Shiksha Mandal's

Bajaj College of Science, Wardha

(An Autonomous Institution)

Affiliated to RTM Nagpur University, Nagpur

Proposed Scheme of Teaching
for
Four Year B.Sc. Honors/ B.Sc. Research Programme

(As per NEP 2020)

MAY 2023

ABBREVIATION:

Major : Comprising Mandatory and Elective (Minimum 50% of total credits corresponding to 3 or 4 year UG degree)

Minor : Minor subjects may be from different disciplines of the same faculty of DSC Major (Core) or from different faculty altogether

OE/GE : Open or Generic Elective (Choose any one from Basket of Courses from other discipline or faculty)

VSEC : Vocational Skill and Skill Enhancement Courses

VSC : Vocational Skill Course (Choose any one from basket) including hands on training corresponding to the Major and / or Minor Subject

SEC : Skill Enhancement Course (Choose any one from basket)

AEC : Ability Enhancement Course (Two of 2 credits of Compulsory English and Two of 2 credits of second Languages

VEC : Value Education Course (such as understanding India, Environment Science/Education)

IKS : Indian Knowledge System (Major Specific IKS included under Major)

OJT : On Job Training
Internship/Apprenticeship - (corresponding to the Major (Core) Subject)

FP : Field Project (corresponding to the Major (Core) Subject)

CEP : Community Engagement Project (Community Engagement and Service)

CC : Co-Curricular Courses (such as Health and Wellness, Yoga education Sports and fitness, Cultural Activities, NSS/NCC and Fine /Applied/Visual/Performing Arts)

RP : Research Project (corresponding to the Major (Core) Subject)

RM : Research Methodology

TH : Theory

TU : Tutorial

PR : Practical

CREDIT STRUCTURE

B.Sc. Sem - I

S N	Course Category	Name of Course	Course Code	Teaching Scheme (Hrs.)			Total Credits
				TH	TU	PR	
1	Sub – I	Sub – I		4	-	4	6
2	Sub – II	Sub – II		4	-	4	6
3	GE/OE	Refer GE/OE Basket		2	-	-	2
4	VSEC	Refer VSEC Basket		-	-	4	2
5	AEC	English Compulsory		2	-	-	2
6	VEC	Environmental Science		2	-	-	2
7	IKS	Indian Knowledge System		2	-	-	2
8	CC	Co-Curricular		-	-	-	0
Total				**16**	-	**12**	**22**

B.Sc. Sem – II

S N	Course Category	Name of Course	Course Code	Teaching Scheme (Hrs.)			Total Credits
				TH	TU	PR	
1	Sub – I	Sub – I		4	-	4	6
2	Sub – II	Sub – II		4	-	4	6
3	GE/OE	Refer GE/OE Basket		2	-	-	2
4	VSEC	Refer VSEC Basket		-	-	4	2
5	AEC	English Compulsory		2	-	-	2
6	VEC	Environmental Science		2	-	-	2
7	CC	Co-Curricular		-	-	4	2
Total				**14**	-	**16**	**22**

B.Sc. Sem - III

S N	Course Category	Name of Course	Course Code	Teaching Scheme (Hrs.)			Total Credits
				TH	TU	PR	
1	DSC - III	DSC – III		4	-	4	6
2	Minor – III	**Minor- III** (Refer Minor Basket)		4	-	4	6
3	GE/OE	Refer GE/OE Basket		2	-	-	2
4	GE/OE	Refer GE/OE Basket		2	-	-	2
5	VSEC	Refer VSC Basket		-	-	4	2
6	VSEC	Refer SEC Basket		-	-	4	2
7	AEC	Second Language		2	-	-	2
8	CC	Co-Curricular		-	-	0	0
Total				**14**	-	**16**	**22**

B.Sc. Sem – IV

S N	Course Category	Name of Course	Course Code	Teaching Scheme (Hrs.)			Total Credits
				TH	TU	PR	
1	DSC - IV	DSC – IV		4	-	4	6
2	Minor – IV	**Minor- IV** (Refer Minor Basket)		4	-	4	6
3	GE/OE	Refer GE/OE Basket		2	-	-	2
4	VSEC	Refer SEC Basket		-	-	4	2
5	AEC	Second Language		2	-	-	2
6	FP/CEP	Field Project/Community Service		-	-	4	2
7	CC	Co-Curricular		-	-	4	2
Total				**12**	-	**20**	**22**

B.Sc. Sem – V

S N	Course Category	Name of Course	Course Code	Teaching Scheme (Hrs.)			Total Credits
				TH	TU	PR	
1	DSC - V	DSC – V		4	-	4	6
2	DSC - VI	DSC – VI		4	-	4	6
3	DSE - I	Elective – I		3	-	2	4
4	VSEC	Refer VSC Basket		-	-	4	2
5	FP/CEP	Field Project/Community Service		-	-	4	2
6	CC	Co-Curricular		-	-	4	2
Total				**11**	-	**22**	**22**

B.Sc. Sem – VI

S N	Course Category	Name of Course	Course Code	Teaching Scheme (Hrs.)			Total Credits
				TH	TU	PR	
1	DSC - VII	DSC – VII		4	-	4	6
2	DSC - VIII	DSC – VIII		4	-	4	6
3	DSE - II	Elective – II		3	-	2	4
5	VSEC	Refer VSC Basket		-	-	4	2
6	OJT	Internship (Related to DSC)		-	-	8	4
7	CC	Co-Curricular		-	-	-	0
Total				**11**	-	**22**	**22**

B.Sc. Sem – VII (Honors in Major)

S N	Course Category	Name of Course	Course Code	Teaching Scheme (Hrs.)			Total Credits
				TH	TU	PR	
1	DSC – IX	DSC – IX		4	-	-	4
2	DSC – X	DSC – X		4	-	-	4
3	Practical – I	Practical – I		-	-	6	3
4	Practical – II	Practical – II		-	-	6	3
5	DSE - III	Elective – III		4	-	-	4
6	RM	Research Methodology		4	-	-	4
Total				**16**	-	**12**	**22**

B.Sc. Sem – VIII (Honors in Major)

S N	Course Category	Name of Course	Course Code	Teaching Scheme (Hrs.)			Total Credits
				TH	TU	PR	
1	DSC - XI	DSC - XI		4	-	-	4
2	DSC - XII	DSC - XII		4	-	-	4
3	Practical – III	Practical – III		-	-	6	3
4	Practical – IV	Practical – IV		-	-	6	3
4	DSE - IV	Elective – IV		4	-	-	4
5	OJT/FP	Apprenticeship /Field Project (Related to DSC)		-	-	8	4
Total				**12**	-	**20**	**22**

B.Sc. Sem – VII (Research in Major)

S N	Course Category	Name of Course	Course Code	Teaching Scheme (Hrs.)			Total Credits
				TH	TU	PR	
1	DSC – IX	DSC – IX		4	-	4	6
2	DSC – X	DSC – X		4	-	-	4
3	DSE - III	Elective – III		4	-	-	4
4	RM	Research Methodology		4	-	-	4
5	RP	Research Project		-	-	8	4
Total				**16**	-	**12**	**22**

B.Sc. Sem – VIII (Research in Major)

S N	Course Category	Name of Course	Course Code	Teaching Scheme (Hrs.)			Total Credits
				TH	TU	PR	
1	DSC - XI	DSC - XI		4	-	4	6
2	DSE - IV	Elective – IV		4	-	-	4
3	OJT/FP	Apprenticeship /Field Project (Related to DSC)		-	-	8	4
4	RP	Research Project		-	-	16	8
Total				**8**	-	**28**	**22**

Total Credits:

- Three Year UG Degree Program : **132**
- Four Year UG Degree Program Honors/Research : **176**

Abbreviations:

OE: Generic/ Open Electives **VSEC**: Vocational Skill and Skill Enhancement Courses;
VSC: Vocational Skill Courses; **SEC**: Skill Enhancement Courses; **AEC**: Ability Enhancement Courses;
IKS: Indian Knowledge System; **VE**C: Value Education Courses; **FP**: Field projects;
CC: Co-curricular Courses; **RM**: Research Methodology; **RP**: Research Project;
CEP: Community engagement and service; **OJT**: On Job Training: Internship/ Apprenticeship;

APPENDIX-I

CREDIT STRUCTURE FOR B. Sc. (Major)

(AS PER THE NATIONAL EDUCATION POLICY 2020)

Level	SEM	Major		Minor, RM	GE/OE	VSEC (VSC, SEC)	AEC, VEC, IKS	OJT/FP/CEP/CC/RP	Cumulative Credit	Cumulative Credit/Year
		Core	Electives							
4.5	I	6	---	6	2	2 (VSC)	2 (AEC) 2 (VEC) 2 (IKS)	---	22	**UG Certificate 44**
	II	6	---	6	2	2 (SEC)	2 (AEC) 2 (VEC)	2 (CC)	22	
	Cumulative Credit	12	---	12	4	2+2	4+4+2	2	44	
Exit Option: Award of UG Certificate in Major and Minor with 44 credits and an additional 4 credits core bridge course corresponding to skill-based and vocational courses and internship OR continue with Major and Minor										
5.0	III	6	---	6	2+2	2 (VSC) 2 (SEC)	2 (AEC)	---	22	**UG Diploma 88**
	IV	6	---	6	2	2 (SEC)	2 (AEC)	2 (FP/CEP) 2 (CC)	22	
	Cumulative Credit	24	---	24	10	4+6	8+4+2	2+4	88	
Exit Option: Award of UG Diploma in Major and Minor with 88 credits and an additional 4 credits core NSQF course and internship OR continue with Major										
5.5	V	6+6	4	---	---	2 (VSC)	---	---	22	**UG Degree 132**
	VI	6+6	4	---	---	2 (VSC)	---	4 (OJT)	22	
	Cumulative Credit	48	8	24	10	8+6	8+4+2	2+4+4	132	
Exit Option: Award of UG Degree in Major and Minor with 132 credits OR continue with Major										
6.0	VII	4+4+3+3	4	4 (RM)	---	---	---	---	22	**UG Honours Degree 176**
	VIII	4+4+3+3	4	---	---	---	---	4 (OJT/FP)	22	
	Cumulative Credit	76	16	24+4	10	8+6	8+4+2	2+4+8	176	
Award of Four Year UG Honours Degree in Major and Minor with 176 credits.										
6.0	VII	6+4	4	4 (RM)	---	---	---	4 (RP)	22	**UG Honours With Research Degree 176**
	VIII	6	4	---				4 (OJT/FP) 8 (RP)	22	
	Cumulative Credit	64	16	24+4	10	8+6	8+4+2	2+4+8+12	176	
Award of Four Year UG Honours with Research Degree in Major and Minor with 176 credits.										

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Shiksha Mandal's

Bajaj College of Science, Wardha

Major/Core Courses to be offered in the Institute

Major/Core, Minor courses will be offered in the following subjects from the academic session 2023-24 as per NEP 2020.

- Botany
- Chemistry
- Electronics
- Mathematics
- Microbiology
- Physics
- Zoology

Besides above mentioned subjects, Minor courses will also be available in following subjects.

- Biotechnology
- Computer Science

Major/Core Courses in Botany

Semester	Course Category	Name of Major Course
I	DSC-I (6 credits)	Plant Diversity I
II	DSC-II (6 credits)	Plant Diversity II
III	DSC-III (6 credits)	Plant Systematics and Biostatistics
IV	DSC-IV (6 credits)	Plant Anatomy and Embryology
V	DSC-V (6 credits)	Plant Biotechnology and Bioinformatics
	DSC-VI (3 credits)	Plant Ecology
VI	DSC-VII (6 credits)	Plant Physiology
	DSC-VIII (3 credits)	Plant Metabolism
VII (Honors)	DSC-IX (6 credits)	Phycology, Mycology and Bryology
	DSC-X (6 credits)	Pteridophytes, Paleobotany and Gymnosperms
VIII (Honors)	DSC-XI (6 credits)	Angiosperm Taxonomy
	DSC-XII (6 credits)	Cell Biology, Cytogenetics and Molecular Biology
VII (Research)	DSC-IX (6 credits)	Phycology, Mycology and Bryology
	DSC-X (3 credits)	Pteridophytes, Paleobotany and Gymnosperms

VIII (Research)	DSC-XI (6 credits)	Cytogenetics and Plant Breeding
	DSC-XII (3 credits)	Cell Biology and Molecular Biology

Major/Core Courses in Chemistry

Semester	Course Category	Name of Major Course
I	DSC-I (6 credits)	Fundamentals of Inorganic and Organic Chemistry
II	DSC-II (6 credits)	Concepts of Inorganic and Physical Chemistry
III	DSC-III (6 credits)	Elements of Organic and Physical Chemistry
IV	DSC-IV (6 credits)	Concise Inorganic and Organic Chemistry
V	DSC-V (6 credits)	Principles of Inorganic and Physical Chemistry
	DSC-VI (3 Credits)	Spectroscopy I
VI	DSC-VII (6 credits)	Advanced Organic and Physical Chemistry
	DSC-VIII (3 Credits)	Spectroscopy II
VII (Honors)	DSC-IX (6 credits)	Inorganic Chemistry I
	DSC-X (6 credits)	Organic Chemistry I
VIII (Honors)	DSC-XI (6 credits)	Physical Chemistry I
	DSC-XII (6 credits)	Inorganic Chemistry II
VII (Research)	DSC-IX (6 credits)	Inorganic Chemistry I
	DSC-X (3 Credits)	Organic Chemistry I
VIII (Research)	DSC-XI (6 credits)	Physical Chemistry I
	DSC-XII (3 Credits)	Inorganic Chemistry II

Major/Core Courses in Electronics

Semester	Course Category	Name of Major Course
I	DSC-I (6 credits)	Analogue and Digital Electronics – I
II	DSC-II (6 credits)	Analogue and Digital Electronics – II

III	DSC-III (6 credits)	Op-Amp, Power Supply, IC 555 and Circuit Maker
IV	DSC-IV (6 credits)	OP-AMP Applications & Electronic Instrumentation
V	DSC-V (6 credits)	Electronic Communication & Fundamentals of Microprocessor
	DSC-VI (3 credits)	Advanced Microprocessors
VI	DSC-VII (6 credits)	Programming in 'C' & Microcontroller 8051
	DSC-VIII (3 credits)	Computer Organization and Interfacing
VII (Honors)	DSC-IX (6 credits)	Digital Design and Applications
	DSC-X (6 credits)	Embedded Systems and Applications
VIII (Honors)	DSC-XI (6 credits)	Power Electronics
	DSC-XII (6 credits)	Control Systems
VII (Research)	DSC-IX (6 credits)	Signals and Systems
	DSC-X (3 credits)	Data Structures
VIII (Research)	DSC-XI (6 credits)	Basic VLSI Design
	DSC-XII (3 credits)	Semiconductor Fabrication and Characterization

Major/Core Courses in Mathematics

Semester	Course Category	Name of Major Course
I	DSC-1A (3 credits)	Algebra and Trigonometry
	DSC-1B (3 credits)	Differential Calculus
II	DSC-2A (3 credits)	Integral Calculus and ODE
	DSC-2B (3 credits)	Vector Analysis
III	DSC-3A (3 credits)	Partial Differential Equations
	DSC-3B (3 credits)	Analytical Solid Geometry
IV	DSC-4A (3 credits)	Mathematical Methods
	DSC-4B (3 credits)	Sequences and Series

V	DSC-5A (3 credits)	Analysis
	DSC-5B (3 credits)	Abstract Algebra
	DSC-5C (3 credits)	Mechanics
VI	DSC-6A (3 credits)	Complex Analysis
	DSC-6B (3 credits)	Linear Algebra
	DSC-6C (3 credits)	Graph Theory
VII (Honors)	DSC-7A (3 credits)	Algebra-I
	DSC-7B (3 credits)	Real Analysis-I
	DSC-7C (3 credits)	Topology
	DSC-7D (3 credits)	Ordinary Differential Equations
VIII (Honors)	DSC-8A (3 credits)	Algebra-II
	DSC-8B (3 credits)	Real Analysis-II
	DSC-8C (3 credits)	Integral equations
	DSC-8D (3 credits)	Differential Geometry
VII (Research)	DSC-7A (3 credits)	Algebra-I
	DSC-7B (3 credits)	Real Analysis-I
	DSC-7C (3 credits)	Topology
VIII (Research)	DSC-8A (3 credits)	Algebra-II
	DSC-8B (3 credits)	Real Analysis-II
	DSC-8C (3 credits)	Integral equations

Major/Core Courses in Microbiology

Semester	**Course Category**	**Name of Major Course**
I	DSC-I (6 credits)	History and Microbial Morphology)
II	DSC-II (6 credits)	Microbial Techniques
III	DSC-III (6 credits)	Chemistry of Organic Constituents,Enzymology and Metabolism
IV	DSC-IV (6 credits)	Industrial and Applied Microbiology

V	DSC-V (6 credits)	Medical Microbiology and Immunology
	DSC-VI (3 credits)	Virology I
VI	DSC-VII (6 credits)	Molecular biology, Bioinstrumentation and Biotechnology
	DSC-VIII (3 credits)	Virology II
VII (Honors)	DSC-IX (6 credits)	Microbial Metabolites
	DSC-X (6 credits)	Drugs and disease management
VIII (Honors)	DSC-XI (6 credits)	Environmental Microbiology
	DSC-XII (6 credits)	Applied agricultural Microbiology
VII (Research)	DSC-IX (6 credits)	Microbial Metabolites
	DSC-X (3 credits)	Drugs and disease management
VIII (Research)	DSC-XI (6 credits)	Environmental Microbiology
	DSC-XII (3 credits)	Applied agricultural Microbiology

Major/Core Courses in Physics

Semester	Course Category	Name of Major Course
I	DSC-I (6 credits)	Mechanics
II	DSC-II (6 credits)	Electricity And Magnetism
III	DSC-III (6 credits)	Waves And Optics
IV	DSC-IV (6 credits)	Thermal Physics and Statistics
V	DSC-V (6 credits)	Modern Physics
	DSC-VI (3 credits)	Solid State Electronics
VI	DSC-VII (6 credits)	Operational Amplifier Oscillators and Digital Electronics
	DSC-VIII (3 credits)	Biophysics, Nanomaterials and Nanotechnology
VII (Honors)	DSC-IX (6 credits)	Astrophysics
	DSC-X (6 credits)	Mathematical Physics

VIII (Honors)	DSC-XI (6 credits)	Material Science
	DSC-XII (6 credits)	Electrodynamics
VII (Research)	DSC-IX (6 credits)	Astrophysics
	DSC-X (3 credits)	Mathematical Physics
VIII (Research)	DSC-XI (6 credits)	Material Science
	DSC-XII (3 credits)	Electrodynamics

Major/Core Courses in Zoology

Semester	Course Category	Name of Major Course
I	DSC-I (6 credits)	Major: Zoology-I DSC-I (Non Chordate I and cell biology)
II	DSC-II (6 credits)	Major: Zoology-II DSC-II (Non Chordate II andGenetics)
III	DSC-III (6 credits)	Major: Zoology-III DSC-III (Chordate I and Molecular Biology)
IV	DSC-IV (6 credits)	Major: Zoology-IV DSC-IV (Chordate II and Ethology)
V	DSC-V (6 credits)	Major: Zoology- V DSC-V (Developmental Biology)
	DSC-VI (3 credits)	Major: Zoology- VI DSC-VI (Ecology and Evolution)
VI	DSC-VII (6 credits)	Major: Zoology- VII DSC-VII (Mammalian Physiology)
	DSC-VIII (3 credits)	Major: Zoology- VIII DSC-VIII (Basic Immunology)
VII (Honors)	DSC-IX (6 credits)	Major: Zoology- IX DSC-IX (Fundamentals ofBiochemistry)
	DSC-X (6 credits)	Major: Zoology- X DSC-X (Comparative anatomy of vertebrates)
VIII (Honors)	DSC-XI (6 credits)	Major: Zoology- XI DSC-XI (Biochemistry of metabolic process)
	DSC-XII (6 credits)	Major: Zoology- XII DSC-XII (Basic endocrinology of invertebrates and vertebrates)
VII (Research)	DSC-IX (6 credits)	Major: Zoology- IX DSC-IX (Biochemistry I)
	DSC-X (3 credits)	Major: Zoology- X DSC-X (Animal Biotechnology)
VIII (Research)	DSC-XI (6 credits)	Major: Zoology- XI DSC-XI (Biochemistry II)
	DSC-XII (3 credits)	Major: Zoology- XII DSC-XII (Immunology)

Basket for Minor Category Courses

Botany

Semester	Course Category	Name of Course
I	Minor I (6 credits)	Plant Diversity I
II	Minor II (6 credits)	Plant Diversity II
III	Minor III (6 credits)	Plant Systematics and Biostatistics
IV	Minor IV (3 credits)	Plant Anatomy and Embryology

Chemistry

Semester	Course Category	Name of Course
I	Minor I (6 credits)	Fundamentals of Chemistry
II	Minor II (6 credits)	Concepts of Chemistry
III	Minor III (6 credits)	Elements of Chemistry
IV	Minor IV (3 credits)	Concise Chemistry

Electronics

Semester	Course Category	Name of Course
I	Minor I (6 credits)	Analogue and Digital Electronics – I
II	Minor II (6 credits)	Analogue and Digital Electronics – II
III	Minor III (6 credits)	Op-Amp, Power Supply, IC 555 and Circuit Maker
IV	Minor IV (3 credits)	Op-Amp Applications

Mathematics

Semester	Course Category	Name of Course
I	Minor-1A (3 credits)	Algebra and Trigonometry
	Minor-1B (3 credits)	Differential Calculus
II	Minor-2A (3 credits)	Integral Calculus and ODE
	Minor-2B (3 credits)	Vector Analysis
III	Minor-3A (3 credits)	Partial Differential Equations
	Minor-3B (3 credits)	Analytical Solid Geometry
IV	Minor 4 (3 credits)	Mathematical Methods

Microbiology

Semester	Course Category	Name of Course
I	Minor I (6 credits)	History and Microbial Morphology
II	Minor II (6 credits)	Microbial Techniques
III	Minor III (6 credits)	Chemistry of Organic Constituents, Enzymology and Metabolism
IV	Minor IV (3 credits)	Industrial and Applied Microbiology

Physics

Semester	Course Category	Name of Course
I	Minor I (6 credits)	Mechanics
II	Minor II (6 credits)	Electricity and Magnetism
III	Minor III (6 credits)	Waves and Optics
IV	Minor IV (3 credits)	Thermal Physics and Statistics

Zoology

Semester	Course Category	Name of Course
I	Minor I (6 credits)	Non Chordate I and cell biology
II	Minor II (6 credits)	Non Chordate II and Genetics
III	Minor III (6 credits)	Chordate I and Molecular Biology
IV	Minor IV (3 credits)	Chordate II and Ethology

Biotechnology

Semester	Course Category	Name of Course
I	Minor I (6 credits)	Fundamentals of Biotechnology and Biomolecules
II	Minor II (6 credits)	Microbiology, Cell Biology and Enzymology
III	Minor III (6 credits)	Molecular Biology & rDNA Technology
IV	Minor IV (3 credits)	Recombinant DNA Technology

Computer Science

Semester	Course Category	Name of Course
I	Minor I (6 credits)	Fundamentals of Information Technology and Programming in 'C'
II	Minor II (6 credits)	Object Oriented Programming using 'C++' and System Analysis and Design
III	Minor III (6 credits)	Data Structures and Operating System
IV	Minor IV (3 credits)	Cyber Security

Basket for Generic/Other Electives (GE/OE)

GE/OE BASKET FOR SEMESTER - I	
BIOFERTILIZERS	NURSERY MANAGEMENT
CHEMISTRY IN EVERYDAY LIFE	INSECT VECTORS AND DISEASES
FOOD NUTRITION AND HEALTH	BASICS OF ASTRONOMY
BASIC PHYSICS: CONCEPTS AND APPLICATIONS	PROGRAMMING PARADIGMS
BASICS OF DIGITAL ELECTRONICS - I	ENGLISH SPEAKING COURSE (SPOKEN SKILLS)
E-COMMERCE	DIVERSITY OF LIFE
ESSENTIAL MATHEMATICS FOR UG STUDENTS	INTRODUCTION TO FERMENTED FOOD PRODUCTS
IT FOR BIOTECHNOLOGY	FOOD SPOILAGE AND FOODSAFETY

GE/OE BASKET FOR SEMESTER - II	
ETHNOBOTANY	MEDICINAL BOTANY
FOOD ADULTERATION	LIFE STYLE DISEASES AND THEIR MANAGEMENT
LABORATORY SAFETY FUNDAMENTALS	PHYSICS OF MUSIC AND MUSICAL INSTRUMENTS
WEATHER FORECASTING	MULTIMEDIA AND APPLICATIONS
BASICS OF DIGITAL ELECTRONICS - II	ENGLISH SPEAKING COURSE (SPOKEN SKILLS)
INTRODUCTION TO CYBER SECURITY	BIOTECHNOLOGY FOR WASTE MANAGEMENT
BUSINESS MATHEMATICS	AGRICULTURAL MCROBIOLOGY
FRESH WATER MICROBIOLOGY	

GE/OE BASKET FOR SEMESTER - III
ENVIRONMENTAL ECOLOGY
SAFETY ASPECTS IN LABORATORIES
CONSERVATION BIOLOGY
DIGITAL ELECTRONICS
ELECTRONIC INSTRUMENTATION
PROBLEM SOLVING TECHNIQUES
BASIC CALCULUS
ENGLISH SPEAKING COURSE (SPOKEN SKILLS)
SUSTAINABLE DEVELOPMENT THROUGH BIOTECHNOLOGY
ENTREPRENEURSHIP IN MICROBIOLOGY

GE/OE BASKET FOR SEMESTER - IV
INTELLECTUAL PROPERTY RIGHTS
ENVIRONMENTAL CHEMISTRY
ENVIRONMENTAL IMPACT ASSESSMENT
OPTICAL FIBER AND COMMUNICATION
INTRODUCTION TO BIOMEDICAL INSTRUMENTATION
INTRODUCTION TO COMPUTER NETWORKS
BUSINESS STATISTICS
ENGLISH SPEAKING COURSE (SPOKEN SKILLS)
BIOTECH ENTREPRENEURSHIP
CRISPER TECHNOLOGY

BASKET FOR VOCATIONAL SKILL ENHANCEMENT COURSES (VSEC)

SR. NO.	VSEC BASKET FOR SEMESTER - I
1	Mushroom Cultivation
2	Horticulture
3	Basic Computer Skills
4	Maintenance and Calibration of Instruments
5	Elementary Microbiology
6	Bio Preservation of Perishable Foods
7	Laboratory Training in Physics
8	Basic Workshop Skills in Physics
9	Pronunciation Skills (Language Lab)
10	Systematic Chemistry Laboratory Techniques
11	General Analytical Chemistry
12	Tools And Techniques in Zoology I
13	Aquarium Fish Keeping
14	Finite Differences and Interpolation
15	Basics of Electronic Components
16	Basics of Information Technology and Programming
17	LibreOffice
18	Computer Awareness

Sr. No.	VSEC BASKET FOR SEMESTER - II
1	Plant Breeding
2	Soilless Cultivation
3	Microbial Commercial Products
4	Basic Microbial Techniques
5	Experimental Microbiology
6	Microbiology of Wine Making
7	Electrical Circuits and Network Skills
8	Fabrication of Telescope
9	Industrial Chemistry
10	General Instrumental Techniques
11	Tools and Techniques in Zoology II
12	Sericulture
13	Numerical Techniques-I
14	Transducers, Sensors and Its Applications
15	Fundamentals of Soldering and PCB Designing
16	Web Designing
17	Introduction to Python

SR. NO.	VSEC BASKET FOR SEMESTER-III
1	Plant Micro Techniques
2	Production of Valuable Plant Products
3	Basic Techniques in Industrial Microbiology
4	Repairing of Household Electrical Appliances
5	Pharmaceutical Chemistry
6	Microtomy and Slide Preparation
7	Basic Mathematics for Physics
8	Laboratory Equipment and Maintenance
9	PHP (Scripting Language)

SR. NO.	VSEC BASKET FOR SEMESTER - IV
1	Analytical Pharmacognosy
2	Biochemical Techniques
3	Basic Analytical Techniques in Microbiology
4	Advanced Spread Sheet Tools
5	It Skills for Chemist
6	Food Adulteration Testing Techniques
7	Numerical Techniques-II
8	Op-amp Applications
9	Data Analytics Using Excel

SR. NO.	VSEC BASKET FOR SEMESTER - V
1	Essential Oils and Perfumery
2	Organic Farming
3	Practical Course in Soil and Agricultural Microbiology
4	Digital Physics Lab
5	Organic Extraction from Natural Products
6	Optimization Techniques
7	Perl (High-level programming language)

SR. NO.	VSEC BASKET FOR SEMESTER - VI
1	Herbal Technology
2	Plant Tissue Culture Techniques
3	Molecular Genetics
4	Synthesis and Characterization Techniques of Nanomaterials
5	Green Methods in Chemistry
6	Fuzzy Mathematics
7	Ruby (High-level programming language)

Basket for INDIAN KNOWLEDGE SYSTEM (IKS)

SR. NO.	IKS BASKET FOR SEMESTERS- I and II
1	Introduction to IKS
2	Vedik Mathematics

BASKET FOR ABILITY ENHANCEMENT COURSES (AEC)

SR. NO.	AEC BASKET FOR SEMESTERS- I, II, III and IV
1	Compulsory English-I (Sem-I)
2	Compulsory English-II (Sem-II)
3	Second Language-I (Marathi/Hindi) (Sem-III)
4	Second Language-II (Marathi/Hindi) (Sem-IV)

BASKET FOR VALUE EDUCATION COURSE (VEC)

SR. NO.	VEC BASKET FOR SEMESTER- I and II
1	Environmental Science (Sem-I)