BACHELOR OF SCIENCE IN BIOTECHNOLOGY
SEMESTER – IV

Laboratory Course-VIII

Paper Code: BTP-406

BTP406: ***Laboratory course- VIII: Plant & Molecular Biotechnology-I***

(Max. marks 80+20=100)

1. PTC Laboratory organization of facility and equipment.
2. Aseptic manipulation– washing, capping, packing & sterilization, laminar flow operation & general precautions.
3. Preparation of stock solutions and nutrient media.
4. Processing of various explants for culture initiation.
5. Callus initiation and maintenance.
6. Regeneration of shoots and roots from callus cultures.
7. Micropropagation of economically and commercially important medicinal plants- Initiation of culture, Effect of plant growth regulators on *in vitro* response of an explant, Hardening and transplantation of *in vitro* plants.
8. Agarose gel electrophoresis
9. Estimation of amount of isolated plasmid DNA by OD
10. Estimation of amount of isolated plasmid DNA by agarose gel electrophoresis
11. PCR
12. Restriction enzyme digestion
13. Analysis of amplified product
14. Analysis of DNA by agarose gel electrophoresis
15. Protein extraction from animals cells
16. Chromotographic techniques for protein saparation
    - -gel flitration
    - -ion exchange
    - -affinity

Teachers will supply printed detailed instructions, procedure of the experiments.

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