

Core-I BOTANY

(Core II- Zoology, Core III- Chemistry)

Sem	Core-I 4 Credits per course	Core-II 4 Credits per course	Core-III 4 Credits per course	Multidisciplinary <i>(Students to choose from the concerned subject MDC or from the MDC basket)</i> 3 Credits per course	AEC 4 Credits per course	SEC <i>(Students to choose from the concerned subject SEC or from the SEC basket)</i> 3 Credits per course	VAC <i>(Students to choose from VAC basket)</i> 3 Credits per course	COM. ENG/ Internship
I	1. Microbiology and Phycology 2. Analytical techniques in Plants	Invertebrates		Gardening and Vermicomposting or Any other course from the Multidisciplinary basket	Odia (Compulsory)		Environmental Studies and Disaster management (Compulsory)	
II	3. Cell Biology 4. Mycology and Phytopathology		Atomic Structure, Atomic Properties and Chemical Bonding	Herbarium Preparation or Any other course from the Multidisciplinary basket	English (Compulsory)	Bio fertilizers Nursery & Gardening or Any other from SEC Basket		
	Summer Vocational Course:							4 Credits
III	5. Archegoniate 6. Anatomy of Angiosperms &	Diversity of Chordates		Tissue Culture of Plants or Any other course from			Any courses from VAC basket	

	Economic Botany 7. Genetics			the Multidisciplinary basket				
IV	8. Basic Molecular Biology 9. Plant Ecology and Phytogeography 10. Plant systematics		Fundamental Organic Chemistry					
	Summer Vocational Course:							4 Credits
V	11. Reproductive Biology of Angiosperms 12. Basic Plant Physiology 13. Basic Plant Biotechnology	Microbiology				Soilless Cultivation or Organic farming or Introduction to statistics and data analyses or Any other Courses from SEC Basket	Any courses from VAC basket	
VI	14. Basic Plant Metabolism 15. Resource Management		States of matter, and Ionic equilibrium			Ethno botany or Mushroom Cultivation or Tissue Culture & plant regeneration or Vermicomposting or Any other Courses from SEC Basket	Any courses from VAC basket	

VII	16. Applied Molecular Biology 17. Applied Biochemistry 18. Biostatistics 19. Applied Ecology	Cell Biology						
VIII	20. Applied plant physiology 21. Applied Biotechnology 22. Applied Microbiology 23. Bioinformatics	Principles of Ecology						

Zoology

Semester	Subjects
I	Core I - Invertebrates: Protista to Echinodermata
	Core II- Diversity of Chordates: Protochordates to Mammalia
II	Core III- Microbiology
	Core IV - Cell Biology
III	Core V- Principles of Ecology
	Core VI- Physiology: Controlling and Coordinating systems
	Core VII- Fundamentals of Biochemistry
IV	Core VIII- Endocrinology & Reproductive Biology
	Core IX- Comparative Anatomy of Vertebrates
	Core X- Physiology: Life Sustaining Systems
V	Core XI- Biochemistry of Metabolic Processes
	Core XII- Principles of Genetics
	Core XIII- Molecular Biology

VI	Core XIV- Developmental Biology
	Core XV- Taxonomy and Evolutionary Biology
VII	Core XVI- Instrumentation and Techniques
	Core XVII- Biostatistics and Bioinformatics
	Core XVIII- Animal Biotechnology
	Core XIX- Immunology
VIII	Core XX- Aquatic Biology and Toxicology
	Core XXI- Wildlife and Conservation Biology
	Core XXII- Chronobiology & Animal Behaviour
	Core XXIII- Research Project

Chemistry

Semester	Subjects
I	Core I - Atomic Structure, Periodicity of Elements and Chemical Bonding
	Core II- Fundamental Organic Chemistry
II	Core III- States of matter, and Ionic equilibrium
	Core IV - Chemical thermodynamics, equilibrium, and Colligative property
III	Core V- Acids and Bases, Metallurgy, Chemistry of main group elements
	Core VI- Chemistry of halogen, oxygen and sulphur containing organic compounds
	Core VII- Phase equilibrium, Chemical dynamics, catalysis and surface chemistry
IV	Core VIII- Coordination Chemistry, Chemistry of d- and f-block elements, Inorganic Reaction Mechanism and electron transfer reactions
	Core IX- Natural Products, Heterocyclic Compounds, Nitrogen containing compounds and Polynuclear Hydrocarbons
	Core X- Conductance, electrochemistry, electrical properties of atoms and molecules
V	Core XI- Organic Spectroscopy
	Core XII- Basic quantum chemistry, Molecular & electronic spectroscopy, and photochemistry
	Core XIII- Chemistry of Organometallic Compounds

VI	Core XIV- Analytical Methods of Chemistry
	Core XV- Solid and porous materials, and magneto chemistry and power cells
VII	Core XVI- Chemistry of Biomolecules
	Core XVII- Polymer Chemistry
	Core XVIII- Green Chemistry
	Core XIX- Oxidation, Reduction, Reagents, Rearrangements and Name Reactions
VIII	Core XX- Quantum chemistry & Statistical Thermodynamics
	Core XXI- Chemical group theory, electronic spectra of metal complexes, and nuclear chemistry
	Core XXII- Pericyclic reactions, Photochemistry and Retro synthesis
	Core XXIII- Research Methodology for Chemistry