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

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**End Semester Examination – Apr/May – 2018**

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| **Code :** | **17AG1007** | **Duration :** | **3hrs** |
| **Sub. Name :** | **PRINCIPLES OF GENETICS AND GENOMICS** | **Max. marks :** | **100** |

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| **Q. No.** | | **Questions** | | | **Course Outcome** | | **Marks** | |
|  | | | **PART-A(20X1=20 MARKS)** | | | | | |
| 1. | | The reduction cell cycle is \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | CO1 | | 1 | |
| 2. | | Example of cytoplasmic inheritance is \_\_\_\_\_\_\_\_\_\_\_ | | | CO1 | | 1 | |
| 3. | | 2n -1 - 1 is called as \_\_\_\_\_\_\_\_\_\_\_ | | | CO1 | | 1 | |
| 4. | | A single gene controlling many characters is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | CO1 | | 1 | |
| 5. | | Multiple factor hypothesis was proposed by \_\_\_\_\_\_\_\_\_\_ | | | CO1 | | 1 | |
| 6. | | Substitution of purine by a pyramidine is \_\_\_\_\_\_\_\_\_\_\_\_ | | | CO1 | | 1 | |
| 7. | | The chromosomal number of experimental material used by G.Mendel is \_\_\_\_\_\_\_\_\_\_\_ | | | CO1 | | 1 | |
| 8. | | A chromosome have many centromeres is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | CO1 | | 1 | |
| 9. | | The chromosomes have identical arms are called as \_\_\_\_\_\_\_\_\_\_ | | | CO1 | | 1 | |
| 10. | | The unit of measurement of linkage is \_\_\_\_\_\_\_\_\_\_ | | | CO1 | | 1 | |
| 11. | | The power house of cell is \_\_\_\_\_\_\_\_\_\_\_ | | | CO1 | | 1 | |
| 12. | | Pythagoras proposed \_\_\_\_\_\_\_\_\_\_\_\_\_ theory | | | CO1 | | 1 | |
| 13. | | Chromosomal status of gamete is \_\_\_\_\_\_\_\_\_\_\_ | | | CO1 | | 1 | |
| 14. | | Longitudinal section of chromosome is called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | CO1 | | 1 | |
| 15. | | Example of pleiotropy is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | CO2 | | 1 | |
| 16. | | The test cross ratio of dihybrid is \_\_\_\_\_\_\_\_\_\_ | | | CO2 | | 1 | |
| 17. | | The first chromosome map was made by \_\_\_\_\_\_\_\_\_\_ | | | CO2 | | 1 | |
| 18. | | Common chromosomal developing chemical is \_\_\_\_\_\_\_\_\_\_ | | | CO2 | | 1 | |
| 19. | | Plants contain seven sets of chromosomes are called \_\_\_\_\_\_\_\_\_\_ | | | CO2 | | 1 | |
| 20. | | Successful example of triploidy is \_\_\_\_\_\_\_\_\_\_ | | | CO2 | | 1 | |
|  | | | | **PART B(10 X 5= 50 MARKS)**  **(Answer any ten from the following)** | | | | |
| 21. | Semi conservative repliction and DNA structure | | | | | CO3 | | 5 |
| 22. | Chemical structure and types of RNA | | | | | CO2 | | 5 |
| 23. | Ribosome and its role in protein synthesis | | | | | CO1 | | 5 |
| 24. | Explain crossing over and factor affecting it | | | | | CO1 | | 5 |
| 25. | Translocation *vs*Translation | | | | | CO1 | | 5 |
| 26. | Meiosis I *vs*Meiosis II | | | | | CO1 | | 5 |
| 27. | How to construct a linkage map and explain factors influencing mapping | | | | | CO2 | | 5 |
| 28. | Explain the origin of ploidy and how to induce polyploidy in plants | | | | | CO2 | | 5 |
| 29. | Define Aneuploids. Explain different kinds of aneuploids. | | | | | CO2 | | 5 |
| 30. | Explain gene mutation | | | | | CO2 | | 5 |
| 31. | Write a note on synthesized polyplids. | | | | | CO2 | | 5 |
| 32. | Explain cytoplasimic inheritance in plants | | | | | CO2 | | 5 |

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|  | | **PART C(2 X 15= 30 MARKS)**  **(Answer any two from the following)** | | | |
| 33. | a. | | Define linkage and crossing over. Explain about three point test cross | CO1 | 7 |
| b. | | Explain about Multiple alleles | CO3 | 8 |
| 34. | a. | | Write an account of Medal’s work and theories linked to it | CO2 | 8 |
| b. | | What is the modern concept of gene? Explain in detail | CO2 | 7 |
| 35. | a. | | What are structural aberrations? Explain about its genetic and cytological consequences | CO2 | 8 |
| b. | | Explain about lacoperon | CO3 | 7 |