KERALA AGRICULTURAL UNIVERSITY

Kelappaji College of Agricultural Engineering and Food Technology, Tavanur

B.Tech (Agrl. Engg) 2022 Admission

VIII[th] Semester Final Examination

Cat. No. Ellw. 4204 (2+1) Marks: 50

Precision Farming Techniques for Protected Cultivation Time: 2 hours

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I. **Define the following (any five)** **(5x1=5)**

1. Carbon dioxide enrichment
2. Protected cultivation
3. Net house
4. Cladding material
5. Greenhouse effect
6. Precision farming

II. **Define the following (any five)** (5x2=10)

1. What are shade nets? Mention their uses.
2. Explain the purpose of greenhouse orientation.
3. What are the advantages of soilless media over soil media?
4. Why is disinfection necessary before bed preparation?
5. Compare any two fertigation methods.
6. Scope and potential of microirrigation in Kerala

III. **Write short notes on the following (any five)** **(5x5=25)**

1. Explain in detail the irrigation methods used in protected cultivation.
2. The recommended fertilizer dose for a specific crop is N:P_2O_5:K_2O 110:46:60 kg/ha. Calculate the exact quantity of Urea (46 % N), DAP (18% N and 46% P_2O_5), and MOP (60% K_2O) required to fulfil this nutrient requirement for one hectare of land.
3. Explain the classification of greenhouse based on the covering material
4. Compare the Ridge and furrow type and Quonset type greenhouse with neat diagrams.
5. Compare natural and forced ventilation in a greenhouse with the advantages and disadvantages of each of both.
6. Explain the construction of a greenhouse, highlighting site selection and structural requirements.

IV. **Write any one of the following** **(1x10=10)**

1. Discuss the response of plants to various environmental factors under greenhouse conditions.
2. Compare active summer cooling systems and active winter cooling systems in a greenhouse.