



Anjuman Khairul Islam's

POONA COLLEGE OF ARTS, SCIENCE & COMMERCE

- Affiliated to Savitribai Phule Pune University: ID No PU/PN/ASC/023/1970
- Junior College Index No: J-11.15.004
- Government of Maharashtra and Savitribai Phule Pune University Recognized Minority Institute
- UGC - 2(f) & 12 (B) Status • NAAC Re-accredited College • DST - FIST Funded College



K. B. Hidayatullah Road, Camp,
Pune - 411001. (MS), India



+91-20-2645 4240 / 2644 6319.



www.poonacollege.edu.in
principal@poonacollege.edu.in

CRITERION- I

KEY INDICATOR	1.3 Curriculum Enrichment
METRIC NO.	1.3.1

- Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability into the Curriculum

LIST AND DESCRIPTION OF COURSES WHICH ADDRESS THE PROFESSIONAL ETHICS, GENDER, HUMAN VALUES, ENVIRONMENT AND SUSTAINABILITY INTO THE CURRICULUM



Anjuman Khairul Islam's

POONA COLLEGE OF ARTS, SCIENCE & COMMERCE

- Affiliated to Savitribai Phule Pune University: ID No PU/PN/ASC/023/1970
- Junior College Index No: J-11.15.004
- Government of Maharashtra and Savitribai Phule Pune University Recognized Minority Institute
- UGC - 2(f) & 12 (B) Status • NAAC Re-accredited College • DST - FIST Funded College



K. B. Hidayatullah Road, Camp,
Pune - 411001. (MS), India



+91-20-2645 4240 / 2644 6319.



www.poonacollege.edu.in
principal@poonacollege.edu.in

Department of Botany

AY: 2023-24

1.3.1 Institution integrates cross cutting issues relevant to Gender, Environment and Sustainability, Human Values and Professional Ethics into the Curriculum

Programme	Title of the Course	Cross Cutting Issue				Description*
		Professional Ethics	Gender	Human Values	Environment & Sustainability	
FY BSc (Botany) Semester I; CBCS	BO 111: Plant Life & Utilization-I			✓	✓	Content in the course: <ul style="list-style-type: none"> • Ch 2: Utilization of algae in biofuel industry, agriculture, pharmaceuticals, food & fodder • Ch 3: Utilization of lichens • Ch 4: Utilization of fungi industry, agriculture, food & pharmaceuticals • Ch 5: Utilization of Bryophytes as ecological indicators, agriculture, fuel, industry & medicine
FY BSc (Botany) Semester II; CBCS	BO 121: Plant Life & Utilization-II	✓		✓	✓	Content in the course: <ul style="list-style-type: none"> • Credit I: 3. Utilization & economic importance of pteridophytes • Credit II: 1. Utilization & economic importance of gymnosperms • Credit II: 3. Utilization & economic importance of angiosperms in food, fodder, fibres, horticulture

						& medicines
FY BSc (Botany) Semester II; CBCS	BO 122: Principles of Plant Science s				✓	Content in the course: <ul style="list-style-type: none"> • Ch 9: Cell cycle in plants.
SY BSc (Botany) Semester III, CBCS	Taxonomy of Angiosperms & Plant Ecology				✓	Content in the course: <ul style="list-style-type: none"> • Ch 3: Taxonomic literature • Ch 5: Botanical Nomenclature • Ch 8: Introduction to ecology • Ch 9: Ecological grouping of plants
SY BSc (Botany) Semester III, CBCS	BO- 232: Plant Physiology	✓			✓	Content in the course: <ul style="list-style-type: none"> • Ch 7: Nitrogen metabolism: symbiotic & non symbiotic nitrogen fixation
SY BSc (Botany) Semester IV, CBCS	BO- 241: Plant Anatomy & Embryology	✓			✓	Content in the course: <ul style="list-style-type: none"> • Ch 3: Mechanical Tissue System: • Ch 11: Fertilization: Mechanism of pollination and significance of fertilization
SY BSc (Botany) Semester IV CBCS	BO- 242: Plant Biotechnology	✓		✓	✓	Content in the course: <ul style="list-style-type: none"> • 5.1: Introduction • 5.2: Phytoremediation- definition & concept • 5.3: Methods of phytoremediation • 5.4: Environmental sustainability
TY BSc (Botany) Semester V, CBCS	BO- 351: Algae and Fungi	✓			✓	Content in the course: <ul style="list-style-type: none"> • Ch 2: Algae: economic importance • Ch 4: Fungi: economic importance
TY BSc (Botany) Semester V, CBCS	BO- 353: Spermatophyta				✓	Content in the course: <ul style="list-style-type: none"> • Unit 4: Plant Identification: Plant authentication

	& Paleobotany					<ul style="list-style-type: none"> • Unit 2: Fossil: process of fossil formation, types of fossils
TY BSc (Botany) Semester V, CBCS	BO-354: Plant Ecology	✓	✓	✓	✓	<p>Content in the course:</p> <ul style="list-style-type: none"> • Ecology • Environmental Crisis: • EIA: process, objectives • Environmental audit • Ecology & economics • Introduction to biodiversity • Ch 3: Biodiversity Loss • Ch 4: Inventorying & monitoring of Biodiversity • Ch 5: Conservation of Biodiversity
TY BSc (Botany) Semester V, CBCS	BO. 356: Genetics	✓	✓	✓	✓	<p>Content in the course:</p> <ul style="list-style-type: none"> • Ch 6: Quantitative & cytoplasmic inheritance • Ch 7: Sex linked inheritance • Ch 8: Euploidy & aneuploidy • Ch 12: Population genetics & evolution
TY BSc (Botany) Semester V, CBCS	BO-3510: Medicinal Botany	✓		✓	✓	<p>Content in the course:</p> <ul style="list-style-type: none"> • Ch 6: Applied Medicinal Botany: • Ch 6.1: Study of drugs with respect to biological source, geographical distribution, common varieties • Ch 6.3: Concept, definition & introduction to biopharmaceutics, pharmacodynamics & clinical pharmacokinetics with applications • Ch 7: Ethnobotany • Ch 1: Economic Botany:
TY BSc (Botany) Semester V, CBCS	BO-3511: Plant Diversity and Human Health	✓	✓	✓	✓	<p>Content in the course:</p> <ul style="list-style-type: none"> • All units: factors leading to loss of agrobiodiversity, conservation of Biodiversity, social approaches to conservation, biodiversity

						awareness programmes, sustainable development, understanding the role of plants in human life
TY BSc (Botany) Semester VI, CBCS	BO-363: Plant Pathology	✓		✓	✓	Content in the course: <ul style="list-style-type: none"> • Ch 11: Principles of Plant disease control • Ch 12: Molecular diagnostics & transgenics in crop protection
TY BSc (Botany) Semester VI, CBCS	BO-365: Advanced Plant Biotechnology	✓			✓	Content in the course: <ul style="list-style-type: none"> • Introduction to Biotechnology: Biotechnology global impact & current excitements of plant biotechnology-plant health care & plant protection • Biotechnology of Biological nitrogen fixation: diazotrophs & their ecology • Nif gene biofertilizers- algal, fungal, phosphate solubilising & organic fertilizers • Biotechnology & Society: GM foods & its safety, recombinant foods & religious beliefs, recombinant therapeutic product for human health care, Intellectual Property Rights
TY BSc (Botany) Semester VI, CBCS	BO-366: Plant Breeding & Seed Technology	✓	✓	✓	✓	Content in the course: <ul style="list-style-type: none"> • Breeding for stress tolerance, mutation breeding • Seed Processing, Certification, sampling, testing & marketing
TY BSc (Botany) Semester VI, CBCS	BO-3610: Nursery and Gardening	✓	✓		✓	Content in the course: <ul style="list-style-type: none"> • All units: Scope of landscaping, gardening, conservation methods, business.

	Management					
TY BSc (Botany) Semester VI, CBCS	BO-3611: Biofertilizers	✓		✓	✓	Content in the course: <ul style="list-style-type: none"> • Need of biofertilizers, their multiplication, application, entrepreneurship.



**I/C Head,
Department of Botany**



Anjuman Khairul Islam's

POONA COLLEGE OF ARTS, SCIENCE & COMMERCE

- Affiliated to Savitribai Phule Pune University: ID No PU/PN/ASC/023/1970
- Junior College Index No: J-11.15.004
- Government of Maharashtra and Savitribai Phule Pune University Recognized Minority Institute
- UGC - 2(f) & 12 (B) Status • NAAC Re-accredited College • DST - FIST Funded College



K. B. Hidayatullah Road, Camp,
Pune - 411001, (MS), India



+91-20-2645 4240 / 2644 6319.



www.poonacollege.edu.in
principal@poonacollege.edu.in

Professor (Dr.) Aftab Anwar Shaikh

M.Com, Ph.D (Busi. Admin.)

PRINCIPAL



+91 98226 21579



dranwarshaikh@gmail.com

Programme	Title of the Course	Cross Cutting Issue				Description
		Professional Ethics	Gender	Human Values	Environment & Sustainability	
T.Y.B.Sc. (Chemistry) Semester-III	CH-331: Physical Chemistry-I	✓ -			✓	Content in the course: <ul style="list-style-type: none"> • Chapter 2: monitor the progress of reactions using various spectroscopic techniques in real time. • spectroscopic techniques- result faster, saving the energy requirements leading to the better utilization of the natural resources.
T.Y. B.Sc. (Chemistry) Semester-III	CH-334: Analytical Chemistry	✓			✓	Content in the course: <ul style="list-style-type: none"> • Ch 5. Atomic Absorption Spectroscopy & 6. Flame emission spectroscopy: Instrumental methods of analysis for identification of food adulterants; establishing a health security through food & drug control agencies

T.Y. B.Sc. (Chemistry) Semester-IV	CH-344: Analytical Chemistry	✓			✓	<p>Content in the course:</p> <ul style="list-style-type: none"> • Ch 3. Gas Chromatography and Ch 4. HPLC : • Various instrumental techniques in analytical chemistry enabling to identify the poisons, explosives & other suspicious substances in criminal cases & serve for the purpose of administration of criminal justice system.
TY BSc (Chemistry) Semester III	CH-335: Industrial Chemistry	✓			✓	<p>Content in the course:</p> <ul style="list-style-type: none"> • Ch 3: Manufacture of Basic Chemicals and Ch 5. Food and Starch Industry: Industrial aspects, manufacture of chemicals, techniques of food • preservation etc, its ethical arena.

TY BSc (Chemistry) Semester III	CH-336D : Environmental Chemistry	✓			✓	<p>Content in the course:</p> <ul style="list-style-type: none"> • Ch 5: Green Chemistry and Technology for sustainable development & Ch 6. Green Chemistry and Hazardous Organic Solvents: • principles of green chemistry taking a diversion from conventional synthetic protocols leading to a sustainable development. • Chapter 2. Atmosphere and Air Pollution: Global problems related with water pollution, air pollution & soil pollution; possible routes of minimizing the level of pollution & alternate approaches.
TY BSc (Chemistry) Semester IV	CH-346D : Environmental Chemistry	✓			✓	<p>Content in the course:</p> <ul style="list-style-type: none"> • Chapter 1: Water treatment and effluent management: Global problems related with water pollution, air pollution & soil pollution; minimizing the level of pollution
M Sc (Organic Chemistry) Part I	CHE-501 Physical Chemistry-I	✓			✓	<p>Content in the course:</p> <ul style="list-style-type: none"> • Section I, Chapter 1: concept of spontaneous processes and efficiency of heat engines - idea of building of energy efficient and environmental friendly machines. • Section II, Chapter 1: Concept of increasing the kinetics of reactions using catalysts thus increasing the yield and the energy requirements of the process.

M Sc (Organic Chemistry) Part I	CHEOD-502: Inorganic Chemistry-I	✓			✓	<p>Content in the course:</p> <ul style="list-style-type: none"> • Section I : Visualization and imagination of molecules in three dimensions to understand the specific activity at elementary level; Concept and point group
M Sc (Organic Chemistry) Part I	CHE-552: Inorganic Chemistry-II (Coordination & Bioinorganic Chemistry)	✓			✓	<p>Content in the course:</p> <ul style="list-style-type: none"> • SECTION-I : Understanding of microstates and meaningful term symbols, construction of microstate table for various configuration; Application of Hund's rules energy levels; Electronic transitions, charge transfer. Correlations diagram for various configurations and mixing of orbitals in the complexes; Concept of magnetism and their temperature dependence. • Section-II: Significance of bioinorganic chemistry through the discussion of the role of metals in Metalloprotein and metalloenzymes in the life processes; Mechanism of transportation of different vital metals ions.

MSc (Organic Chemistry) Part II	CHO-351: Spectroscopic Methods in Structure Determination	✓		✓	✓	Content in the course: <ul style="list-style-type: none"> • Application of spectroscopic techniques in the field of research and development. • importance of these in establishment of structure of the synthesized molecules with potent biological properties. • Application of instrumentation for the structure determination - reduced the usage of chemicals hence pollution (air, water) is minimized to a great extent which results in the control of the threats of climate change.
MSc	CHO-352:	✓			✓	Content in the course:




(Organic Chemistry) Part II	Organic Stereochemistry					<ul style="list-style-type: none"> • Stereochemistry: role in understanding the role of proteins, peptides and other biomolecules. • understand the different functions of stereoisomers in the biological as well as non-biological system.
MSc (Organic Chemistry) Part II	CHO-353: Pericyclic Reactions, Photochemistry & Heterocyclic Chemistry	✓			✓	<p>Content in the course:</p> <ul style="list-style-type: none"> • Various heterocycles with applications in pharmaceutical industries & material sciences • Convenient & ecofriendly protocols for their synthesis and designing the molecules with potent properties & diverse applications
MSc (Organic Chemistry) Part II	CHO-450 Natural Products	✓		✓	✓	<p>Content in the course:</p> <ul style="list-style-type: none"> • Various reagents involved in the Synthesis of natural products such as Taxol, Estrone and Mifepristone, Terpenoids and alkaloids
MSc (Organic Chemistry) Part II	CHO-451: Advanced Synthetic Organic Chemistry			✓		<p>Content in the course:</p> <ul style="list-style-type: none"> • Metathesis concepts and olefin synthesis by different routes • Multicomponent reactions and cyclization reactions
MSc (Organic Chemistry) Part II	CHO - 452: Carbohydrate and Chiron approach, Chiral Drugs and Medicinal Chemistry			✓		<p>Content in the course:</p> <ul style="list-style-type: none"> • Carbohydrates: Introduction of sugars, structures of triose, tetrose, pentose, hexose, stereochemistry and reactions of Glucose, conformation and anomeric effects in hexoses. • Chiron approach: concept of chiral templates and chirons; Retrosynthetic approaches • Chiral Drugs: Introduction of chiral drugs, Eutomer, Distomer and eudesmic

						<p>ratio, etc.; syntheses of few important drugs</p> <ul style="list-style-type: none"> • Medicinal Chemistry: Introduction to drugs, their action and discovery including Structure, activity and quantitative relationship; discussion of antimicrobial drugs such as Penicillin, Cephalosporin, Sulphones and sulphonamides, Tetracycline, Macrolides, Polypeptides, Chloromycetin
MSc (Organic Chemistry) Part II	CHO-453: Designing Organic Syntheses & Asymmetric Synthesis			✓		<p>Content in the course:</p> <ul style="list-style-type: none"> • Designing of organic synthesis • Protection and de-protection of various functional groups discussed. • Principles and applications of asymmetric synthesis including stereoselectivity in cyclic compounds, enantio-selectivity, diastereo-selectivity, etc; important rules such as Cram's rule, Felkin Anh rule, Cram's chelate model.



Anjuman Khairul Islam's POONA COLLEGE OF ARTS, SCIENCE & COMMERCE

- Affiliated to Savitribai Phule Pune University: ID No PU/PN/ASC/023/1970
- Junior College Index No: J-11.15.004
- Government of Maharashtra and Savitribai Phule Pune University Recognized Minority Institute
- UGC - 2(f) & 12 (B) Status • NAAC Re-accredited College • DST - FIST Funded College

 K. B. Hidayatullah Road, Camp, Pune - 411001. (MS), India
  +91-20-2645 4240 / 2644 6319.
  www.poonacollege.edu.in
principal@poonacollege.edu.in

DEPARTMENT OF PHYSICS

1.3.1 Institution integrates cross cutting issues relevant to Gender, Environment and Sustainability, Human Values and Professional Ethics into the Curriculum

Programme	Title of the Course	Cross Cutting Issue				Description*
		Professional Ethics	Gender	Human Values	Environment & Sustainability	
UG Programme	Major Core-Nuclear Physics	Yes		Yes	Yes	Discuss the possible nuclear hazards in context of nuclear fission. Examples of Fukushima & Chernobyl environmental disaster was discussed.
	Major Core-Nuclear Physics		Yes	Yes		Contribution of woman scientist was discussed in context of contribution of Mary Curie in radioactivity.
	Major Core-Physics principles and applications				Yes	Requirement of green and sustainable energy source was discussed in context of solar cell.
	Major Core-Physics principles and applications + Atomic & Molecular Physics				Yes	Environmental issues of excessive use of microwave & radio wave radiations were discussed in context of electromagnetic radiation.
	Major Core-Thermodynamics				Yes	Greenhouse effect was discussed.
	Major elective - Material science				Yes	Green Synthesis of different materials were discussed.
	Major elective - Nanomaterials					Use of nanomaterial in energy conservation & waste management were discussed.



POONA COLLEGE OF ARTS, SCIENCE AND COMMERCE

(Affiliated to Savitribai Phule Pune University: ID No. PU/PN/ASC/023/1970)

K.B. Hidayatullah Road, Camp, Pune - 411001, Maharashtra, India

Tel.: +91-20-26454240 / 26446319. Fax: +91-20-26453707

Email : principal@akipoonacollege.ac.in Website:www.akipoonacollege.ac.in



DEPARTMENT OF ECONOMICS, P.G & RESEARCH CENTRE

Cross cutting issues relevant to Gender, Environment and Sustainability, Human Values and Professional Ethics into the Curriculum

Programme	Title of the Course	Cross Cutting Issue				Description*
		Professional Ethics	Gender	Human Values	Environment & Sustainability	
PG	M.A. Part I Semester I Micro Economic Analysis I EC-1001	✓	✓	✓	✓	In Chapter 2 & 4. Teaches students about the concepts of micro economics such as demand, supply, revenue, cost, elasticity and the basic theories/laws in economics- law of demand, law of supply, production function and microeconomic concepts, models and its use in real life situations.
PG	M.A. Part I Semester I Public Economics I EC-1002	✓	✓			In Chapter 1,2,3 & 4. Teaches students about the changing role of the government and the fiscal

[Signature]
Head

Postgraduate Dept. of Economics
AKI's Poona College of Arts, Science & Commerce,
Camp, Pune - 411 001.

					functions of the modern governments and the concepts and theories in public economies like public policy, principles of taxation, theories of public expenditure and the various policies in public economies like fiscal policy, taxation policy, public debt policy, public expenditure policy and its use in real life situations.
PG	M.A. Part I Semester I International Trade EC-1003	✓		✓	In Chapter 1 & 4, Teaches students about the theoretical concept in international trade, international economics with reference to terms of trade, trade policy, trade agreements and regarding recent developments and changes in international banking, international banking agreements and role of international economic organization and



Head

Postgraduate Dept. of Economics
 ANS PUNE COLLEGE OF ARTS, SCIENCE & COMMERCE,
 Camp, Pune - 411 001.

						global crisis development
PG	M.A. Part I Semester I Agricultural Economics EC-1004	✓	✓		✓	In Chapter 1,3 & 5. Teaches students about the agricultural economics in the theoretical as well as practical context, the various issues and challenges faced by agrarian economies w.r.t. production, productivity, efficiency, employment, etc.
PG	M.A. Part I Semester I Statistical Techniques EC-1004	✓				In Chapter 1. Teaches students about the Statistics and its application under various topics under economics and the practical and the applied aspects of economics with the help of Statistical techniques.
PG	M.A. Part I Semester II Micro Economic Analysis II EC-2001	✓		✓	✓	In Chapter 2. Teaches students about the principles of economics, micro economic concepts in various contexts and the basic theories in microeconomics such as demand theory, production



Head
Postgraduate Dept. of Economics
 AKI's Poona College of Arts, Scie...
 Camp, Pune - 411 001.

						theory, market structures modern developments in micro economics such as Game Theory.
PG	M.A. Part I Semester II Public Economics II EC-2002	✓	✓	✓		In Chapter 1 & 4. Teaches students about the various policies in public economics like fiscal policy, public debt policy, fiscal finances and the normative policies and compare it with the policies framed and followed by Indian economy and about the reforms like taxation reforms in India.
PG	M.A. Part I Semester II International Finance EC-2003	✓			✓	In Chapter 3. Teaches students about the theoretical concept in international finance-Balance of Payments, exchange rate policies, capital flows and the scenarios on international trade in India vis-à-vis the world economy, regarding recent developments and changes in international



Head


Postgraduate Dept. of Economics
 AKT's Poona College of Arts, Science & Commerce,
 Camp, Pune - 411 001.

						banking, international banking agreements and the role of international economic organization and global crisis development.
PG	M.A. Part I Semester II Labour Economics EC-2004	✓	✓	✓	✓	In Chapter 3 & 5. Teaches students about the labour economics in the theoretical as well as practical context, various issues and challenges faced by labour with reference to division of labour, employment, wage determination and demonstrate on the various aspects of labour dynamics and labour relations w.r.t. India
PG	M.A. Part I Semester II Mathematical Economics EC-2004	✓				In Chapter 1. Teaches students about the Mathematics and its application under various topics under economics and the practical and the applied aspects of economics with the help of Mathematics.



Head
Postgraduate Dept. of Economics
AKI's Poona College of Arts, Science & Commerce,
Camp, Pune - 411 001

PG	M.A. Part- II, Semester- III Macro Economics Analysis-I EC-3001	✓			✓	In Chapter 2. Teaches students about the principles of macroeconomics and the application of macroeconomic concepts in real- life situations and the modern developments in macroeconomics.
PG	M.A. Part- II, Semester- III Growth & Development -I EC-3002	✓	✓	✓	✓	In Chapter 1 & 3. Teaches students about the basic concepts and process to measure the growth and economic development and the obstacles in the process of economic growth and development
PG	M.A. Part- II, Semester- III Research Methodology- I EC-3003	✓		✓		In Chapter 1, Teaches students about the Research and its methods under various areas of economics and to demonstrate the practical and the applied aspects of research in relation to Economics.
PG	M.A. Part- II, Semester- III Demography EC-3004	✓	✓	✓	✓	In Chapter 3 & 4. Teaches students about the Demography and its application under various


Head
 Postgraduate Dept. of Economics
 AKG's Poona College of Arts, Science & Commerce
 Camp, Pune - 411 001.

						topics under economics and various aspects of Demography and the study of Population and its relation to Economics.
PG	M.A. Part- II, Semester- IV Macro I Economics Analysis II EC-4001	✓		✓	✓	In Chapter 3 & 4. Teaches students about the principles of macroeconomics and the application of macroeconomic concepts in various contexts and the modern developments in macroeconomics.
PG	M.A. Part- II, Semester- IV Growth & Development II EC-4002	✓	✓	✓	✓	In Chapter 1 & 3. Teaches students about the basic concepts and process to measure the growth and economic development and the obstacles in the process of economic growth and development
PG	M.A. Part- II, Semester- IV Research Methodology – II EC-4003	✓				In Chapter 1. Teaches students about the Research and its methods under various areas of economics and various aspects of research in relation to Economics.
	M.A. Part- II,	✓			✓	In Chapter 2 &



Head
Postgraduate Dept. of Economics
AK's Poona

PG	Semester- IV Economics of Environment EC-4004					4. Teaches students about the economics of environment in the theoretical as well as practical context and various analytical tools to comprehend various environmental issues.
UG	G-1 Indian Economic Environment	✓	✓	✓	✓	Teaches students about the recent developments in the Indian Economy, background of the Indian Economy with focus on contemporary issues like economic environment and to prepare for varied competitive examinations
UG	B.A G -2. Financial System	✓			✓	Teaches students about the fundamentals of modern financial system, recent trends and developments in banking system and the role of the Reserve Bank of India in Indian financial system and also the knowledge of various financial and non-financial institutions, the


Head
 Postgraduate Dept. of Economics
 AKI's Poona College of Arts, Science & Commerce,
 Camp, Pune - 411 001.

						Intricacies of Indian financial system for better financial decision making.
UG	B.A S -1. Micro Economics	✓			✓	Principals of factors of production, factors influencing production pattern is discussed here
UG	B.A S -2. Macro Economics	✓			✓	Concepts of national income, role of money in an economy, concepts of business cycles is taught here
UG	B.A Basic Concept of Research Methodology	✓				Teaches students about the basic concept of research, framework of sampling and data collection, various sampling methods and techniques and various sources of information for data collection and the conducting survey on various issues
UG	B.A G3 : Indian Public Finance	✓	✓	✓	✓	Teaches about role and functions of the Government in an economy.
UG	B.A (S3) INTERNATIONAL ECONOMICS	✓			✓	Teaches about the basic principles that tend to govern the free flow of trade in



Head
Postgraduate Dept. of Economics
AK's Pooja College of Arts, Science & Commerce,
Camp, Pune - 411 001.

						goods and services at the global level.
UG	B.A (S4) Quantitative Techniques and Project Work	✓	✓	✓	✓	Teaches about the techniques of mathematical and statistical analysis, which are commonly applied to understand and analyze economic problems
UG	B.A (G3) Growth & Development	✓	✓	✓	✓	The Major problem of a country in its development and its social and institutional aspects are discussed here in this course
UG	F.Y.BCOM-2013 103 Business Economics (Micro)	✓			✓	Helps the students understand complex theories and inculcate an analytical approach and the relevance and use of various economic theories, reasoning to problems of business.
UG	Optional Paper(F.Y.BCOM-2013) Banking & Finance 105	✓	✓			Teaches about the fundamentals of banking, develop the capability for knowing banking concepts and operations and aware of banking business and practices, give thorough knowledge of



Head

Postgraduate Dept. of Economics

AK's Poona College of Arts, Science & Commerce,
Camp, Pune - 411 001.

						banking operations and enlighten the students regarding the new concepts introduced in the banking system
UG	Compulsory Paper (S.Y.BCOM-2013) Business Economics (Macro)203	✓			✓	Helps the students understand basic concept of Macro Economics and application and the behavior of the economy as a whole and the relationship among broad aggregates and to apply economic reasoning to problems of the economy.
UG	Compulsory Paper (S.Y.BCOM-2013) Special Subject – Paper I Banking & Finance.206 B	✓	✓			Helps students understand the Indian banking system, the reforms and other developments in the Indian Banking and insight into the functions and role of Reserve Bank of India.
UG	Compulsory Paper (T.Y.BCOM-2013) Indian & Global Economic Development Course Code-303 (A)	✓	✓	✓	✓	Helps to understand concept of Gender – related development index, Gender Employment measures To expose students to a new



Head

Postgraduate Dept. of Economics

AIIT's Poona College of Arts, Education & Commerce,
Campus, Pune - 411 001

						approach to the study of the Indian Economy in analyzing the present status to understand the process of integration of the Indian Economy with other economies of the world and to acquaint with the emerging issues in policies of India's foreign trade.
UG	Compulsory Paper (T.Y.BCOM-2013) International Economics 303 (B)	✓			✓	Helps students to study the theories of International Trade and highlight the trends and challenges faced by nations in a challenging global environment.
UG	Special Paper II (T.Y.BCOM-2013) Banking and finance 305 B	✓	✓			Teaches students about Financial Markets and its various segments and understanding of the operations and developments in financial markets in India and enable them to gain an insight into the functioning and role of financial institutions in the Indian Economy



Head

Postgraduate Dept. of Economics

AK's Poona College of Arts, Science & Commerce,
Camp, Pune - 411 001.

UG	Special Paper III (T.Y.BCOM-2013) Banking and finance 306	✓	✓			Teaches students about Banking Law and Practice in relation to the Banking system in India, the legal aspects of Banking transactions and its implications as Banker and Customer.
PG	M.Com. Part I (2013) Semester II Industrial Economics 202	✓	✓	✓	✓	Helps students understand the basic concepts of Industrial Economics, the significance and problems of Industrialization and the impact of Industrialization on Indian Economy.
PG	M.Com. Part II (2013) Semester IV Compulsory Paper Subject Name :- Industrial Economic Environment. Course Code :- 402- A	✓	✓		✓	Teaches about Social Cost & Benefits (pollution, Health issues, work management etc) , Environmental Policy and Regulations.
UG	Semester: II F.Y.BCOM-2019 Business Economics- I 123	✓			✓	Helps the students understanding complex theories and concepts, geometrical skills, mathematical aptitude, writing skills, analyze and think critically
UG	F.Y.BCOM-2019 Optional Group.	✓	✓			Teaches students about



Head

Postgraduate Dept. of Economics
AKI's Poona College of Arts, Science & Commerce,
Camp, Pune - 411 001.

	(A) Banking and finance Course Code-115					fundamentals of Banking and creates awareness about various banking concepts and conceptualizes banking operations.
UG	Semester IV S.Y.BCOM-2019 Business Economics 243	✓			✓	Helps students understand employment and theory output and make aware of various concept of national income, concepts of saving and investment, quantitative aptitude and develop writing skills
UG	Semester III S.Y.BCOM-2019 Elective Course Banking and Finance-I 236 b	✓	✓			Teaches students about the Concepts and Significance of Banking and Finance and the knowledge about Indian Banking System, the Various Functions of Banking Institutions, including Co- operative banking in India.
UG	Semester IV S.Y.BCOM-2019 Elective Course Banking and Finance-II 246 b	✓	✓			Teaches students about the Financing of Banks, various types of Bank


Head
 Postgraduate Dept. of Economics
 AKI's Poona College of Arts, Science & Commerce
 Camp, Pune - 411 001.

						Loans and the New Trends in Banking, with basic knowledge of stock market.
UG	M.Com. Part I (2019) Semester II Industrial Economics 202	✓	✓		✓	Industrial imbalance, industrial location factors, industrial public sectors, private sectors and its consequences

Head
Postgraduate Dept. of Economics
 AKI's Poona College of Arts, Science & Commerce,
 Camp, Pune - 411 001.

Y & M. Anjuman Khairul Islam's
POONA COLLEGE OF ARTS, SCIENCE & COMMERCE
 Camp, Pune-411001
DEPARTMENT OF ZOOLOGY
 (Academic Year: 2023-2024)

1.3.1 Institution integrates cross cutting issues relevant to Gender, Environment and Sustainability, Human Values and Professional Ethics into the Curriculum


Programme	Title of the Course	Cross Cutting Issue				Description*
		Professional Ethics	Gender	Human Values	Environment & Sustainability	
F.Y.B.Sc. (Zoology)	Animal Systematics & Diversity-I				✓	Content in the course- <ul style="list-style-type: none"> • Hierarchy of animal group, their environment and conservation strategies.
F.Y.B.Sc. (Zoology)	Genetics		✓		✓	Content in the course- <ul style="list-style-type: none"> • Multiple Alleles, • Sex Determination • application of Genetics
F.Y.B.Sc. (Zoology)	Animal Diversity-I				✓	Content in the course- <ul style="list-style-type: none"> • Hierarchy of animal group, their environment and conservation strategies.
F.Y.B.Sc. (Zoology)	Animal Ecology				✓	Content in the course- <ul style="list-style-type: none"> • Ecosystem • Animal interaction
S.Y.B.Sc (Zoology)	Applied Zoology-I	✓				Content in the course- <ul style="list-style-type: none"> • Standard protocol to rear fish in artificial ponds with proper care of their food and nutrition. • Introductory knowledge of use of chemical pesticide control agricultural pests and Integrated Pest Management (IPM) to reduce use of chemical pesticides.

S.Y.B.Sc (Zoology)	Applied Zoology-II	✓			✓	Content in the course- <ul style="list-style-type: none"> Standards for the Apiary Management & Production of Beekeeping Products The standard norms to produce silk with proper care and disease management of silkworms
T.Y.B.Sc (Zoology)	Environmental Impact Assessment	✓			✓	Content in the course- <ul style="list-style-type: none"> Pollution, environmental development Introduction to E.I.A Overview of EPA
T.Y.B.Sc (Zoology)	Techniques in Biological	✓				Content in the course- <ul style="list-style-type: none"> Undertaking biomedical parameters with standard laboratory protocols
T.Y.B.Sc. (Zoology)	Genetics				✓	Content in the course- <ul style="list-style-type: none"> gene mutation Population genetics.
T.Y.B.Sc. (Zoology)	Molecular Biology	✓				Content in the course- Application of Recombinant DNA technology
T.Y.B.Sc. (Zoology)	Evolutionary Biology				✓	Content in the course- <ul style="list-style-type: none"> Evolution Distribution of different animal species and adaptation according the surrounding environment. Zoogeographical Realms
T.Y.B.Sc. (Zoology)	Developmental Biology		✓			Content in the course- <ul style="list-style-type: none"> Structure and function of Male & Female reproductive system.
M.Sc I (Zoology)	Research Methodology	✓				Content in the course- <ul style="list-style-type: none"> A detailed knowledge of Intellectual Property Rights. Plagiarism and Criteria for Patenting of Research Work or Design
M.Sc I (Zoology)	Biochemical Techniques	✓				Content in the course- <ul style="list-style-type: none"> Study of DNA & Protein sequencing with standard protocols
M.Sc I (Zoology)	Developmental Biology		✓			Content in the course- <ul style="list-style-type: none"> Structural and functional dissimilarities of Male & Female reproductive system.

M.Sc I (Zoology)	Fresh Water Zoology				✓	Content in the course- <ul style="list-style-type: none"> • Fresh water environment and environment related issue
M.Sc I (Zoology)	Endocrinology		✓			Content in the course- <ul style="list-style-type: none"> • Physiological difference between male and female sex hormone.
M.Sc I (Zoology)	Parasitology	✓			✓	Content in the course- <ul style="list-style-type: none"> • Diagnostic study of parasites. • Parasite control
M.Sc I (Zoology)	Comparative Animal Physiology				✓	Content in the course- <ul style="list-style-type: none"> • Adaptive radiation in different animals on the basis of surrounding environment (Osmoregulation) • Adaptive radiation in different animals on the basis of surrounding environment (Thermoregulation)
M.Sc II (Zoology)	Apiculture	✓				Content in the course- <ul style="list-style-type: none"> • Bee keeping as an occupation • Purchase of a colony, the Apiary site, how to manage a colony, the manipulation of a colony, taking care of bee diseases and enemies. • Beekeeping techniques and Apiary management
M.Sc II (Zoology)	Aquaculture	✓				Content in the course- <ul style="list-style-type: none"> • Composite fish culture • Preparation and management of fish culture ponds • Fresh water prawn culture. • Pearl culture
M.Sc II (Zoology)	Research Methodology	✓				Content in the course- <ul style="list-style-type: none"> • A detailed knowledge of Intellectual Property Rights. • Plagiarism and Criteria for Patenting of Research Work or Design
M.Sc II (Zoology)	Animal Physiology I				✓	Content in the course- <ul style="list-style-type: none"> • External & Internal environment and adaptability.

M.Sc II (Zoology)	Immunology	✓				Content in the course- <ul style="list-style-type: none"> • Study of Immunological parameters with standard procedure. • Immunological Techniques
M.Sc.II (Zoology)	Economic Zoology	✓				Content in the course- 6, 7 & 9 <ul style="list-style-type: none"> • Sponge culture and its importance in industry. • Vermiculture industry in India. • Apiculture, Lac culture, Sericulture, Prawn culture • Poultry, Piggery, Dairy industry and wool industry
M.Sc II (Zoology)	Mammalian Reproductive Physiology		✓		✓	Content in the course- <ul style="list-style-type: none"> • Issue related to puberty, Issue related to sexual cycle. • Issue related to pregnancy. • Artificial control of pregnancy, environmental factors and breeding

Appropriate Cross cutting issues to be ticked (✓)


Signature of H.O.D
Head

Department of Zoology,
Poona College of Arts, Science
and Commerce, Camp-Pune-4