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B.E./B.TECH (FULL TIME) ARREAR EXAMINATIONS, APRIL/MAY 2011

AGRICULTURAL AND IRRIGATION ENGINEERING BRANCH
THIRD SEMESTER

AI 9203 – PRINCIPLES OF CROP PRODUCTION

(REGULATION 2008)

Time: 3 hours

Max Mark: 100

Answer All Questions

Part A (10 x2 = 20 Marks)

1. Define crop.
2. Name the botanical families to which most food crops belong.
3. What are the four components of a soil?
4. What is soil texture?
5. What is a weed?
6. List the purposes for which seeds are treated before sowing.
7. What is the plant material used for planting sugarcane crop?
8. Why are short duration legumes most preferred as intercrops?
9. Compare the terms 'olericulture', 'pomology' and 'floriculture'.
10. What are plant growth regulators?

PART B (5 X 16 = 80 MARKS)

11. a. Write an essay on 'soil moisture characteristic curve', 'soil moisture constants' and the 'physical and biological classes of soil water'. 16
12. a (i) Describe the component potentials of total soil water potential. 8
a (ii) How is soil water measured directly and indirectly ? 8
- OR
- b (i) Compare soil productivity and soil fertility? Describe any one of them in detail. 8
b (ii) Explain the process of liquid water flow under saturated and unsaturated conditions in soils. 8
13. a (i) Write a note on irrigation water requirement in crops. 8
a (ii) Describe in detail Integrated Pest Management in crops. 8

OR

- b (i) List the benefits of tillage in crop production and describe in detail the concepts of Conventional Tillage, Minimum Tillage and Zero Tillage. 16

14. a (i) What are the disadvantages of applying more than optimum levels of fertilizer to crops? 5
a (ii) Explain how the nitrogen fertilization for cereal and grain legume crops differs. 5
a (iii) Compare multiple cropping, intercropping and ratoon cropping with examples of crops with which these are practiced. 6

OR

- b (i) Describe the production practices for traditional low land cultivation of rice crop and in what way growing rice under System of Rice Intensification (SRI) method is different. 16
15. a (i) Write briefly the most important production practices for any one vegetable or fruit crop of your choice. 8
a (ii) Write a detailed note on fertigation or post-harvest handling of horticultural produce. 8

OR

- b (i) Write a note on green house cultivation of crops. 8
b (ii) Describe the classification of vegetable crops based on methods of culture. 8