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B.E / B.Tech (Full Time) DEGREE END SEMESTER EXAMINATIONS, APRIL / MAY 2014

AGRICULTURAL AND IRRIGATION ENGINEERING
Semester IV

AI8403 – PRINCIPLES AND PRACTICES OF CROP PRODUCTION

(Regulation 2012)

Time: 3 Hours

Answer ALL Questions

Max. Marks 100

PART-A (10 x 2 = 20 Marks)

1. What is mulching?
2. What are the factors determining the seed rate of a crop?
3. In a sorghum field if three ear head bugs/ear head is observed, what is its indication?
4. Why castor is being planted along the border of black gram field?
5. How do you protect the crops during moisture stress?
6. Why light traps are being placed in groundnut field? Calculate the number of light traps required for 10 acres if one hectare requires 5 traps
7. How seed setting is being improved in sunflower crop?
8. Write the management practice to be adopted to control little leaf of brinjal
9. Write any two jasmine varieties. What is the method of propagation adopted?
10. What is greenhouse farming?

Part – B (5 x 16 = 80 marks)

11. Write elaborate notes on the cultivation practices adopted for rice
12. a) i) How do you control the Black headed caterpillar attack in coconut plantation? (8)

ii) List the reasons for button shedding in coconut. Explain how it is being managed? (8)

(OR)

- b) i) A farmer is planning to cultivate sunflower for 2.5ha area under irrigated condition. From the given data calculate the plant population and quantity of seed required (8)

Spacing	45cm x 30 cm
Germination %	70
100 seed mass	5g
Required plant population	2,00000 plants

- ii) Write notes on multiblooming technology, multistoried cropping, halogenation in rainfed sorghum seeds and IPM package for tomato (8)

13. a) Explain in detail the cultivation practices adopted for sugarcane

(OR)

- b) Explain in detail the various causes for unfruitfulness in fruit trees and the remedial measures to be followed

14. a) i) How canopy management and off season crop induction is being practiced for mango plantation? (8)
ii) Write elaborate notes on protected cultivation for vegetables (8)

(OR)

- b) Write notes on after cultivation practices for banana

15. a) i) A farmer has 10 cents area and he practiced integrated farming. The crops chosen were lablab, blackgram, sorghum and castor. Calculate the net profit if cultivation is done in 5hactare area. (10)

Cultivation practices	Expenses (₹)	Yield (kg)
Land preparation	110	
FYM (0.5 ton)	200	
Channels and furrows	50	
Lablab seeds(1 kg)	40	
Sorghum seeds 0.5kg)	25	
Castor seeds(0.5kg)	25	
Black gram seeds (1 kg)	40	
Sowing charges	25	
Irrigation	300	
Weeding	50	

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Harvesting charges for sorghum, castor and blackgram	75	Black gram - 20kg Castor - 5kg Lab lab 475 kg during first harvest and 250 kg during second harvest. The seed yield is 30 kg
Harvesting charges for lab-lab	650	
Transportation	150	
The selling price of black gram, castor, sorghum, lab-lab grains, lab-lab seed is ₹30/kg, ₹25/kg, ₹ 60/kg, ₹25/kg, ₹40/kg		

ii) What is floriculture? Write elaborate notes on cultivation practices adopted for cut rose cultivation (6)

(OR)

- b) During Rabi season maize has been cultivated for grain purpose in a farmer's field having loamy soil. During the knee high stage severe water stress occurred and later the crop was severely affected by shoot fly infestation. From the given data calculate the Cost Benefit Analysis (CBR) and write your opinion about the net profit. Write the management strategies to be adopted for water stress and shoot fly infestation in maize
Cropped area: One hectare, yield obtained: 500 kg@ ₹30/kg

Sl. No.	Cultivation practices	Cost(₹)
1.	Nursery	2000
2.	Transplantation	1500
3.	Main field preparation	4500
4.	Manures and Fertilizers	4200
5.	Irrigation	3400
6.	Weeding	1000
7.	Crop protection	2000
8.	Harvesting and threshing	1500