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**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

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

**End Semester Examination – Nov/Dec - 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **12BT223/12BI250** | **Duration :** | **3 hrs** |
| **Sub. Name :** | **PLANT TISSUE CULTURE/ PLANT BIOTECHNOLOGY AND TISSUE CULTURE** | **Max. marks :** | **100** |

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| **Q. No.** | **Questions** | **Marks** |
| **PART-A(10X1=10 MARKS)** | | |
| 1. | Name the scientists who developed MS media. | (1) |
| 2. | The part of the plant used for tissue culture is known as \_\_\_\_\_\_\_\_\_\_ | (1) |
| 3. | What is protoplast fusion? | (1) |
| 4. | Name any one transgenic plant. | (1) |
| 5. | Name any one direct gene transfer technique in plants. | (1) |
| 6. | What is T-DNA? | (1) |
| 7. | Give any two examples of Insecticide resistance plants. | (1) |
| 8. | Give one example for antifungal proteins. | (1) |
| 9. | Give one examples of edible vaccines. | (1) |
| 10. | Define cell suspension culture. | (1) |

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| **PART B(5 X 3= 15 MARKS)** | | |
| 11 | Write a brief note on RAPD markers with suitable examples. | (3) |
| 12 | Write short note on significance of somaclonal variation. | (3) |
| 13 | Give a brief account on Ti and Ri plasmids. | (3) |
| 14 | Give short notes on horizontal resistance in plants against diseases. | (3) |
| 15 | Comment on therapeutic proteins with suitable examples. | (3) |

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| **PART C(5 X 15= 75 MARKS)** | | |
| 16. | Discuss in detail about the chloroplast genome structure with example. | (15) |
| (OR) | | |
| 17. | Give a brief account of marker-aided breeding with special reference to RFLP maps. | (15) |
| 18. | Explain the steps involved in production of Cybrids and Artificial seeds. | (15) |
| (OR) | | |
| 19. | Write in detail the steps involved in somatic embryogenesis and its applications. | (15) |
| 20. | Give a detailed account on role of reporter genes and selectable markers in gene transfer. | (15) |
| (OR) | | |
| 21. | Explain in detail about *Agrobacterium* mediated gene transfer in plants with a neat diagram. | (15) |
| 22. | Discuss in detail about insect resistant transgenic plants with suitable examples. | (15) |
| (OR) | | |
| 23. | Give an account on techniques used in plant breeding for diseases resistances. | (15) |
| 24. | What are edible vaccines? Write in detail about production of edible vaccines in plants. | (15) |
| (OR) | | |
| 25. | Explain in detail the techniques used for *in-vitro* production of secondary metabolites. | (15) |

ALL THE BEST