**END SEMESTER EXAMINATION 2020**

**SAMPLE QUESTION PAPER**

**M.Sc. BOTANY Semester IV**

**Paper CC-10**

**Long answer type.** Each question carries 25 marks.

1. What is embryo culture? Describe the principle and application of embryo culture technique. How this technique be utilized for crop improvement?
2. What do you understand by gene library? Give a detailed description of gene library, its construction and applications.
3. What are secondary metabolites? Classify them according to their utility. Give a list of important secondary metabolites, giving in each case the name of plant species from which it is derived and discuss their significance as industrial product.
4. Define cloning vectors. Why the Ti plasmid from *A. tumefaciens* is well suited for developing as vector to transfer foreign genes into plant chromosomal DNA?
5. What is correlation? What are the methods by which it is studied? Briefly discuss level of significance.
6. Discuss the role of biotechnology in crop improvement. Suggest strategies to develop abiotic and biotic stress tolerant plants.

Short Answer Type.

1. Discuss the technique of Southern Blotting and its application.
2. What is PCR? Describe its type and application.
3. Write short note on any **one** of the following:
4. Enzymes used for DNA modification in Recombinant DNA technology
5. Flow Cytometry
6. DNA Microarray
7. Write short note on totipotency and organogenesis.
8. Discuss the importance of Patents and Trade Marks in IPR.
9. Write short note on Database used in Bioinformatics.