

# University of Pune

## Ph.D. Course Work in Botany 2010-11

Each course will be of 5 Credits and equally assessed for internal and external

### PHD BO 101 : Research Methodology

1. Research Methodology-literature review, defining problem, approach and methodology, Documentation and presentation of data, analysis of interpretation of data, manuscript preparation.
2. Quantitative methods: biostatistics used for analysis of data
3. Computer application :bioinformatics, databases and their application
4. Tools and techniques: biochemical and biophysical techniques, microscopic techniques. Anatomical and Histochemistry.
5. Working and principles of various analytical instruments.
6. Pharmacognosy techniques.

### PHD BO 102 : Advances in Botany-I

1. Plant-animal and plants-microbes interaction
2. Biodiversity: genetic, species, molecular diversity and taxonomy, DNA bar coding, population genetics, conservation of biodiversity and endangered species, Evolution.
3. Climate change and carbon sequestration
4. Algal Biofuels
5. Remediation of degraded/contaminated ecosystem by plants microbes
6. Recent nomenclature of Plants

### PHD BO: 1.3 Advances in Botany-II

1. Advanced in plant science w.r.t. secondary metabolite production
2. Genetically modified plants for improved tolerance to biotic abiotic stress
3. Molecular genetics of plant development
4. Mechanism of plant hormone action
5. Signal transduction in plants

### PHD BO : 1.4 Special Course

This course will be handled by Guide/Supervisor of the student. Concerned teacher will assign topics for review and seminar other than the topic of Ph.D. student will have to submit the review the seminar write-up to HOD/Coordinator which will be assessed by expert. This will be followed by presentation and will be assessed by group of teachers.

