



PG

M.SC. SEMESTER-I EXAMINATION, 2023
(AGRICULTURE) IN AGRONOMY

PAPER: AGRON 501

(MODERN CONCEPTS OF CROP PRODUCTION)

Full Marks: 50

Time: 2 Hours

The figures in the right-hand margin indicate full marks.
Candidates are required to give their answers in their own words as far as practicable.

GROUP-A

1. Answer any **FIVE** questions from the following: **2 X 5 = 10**

- What is crop lodging?
- Define growth and development.
- Explain CGR & NAR.
- What do you understand by balance nutrition?
- How plant population influence the crop production?
- Write the difference between dry farming and rainfed farming.
- Write the differentiate between conventional tillage and conservation tillage.
- What do you understand by LAI?

GROUP-B

2. Answer any **FOUR** questions from the following: **5 X 4 = 20**

- Write the advantages of the modern techniques of seed treatment in crop production.
- How many agro-ecological regions are there in India? Mention the cropping system followed those regions.
- What are the steps to manage crops to avoid lodging? Discuss five morphological characters in relation to lodging. **2+3**
- Explain zero tillage. Write about the merits and demerits of zero tillage. **1+4**
- Explain the mechanisms involved in mitigating drought stresses in plants.
- Define organic farming. What are the principles of organic farming? **2+3**
- Define IFS. Suggest an IFS model and its each component applicable for rainfed agriculture. **1+4**
- Importance of ideotype with reference to yield of crop in dryland region.

GROUP-C

3. Answer any **TWO** questions from the following: **10 X 2 = 20**

- Define harvest index. Explain in brief Liebig Law, Blackman's Law, Mitcherlich's Law, Inverse Yield-N Law. **2+2+2+2+2**

(P.T.O.)



(2)

- b. Draw and explain Sigmoid Growth Curve. What is plant population and crop geometry? What is the importance of plant population? Explain some factors affecting plant population. 3+3+2+2
- c. Name each Agro-climatic zones in India and classify with the length of growing periods of AER. 4+6
- d. Distinguish zero tillage and minimum tillage system. Mention the advantages of modern tillage technique over the conventional tillage in respect of utilization of burning of residue. 8+2
