Explain in detail about different drainage structure.
8. Application of agricultural drainage in enhancement of productivity.
9. Explain bio drainage and mole drainage. Discuss conjunctive use of saline and fresh water.
10. Explain in detail the reclamation of saline and alkaline soils.

Unit V

1. Define observation well, drainage coefficient and piezometer.
2. Explain design of open ditches.
3. Explain manning's equation and its application.
4. Explain the Investigation of drain design parameters through drain testing.
5. Define Hydraulic conductivity, porosity, drainable porosity, infiltration, percolation and interflow.
6. Explain recording of water table data and drain discharge in field.
7. Explain drainage design criteria.
8. Discuss the economic feasibility of subsurface drainage system.
9. What are the flow equations used in steady state and unsteady state and explain the reason behind.
10. Derive Ernst equation with neat diagram.