

Syllabus for Ph.D. Course Works in Botany (2023-24)

There will be two papers one each with 100 maximum marks

Paper-I **Research methodology, Advance Tools and Techniques, Quantitative Data Analysis and Computer fundamental Taxonomic and Ecological Data Analysis**

Paper-II **Review of Literature & Seminar**

Paper-I -Research methodology, Advance Tools and Techniques, Quantitative Data Analysis and Computer fundamental Taxonomic and Ecological Data Analysis		Maximum Marks
A	Research methodology – Essential steps in research : Identification, Selection of Objectives, Research design :- components, importance of literature collection, citation & indexing, research ethics, IPR, Research report Presentation table, figure, formatting and typing	25
B	Advance Tools & Techniques – Advanced microscopy confocal phase contrast & ^{electron} electron microscopy, Electrophoresis, HPLC, PCR, DNA & Protein sequencing, spectrophotometry.	25
C	Quantitative Data Analysis and Computer Fundamental – Standard deviation, Standard error, coefficient of variation, correlation & regression t-test, frequency distribution. Computer Application – Software of biostatistics, SPSS, COSTAT, MS WORD, MS EXCEL, MS POWER POINT	25
D	Taxonomic & Ecological Data Analysis – Morphological basis of plant Identification, Taxonomy in relation to cytology & Phytochemistry, Environmental sampling methodology, Isolation. Preservation & Identification of micro organism.	25
Paper -II -Review of Literature & Seminar		Maximum Marks
A	Review of Literature – Writing review of literature in the area of the proposed Ph.D Programme	50
	Seminar – Based on the review of Literature	

Note :-

1. There will be FOUR units (A,B,C & D) of 25 marks each. The pattern will include both objective (multiple – choice question) and objective (short answer, using 50 to 100 words) question.
2. The Candidate must be obtained 50% or more marks to qualify in the course work. The answer paper will be assessed independently by two examiners.