

# CURRENT ACADEMIC CURRICULUM OF THE COURSES OFFERED

## 1. Syllabus for three-year, B.Sc DEGREE COURSE (Hons) in Biotechnology

**DURATION: Six Semesters (Three Years)**

**BSc : Biotechnology (Hons) Syllabus**

### **FIRST SEMESTER**

**Paper (Theoretical) :**

Paper Code	Name of the Paper	Marks	Credit hrs	Classes / Semester
MSA-101	Macromolecular Structure & Analysis	100	3+1	42
BPI-102	Biophysics & Instrumentation	100	3+1	42
CSD-103	Cell Structure & Dynamics	100	3+1	42
BMT-104	Biomathematics - I	100	3+1	42
CH-101	Chemistry (Pass)	100	3+1	42
CA-101	Introduction to Computer (Pass)	100	3+1	42

**Paper (Practical) :**

BMI-192	Basic Microscopy & Instrumentation	100	2	40
BCH-191	Biochemistry	100	2	40
CH-191	Chemistry (Pass)	100	2	40
CA-191	Introduction to Computer (Pass)	100	2	40

### **SECOND SEMESTER**

**Paper (Theoretical) :**

Paper Code	Name of the Paper	Marks	Credit hrs	Classes / Semester
OMB-201	Organic Mechanisms in Biology	100	3+1	42
PTG-202	Principles of Transmission Genetics	100	3+1	42
POM-203	Principles of Microbiology	100	3+1	42
BMT -204	Biomathematics - II	100	3+1	42
CH-201	Chemistry (Pass)	100	3+1	42

Paper Code	Name of the Paper	Marks	Credit hrs	Classes / Semester
CA-201	Introduction to C-Programming & Digital Logic(Pass)	100	3+1	42

**Paper (Practical) :**

CGT-292	Cyto-genetic Techniques	100	2	40
MIC-293	Microbiology	100	2	40
CH-291	Chemistry (Pass)	100	2	40
CA-291	Introduction to C-Programming & Digital Logic (Pass)	100	2	40

**THIRD SEMESTER**

**Paper (Theoretical) :**

Paper Code	Name of the Paper	Marks	Credit hrs	Classes / Semester
MCG-301	Microbial Genetics	100	3+1	42
POI-302	Principles of Immunology	100	3+1	42
PAT-303	Plant and Animal Tissue Culture	100	3+1	42
PBT-304	Plant Biotechnology	100	3+1	42
CH-301	Chemistry (Pass)	100	3+1	42
CA-301	Introduction to Data Structure & Computer Organization (Pass)	100	3+1	42

**Paper (Practical) :**

IMN-392	Immunology	100	2	40
TCT-393	Tissue Culture Techniques	100	2	40
CH-391	Chemistry (Pass)	100	2	40
CA-391	Introduction to Data Structure & Computer Organization (Pass)	100	2	40

**FOURTH SEMESTER**

**Paper (Theoretical) :**

Paper Code	Name of the Paper	Marks	Credit hrs	Classes / Semester
MOG-401	Molecular Genetics	100	3+1	42
CBB-402	Computational Biology & Bio-informatics	100	3+1	42
BDT-403	Biodiversity & Taxonomy	100	3+1	42
ABT -404	Animal Biotechnology	100	3+1	42
CH-401	Chemistry (Pass)	100	3+1	42

CA-401	Introduction to DBMS, Computer Network & Numerical Analysis (Pass)	100	3+1	42
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**Paper (Practical) :**

MBT-491	Molecular Biology Techniques	100	2	40
BIN-492	Bio-informatics	100	2	40
CH-491	Chemistry (Pass)	100	2	40
CA-491	Introduction to DBMS, Computer Network & Numerical Analysis (Pass)	100	2	40

**FIFTH SEMESTER**

**Paper (Theoretical) :**

Paper Code	Name of the Paper	Marks	Credit hrs	Classes / Semester
DPB-501	DNA Typing, Proteomics & Beyond	100	3+1	42
RDT-502	Recombinant DNA Technology	100	3+1	42
EVB-503	Environmental Biotechnology	100	3+1	42
IBT -504	Industrial Biotechnology	100	3+1	42

**Paper (Practical) :**

GET-591	Genetic Engineering Techniques	100	2	40
BFT-592	Basic Fermentation Techniques	100	2	40

**SIXTH SEMESTER**

**Paper (Theoretical) :**

Paper Code	Name of the Paper	Marks	Credit hrs	Classes / Semester
MHG-601	Model Organisms in Human Genome Project	100	3+1	42
EME-602	Elements of Management & introduction to Entrepreneurship	100	3+1	42
MBT-603	Medical Biotechnology	100	3+1	42
BTL-604	Biotechnology – Social, Legal & Ethical Issues	100	3+1	42

**Paper (Practical) :**

PRO-691	Project on Biodiversity	100	2	40
DSS-692	Dissertation on Biotechnology	100	2	40

## 2. Syllabus for three-year, B.Sc DEGREE COURSE (Hons) in MICROBIOLOGY

**DURATION: Six Semesters (Three Years)**

### BSc : Microbiology (Hons) Syllabus

#### FIRST SEMESTER

##### Paper (Theoretical) :

Paper Code	Name of the Paper	Marks	Credit hrs	Classes / Semester
MSA-101	Macromolecular Structure & Analysis	100	3+1	42
BPI-102	Biophysics & Instrumentation	100	3+1	42
CSD-103	Cell Structure & Dynamics	100	3+1	42
BMT-104	Biomathematics - I	100	3+1	42
CH-101	Chemistry (Pass)	100	3+1	42
CA-101	Introduction to Computer (Pass)	100	3+1	42

##### Paper (Practical) :

BMI-192	Basic Microscopy & Instrumentation	100	2	40
BCH-191	Biochemistry	100	2	40
CH-191	Chemistry (Pass)	100	2	40
CA-191	Introduction to Computer (Pass)	100	2	40

#### SECOND SEMESTER

##### Paper (Theoretical) :

Paper Code	Name of the Paper	Marks	Credit hrs	Classes / Semester
OMB-201	Organic Mechanisms in Biology	100	3+1	42
PTG-202	Principles of Transmission Genetics	100	3+1	42
POM-203	Principles of Microbiology	100	3+1	42
MGR-204	Microbial Growth & Reproduction	100	3+1	42
CH-201	Chemistry (Pass)	100	3+1	42

CA-201 Introduction to C-Programming & Digital Logic

(Pass) 100 3+1 42

##### Paper (Practical) :

CGT-292	Cyto-genetic Techniques	100	2	40
MIC-293	Microbiology	100	2	40

Paper Code	Name of the Paper	Marks	Credit hrs	Classes / Semester
CH-291	Chemistry (Pass)	100	2	40
CA-291	Introduction to C-Programming & Digital Logic (Pass)	100	2	40

### THIRD SEMESTER

#### Paper (Theoretical) :

Paper Code	Name of the Paper	Marks	Credit hrs	Classes / Semester
MCG-301	Microbial Genetics	100	3+1	42
POI-302	Principles of Immunology	100	3+1	42
PAT-303	Plant and Animal Tissue Culture	100	3+1	42
MDC- 304	Microbial diversity & classification	100	3+1	42
CH-301	Chemistry (Pass)	100	3+1	42
CA-301	Introduction to Data Structure & Computer Organization (Pass)	100	3+1	42

#### Paper (Practical) :

IMN-392	Immunology	100	2	40
TCT-393	Tissue Culture Techniques	100	2	40
CH-391	Chemistry (Pass)	100	2	40
CA-391	Introduction to Data Structure & Computer Organization (Pass)	100	2	40

### FOURTH SEMESTER

#### Paper (Theoretical) :

Paper Code	Name of the Paper	Marks	Credit hrs	Classes / Semester
MOG-401	Molecular Genetics	100	3+1	42
CBB-402	Computational Biology & Bio-informatics	100	3+1	42
BDT-403	Biodiversity & Taxonomy	100	3+1	42
MBT-404	Microbial Biotechnology	100	3+1	42
CH-401	Chemistry (Pass)	100	3+1	42
CA-401	Introduction to DBMS, Computer Network & Numerical Analysis (Pass)	100	3+1	42

**Paper (Practical) :**

MBT-491	Molecular Biology Techniques	100	2	40
BIN-492	Bio-informatics	100	2	40
CH-491	Chemistry (Pass)	100	2	40
CA-491	Introduction to DBMS, Computer Network & Numerical Analysis (Pass)	100	2	40

**FIFTH SEMESTER****Paper (Theoretical) :**

Paper Code	Name of the Paper	Marks	Credit hrs	Classes / Semester
DPB-501	DNA Typing, Proteomics & Beyond	100	3+1	42
RDT-502	Recombinant DNA Technology	100	3+1	42
EVB-503	Environmental Biotechnology	100	3+1	42
INM -504	Industrial microbiology	100	3+1	42

**Paper (Practical) :**

GET-591	Genetic Engineering Techniques	100	2	40
AMB-592	Applied Microbiology	100	2	40

**SIXTH SEMESTER****Paper (Theoretical) :**

Paper Code	Name of the Paper	Marks	Credit hrs	Classes / Semester
MHG-601	Model Organisms in Human Genome Project	100	3+1	42
MDM-602	Medical Microbiology	100	3+1	42
FAM-603	Food & Agricultural Microbiology	100	3+1	42
MTL-604	Microbial Technology – Social, Legal & Ethical issues	100	3+1	42

**Paper (Practical) :**

PRO-691	Project on Biodiversity	100	2	40
DSS-692	Dissertation on Microbiology	100	2	40