

UNIT III

IRRIGATION ENGINEERING

PART A

1) Define irrigation?

Irrigation is defined as the science of artificial application of water to the land in accordance with the crop requirements.

2) What are the necessities of irrigation?

1. Inadequate rainfall
2. Increasing yield of crops
3. Growing perennial crops
4. Uneven distribution of rainfall.

3) What are the advantages of irrigation?

1. Increase in food production
2. Optimum benefits
3. General prosperity
4. A forestation.

4) What are the disadvantages of irrigation?

1. Over irrigation may lead to water logging
2. It may reduce crop yield
3. It is expensive and complex.

5) What are the types of irrigation?

1. Surface irrigation
2. Sub-surface irrigation.

6) What are the techniques of water distribution in the farms?

1. Free flooding
2. Border flooding
3. Check flooding
4. Basin flooding, furrow irrigation method, drip irrigation method.

7) What are the types of sprinkler system?

1. Permanent system
2. Semi-permanent system
3. Sortable system

8) What are the advantages of sprinkler irrigation?

1. Land leveling is not required
2. Fertilizers can be uniformly applied
3. It is less labour oriented

9) What are the limitations of sprinkler irrigation?

1. Initial cost of the system is very high
2. It requires larger electrical power
3. High wind may distort sprinkler pattern

10) What is arid region?

The area where irrigation is must for agriculture is called arid region.

11) What is semi-arid region?

The area in which inferior crops can be grown without irrigation

12) What is crop period?

The time period that elapses from the instant of its sowing to the instant of its harvesting is called crop period.

13) What is base period?

The time between the first watering of a crop at the time of its sowing to its last watering before harvesting is called the base period.

14) What is rotation period?

The time interval between two such consecutive watering is called frequency irrigation.

15) Define duty of water?

It is the relationship between the volume of water and the area of crops it matures is called duty of water.

16) Define delta of a crop?

Each crop requires a certain amount of water after a certain fixed interval of time, through its period of growth is called delta of a crop

17) What are the factors on which duty depends?

1. Type of crop
2. Climate and seasons
3. Useful rainfall
4. Type of soil
5. Efficiency of cultivation method

18) What are kharif crops?

The kharif crops are rice, bajra, jawar, maize, cotton, tobacco, groundnut, etc.

19) What are rabi crops?

Rabi crops are wheat, barley, gram, linseed, mustard, potatoes, etc

20) Define irrigation efficiency?

It is the efficiency of water output to the water input, and is usually expressed as percentage.

21) What is called effective rainfall?

Precipitation falling during the growing period of a crop that is available to meet the evapo-transpiration needs of the crop, is called effective rainfall.

PART B

- 1) What are the merits and demerits of irrigation?
- 2) What are the factors affecting duty?
- 3) Briefly explain about irrigation efficiencies?
- 4) What are the consumptive uses of water?
- 5) Explain about crop water requirements?