

**THE LIST OF COURSES WHICH ADDRESS THE PROFESSIONAL ETHICS GENDER,  
HUMAN VALUES, ENVIRONMENT AND SUSTAINABILITY**

SR NO	NAME OF COURSES
1	POLITICAL SCIENCE
2	M.Com
3	BOTANY
4	ENGLISH
5	ZOOLOGY
6	ENVIRONMENT SCIENCE

**Class: F.Y.B.A Subject: Political science Course NO. 11161 A**

**Course name: INTRODUCTION TO INDIAN CONSTITUTION**

No.	Chapter	Topic	Enrichment
1.	Fundamental Rights, Duties and the Directive Principles of States	Nature of Fundamental Rights	Awareness about Gender, Equality, Freedom, and Culture

**Course name: AN INTRODUCTION TO POLITICAL IDEOLOGIES**

**Class: S.Y.B.A Subject: Political science Course NO. 23164**

No.	Chapter	Topic	Enrichment
1.	Feminism	Feminism in India	Women Empowerment, self-sufficiency, safety, self-defence, to help women deal with common health issues.
2	Gandhism	Truth and Non Violence, Theory of Satyagraha	Strength. truth, love, firmness passive resistance

**Class: M.COM-I (2019 Pattern)**

**Subject name: Business Ethics and Professional Values Course Subject Code: 213**

No.	Chapter	Topic	Enrichment
1.	Introduction of Business Ethics and Professional Values	Nature , concept and definition of term Business Ethics , Profession and Values,	Significance of Ethical & Professional values enrich the professional work environment

		Indian Ethos, Ethics and Values – Work Ethos – Importance of Human Values. Guidelines of Socio Ethical System at General Level. Meaning of Social Ethics, Issues related to Socio Ethics Factors affecting Social Ethics.	
2.	Indian Ethical Practices	Indian Ethical Practices in A ) Marketing and Advertising : B ) Copy rights and Patents C ) Employment D ) Gender Discrimination E ) Accounting Disclosures	Enrich the various business ,commercial & Professional activities in sustainable business
3.	Dilemmatic situations in Professional Ethics, Code of Ethics and conduct	1. Corporate Governance 2. Corporate Social Responsibility 3. Corporate Citizenship	Enrich the business and social relationship

**Class: M.COM-I (2019 Pattern)**

Course name: HUMAN RIGHTS AND DUTIES

No.	Chapter	Topic	Enrichment
1.	Basic concepts	Human Values, Dignity Liberty Equality Justice Unity in Diversity Ethics and Morals	Significance of Values enrich the Individual and social Personality

**Class: F.Y.B.Sc.**

Subject: Botany, Course No: Sem I: BO 111-BO 113, Sem II: BO 121 – BO 123

**Class: S.Y.B.Sc.**

Subject: Botany, Course No: Sem I: BO 231 – BO 233, Sem II: BO 241 – BO 243

**Class: T.Y.B.Sc.**

Subject: Botany, Course No: Sem I: BO 351 – BO 3511, Sem II: BO 361 – BO 3611

**F.Y. B.Sc.**

<b>Sr. No.</b>	<b>Course Title</b>	<b>Topics</b>	<b>Enrichment</b>
1.	Plant life and utilization I & II	Plant Diversity, Cryptogams, Phanerogams and their uses	Study of Biodiversity of plants ensures a resource for new food crops, medicines, Plant life balances, its utilization and importance to humans as well as to other living organism in nature
2.	Plant morphology and Anatomy	External and Internal characters of various parts of plants	Focuses on the morphology and anatomy of plants due to the important role that external and internal plant physical characteristics play during the different stages of the life of a given plant organ
3.	Principles of plant science	Introduction to plant physiology, Plant growth, Plant cell organelles, Cell cycle	Studies and research on plants enriches our intellectual life and adds to our knowledge about other life processes. The results of research on plant systems also can teach us how to approach problems in agriculture, health, and the environment

### **S.Y. B.Sc.**

<b>Sr. No.</b>	<b>Course Title</b>	<b>Topics</b>	<b>Enrichment</b>
1.	Taxonomy of Angiosperms and Plant Ecology	Classification of angiosperms, and ecological adaptations	Taxonomy helps in placing plants in order, identifying them and naming them. Ecology involves use of scientific methodology via lab experiments to understand how the different organisms grow, populate, how they interact with other organisms either as parasites, predators, how the organisms die out as well as how they evolve or adapt to changing climatic and environmental situations.
2.	Plant Physiology	Metabolic activities of plants	Fundamental processes such as photosynthesis, respiration, plant nutrition, plant hormone functions, tropisms, nastic movements, photoperiodism, photomorphogenesis, circadian rhythms, environmental stress physiology, seed germination, dormancy and stomata function and transpiration, both parts of plant water relations, are studied by plant physiologists
3.	Plant Anatomy and	Internal characters of	Focuses on anatomy of plants due to the important role that internal plant parts play in

	Embryology	plants. Developmental stages from zygote formation to seed formation in plants	growth and structure building. Embryology helps in understanding growth pattern from embryonic stage till formation of seed to continue life cycle
4.	Plant Biotechnology	Various techniques used in modern biological research	Plant biotechnology involves knowledge on breeding to improve plants for various reason such as increasing yield and quality, heat and drought resistance, resistance to phytopathogens, herbicide and insect resistance, increasing biomass for biofuel production, and enhancing the nutritional quality of the crops. Also biotechnology is most important for its implications in health and medicine.

### T.Y. B.Sc.

Sr. No.	Course Title	Topics	Enrichment
1.	Algae and Fungi Archegoniate Spermatophyta and Paleobotany	Plant biodiversity studies in Algae, Fungi, Bryophytes, Pteridophytes, Gymnosperms, Angiosperms and fossil studies	Biodiversity is the variability among living organisms from all sources, including terrestrial, marine, and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species, and of ecosystems
2.	Plant Ecology	Ecological study	Ecology involves use of scientific methodology via lab experiments to understand how the different organisms grow, populate, how they interact with other organisms either as parasites, predators, how the organisms die out as well as how they evolve or adapt to changing climatic and environmental situations.
3.	Cell and Molecular Biology Genetics	Cell structure and functions. Molecular studies, Genome studies	Basic study of Cell structure and functions. It includes, evolution of structure of genome, genetic basis of adaptation and specification and genetic changes in response to selection within the population
4.	Medicinal Botany	Ayurveda and plants used as	Medicinal plant includes various types of plants used in treating various

		medicines	ailments naturally.
5.	Biochemistry	biochemical mechanisms of the plant in synthesizing various components	Plant biochemistry is an important emerging field in the agricultural sciences. Basic knowledge of the chemistry and the biochemical mechanisms of the plant in synthesizing various components are essential for advancements needed in other areas of agriculture like plant breeding, plant protection, plant production, etc
6.	Plant Pathology	Study of plant disease, causes and control	The study of the organisms and environmental conditions that cause disease in plants, the mechanisms by which this occurs, the interactions between these causal agents and the plant (effects on plant growth, yield and quality), and the methods of managing or controlling plant disease
7.	Advanced Plant Biotechnology	Study of plant Tissue culture Bio-techniques	The studies of different plant tissue culture methods will help students to set up own business in future and study of different gene transformation in plant.
8.	Plant Breeding and Seed Technology	Crop and seed quality improvement	The science driven creative process of developing new plant varieties that goes by various names including cultivar development, crop improvement, and seed improvement.

Class: SYBASubject: English Special-I

Course name: Appreciating Drama

No.	Chapter	Topic	Enrichment
1.	A Midsummer Night's Dream- William Shakespeare	Drama	Gender issues/Love Marriages / Social context
2.	Arms & the Man	Drama	Effects of War on humanity, racial issues, Human values
3.	The Fire and the Rain	Drama	Gender inequalities, Castism, Human values, Indian Mythical study

Class: SYBASubject: English Special-II

Course name: Appreciating Poetry

No.	Chapter	Topic	Enrichment
1.	Appreciating poetry- Mirage	poems	Gender differences/ ecological values/ aesthetic values/ humanitarian values
2.			

Class: SYBASubject: English General-II

Course name: Skill Enhancement Course

No.	Chapter	Topic	Enrichment
1.	Advanced Study of English language- Linguistics	Language Study	Phonetics, Morphology, Semantics, Syntax, etc.

Class: SYBA Subject: Compulsory English

Course name: Compulsory English

No.	Chapter	Topic	Enrichment
1.	Panorama: Values and Skills through Literature	Short Stories, Poetry, Grammar, Vocabulary & Soft Skills	Racial Issues/Indian Ethos/Gender differences/ cultural values/ aesthetic values/ humanitarian values/language aspects/soft skills

Class: SYBSc and SYBCS Subject: Technical English

Course name: Technical English

No.	Chapter	Topic	Enrichment
1.	Short Stories & poems: Horizon	Short Stories/ Poetry/grammar/ soft skills	Indian Ethos/ cultural values/ aesthetic values/ humanitarian values/language aspects/soft skills

Class: TYBA Subject: English Special III

Course name:Appreciating Novel

No.	Chapter	Topic	Enrichment
1.	Silas Marner	Novel	Society & man/cultural values/ aesthetic values/ humanitarian values/ Feministic study/Natural World
2.	A Farewell to Arms	Novel	Effects of war/cultural values/ aesthetic values/ humanitarian values
3.	The Painter of Signs	Novel	cultural values/ aesthetic values/ humanitarian values

Class: TYBA Subject: English Special IV

Course name:Introduction to Literary Criticism

No.	Chapter	Topic	Enrichment
1.	Literary Criticism	Critical Approaches/Literary & Critical Theories	Critical Analysis of literature, Appreciation skills/Broad understanding of literary terms

Class: TYBA Subject: English General III

Course name: Skill Enhancement Course: Enhancing Employability Skills

No.	Chapter	Topic	Enrichment
1.	Aspirations: English for Careers	Careers/ Employability skills	Employability Skills/Competitive Exam skills/ Research skills/ Content writing

Class: TYBA Subject: Compulsory English

Course name: Compulsory English

No.	Chapter	Topic	Enrichment
1.	Exploring New Horizons	Prose/Poetry/Grammar/ Writing/ Soft Skills	Aesthetic values/Cultural values/ writing skills/ soft skills/language aspects

Class: F.Y.B.Sc Subject: Zoology

Course name: ZO-111 Animal Diversity I

No.	Chapter	Topic	Enrichment
1.	General Features of kingdom Animalia	General characters, Grades of organization, Symmetry.	a) Sensitisation towards animal world. b) Development of conceptual clarity with regard to the anatomy of animals at different levels. c) Understanding of evolutionary perspective of each level of organisation d) Learning of modern system of animal classification
2.	Kingdom Protista (Phylum: Protozoa)	Salient features, Classification up to classes, Locomotion, Economic importance	Get an idea of following a) Ecological role of unicellular eukaryotes b) Evolution and mechanism of heterotrophy. c) Pathogenicity and industrially important protozoan species.
3.	Origin of Metazoa	Origin and importance	Understanding of origin of intercellular

			communication.
4.	Phylum: Porifera	Introduction Classification, Canal system in sponges, Skeleton in sponges, Regeneration in sponges, Economic importance	Understanding of following a) Physiology of metazoan in the absence of true tissue. b) Role of Porifera in food web with reference to Filter feeding habit
5.	Phylum: Cnidaria	Salient features, Classification up to class level, Polymorphism in Hydrozoa, Economic importance	Understating of key evolution aspects like formation of the third germ layer, nervous system and bilateral symmetry
6.	Phylum: Platyhelminthes	Salient features, Classification up to classes, Parasitic adaptations, Economic importance	To learn classification and adaptations in life endangering parasite.

Course name: ZO-121 Animal Diversity II

No.	Chapter	Topic	Enrichment
1.	Phylum Aschelminthes	Salient feature, Classification, Economic importance	Understanding of classification and threats from the free living parasite for human, pets and economically important plants
2.	Phylum Annelida	Salient features, Classification Economic importance	Understanding of classification and ecological role of Annelids.
3.	Phylum Arthropoda	Salient features, Classification mouth parts in insects Economic importance	Understanding of arthropods with respect to following a) Classification, modifications (with respect to food habit) and importance (as source of food, silk,

			honey and wax) of arthropods b) Role in drug discovery, pollination and biological pest control. c) Ecological indicators
4.	Phylum Mollusca	Salient features, Classification, Economic importance of Mollusca.	Understanding of molluscs with respect to following a) Classification and importance as source of food, calcium carbonate and drug. b) Role as ecological indicator. c) Ornamental value of shell.
5.	Phylum Echinodermata	Salient features, Classification	Understanding of echinoderms with respect to following a) Origin of deuterostome. b) Classification and role as ecological indicator. c) Value for ornamental fishery.

Course name: ZO-112 Animal Ecology

No.	Chapter	Topic	Enrichment
1.	Introduction to Ecology	Basic concepts	Understanding of prosperity and present degradation of environment
2.	Ecosystem	Types, Structure and Composition, Food chain, Concept of Eutrophication	Understanding of ecosystem with respect to following a) How human is part of ecosystem. b) Need of maintaining of ecological balance. c) Sustainable utilization and conservation of natural resources
3.	Population	Characteristics, Regulations, Interactions, Methods of population	a) Learning of importance and techniques of quantitative and qualitative estimation of each species.

		estimation.	b) Understand population trends.
4.	Animal interactions	Introduction, Types, Antagonistic associations	Understanding of dependence and association between species

Course name: ZO-122 Cell Biology

No.	Chapter	Topic	Enrichment
1.	Introduction	Importance of Cell Biology	Industrial applications of Cell Biology
2.	Overview of Cells	Prokaryotic and Eukaryotic cells	Structural and functional organization of cell with an emphasis on nucleus, plasma membrane and cytoskeleton.
3.	Techniques in Cell Biology	Microscopy, Stains and dyes, Micrometry.	Learn techniques to understand dynamism of each part of animal
4.	Plasma Membrane	Structure, Transport across membranes, Functions of cell membrane, Cell Junctions	a) Dynamism of cell membrane. b) Acquire insight of transport mechanisms for the maintenance and composition of cell
5.	Nucleus	Structure and function, Chromatin	a) Understand ultrastructure of nucleus b) Involvement of nucleus in heredity and variation
6.	Endomembrane System	Structure, location and Functions	a) Understand the compartmentalization and higher degree of cell specialization b) Understand the interlinking of endomembrane system for functioning of cell.
7.	Mitochondria and Peroxisomes	Ultrastructure and function	a) Understand ultrastructure of mitochondria and peroxisomes

			b) Role of mitochondria and peroxisomes in metabolism
8.	Cell Division	Cell cycle, Mitosis, Meiosis.	Understand mechanism of Reproduction of cell

Class: S.Y.B.Sc Subject: Zoology

Course name: ZY-231: Animal Systematics and Diversity -III

1	Introduction to Phylum Chordata	Origin & Ancestry of Chordates, Comparative account of fundamental characters of Chordates with Non Chordates, Salient features of Phylum Chordata, Classification of Phylum Chordata up to classes – Pisces, Amphibia, Reptilia, Aves, Mammalia.	To understand the evolutionary tree chordate and The students will be able to understand, classify and identify the diversity of higher vertebrates.
2	Introduction to Group – Protochordata.	Salient features of Protochordata, Salient features of subphyla with two examples	The students will be able to understand the complexity of Group Protochordata
3	Introduction to subphylum – Vertebrata	Salient features of Vertebrata, Introduction and General characters of sections with two examples - Names only	The students will be able to understand the complexity of Group Vertebrata
4	Introduction to Class – Pisces	Salient features of Class – Pisces, Introduction and Salient features of sections with two examples - Names only	The students will be able to understand the diversity of fishes and understand the different parts of the fishes
5	Introduction to Class – Amphibia	Salient features and Parental care in Class – Amphibia	The students will be able to understand the complexity of class Amphibia
6	Study of Scoliodon	Systematic position, Habit and habitat, External characters, Digestive system, food, feeding and physiology of digestion,	Understanding of vertebrate animal life and its classification

		Respiratory system, Blood vascular system, Nervous system and sense organs, Male urinogenital system and female reproductive system	
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Course name: ZY-232: Applied Zoology - I

No.	Chapter	Topic	Enrichment
1.	Sericulture :	An introduction to sericulture, Study of different types of silk moths, their distribution and varieties of silk produced , External morphology and life cycle of Bombyx mori, Cultivation of mulberry, Harvesting of mulberry, Silk worm rearing, Post harvest processing of cocoons	<ul style="list-style-type: none"> <li>a) Understand scope and importance of sericulture in livelihood development.</li> <li>b) Understanding of key aspects of silk worm life cycle</li> <li>c) Selection of appropriate methods for sericulture</li> </ul>
2.	Agricultural Pests and their control :	An introduction to Pest, types of pests Major insect pests of agricultural importance, Non insect pest Pest control practices, Plant protection appliances, Hazards of pesticides on human and antidotes.	Understand methods to reduce fisheries loss

Class: S.Y.B.Sc Subject: Zoology

Course name: ZY-241: Animal Systematics and Diversity - IV

No.	Chapter	Topic	Enrichment
1.	Introduction to class –Reptilia	<p>Salient features of class Reptilia with one example (name only) – <i>Chelone</i>, <i>Calotes</i>.</p> <p>Venomous and Non-venomous snakes – Cobra, Russell’s viper, Rat snake, Grass snake.</p> <p>Snake venom, symptoms, effect and cure of snake bite, first aid treatment of snakebite.</p> <p>Desert adaptations in reptiles in brief.</p>	<p>a) The students will be able to understand the complexity of class Reptilia</p> <p>b) The students will be aware of different types of snakes and their characters and first aid treatments</p>
2.	Introduction to class –Aves	<p>Salient features of class Aves with two examples (names only) – Sparrow, Parrot.</p> <p>Flight adaptations in birds.</p> <p>Types of Beaks and feet in birds.</p> <p>Migration in birds – Altitudinal, Latitudinal.</p>	The students will be able to understand the varieties of birds and their peculiarities
3.	Introduction to class - Mammalia	<p>Salient features of class Mammalia with two examples (names only) – Rat, Rabbit.</p> <p>Egg laying mammals.</p> <p>Aquatic adaptations in mammals.</p> <p>Flying adaptations in mammals.</p> <p>Cursorial and fossorial adaptation in mammals</p>	The students will be able to understand the diversities and various adaptations of mammals
4.	Study of Rat	<p>Systematic position, habit and habitat.</p> <p>External characters.</p> <p>Digestive system, food and feeding.</p> <p>Respiratory system.</p> <p>Blood vascular system – Structure of Heart.</p> <p>Nervous system – Central Nervous system only.</p> <p>Sense organs – Structure and functions of Eye &amp; Ear.</p> <p>Reproductive system.</p>	The students will be able to understand different systems of mammals with the study of rat model

Course name: ZY-242: APPLIED ZOOLOGY - II

No.	Chapter	Topic	Enrichment
5.	Apiculture :	Introduction to Apiculture, Study of habit, habitat and nesting behavior, Life cycle, Colony organization and division of labour, Polymorphism, Bee behaviour and bee communication, Bee keeping equipments, Bee keeping and seasonal management, Bee products, Diseases and enemies of Bees, Bee pollination	c) Understand scope and importance of apiculture in livelihood development. d) Understanding of bee colony characteristics and key aspects of honey bee life cycle e) Selection of appropriate methods for apiculture
6.	Fisheries :	An introduction and types, Types of ponds used in fishery, Habit, habitat and culture methods of freshwater forms, Harvesting methods Crafts and gears in Indian Fishery, Fishery byproducts, Fish preservation technique	a) Understand basic requirements and techniques in fisheries and aquaculture b) Understand role of fisheries in livelihood development c) Understand design and operation of different type of crafts and gears

Environmental science syllabus

[http://collegecirculars.unipune.ac.in/sites/documents/Syllabus2020/S.Y.%20B.Sc.%20Environmental%20Science%20\(2020-21\)21.122020.pdf](http://collegecirculars.unipune.ac.in/sites/documents/Syllabus2020/S.Y.%20B.Sc.%20Environmental%20Science%20(2020-21)21.122020.pdf)

