

MAHARASHTRA AGRICULTURAL UNIVERSITIES EXAMINATION BOARD, PUNE
SEMESTER END EXAMINATION

B.Sc. (Hons.) Horticulture

Semester	: II (New)	Term	: II	Academic Year	: 2018-19
Course No.	: H/ENGG 121	Title	: Water Management in Horticultural Crops		
Credits	: 2 (1+1)				
Day & Date	: Saturday, 11.05.2019	Time	: 09.00 to 11.00	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 diagrams wherever necessary.

SECTION "A"

- Q.1 Write about water requirement in horticultural crops. Discuss about the factors affecting water requirement of horticultural crops.
- Q.2 Write on water resources of India and important functions of water in plant metabolism.
- Q.3 Write in brief about any two criteria for scheduling of irrigation to horticultural crops.
- Q.4 Enlist different irrigation systems followed in horticultural crops. State the advantages of drip irrigation systems.
- Q.5 Discuss in brief about drip fertigation. State the advantages of drip fertigation.
- Q.6 Define Evapo-transpiration. Discuss in brief about classification of Evapo-transpiration and factors affecting Evapo-transpiration.
- Q.7 Discuss in brief about types of sprinkler irrigation system.
- Q.8 A lateral has 12 sprinklers spaced 14 meters apart. The laterals are spaced 20 meters on the main line. Determine the amount of fertilizer to be applied at each setting when the recommended fertilizer dose is 80 kg/ha.
- Q.9 Calculate the quantity of water required in m^3 per hectare per day for banana using following data.
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|---------------------------------------|---------------|
| a) Spacing between the plants and row | = 1.5m x 1.5m |
| b) Pan evaporation | = 10mm/day |
| c) Pan factor | = 0.70 |
| d) Crop coefficient | = 1.0 |
| e) % Wetted area | = 60 |
- Q.10 Write short notes.
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| a) Border irrigation | b) Subsurface irrigation method |
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(P.T.O.)

SECTION "B"

Q.11 Define the following terms.

- 1) Water use efficiency
- 2) Available water
- 3) Transpiration
- 4) Net irrigation requirement.

Q.12 Fill in the blanks.

- 1) The hygroscopic water is held at _____ atmospheric tension.
- 2) _____ is the heart of drip irrigation system.
- 3) Allowable pressure variation along the drip lateral should be less than _____ %.
- 4) Sprinkler irrigation method is not suited for soils having infiltration rate less than _____.

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