

**GOVT. DIGVIJAY AUTONOMOUS P.G. COLLEGE,
RAJNANDGAON**



**TEACHING PLAN
2022-2023**

DEPARTMENT OF BIOTECHNOLOGY

M.Sc. Biotechnology Semester II

Paper 5: Biostatistics & Computer Application in Biotechnology

Month	Topics to be achieved
January 2023	Unit I 1. Brief description and tabulation of data and its graphical representation. 2. Measures of central tendency and dispersion: mean, median, mode 3. Dispersion – Standard deviation and standard error
February 2023	Unit II 1. Simple linear regression 2. Correlation – types and measurement 3. Probability – addition and multiplication rules 4. Student ‘t’ test 5. Chi-square test 6. ANOVA
March 2023	Unit III 1. Introduction to digital computers: Organization; low – level and high – level languages; 2. Introduction to data structures and database concepts 3. Introduction to Internet and its application. 4. Computer – oriented statistical techniques: Frequency table, Computation of mean, Correlation and standard deviation.
April 2023	Unit IV 1. Introduction to Word processing, Spreadsheets and presentation software 2. Introduction to Image processing, video editing & Youtube 3. Internet platforms for the e-learning – online e-class room, online meeting & exam

M.Sc. Biotechnology Semester IV

Paper 15: Animal Biotechnology & Bio-ethics

Month	Topics to be achieved
January2023	<ol style="list-style-type: none">1. Basic principle of animal tissue culture2. Laboratory requirement3. Different types of culture medium for animal tissue culture4. Primary and established cell line5. Application of animal cell culture
February2023	<ol style="list-style-type: none">1. Basic techniques of mammalian cell culture2. Maintenance of cell culture3. Disaggregation – mechanical and enzymatic4. Stem cells – types, culture and its applications
March2023	<ol style="list-style-type: none">1. Cell culture based vaccines – human and veterinary2. Apoptosis.3. Transgenic animals – mechanism of production and applications4. Tissue engineering and its applications
April2023	<ol style="list-style-type: none">1. Ethical issues in biotechnology – Gene manipulation, experiments in animals and humans2. Animal rights, protection of biodiversity3. Biopiracy

B.Sc. Biotechnology Semester II

DSE Cell Biology

Month	Topics to be achieved
February 2023	Cell: Introduction and classification of organisms by cell structure.
March 2023	Compartmentalization of eukaryotic cells.
April 2023	Chemical components of biological membranes organization
May 2023	Fluid Mosaic Model and transport across membrane.