

Question Paper Code : 6075

M.Sc. (Ag.) (Semester-I) Examination, 2017

SOIL SCIENCE & AGRICULTURE CHEMISTRY

[Second Paper]

(Soil Fertility and Plant Nutrition)

Time : Three Hours]

[Maximum Marks : 50

Note : Answer **five** questions in **all** including Question No. 1 which is **compulsory**. Beside that, attempt **one** question from each unit.

1. Briefly describe the following : [2x10=20]
- (a) Essential elements
 - (b) Criteria for essentiality
 - (c) Hydroponics
 - (d) Whiptail of cauliflower
 - (e) Relative water content
 - (f) Carry over effects

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(1)

[P.T.O.]

- (g) Secondary nutrients
- (h) Role of phosphorus in plants
- (i) Soil evaluation testing
- (j) Balanced use of nutrients

UNIT-I

2. Discuss the concept of soil fertility and the factors affecting it. [8]
3. Write short notes on the following : [8]
 - (a) Beneficial elements
 - (b) Trace elements

UNIT-II

4. What are micronutrients ? Describe their importance in plant growth. [8]
5. Write short notes on the following : [8]
 - (a) Deficiency symptoms of magnesium
 - (b) Nutrient deficiency amelioration by foliar spray

UNIT-III

6. Define Integrated Plant Nutrient Management (IPNM) in plants. Describe its importance. [7]
7. Write short notes on the following :
 - (a) Nutrient water interactions [4]
 - (b) Role of potassium in stomatal opening [3]

UNIT-IV

8. What do you mean by soil fertility ? Discuss the soil fertility evaluation and its relation with crop yield. [7]
9. Write the short notes on the following :
 - (a) Facilitated diffusion [4]
 - (b) Nutrient release [3]

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