Reg. No. \_\_\_\_\_\_\_\_\_\_\_\_\_

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**End Semester Examination – Nov / Dec – 2019**

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| **Code :** | **18AG2019** | **Duration :** | **3hrs** |
| **Sub. Name :** | **CROP IMPROVEMENT – I (*Kharif crops)*** | **Max. Marks :** | **100** |

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| **Q. No.** | **Questions** | **Course Outcome** | **Marks** |
| **PART – A (20 X 1 = 20 MARKS)** | | | |
| 1. | What is nobilization in sugarcane? | CO1 | 1 |
| 2. | What is emasculation? | CO4 | 1 |
| 3. | What is meant by often cross pollination? Give example. | CO2 | 1 |
| 4. | Define the anti nutritional factor available in Pearl millet. | CO3 | 1 |
| 5. | What is protogyny? Give suitable examples. | CO2 | 1 |
| 6. | What is *ex situ* conservation? | CO1 | 1 |
| 7. | Name the anti nutritional factor available in fodder sorghum. | CO3 | 1 |
| 8. | What is heritability? | CO3 | 1 |
| 9. | What is gene pyramiding? | CO2 | 1 |
| 10. | What is synchronization and secondary pollination? | CO4 | 1 |
| 11. | What is protandry? Give suitable examples. | CO2 | 1 |
| 12. | What is pleiotrophy? | CO3 | 1 |
| 13. | What is gene erosion? | CO1 | 1 |
| 14. | What is *in situ* conservation? | CO1 | 1 |
| 15. | What is male sterility? | CO4 | 1 |
| 16. | Expand NBPGR and CIMMYT. | CO1 | 1 |
| 17. | What is Bt cotton? | CO2 | 1 |
| 18. | Name the wild progenitor of green gram. | CO1 | 1 |
| 19. | What is an isolation distance? Give an example for hybrid rice. | CO4 | 1 |
| 20. | What is QTL and polygene? | CO1 | 1 |

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| **PART – B (10 X 5 = 50 MARKS)**  **(Answer any 10 from the following)** | | | |
| 21. | Write the breeding methods for autogamy. | CO2 | 5 |
| 22. | Describe the factors influencing allogamy. | CO1 | 5 |
| 23. | Explain the breeding methods for cross pollinated crops. | CO2 | 5 |
| 24. | What are the factors influencing autogamy? | CO1 | 5 |
| 25. | Explain the different types of male sterility. | CO4 | 5 |
| 26. | Role of mutation breeding in crop improvement. | CO1 | 5 |
| 27. | Explain the Marker assisted selection and gene pyramiding for disease resistance in rice. | CO1 | 5 |
| 28. | Write in detail the screening methods for salinity tolerance in rice. | CO3 | 5 |
| 29. | Explain the methods of hybrid seed production in pigeon pea. | CO4 | 5 |
| 30. | What is male sterility? Write the source for male sterility in rice, pearlmillet, and sunflower. | CO4 | 5 |
| 31. | What is offtype and rouge? Explain the Isolation distance for sorghum, pearlmillet and pigeon pea. | CO3 | 5 |
| 32. | Explain the different methods of germplasm conservation. | CO1 | 5 |

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| **PART – C (2 X 15 = 30 MARKS)**  **(Answer any 2 from the following)** | | | | |
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| 33. | a. | Explain the techniques of two line hybrid seed production in rice. | CO4 | 10 |
| b. | Write brief notes on isolation distance of hybrid rice, maize, ragi and redgram. | CO4 | 5 |
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| 34. | a. | What is gene pyramiding? Give example for disease resistance on rice. | CO2 | 5 |
| b. | Explain the breeding procedure for BLB, Blast diseases resistance. | CO2 | 10 |
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| 35. | a. | Explain in detail the Ideotype breeding in Black gram. | CO3 | 5 |
| b. | What is sub-1 gene? Mention its application for abiotic stress tolerance in rice. | CO3 | 10 |