*Total No. of Questions: 6* *Total No. of Printed Pages:2*

**Enrollment No.....**

# Faculty of Agriculture
## End Sem Examination Dec-2023
## AG3CO38 Crop Improvement -I (Kharif Crops)

Programme: B.Sc. (Hons.) Branch/Specialisation: Agriculture

**Duration: 3 Hrs.** **Maximum Marks: 50**

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d. Assume suitable data if necessary. Notations and symbols have their usual meaning.

Q.1 i. Concept of center of origin is given by- **1**
(a) Vavilov (b) Mendel (c) Griffith (d) Riley

ii. Center of origin of chickpea is- **1**
(a) China (b) India (c) Russia (d) America

iii. Qualitative traits are governed by- **1**
(a) Few genes (b) Many genes
(c) Environmental factors (d) All of these

iv. Scientific name of lentil is- **1**
(a) Lens ervioda (b) Lens orientalis
(c) Lens nigriceus (d) Lens culinaris

v. Seed yield of hybrid is always superior to- **1**
(a) Variety (b) Inbred (c) Pureline (d) All of these

vi. Soil salinity is- **1**
(a) Abiotic stress (b) Biotic stress
(c) Both (a) & (b) (d) None of these

vii. A line is a- **1**
(a) Male fertile (b) Male sterile
(c) Composite (d) Hybrid

viii. B line is a- **1**
(a) Male fertile (b) Male sterile
(c) Composite (d) Hybrid

ix. Ideotype is concerned with- **1**
(a) Plant geometry (b) Hybrid
(c) Plant height (d) All of these





x. Climate is related to- **1**
(a) Temperature (b) Atmospheric pressure
(c) Relative humidity (d) All of these

Q.2 i. What is primary centre of origin? **2**
ii. Describe the main eight centre of origin along with examples. **6**
OR iii. Explain secondary centres of diversity and micro-centre. **6**

Q.3 Attempt any two:
i. Write gene banks and plant genetic resources. **4**
ii. Explain genetic of qualitative and quantitative traits in brief. **4**
iii. Describe in brief the mechanism of disease resistance. **4**

Q.4 i. Write major breeding objectives. **2**
ii. Describe in brief the steps for the development of hybrid and varieties. **6**
OR iii. Explain DUS, biotic and abiotic steps in brief. **6**

Q.5 i. What do you understand by intra-specific and inter-specific hybrids? **2**
ii. Explain A line, B line, R line and outline the hybrid seed production. **6**
OR iii. Describe hybrid production technology in maize. **6**

Q.6 Attempt any two:
i. Briefly explain the ideotypes. **4**
ii. Explain suitable varieties for climate resilient crops. **4**
iii. Describe ideotypes characteristics of soybean. **4**

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