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Question Paper Code: R1A04

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2025

First Semester

Agricultural Engineering

R21UAG104- PRINCIPLES AND PRACTICES OF CROP PRODUCTION

(Regulations R2021)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. In the harvested crop, the grain seed is separated from the chaff ,this process is called as CO1 -U
(a) Threshing (b) seeding (c) ploughing (d) weeding
2. The process of loosening and turning the soil to prepare a good seedbed is known as _____. CO1 -U
(a) Weeding (b) Irrigation (c) Tillage (d) Threshing
3. _____Is an instrument that measures rainfall CO1 -U
(a) hygrometer (b) anemometer (c) rain gauge (d) spoon
4. The main difference between weather and climate is based on _____. CO1 -U
a) Duration b) Temperature c) Wind direction d) Latitude
5. Which of the following is Kharif Crop? CO1 -U
(a) Groundnut (b) Maize (c) Paddy (d)All of the above
6. Rhizobium inoculation is done for ____ CO1 -U
(a) Rice (b) Black gram (c) Maize (d) Sunflower
7. The process of making thread from fiber is called? CO1 -U
(a) knitting (b) ginning (c) spinning (d) weaving
8. The critical stage of irrigation in sugarcane is _____ CO1 -U
(a) Tillering (b) Grand growth (c) Ripening (d) Germination

9. The main propagation method for mango is ____ CO1 -U
(a) Grafting (b) Seed (c) Layering (d) Cutting
10. The ideal nursery period for tomato seedlings before transplanting is about __ CO1 -U
(a) 10 days (b) 15 days (c) 25 days (d) 35 days

PART – B (5 x 2 = 10 Marks)

11. Define Biennial crops with example. CO1 -U
12. What are the different scales of climate? Give one example for each. CO1 -U
13. Define thinning and gap filling — why are they done in pulses? CO1 -U
14. Define ratoon cropping with an example. CO1 -U
15. What are the intercultural operations in brinjal? CO1 -U

PART – C (5 x 16 = 80 Marks)

16. (a) Discussion detail about the Major soils of India? CO1 -U (16)
Or
(b) Explain the classification of crops and their economic importance in India and Tamil Nadu. CO1 -U (16)
17. (a) A farmer wants to understand how atmospheric conditions affect his crops. Explain the vertical layers of the atmosphere in simple terms and mention their uses. Also describe how this knowledge can help the farmer plan irrigation and protect crops from weather-related problems. CO2-App (16)
Or
(b) A village experiences frequent changes in rainfall and temperature. Using your knowledge of factors affecting climate, explain how these factors influence the cropping pattern in that region. CO2-App (16)
18. (a) Design suitable cultural practices for sesame cultivation and recommend an appropriate fertilizer schedule to enhance the growth and yield of oilseed crops. CO3-App (16)
Or
(b) Design a cropping system combining red gram with cereals or oil seeds to maximize land utilization and income. CO3-App (16)

19. (a) Compare different sugarcane planting methods and recommend the most efficient one for maximizing yield in your region. Also, discuss the industrial applications of sugarcane by-products. **CO1 -U (16)**
- Or
- (b) Importance of cotton and write the process cultivation of cotton? **CO1 -U (16)**
20. (a) A farmer is facing severe fruit and shoot borer problem in brinjal. Suggest suitable cultural and chemical control measures to manage the pest effectively. **CO2-App (16)**
- Or
- (b) A farmer in a dry region wants to grow tomato during summer. Suggest suitable land preparation, irrigation, and pest management practices to get better yield. **CO2-App (16)**

