



## MODEL PAPER

End Semester (2<sup>nd</sup> Semester) Examination, June, 2022

**Program: M.Sc. (Ag.) Agronomy**

**Subject: Modern Concepts in Crop Production**

**Subject Code: 13A.AGRON.501**

### Section-I

#### UNIT-1

1. Briefly describe CGR. (5M)
2. Briefly describe RGR. (5M)
3. Define NAR. Write short note on it. (5M)
4. Compare CGR with NAR. (5M)
5. Compare CGR with RGR. (5m)

#### UNIT-2

1. Discuss on Mitscherlich's Equation. (5M)
2. Define Inverse yield nitrogen law. Write short note on it. (5M)
3. Discuss Bray's Nutrient Mobility Concept. (5M)

#### UNIT-3

1. Define lodging. describe effect of lodging on cereals yield and quality. (5M)
2. Describe how clipping effective for management of lodging. Discuss ill effect of clipping on crop. (5M)
3. Describe factor of optimum plant population. (5M)
4. Briefly discuss about different planting pattern of crop. (5 M)
5. Define ideotype. Discuss on ideotype of wheat.

#### **UNIT-4**

1. Discuss about the principles of sustainability management system. (5M)
2. Describe the basic principles of integrated crop management. (5M)
3. Compare infiltration with percolation. (5M)
4. Define available water and field capacity. (5M)
5. Describe soil-plant relationship. (5M)

#### **UNIT-5**

1. Define IFS. Write a short note on it. (5M)
2. Define organic farming. Write short note on it. (5M)
3. Briefly discuss ZBNF. (5M)
4. Define INM. Enlist the component of INM. (5M)
5. Define precision agriculture. Enlist the component of precision farming. (5M)

### **Section-II**

#### **UNIT- 1**

1. Briefly discuss the growth analysis under different parameter (CGR, RGR, NAR, LAI). (15M)
2. Explain the agro-ecological zones of India. (15M)
3. Analyse problems or constraints of different agro-ecological zones. (10 M)
4. Explain agro-ecological zone by considering only agricultural scenario. (10 M)

#### **UNIT- 2**

1. Explain quantitative agro-biological principles and inverse yield nitrogen law. (10M)
2. Describe Mitscherlich yield equation and its interpretation. (10M).
3. Describe Baule unit and explain its applicability. (10 M)

#### **UNIT- 3**

1. Describe briefly lodging with its effect on yield and quality of crop. (15 M)
2. Briefly discuss the factor of optimum plant population. (10 M)
3. Briefly discuss ideotype. Briefly discuss ideotype of wheat, maize, gram, arhar. (15M)
4. Briefly discuss new plant type with its important features. (15 M)

#### **UNIT- 4**

1. Briefly discuss soil-plant relationship. (10M)
2. Briefly discuss soil moisture tension. Discuss how water moves in the soil. (15M)
3. Define soil water. How water held in the soil. Classify soil water based on the function of water in soil. (15M)

#### **UNIT-5**

1. Briefly describe Integrated farming system. Prepare a model for IFS. (15 M)
2. Briefly describe organic farming. Explain how organic farming restoring nutrient status. (10 M)
3. Briefly describe conservation agriculture practices. Write advantages and disadvantages of conservation agriculture. (15 M)
4. Briefly describe precision farming. Explain why it's needed. Write about basic component of precision farming. (15 M)
5. Briefly describe resource conservation equipment & technology. Briefly describe types of tillage (15 M)

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**Disclaimer: This is a model paper. The questions in end term examination may differ from the Model paper. The Model paper is meant for practice only.**