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Ph.D. Course Work Syllabus

BIOTECHNOLOGY

Session 2020-21

Syllabus for Ph.D. Course Work in Biotechnology (2020– 2021)

One Semester

There will be two papers; each with 100 marks maximum.

Paper – I : Research Methodology, Advanced Tools & Techniques, Quantitative Data Analyses and Computer Fundamentals

Paper – I : Review of Literature & Seminar

Paper – I : Research Methodology Advanced Tools & techniques, Quantitative Data Analyses and Computer Fundamentals		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, Experimental error and control, Research Report Presentation- table, Figure, Formatting and typing	25
B	Advanced Tools & Techniques Electrophoresis, HPLC, Microscopy, PCR, Biosensors: Types, Application of biosensor, Protein sequencing, DNA sequencing, Radioisotope Techniques	25
C	Quantitative Data Analysis Measures of variability: Standard Deviation, Standard Error, Coefficient of Variation, Correlation and Regression, Test of Significant: t-test, chi- square test, Frequency distribution: Binomial and normal distribution	25
D	Computer Fundamentals Computer Application, Application of Software, Internet and Biotechnology, Fundamental of Bioinformatics, Biological databases and Biotechnology	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. program	50
B	Seminar – Based on the review of literature	50

Note:

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