

School of Biological and Life sciences**Bachelor of Science in General Zoology Botany Chemistry
Semester End Examination - Aug 2024****Duration : 180 Minutes
Max Marks : 100****Sem V - C2UE504T - Plant Biotechnology***General Instructions**Answer to the specific question asked**Draw neat, labelled diagrams wherever necessary**Approved data hand books are allowed subject to verification by the Invigilator*

- 1) Explain the role of hormones in plant tissue culture media. K1(2)
- 2) How do probes, like oligonucleotide and PCR-generated probes, aid in gene library screening? K2(4)
- 3) Briefly explain the process of cryopreservation and its advantages. K2(6)
- 4) Explain the biological role of restriction endonucleases and their significance in genetic engineering. K3(9)
- 5) Discuss the potential risks and benefits of using genetically modified crops. K3(9)
- 6) Explain the importance of gene libraries in genetic research and biotechnology. K5(10)
- 7) Elaborate on the applications of transgenic crops in agriculture and biotechnology. K4(12)
- 8) Discuss the role of secondary metabolite production in plant tissue culture. Provide detailed examples of secondary metabolites, their functions, and their commercial applications. K5(15)
- 9) Describe the different methods of gene transfer used in genetic engineering, including their principles and applications. K5(15)
- 10) Differentiate between organogenesis and embryogenesis in plant tissue culture. Explain the differences between somatic and zygotic embryogenesis. K6(18)