

**MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE**  
**SEMESTER END THEORY EXAMINATION**

**B.Sc.(Hons.) Horticulture**

Semester	: II (New)	Term	: Second	Academic Year	: 2022-23
Course No.	: H/ENGG 121	Title	: Water Management in Horticultural		
Credits	: 2 (1+1)		Crops		
Day & Date	: Wednesday, 09.08.2023	Time	: 9:00 to 11:00 hrs.	Total Marks	: 40

- Note :**
1. Solve ANY EIGHT questions from SECTION 'A'.
  2. All questions from SECTION 'B' are compulsory.
  3. All questions carry equal marks.
  4. Draw neat diagram wherever necessary.

**SECTION 'A'**

- Q.1 Draw a neat labeled diagram of drip irrigation system and give the function of main components.
- Q.2 Explain the function of water for growth and development of crops.
- Q.3 Give the classification of irrigation methods and describe furrow irrigation.
- Q.4 Write short notes on:
- a) Water Budgeting in India
  - b) Factors affecting evapotranspiration
- Q.5 Define sprinkler irrigation with its adaptability and limitations.
- Q.6 Define evaporation and transpiration. Explain the USWB Class-A pan evaporimeter with neat diagram.
- Q.7 Explain the moisture extraction pattern within root zone.
- Q.8
- a) If the net irrigation is 8 cm and the field efficiency is 75 per cent, calculate the gross irrigation requirement.
  - b) Estimate the time in hours required to give 5 cm irrigation to border strip of 100 m long and 6 m wide, with a discharge of 10 liters per second from a pump. Assume the water efficiency as 70 per cent.
- Q.9 Draw a neat diagram of sprinkler irrigation system. Explain types of sprinkler irrigation system on the basis of portability.
- Q.10 Explain the kinds of soil water with neat diagram.

**SECTION 'B'**

- Q.11 Match the pairs:

**'A'**

- 1) Lysimeter
- 2) Sprinkler irrigation
- 3) Sand filter
- 4) Drip irrigation

**'B'**

- a) Close growing crops
- b) Removal of algae
- c) Orchards
- d) Fertigation
- e) Evapotranspiration

(P.T.O.)

Q.12 State True or False:

- 1) Disc filter is made up of grooved plastic discs, which are piled together around a telescopic core.
- 2) The evaporation increases with decrease in temperature.
- 3) In effective root zone depth, 40 per cent of total moisture is extracted from second quarter of root zone.
- 4) The average annual rainfall of India is 800 mm.

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