



**Maulana Azad College of Arts,
Science and Commerce,**

Dr. Rafiq Zakaria Campus Post Box No. 27
Dr. Rafiq Zakaria Marg Rauza Bagh
Aurangabad - 431001(MH)

**NAAC
Reaccreditation
3rd Cycle**

**Metric
1.3.1**

Criterion I

1.3 Curriculum Enrichment

**Cross Cutting
Issues in Curriculum**



1.3.1 Cross Cutting Issues in Curriculum

Programme	Title of the Course & Paper No.	Cross Cutting Issues					Content in the course
		Professional Ethics	Gender	Human values	Environment and Sustainability	Any Other	
BA/B.Sc. B.Com/B.C.S./Bio-tech - I Hindi	Samanya Hindi SL-AECC-1	✓		✓		*Equality * Human Rights	* Haar Ki Jeet - Sudarshan * Pus ki Raat – Premchand *Daag Diya Sach - Ramnika Gupta *Dipty Collectary – Amarkant, *Vapsi – Usha Priyamvada
BA/B.Sc. B.Com/B.C.S./Bio-tech - I Hindi	Samanya Hindi SL-AECC- 2					*Equality * Human Rights *Youth Themes	* Dohe – Kabir , Rahim * Roti Aur Sansad - Dhumi *Pushp Ki Abhilasha – Makhanlal Chaturvedi *Kadam Milakar Chalna Honga – Atal Bihari Vajpai
B.A.F.Y.	Hindi Sahitya Ka Itihas Opt CC - 1A	✓				* Human Rights	*Dohe - Sant Kabir * Rahim
B.A.F.Y.	Aadhunik Kavita Opt CC - 1B					*Equality *Youth Themes	*Veeron Ka kaisa Ho Basant - Subhadra Kumari Couhan *Sihasan Khali Karo Janta Aati Hai - Dinkar * Door Gai Harijan - Sant Tukdoji Maharaj
B.A./B.Sc.S.Y.	Samanya Hindi -III				✓		*Shirish Ke Phool - Hazariprasad Devivedi
B.A./B.Sc.S.Y.	Samanya Hindi -IV			✓		*Measures to Control Pollution (Noise)	*Kuriti Todo Parivar Nahi - Archana Verma *Jaha Akash Dikhai Nahi Deta - Vishnu Prabhkar
B.A.S.Y.	Kathettar Sahitya - Opt - V					*Equality *Measures to Control Pollution (Noise)	*Amliy Varsha Vishv vyapi Khatra
B.A.S.Y.	Aadhunik Hindi Kavita Opt - VIII	✓		✓		*Constitutional Obligation	* Bhasha Ki Raat - Dhumi * Sarojsmriti - Nirala * Bhumija - Nagarjun

B.A.T.Y.	Pradeshik Bhasha Sahitya Opt-IX	✓		✓		*Equality	*Munge Ki Falliya - Y.G. Goshi Paraya -Laxman Mane Aghat - Vaman Chorghade
B.A.T.Y.	Madhyakalin Kavya -Opt - XIII	✓		✓		*Equality * Human Rights	Bhaktikalin Sahitya
B.A.T.Y.	Adhunik Hindi Sahitya Ka Itihas	✓		✓		*Equality * Human Rights	Adhunik Kaal * Gadya Sahitya
FY B.Sc. Computer Scicence	Fundemantal of Computer	✓	✓	✓	✓		Unit 1: * Fundamentall of Computer . * MS-Office. Unit 2: * Internet/ PPT.
SY B.Sc. Computer Scicence	Advance 'C' Programming & Data Strucutre	✓	✓	✓	✓		Unit 1: Strucutre and Union Concepts. Use of Fuctions & Pointers Unit 2: Understanding Stack & Queues
TY B.Sc. Computer Scicence	Project Work & Web Designing	✓	✓	✓	✓		Guidence for requirment collection and gathering. Making of SRS & DFD. Web pages uisng HTML & Java Script.
F.Y B.A. Political Science	POL- Core Course CC1B, Indian Government & Politics			✓			Chapter 1: Indian Constitution: 1.3 Fundamental Rights
S.Y B.A. Political Science	Pol- 107 Indian Government & Politics			✓			Chapter 2: Challenges before Indian Democracy: Casteism & Communalism
T.Y B.A. Political Science	Pol-109- Indian Political Thinkers			✓			Chapter 1:Raja Ram Mohan Roy: Views on Religion
T.Y B.A. Political Science	Pol-109- Indian Political Thinkers			✓			Chapter 2: Dayanand Saraswati: Religious & Social thoughts
T.Y B.A. Political Science	Pol-109- Indian Political Thinkers			✓			Chapter 3: Gopal Krishna Gokhle: Social & Liberal thoughts.
T.Y B.A. Political Science	Pol-109- Indian Political Thinkers			✓			Chapter 4: Lokmanya Tilak: Views on Social Reform,

T.Y B.A. Political Science	Pol-109- Indian Political Thinkers			✓			Chapter 5:Mahatma Gandhi: Views on Religion, Satya, Ahimsa & Satya Graha.
FY B.COM	Entrepreneurship Development-I	✓	✓			Leadership Skills	Unit-I: Entrepreneur: Characteristics and functions of an entrepreneur Unit-IV: Types of Entrepreneurship- Recent Trends- Sociopreneur, Edupreneur, Ecopreneur, Agropreneur, Women Entrepreneurs, Self Help Groups
FY B.COM	Financial Accounting-I	✓		✓			Unit-I: Classification & Rules of Accounts, Accounting Cycle
FY B.COM	IT Application in Business-II	✓		✓			Unit-I: Communication Unit-II: Business Correspondence Unit-IV: Electronic Communication Unit-V: Social Networking & Oral presentation
FY B.COM	Business Organisation & Management	✓		✓		Communication	Unit-III: Management & Organisation Unit-IV: Leadership, Motivation & Control
SY B.COM	Human Resource Management	✓		✓			Unit-I: Human Resource Management Unit-V: Discipline & Grievances
SY B.COM	IT Application in Business-III	✓		✓			Unit-I: Introduction to InternetWorkspace (Google) Unit-II: Fundamentals of E-Mail
SY B.COM	Financial Management	✓					Unit-I: Functions of Finance Manager
TY B.COM	Management Accounting-I	✓					Unit-II: Analysis & Interpretation of Financial Statements
TY B.COM	Auditing	✓		✓			Unit-IV: Company Auditor Code of conduct of audit. Rights & duties of Auditor.
TY B.COM	Business Regulatory Framework-II	✓			✓		Unit-IV: Intellectual Propety Rights Unit-V: Environment Protection Act, Information Technology Act
FY-BBA	Management Perspective-I	✓		✓			Unit-I: Management Concepts Unit-II: Fundamentals of Management Unit-IV: Social Responsibilities of Business

FY-BBA	Human Communication in Business	✓		✓			Unit-I: Communication Concepts Unit-IV: Listening Skills Unit-V: Written Communication Unit-VI: Business Correspondence Unit-VII: E-Communication
FY-BBA	Management Perspective-II	✓		✓			Unit-I: Planning Unit-II: Organising Unit-IV: Directing Unit-V: Coordination Unit-VI: Controlling
FY-BBA	Environmental Awareness-I				✓		Unit-II: Ecosystem Unit-III: Population Ecology Unit-IV: Environmental Pollution
FY-BBA	Administrative Practices	✓		✓			Unit-I: Role of Company Executives, Unit-II; Law & Procedure of meetings, Unit-IV: Powers & Duties of Chairman
SY-BBA	Management Perspective-III	✓		✓	✓	Governance	Unit-I- Green Marketing, E-Marketing Unit-II Production Management- Quality management, Quality Control
SY-BBA	Environmental Awareness-II				✓		Unit-I- Environment Unit-II: Disaster Management Unit-III: Social Environment Unit-IV: Natural Resources Unit-V: Environmental Management
SY-BBA	Business Laws-I	✓		✓			Unit-IV: Consumer Protection Act, Unit-V: Cyber Security & IT Act
SY-BBA	Entrepreneurship Development	✓	✓	✓		Leadership Skills	Unit-II: Types of Entrepreneurship-Women Entrepreneurs Unit-V: Purposeful innovation in entrepreneurship
SY-BBA	Human Factor in Business-I	✓		✓			Unit-I: Organisational Behaviour Unit-II: Individual Behaviour Unit-V: Group Dynamics
SY-BBA	Organisational Effectiveness & Change	✓		✓			Unit-II: Organisational Change Unit-IV: Managing change in organisations
TY-BBA	Management Perspective-V	✓		✓			Unit-I: Stress Mangement, Unit-II: Public Relation Management , Unit-V: Office Management
TY-BBA	Taxation Laws-I	✓					Unit-I: Indian Taxation System, scheme of taxation

TY-BBA	Auditing	✓					Unit-I: Company Auditor- Appointment, powers, duties, Unit-V: Role of Auditor under Tax Laws
TY-BBA	Management Perspective-VI	✓		✓			Unit-I: Strategic Management Unit-III: Quality Management Unit-IV: Risk Management
TY-BBA	Project	✓		✓			Instils values of ethical research among students.
FY-BCOM(E-COMMERCE)	Financial Accounting-I	✓					Unit-I: Book Keeping & Accountancy.
FY-BCOM(E-COMMERCE)	Internet & WWW	✓					Unit-IV: Internet protocols & Internet governance
FY-BCOM(E-COMMERCE)	Entrepreneurship Development-II	✓	✓				Unit-II: Women entrepreneurship-development & challenges
FY-BCOM(E-COMMERCE)	Business Organisation & Management	✓					Unit-I: Social Responsibility & Ethics Unit-III: Management & Organisation , Unit-IV: Leadership, Motivation & Control
SY-BCOM(E-COMMERCE)	E-Commerce Essentials	✓					Unit-I: Introduction to E-Commerce Unit-V: E-Commerce & Digital Marketing
SY-BCOM(E-COMMERCE)	Marketing Management	✓			✓		Unit-III: Strategic & ethical marketing, Green marketing
SY-BCOM(E-COMMERCE)	Corporate Accounting-II	✓					Unit-I: Amalgamation Unit-II: Absorption Unit-III: Reconstruction
SY-BCOM(E-COMMERCE)	Human Resource Management	✓		✓			Unit-I: Role & functions of HR manager, Workforce diversity, VRS, work life balance, Understanding & Managing people in organizational setup, Unit-V: Discipline & Grievances
TY-BCOM(E-COMMERCE)	Management Accounting-I	✓					Unit-II: Analysis & Interpretation of Financial Statements
TY-BCOM(E-COMMERCE)	Auditing	✓					Unit-I: Principles of Auditing, Unit-IV: Duties & Rights of Auditor, Unit-V: Changing role of Auditors

	INDIAN ECONOMY (COMPULSORY) - Paper-ECO-102		✓				Unit : Birth rate – death rate, Density, Literacy, Sex composition, Age composition,
S.Y.	ECONOMICS OF DEVELOPMENT				✓		Unit : Natural Rescore And Rentable Resource
Economics	Paper-ECO-106				✓		Unit :Water Technology Green Revolution
T.Y.					✓		Unit :Water Technology Green Revolution
Economics					✓		Unit :Water Technology Green Revolution
FY B.Sc. Physics	Mechanics, Properties of Matter and Sound Paper No. I	✓					Unit 4 : Ultrasonic and Acoustics *Applications of ultrasonic – Depth of sea, Chemical effects, Medical applications *Acoustical demands of an auditorium *Conditions of good acoustical designs of room
FY B.Sc. Physics	Heat and Thermodynamics Paper No. II	✓					Unit 4: Thermodynamics * Heat engines * Carnot's Ideal Heat Engine
SY B.Sc. Physics	Modern and Nuclear Physics Paper-VIII	✓					Unit 3 : Nuclear forces and models *Nuclear Reactors Unit 4 : Particle Accelerators and Detectors *Linear accelerator *Cyclotron *Synchrocyclotron *Betatron *Ionisation chamber *Proportional counter *Geiger – Muller counter
SY B.Sc. Physics	Physics Practical No. IX Paper	✓					Experiment 6 : Frequency of AC mains using Sonometer

SY B.Sc. Physics	General Electronics No. XX	Paper	✓				Unit 1: Semiconductor *Transistor (PNP and NPN) *Working and Characteristics of FET & MOSFET Unit 2: Transistor Biasing and Amplifiers *Single stage transistor amplifier *Op-Amp characteristics Unit3: Oscillators and Multivibrators *RC Oscillator *LC Oscillator *Multivibrators (Astable,Monostable, Bistable)
TY B.Sc. Physics	Atomic, Molecular Physics & Laser Paper No. XIX		✓				Unit 4 : LASER *Ruby laser *He- Ne laser *Carbon dioxide (CO2) laser *Applications of laser-Biological, Medical and industrial



TY B.Sc. Physics	Non-conventional energy sources and Optical fiber Paper No. XX				✓		Unit 1: Non-conventional energy sources *Biomass energy *Wind energy *Tidal energy/Ocean energy *Geothermal energy *Wind energy *Solar energy *Biogas plant-fixed dome type *Vertical axis wind turbine *Horizontal axis wind turbine *Monoblade HAWT *Twin blade HAWT Unit 2: Solar Photovoltaic Systems *Solar Cell fundamentals Unit 4: Fiber cables and fabrication * Fiber fabrication techniques; *External chemical vapour deposition *Axial vapour deposition *Internal chemical vapour deposition
F.Y B.A. Urdu	DASTAN II		✓	✓			Unit 2: Jana Hatim ka aur is baat ki khabar lane ka k "Sacche ko hamesha Rahat hai"
SYBA URDU	Novel IV			✓			Unit 1 Umrao jaan ada
SY B.A. URDU	Marsiya V			✓			UNIT IV: NAMAK khawn takkalum hai fasahart meri
SY B.A. Urdu	Nazm VII			✓			Unit V Banjatanaama and Unit III Himalaya
SY B.A. URDU	Afsana Vi			✓			Unit VI Qatil
SY B.A. URDU	Drama VIII			✓			Unit VII silver king,

FY B.A. B.A.	TY His I: Shivaji and His Times His 9: Historiography His 10: History of Indian Freedom Struggle His 11: History of India 1757-1885	✓		✓		Constitutional Obligations	His 1:Unit 1: Rise of Maratha Power, Background Unit 2: Hindawi Swarajy His 9: Unit: Use and Abuse of History, His 10: Unit: 2,3: Rise of Nationalism, National Movements and Political Reforms His 11: History of India Unit: Socio Religious Reforms
FY B.Sc. Geology	General Geology, GEO-111				✓	Disater Management Environment and Sustainability	Unit 1: *Universe and Planet Earth * Understanding the formation of Earth and planets. *Understanding the different spheres of Earth.(Environmental Sustainability) Unit 2: *Continental drifting and Plate Tectonics. * Understanding the formation of plates, and its different movements.(Disater Management) Unit 3: *Weathering.* Understanding the formational role of river, wind and glacier.(Disater Management) Unit 4: *Earthquakes and Volcanoes. * Formation of earthquakes and volcanoes, causes and its intensity and its remedial measures.(Disater Management)
FY B.Sc. Geology	Petrology and Structural Geology, GEO-211				✓	Disater Management Environment and Sustainability	Unit 1: Petrology * Understanding the formation Rocks.(Environmental Sustainability) Unit 4: *Structural Geology. * Formation of Folding and Faulting of rocks, different types, and its causes.(Disater Management)

SY B.Sc. Geology	Structural Geology and Paleontology, GEO-412				✓	Disater Management	Unit 2: Fold Formation of Folding of rocks, different types, and its causes. * Unit 3: * Formation of Faulting of rocks, different types, and its causes.
TY B.Sc. Geology	Applied Geology-I, Paper-XI 611				✓	Disater Management, Measures to control pollution, Water harvesting , Conservation of Water Bodies, Recharge of Water bodies	Unit 2: Engineering Properties of rocks.* To Understand the Application of geology in the construction of major civil engineering structures , Dams, Tunnels, reservior. Unit 4: Environmental Geology natural and industrial hazards.



TY B.Sc. Geology	Applied Geology-II, Paper-XII 612				✓	Disaster Management, Measures to control pollution, Water harvesting , Watershed Development, Conservation of Water Bodies, Recharge of Water bodies	Unit 1: Hydrological Cycle, * Understanding the role of water cycle. (Environmental sustainability) Unit 3: Well inventory and preparation of static water level * To understand the rainfall data and static water level.(Environmental sustainability) Unit 4 : Concept of watershed management, soil., water conservation structures, and hydrochemical parameters of groundwater * To understand the concept of water shed management, soil and water conservation structures like C,C,T, C.N.B. K.T, P.T, gabions, pitting and trenching . and to understand Chemical analysis of water and soil. Recharge of water bodies and soil and water recharge structures.(Measures to control Pollution, water harvesting, Watershed development, conservation of water bodies, Recharge of water bodies.
FY BA Psychology	General Psychology, PSY 101	✓		✓			Unit 1 modern perspectives in psychology Unit 2 biological foundation of behaviour Unit 3 motivation and emotion application: being happy
FY BA Psychology	Social Psychology, PSY 102	✓		✓			Unit 1* Introducing social psychology iii) social psychology and human values Unit 2 * Behaviour and attitudes (g) social movements Unit 3 * Conformity

						<p>how can we resist social pressure to conform</p> <p>unit</p> <p>4 . group influence</p> <p>social loafing</p>
FY BA Psychology	PSY 103 – Psychology Practicum's	✓	✓	✓	Yes	<p>Unit 1</p> <p>g. Social Motives Scale</p> <p>I Deo-Mohan Achievement Motivation Scale</p> <p>Unit 3</p> <p>Sociometry</p> <p>Social facilitation</p> <p>Social Loafing Scale</p> <p>Section B: -</p> <p>This will include training for developing sensitivity in attending to the details in our environment by providing psychological insight mentally retarded children.</p> <p>The student should write report of his/her observation</p>
FY BA Psychology	PSY 104 – Basic Concepts in Psychology	✓	✓	✓		<p>Unit 1</p> <p>Personality: - Application: Increasing self efficacy through goal setting</p> <p>Unit 2</p> <p>Learning: Application of Classical and Operant</p> <p>Conditioning</p> <p>Unit 3</p> <p>Memory: Improving memory</p> <p>Unit 4 Intelligence: Early childhood intervention – a means for boosting intelligence</p>
						<p>Unit 1</p> <p>PREJUDICE</p> <p>(b) Racial prejudice</p> <p>(c) Gender prejudice</p> <p>Unit 2</p> <p>AGGRESSION</p>

FY BA Psychology	PSY 105 – Basic Concepts in Social Psychology	✓		✓			(c) Aggression as learned social behavior
							Unit 3
							HELPING
							(b) Socializing altruism
							Unit 4
							SOCIAL PSYCHOLOGY IN COURT
							(a) The power of persuasive eyewitnesses
FY BA Psychology	PSY 106 – Psychology Practicum's: Experiments & Tests	✓		✓			a. Pass along test
							b. Koh's Block test
							Adjustment Test
							c. Anxiety Test
S Y BA							Unit 1
Psychology	PSY 107 – PSYCHOLOGY OF ADJUSTMENT	✓		✓			INTERPERSONAL COMMUNICATION: (a) Components of the communication process
							(b) Communication and adjustment
							Unit 2 FRIENDSHIP AND LOVE
							APPLICATION: OVERCOMING LONELINESS
							Unit 4
							CAREERS AND WORK
							APPLICATION: GETTING AHEAD IN THE JOB GAME
S Y BA							Unit 1
Psychology	PSY 108 – PSYCHOLOGICAL TESTING	✓					USES AND IMPLICATIONS OF PSYCHOLOGICAL TESTING
							Social and ethical implication of testing
S Y BA							Unit 1
							THE SELF
							APPLICATION: BUILDING SELF-ESTEEM
							Unit 2
							STRESS AND IT'S EFFECTS

Psychology	PSY 110 – PSYCHOLOGY FOR LIVING	✓		✓			APPLICATION: MONITORING YOUR STRESS Unit 4 PSYCHOLOGY AND PHYSICAL HEALTH APPLICATION: UNDERSTANDING THE EFFECTS OF DRUGS
S Y BA Psychology	PSY 111 – PSYCHOLOGICAL STATISTICS						
S Y BA							
Psychology	PSY 109 & PSY 112 – PSYCHOLOGY PRACTICUM'S	✓		✓			Section – A v) Mangal Emotional Intelligence Inventory iv) Test of study habits and Attitudes. v) Adolescent Interest Test: - H. A. David Leadership Preference Scale C) Attitude (Any Two) i) Optimistic Pessimistic Scale ii) Secular Attitude Scale v) A new test of values vi) Social value Test: - H. P. Shrivastava D) Carrier & family ii) Family relationship scale – Govind Tiwari iii) Attitude toward communication job E) Personality Test v) Multi Dimensional Assessment of Personality Series F) Adjustment v) Social Adjustment G) Self Related Test (Any Three) ii) Ego Strength scale viii) Self concept questionnaire
B.Sc III	Paper XX Industrial Microbiology	✓					Unit 1: Layout of Fermentation Industry. QA & QC, IP and WHO standards of sterility

B.Sc II	Semester III Paper VII Environmental Microbiology					Environmental awareness	Unit 1: Microbiology of Air Unit 2: Microbiology of waste and wastewater Unit 3: Microbiology of soil
B.Sc II	Semester III Paper VII Environmental Microbiology				✓	Environmental awareness	Unit 4: Environmental Pollution
B.Sc II	Semester III Paper VIII Immunology					Health awareness	Unit 1: Microbiology Unit 2: Immune system & immune response Unit 3: Immunity Unit 4: Antigen Antibody reactions
B.Sc II	Semester IV Paper XI Applied Microbiology					Environmental awareness	Unit 1: Dairy Microbiology Unit 2: Food Microbiology Unit 3: Foodborne diseases & intoxications
B.Sc II	Semester IV Paper XI Applied Microbiology				✓	Environmental awareness	Fermented Food and Probiotics
B.Sc II	Paper XII Clinical Microbiology					Health awareness	Unit 1: Study of Human Diseases caused by bacteria Unit 2: Study of Human Diseases caused by Enteric bacteria and spirochete Unit 3: Viruses Unit 4: Protozoan and fungal diseases
B.Sc II	Paper IX. Practical					Health awareness	1. Enumeration of microbes from: Indoor and outdoor environment 2. Bacteriological examination of drinking water: MPN, SPC, Qualitative analysis of water, presumptive, confirmed & completed, BOD, COD, isolation of phages
	Paper X Practical						Haemoglobin detection, blood group detection, isolation of normal flora of human body
B.Sc II	Paper XIII Practical					Environmental awareness	Isolation of Azotobacter & Rhizobium

B.Sc II	Paper XIV Practical					Health awareness	1. Detection of specific antigen by ELISA (demonstration – Viral Disease) 2. Visits to related labs, hospitals & institutes
B.Sc I	Paper I					Environmental awareness	Unit 1: History of Microbiology Unit IV : General characters of Microorganisms
B.Sc I	Paper MCB-Bacterial cytology and virology					Health awareness	Unit 4: Emerging human viruses
BA I			✓				Shakespeare's sonnets
Opt Eng							
BA/B.Sc. B.Com			✓				Animal Farm by George Orwell
I S.L.							
BA/B.Sc. B.Com		✓					Naga-Mandala by Girish Karnad
I S.L.							
BA I		✓					Arms and the Man by G.B.Shaw
Opt Eng							
BA II			✓				FRANCIS BACON'S ESSAYS
Opt Eng							
BA III		✓	✓				GB Shaw's Pygmalion: A Romance in five Acts
Opt Eng							
BA III		✓	✓				DH Lawrence's Sons and Lovers
Opt Eng							
BA/B.Sc. B.Com			✓				Drama: Riders to the Sea.
II S.L.							
BA III			✓				Silence! The court is in Session By Vijay Tendulkar
Opt Eng							
BA III			✓				Kantapura by Raja Rao
Opt Eng							
BA III			✓				Indian Modern Poetry in English
Opt Eng							

FY B.A. N.C.C.	National Cadet Corps in India, NCC-101 & Social awareness and community developments, NCC-201		✓	✓	✓	Value Added	<p>Unit 1: Concept of Training in NCC * Understanding the concept of philosophy.(Value Added) Unit 2: *Organization of the NCC. *To understand the history , its moto. (Ethics) *Unit-3 NCC Cadet Duties and responsibilities. (Environmental) * Unit-4: NCC Camps types and conducts.(Sustainable Development)</p>
SY B.A. N.C.C.	Sem-III -P-I Common Subject III, 107,P-II Specialization Subject Army III. 108,Sem-IV -P-1, Common Subject , 110, P-II, Specialized Subject -111	✓	✓	✓	✓		<p>III Semester Paper I Unit 1: Personality development (Human Values),Unit 2: Leadership: (Professional ethics),Unit 3 Foot Drill I, Unit -4 Foot Drill-II(Environment and sustainable development , Gender equality). III Semester Paper II,Unit 1: Defence (Human Values),Unit 2: Map Reading: (Professional ethics),Unit 3: Civil Defence and fire fighting, Unit -4 Disaster Management (Environment and sustainable development , Gender equality) IV Semester Paper I,Unit 1: Health and hygiene (Human Values),Unit 2:Social awareness and community development: (Professional ethics),Unit 3:Drill with arms, Unit -4 Enrollment awareness and conservation (Environment and sustainable development , Gender equality). IV Semester Paper II,Unit 1: Field and Battle craft-I (Human Values),Unit 2:Field and Battle craft-II: (Professional ethics),Unit 3:Communication Part-I, Unit -4 Communication Part-II (Environment and sustainable development , Gender equality)</p>

TY B.A. N.C.C.	Sem-V, P-I, Common Subject, 113, P-II , Specialized subject Army -V, 114, P-III , Contribution of Cadets , 116 (Main),Sem-VI, P-I, Common Subject, 119, P-II , Specialized subject Army -VI, 120, P-III , Indian National Security, 122 (Main)	✓	✓	✓	✓	Leadership Skills	<p>V Semester Paper I Unit 1: Weapon Training (Gender equality),Unit 2: Personality development and life skills: (Professional ethics),Unit 3 Leadership , Unit -4 Social awareness and community development(Environment and sustainable development , Gender equality). V Semester Paper II Unit 1: Military History (Gender equality),Unit 2: National Integeration and awareness: (Professional ethics),Unit 3 Personality development and leadership , Unit -4 Social awareness and community development(Environment and sustainable development , Gender equality). V Semester Paper III Unit 1: Pollution Control (Gender equality),Unit 2: Communication Process: (Professional ethics),Unit 3 Internal security challenges, Unit -4 Problems of our increasing population(Environment and sustainable development , Gender equality). VI Semester Paper I Unit 1: Personality development and life skills-II (Gender equality),Unit 2:Disaster Management-II : (</p>
M.Sc. SY Biotechnology	Industrial Biotechnology BTE-4001	✓	✓	✓	✓		<p>Unit III: *Degradation of xenobiotics from the environment. *Bioremediation. Unit IV: * Biotechnology in waste management. *Types of ETP plants. *Bioinsecticides and Biofertilizers.</p>

TY B.Sc. Biotechnology	Bioethics (BET) XXXIV	✓		✓			Unit 1: * Biotechnology and Society, Social Responsibility. Unit 2: * Bioethics, Legality, morality and ethics. Human rights, justice, equity etc.
FY B.Sc. Zoology	Genetics-I ZOL 202 Paper V	✓	✓	✓			Chromosom theory of sex determination, Sex linked inheritance.
SY B.Sc. Zoology	Genetics-II ZOL 302 Paper V	✓	✓	✓			Human Genetics
TY B.Sc. Zoology	Ecology ZOL- 501 Paper XV	✓	✓	✓	✓		
FY B.A. Physical Education (Optional subject)	Philosophical,Sociological Foundation and History of Physical Education (101) I	✓		✓	✓		Unit 1: * Philosophies of Education applied to Physical Education. Unit 2: * Social Environment for development of Individual Personality
FY B.A. Physical Education (Optional subject)	Principles And Recent Development of Physical Education (102) II		✓	✓			Unit 1: * Principle of Physical Education. Unit 2: * Classification of Children
FY B.A. Physical Education (Optional subject)	Practical Physical Education (103) III	✓	✓	✓			Track And Field Opted Games
SY B.Sc. Botany	Plant Ecology Paper VIII	✓		✓	✓		Climatic factors- a) Light as an ecological factor, Global radiation, b) Temperature as an Ecological Factor,
SY B.Sc. Botany	Utilization of Plants Paper XI	✓		✓			History,Origin, Cultivation, Harvesting, improved varieties and economic importance of plants, Mushroom cultivation
TY B.Sc. Botany	Genetics and Biotechnology Paper XIX	✓	✓	✓			Chromosomal theory of sex determination, Sex linked inheritance.

FY B.Sc. Zoology	Genetics-I ZOL 202 Paper V	✓	✓	✓			Chromosom theory of sex determination, Sex linked inheritance.
SY B.Sc. Zoology	Genetics-II ZOL 302 Paper V	✓	✓	✓			Human Genetics
TY B.Sc. Zoology	Ecology ZOL- 501 Paper XV	✓	✓	✓	✓		Abiotic environmental factors; Biotic environmental factors;Community; Population
FY M.Sc. Mathematics	Abstract Algebra I, MAT 401	✓		✓		Reasoning	Unit 1: Group, Sub groups Unit 2: Permutation Group Unit 4: Ideals
	Real Analysis I, MAT 402	✓		✓		Thinking	Unit 1: Reimann Steiltejes Integral
	Topology I, MAT 403	✓		✓		Decision Making	Unit 1: Topological spaces, Neighbourhood system
	Complex Analysis I, MAT 404	✓		✓		Reasoning	Unit 3: Power Series, Trignomatic and Hyperbolic functions
	Discrete Mathematics I, MAT 422	✓		✓		Reasoning	Unit 1: Formal Logic. Unit 3: Lattices Unit 4: Boolean Algebra
	Linear Algebra, MAT 411	✓		✓		Decision Making	Unit 1: Vector Spaces Unit 2: Linear Transformation
	Real Analysis II, MAT 412	✓		✓		Thinking	Unit 1: Measure on Real Line Unit 4: Riemann and Leabegue Integral
	Topology II, MAT 413	✓		✓		Thinking	Unit 1: Compactness and its Chracterization
	Complex Analysis II, MAT 414	✓		✓		Decision Making	Unit 1: Compactness and Convergence in analytic Function Unit 2: Harmonic Function
	Discrete Mathematics II, MAT 432	✓		✓	✓		Unit 1: Graph , Path, Circuit Unit 2: Trees
	Functional Analysis MAT 501	✓		✓		Thinking	Unit I: Banach Spaces Unit 3: Hilbert Spaces

SY M.SC
Mathematics

Partial Differential Equations MAT 502	✓		✓		Decision Making	Unit-I: integral surface passing through a curve, surfaces orthogonal Unit 3: Integral surfaces circumscribing a given surfaces Unit 4: Vibration of an infinite string, vibration of semi-infinite string, vibration of a string of finite length,
Fluid Mechanics-I MAT 522	✓		✓		Decision Making	Unit – 2: Acceleration of a Fluid, Pressure at a point in a fluid at rest and moving fluid
Numerical Analysis MAT 523	✓		✓		Reasoning	Unit – I: Bisection method; Iteration methods Unit 2: Direct methods; Gauss Elimination method; Gauss – Jordan Elimination method; Unit 3: Interpolation and approximation
Operation Research – I MAT 525	✓		✓		Reasoning	Unit 1: Operations research and its scope, Necessity of operations research in industry
Linear Integral Equations MAT 511	✓		✓		Thinking	Unit 2: Methods of obtaining solution for Fredholm Unit 3: Methods of solutions for Volterra integral equationsintegral equations,
Mechanics MAT 512	✓		✓		Decision Making	Unit – I: Mechanics of system of particles Unit – 5: Euler’s theorems, finite rotation, infinitesimal rotation, rotations in the plane
Fluid Mechanics-II MAT 532	✓		✓		Decision Making	Unit – 2: Stress Analysis in Fluid Motion, Unit – 3: Some Solvable Problems in viscous flow with heat Unit – 4: Flow between two porous Plates transfer:
Fuzzy Mathematics MAT 533	✓		✓		Reasoning	Unit-I: From classical (crisp) sets to fuzzy sets Unit-5: Fuzzy Relations

	Operations Research – II MAT 535	✓		✓		Reasoning	Unit – I: Sequencing, problems with n jobs and two machines Unit – 2: Dynamic programming Unit – 4: Replacement problems, Applications to industrial problems Unit – 5: Network scheduling by PERT/PM
FY M.Sc. Microbiology	Biostatistics, Computer applications and Research Methodology & I					Research Ethics	Unit - 5 Research Methodology
	Industrial Food and Dairy Microbiology & IV	✓					Unit – 5 Food spoilage and Quality assurance
	Recent trends in Virology & V					Awareness of proactive measures	Unit-5 Control of Viruses and Emerging Viruses
	Microbial Diversity and extremophiles & VIII				✓		Unit - 1 Biodiversity
SY M.Sc. Microbiology	Environmental Microbial Technology & XII				✓		Unit – 1 Environment and Ecosystems
							Unit – 2 Eutrophication
							Unit –3 Effluent treatment techniques
							Unit – 4 Bioremediation of Xenobiotics
							Unit – 5 Global environmental problems
	Recombinant DNA Technology & XIII	✓					Unit -5 Applications of genetic engineering and PCR

Fermentation Technology & XIV	✓					Unit – 3 Modern trends in microbial production
						Unit – 5 IPR and Patents
Pharmaceutical Microbiology & XVI	✓					Unit IV: Regulatory Practices and Policies in Pharmaceutical Industries.
						Unit V: Quality Assurance and Validation

