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**School of Biological and Life sciences**  
Bachelor of Science in General Zoology Botany Chemistry  
Semester End Examination - Nov 2023

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) What is the historical significance of plant tissue culture? K1 (2)
- 2) Explain the process of genetic selection in obtaining genes of interest from DNA libraries. K2 (4)
- 3) Discuss the concept of gene construct and its importance in genetic engineering K2 (6)
- 4) Elaborate on the significance of genetic selection in obtaining genes of interest from DNA libraries. K3 (9)
- 5) Discuss the process of colony hybridization and its role in obtaining gene sequences. K3 (9)
- 6) Explain the significance of transgenic crops in improving agricultural productivity. K5 (10)
- 7) Explain how transgenic crops can contribute to reducing the use of chemical pesticides. K4 (12)
- 8) Explain the significance of eukaryotic vectors like YAC in gene cloning. K5 (15)
- 9) Describe the techniques and strategies involved in virus elimination through tissue culture. How does tissue culture contribute to producing virus-free plants? Provide examples of economically important crops benefiting from this approach. K5 (15)
- 10) Elaborate the process of gene cloning, from obtaining recombinant DNA to bacterial transformation and selection of clones. Highlight the importance of each step in producing desired gene products. K6 (18)