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

G:\logo and QP Template\logo 3 Feb 2018 final.tif

**End Semester Examination – Nov/Dec– 2018**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **Code :** | **18AG2001** | **Duration :** | **3hrs** |
| **Sub. Name :** | **PRINCIPLES OF PLANT BREEDING** | **Max. marks :** | **100** |

|  |  |  |  |
| --- | --- | --- | --- |
| **Q. No.** | **Questions** | **Course Outcome** | **Marks** |
|  | **PART-A(20X1=20 MARKS)** | | |
| 1. | Who proposed the “Law of homologous series of variation”? | CO1 | 1 |
| 2. | The first artificial hybrid was developed by \_\_\_\_\_\_\_\_. | CO1 | 1 |
| 3. | In a random mating population, gene and genotypic frequencies remain \_\_\_\_\_\_\_\_\_\_. | CO2 | 1 |
| 4. | In rice, \_\_\_\_\_\_\_\_\_\_gene was the source of semi dwarf types. | CO2 | 1 |
| 5. | Maize is a \_\_\_\_\_\_pollinated crop. | CO2 | 1 |
| 6. | The first hybrid cross between radish and cabbage was developed by \_\_\_\_\_\_\_\_\_\_. | CO1 | 1 |
| 7. | International Rice Research Institute is located at \_\_\_\_\_\_\_\_\_\_\_. | CO1 | 1 |
| 8. | The cross between F1  and any one of the parent is called as \_\_\_\_\_\_\_\_\_. | CO2 | 1 |
| 9. | Multiline concept was proposed by \_\_\_\_\_\_\_\_\_. | CO2 | 1 |
| 10. | \_\_\_\_\_\_ proposed dominance hypothesis of heterosis. | CO2 | 1 |
| 11. | \_\_\_\_\_\_\_is the wonder rice. | CO1 | 1 |
| 12. | The source of dwarfing gene in wheat is \_\_\_\_\_\_\_\_. | CO1 | 1 |
| 13. | Expand NBPGR. | CO2 | 1 |
| 14. | The concept of pure line theory was proposed by \_\_\_\_\_\_\_\_. | CO2 | 1 |
| 15. | The superiority of F1 hybrid over both the parents is called as \_\_\_\_\_\_\_\_. | CO2 | 1 |
| 16. | Nobilisation in sugarcane was done by \_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_. | CO1 | 1 |
| 17. | Madurai malli is an example for \_\_\_\_\_\_\_\_\_\_\_. | CO3 | 1 |
| 18. | The condition in which the flower is either staminate or pistillate is called as \_\_\_\_\_\_\_\_\_. | CO1 | 1 |
| 19. | \_\_\_\_\_\_\_\_\_ Act in 2001 was given to protect the farmers and plant breeders to encourage cultivation of new varieties of plants. | CO3 | 1 |
| 20. | The sum total of all alleles of various genes present in a crop species and its wild relatives is called as \_\_\_\_\_\_\_\_\_. | CO1 | 1 |

|  |  |  |  |
| --- | --- | --- | --- |
|  | **PART B(10 X 5= 50 MARKS)**  **(Answer any 10 from the following)** | | |
| 21. | Define plant breeding. What are the objectives of plant breeding? | CO1 | 5 |
| 22. | Write a note on a. Intellectual Property Rights.  b. Plant Breeders and farmers Right. | CO3 | 5 |
| 23. | What is apomixis? Explain the different types of apomixis. | CO1 | 5 |
| 24. | Write a note on a. Plant Introduction.  b. DNA Markers. | CO1  CO2 | 5 |
| 25. | a. Differentiate Pure line selection and Mass selection.  b. Write a note on Participatory Plant Breeding. | CO2  CO3 | 5 |
| 26. | Define a. Heritability b. Genetic Advance. | CO1 | 5 |
| 27. | Explain the mechanisms involved in drought resistance. | CO2 | 5 |
| 28. | Explain the procedure for backcross method (transfer of dominant gene) with suitable diagram. | CO2 | 5 |
| 29. | Write a note on a. Horizontal Resistance and Vertical Resistance b. Inbreeding Depression. | CO2 | 5 |
| 30. | Write a note on a. Ear to row method b. Pedigree record | CO2 | 5 |
| 31. | a. What are composites and synthetics?  b. Differentiate composites and synthetics. | CO2 | 5 |
| 32. | What is Marker Assisted Selection? Explain the advantaged of MAS. | CO2 | 5 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PART C(2 X 15= 30 MARKS)**  **(Answer any 2 from the following)** | | | |
| 33. | a. | What is self incompatabilty? Explain the different types of Self incompatabilty mechanisms. | CO1 | 8 |
| b. | What is Male Sterility? Describe different systems of male sterility. | CO1 | 7 |
| 34. | a. | What is wide hybridization? What are the barriers in wide hybridization and how to overcome it? | CO2 | 8 |
| b. | What is polyploidy? What are the advantages of polyploidy in breeding? | CO2 | 7 |
| 35. | a. | What is centre of origin. List the eight centres of origin proposed by vavilov along with the crops originated in the centre. | CO1 | 7 |
| b. | Write a note on a. Clonal selection and hybridization.  b.Mutation breeding and its uses in plant breeding. | CO2 | 8 |