	Department of Biotechnology B.Sc			
Semester/Course Code	Course Name	Course Objectives	Course Outcome	
1 <sup>st</sup> Semester/BIOT- 103B-T	Life Sciences	To increase scientific vocabulary and understanding of a variety of life science concepts and to learn about the anatomy and physiology of animals, animal systems, ecology and ecosystems.	Students with mathematics background get the knowledge regarding basic biological sciences so that they can pursue their studies in biotechnology	
1st Semester/BIOT- 106-T	Introduction to Biotechnology	This course will introduce the basic concepts of biotechnology to the students. They will learn about the history of biotechnology; the foundations of modern biotechnology; the role of biotechnology in fermentation industry, environment and modern medicine and the ethical implications of biotechnology.	Students will become aware of the basics concepts and applications of biotechnology	
2 <sup>nd</sup> Semester/BIOT- 205-T	Cell Biology	To understand the detailed overview of eukaryotic cell and its inner components To understand the processes of cell transport and cell locomotion Introduction to stem cells and their applications	It enables the students to understand the processes related to the functioning of the cell	

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2 <sup>nd</sup> Semester/BIOT 206	General Microbiology	Microbes play significant role in understanding medical science and industries so study of microbes from basic to advance level, with understanding of biochemistry, cell structure and application makes this paper significant.	Students get aware about the microbes and their world as well as their importance in biotechnology
3 <sup>rd</sup>	Genetics	The focus of this	Genetics forms the
Semester/BIOT- 302-T	Genetics	course is on the science of heredity with emphasis on the basics of Mendelian and molecular genetics. It will familiarize students with chromosome organization, linkage, chromosome mapping, chromosome aberrations, mutations and microbial genetics.	basis of studying inheritance in plants and animals. Therefore, students get aware about importance of genetics in improving the quality of crops as well as probability of occurrence of diseases in humans
3 <sup>rd</sup> Semester/BIOT- 303-T	Immunology-I	To understand general aspects of immune system like different components of the immune system, Generation and functions of these components, Knowledge of basic immunological techniques.	Students become aware of the functioning of the Immune system

3 <sup>rd</sup> Semester/BIOT- 304-T	Plant Tissue Culture	To introduce the students with fundamentals and applications of plant tissue culture. This course will expose students to the methods of culturing, maintaining and regenerating plants species.	Students gets aware about the culture system and growing property of plants in lab.
3 <sup>rd</sup> Semester/BIOT- 305-T	Animal Cell Culture	The major emphasis of this course is to introduce the students to the field of Animal cell-culturing and its importance to mankind. The students will also learn the techniques involved in animal cell culture.	Animal cell culture forms the basis of studying physiology of diseases. Therefore, hands on practice for growing animal cells in lab are important. Even vaccine development needs students skilled in animal cell culture.
4th Semester/BIOT- 401-T	Immunology-II	This course will introduce students to the principles of advanced Immunology, both at the molecular and cellular levels	The course enables students to understand the intricacies of the components of the Immune system and the role played in host defense
4 <sup>th</sup> Semester/BIOT- 402-T	Biophysical and Biochemical Techniques	To enable the students learn important tools and techniques based on biophysical and biochemical principles so that they can understand application of these techniques in biotechnology	Students become aware of the different instruments present in the lab and the principle behind their functioning

4 <sup>th</sup> semester/BIOT- 403-T	Plant Biotechnology	The objective of this course is to familiarize the students with different aspects of plant molecular biotechnology and techniques for plant genetic manipulations.	Students get aware about the application of biotechnology techniques in improving the food quality of the crop plant.
4 <sup>th</sup> Semester/BIOT- 404-T	Animal Biotechnology	The major emphasis of this course is to introduce the students to the advances in the field of Animal and their importance to mankind.	The course enables the students to understand the basic concepts of 3-D culture and tissue engineering
4 <sup>th</sup> Semester/BIOT- 405-T	Agro & Industrial Biotechnology	To make students understand the application of fundamental concepts like transgenic approaches to improve crop plants, microbial culture maintenance, and metabolite purification at industrial level.	Students will be exposed to the current developments regarding the future prospects of biotechnology at agriculture and industrial scale.
5 <sup>th</sup> Semester/BIOT- 501-T	Molecular Biology	To make the students understand the fundamental concepts which includes DNA structure, replication, transcription, translation, mutation, gene regulation.	Molecular biology forms the intricate part of biotechnology as it make students aware about what to manipulate in transformed host cell.
5 <sup>th</sup> Semester/BIOT- 502-T	Environmental Biotechnology	Basic introduction to environment, major threats to environment by	Students will be acquainted with the tools and techniques used

	<del>,</del>		
		various polluting agents and the remedies for the same, incorporating design and monitoring of waste treatment processes. It is ideal for under graduates just embarking on their career, or scientists and engineers who have been working for a few years and wish to develop their career in this direction.	for environmental protection as well as balancing the ecological cycles.
5 <sup>th</sup> semester/BIOT- 503-T	Bioinformatics	The course introduces the biological databases, sequence alignment, phylogenetic analysis and structure prediction	The students learn about the basics of Bioinformatics and are able to use the biological databases and softwares.
5 <sup>th</sup> Semester/ BIOT-504-T	Enzymology	Refers to enzyme structure functions and behavior in cells	Enzymology has wide scope in pharmaceutical / Food processing/ therapeutics.
6 <sup>th</sup> Semester/BIOT- 601-T	Genetic engineering	Refers to Cutting, Pasting, moving, manipulation of genes in organisms and its implications	Giving Knowledge of basic tools and its applications. Making students' future ready for Rand D jobs.
6 <sup>th</sup> Semester/BIOT- 602-T	Bioprocess Engineering and Technology	Basic understanding of fermentation technology, fundamental principles of biochemical engineering, sterilization, microbial growth kinetics and downstream processing.	Students will get knowledge about various fermentation techniques and the kinetics of the same as well the techniques employed the recovery of product and effluent treatment.

6 <sup>th</sup> Semester/BIOT- 603-T	Food Biotechnology	Genetic engineering refers to the process of manipulating the characteristics and functions of the original genes of an organism. The objective of this process is to introduce new physiological and physical features or characteristics. The students will learn how the genes can be cut and paste from one organism to another and what is its implications.	Food spoilage and its prevention and preservation are important. This course inculcate the students about the importance of biotechnology in food industry
6 <sup>th</sup> Semester/BIOT- 604-T	Genomics and Proteomics	To apprise the students of the basics and methodologies involved in Genomics and Proteomics	This course helps the students understand the significance of the basic genomic and proteomics study
6 <sup>th</sup> Semester/BIOT- 605-T	Intellectual property rights and Ethical Issues in Biotechnology and Entrepreneurship	To introduce the students to intellectual rights and how to use the current intellectual property system to protect and commercialize their biotechnological invention. This course also covers the ethical issues, controversies, and social-ethical impact of biotechnology on society.	The course will make students aware about various intellectual property rights and guidelines for obtaining the protection for different biotechnological inventions.
2nd and 3rd Semester	Biochemistry I and II	To introduce the concept of Biomolecules, their basic structure, classification, reactions and metabolism	The students are well versed with basic Biochemistry that forms the basis of knowledge about metabolic pathways

# **DEPARTMENT OF BIOTECHNOLOGY**

# Course Objectives and Course Outcomes for BSc (Elective) Biotechnology

Semester/Course	Course Name	Course Objectives	Course
Code			Outcome
1st semester/BIOT- Elect-Sem-I-T	Introduction to Biotechnology	This course will introduce the basic concepts of biotechnology to the students. They will learn about the applications of biotechnology in agriculture, fermentation industry, medicine and forensics and general techniques in Biotechnology	The students learn about the fundamental concepts of Biotechnology and bioanalytical techniques
2 <sup>nd</sup> semester/BIOT- Elect-Sem-II-T	Foundations of Biotechnology	The objective of this paper is to impart knowledge about microbes, its types, basis of classification and uses. The students will also be taught the structural and functional aspects of cellular macromolecules and further techniques used in biotechnology. Further, a unit on enzymes is included to make the students aware of their importance in industrial biotechnology	The students learn about historical perspective of microbiology and the fundamental concepts of Biochemistry

3 <sup>rd</sup> Semester/ BIOT-Elect-Sem- III-T	Introduction to Genetic Engineering and Immunotechnology	This course enhances the students' understanding of immune response in animals / humans and pathways which provide resistance against pathogens. Further, the students will learn about the immune cells, the MHC complex and the role of antigens and antibodies.	It enables the students to understand the functioning of the immune system and its role in defense against pathogens
4 <sup>th</sup> Semester/BIOT- Elect-Sem-IV-T	Fundamentals of Molecular Biology and Genetics	To understand the DNA structure of prokaryotes and eukaryotes, its replication, transcription, translation and their application in Recombinant DNA technology. Additionally, this course will cover the basics of mutations (induced and spontaneous) and their importance in studying gene function.	Students will get aware about the basics of molecular biology and genetics and their application in new technology and disease management, respectively.
5 <sup>th</sup> Semester/BIOT- Elect-Sem-V-T	Plant & Animal Biotechnology	Since Biotechnology deals with improvement of plants and animals and culturing of specific cells/ cell lines in laboratory. These require in depth knowledge of various techniques of culturing of plant and animal cells, formulation of media, respective vectors and their uses in transformation and probable contaminations and remedies to overcome them.	Students will get at par with the cutting edge technology of plant biotechnology and their in field application in improvement of plant and their product.

6 <sup>th</sup>	Environment &	This course is designed	The course will
~	Fermentation	This course is designed	make student
Semester/BIOT-		to understand the types	
Elect-Sem-VI-T	Biotechnology	of environmental	aware about the
		pollutants, waste,	environment
		effluents, fertilizers,	and the various
		pesticides, their	strategies to
		causes, removal and	deal with
		various strategies to	hazardous
		overcome waste	compounds.
		related problems,	Fermentation
		involving microbial	technology is
		degradation. How	latest and
		microbes can recycle	therefore
		nutrients in nature and	students will
		can be eco-friendly.	become
		The other aspect in this	industry ready.
		paper will introduce the	
		use of microbes for	
		commercialization.	
		They will learn their	
		methods of isolation,	
		improvement and	
		sustaining for years	
		without change in	
		characters. The	
		objective of this paper	
		is to make them aware	
		regarding the	
		fermentation	
		technology based upon	
		use of microbes and	
		the production of good	
		products by upstream	
		and downstream	
		process.	

# M.Sc Biotechnology

Semester/Course Code	Course Name	Course Objectives Course Outcome
1 <sup>st</sup> / MBIO-101 FYPG	Cell Biology	<ol> <li>As Cell Biology is the most important basis of all the biological sciences, it forms an important &amp; essential part of the course curriculum.</li> <li>It gives an insight of the basic cellular structure, function at the molecular level, growth &amp; differentiation of the cells.</li> <li>It deals with the finest details of the cells at sub-cellular level and at molecular level in terms of its organization, metabolic activities and their regulatory control at genetic level.</li> </ol>
1 <sup>st</sup> Semester/MBIO 103	Microbial Diversity and Metabolism	1. The main objective of this course is to teach students about the areas related to microbiology, its methodology and contribution to humanity and scientific advancement.  2. The goal of this course is to offer history, methods in microbiology, pure culture techniques, sterilization, microbial systematic & taxonomy and microbial growth.  3. The course concentrates on the physiological aspects of the microorganisms and

		aims to explain the diversity of microbes and their metabolism. It also teaches the students about the areas related to fungi, viruses, bacteria and archaebacterial.  4. Emphasis has also been given on study of epidemiology and chemotherapy. Various interactive activities and experiments teach students the basic concepts of microbiology. These topics stimulate student's interest in the learning material.	especially bacteria, fungi and actinomycetes is must for students.  4. The students will learn how to differentiate pathogens from non-pathogens, their symptoms and methods of treatment also.
2 <sup>nd</sup> / MBIO-201 FYPG	Molecular Biology	<ol> <li>Molecular biology is a fast-paced field which includes genetic engineering, genomics, and related areas.</li> <li>Biological function at the molecular level is particularly emphasized and covers the structure and regulation of genes as well as the synthesis of proteins from these genes.</li> <li>The focus of the course is on the exploration of current research in molecular biology, genomics, Genomic libraries, mapping of the genes, cancer and gene silencing</li> </ol>	1. Students will get knowledge about gene functions, regulation, silencing, roles of genes in various diseases especially cancer and various techniques to study them  2. They will also get the hands on experience of all the basic techniques related to the subject

2 <sup>nd</sup> semester/MBIO 202	Biology of Immune system	1.This subject holds a special position in life sciences, which is of importance in both basic and applied research. The course is designed to give a deep insight to the students through the pathogenesis of infectious diseases and the cells, molecules, and tissues of the immune system that provide	The course is well designed to understand the immune responses, types of cells involved.     The students will learn the types of pathways and foreign agents their interactions and mode of diseases caused by them.     How to diagnose diseases using
		protection.  2. Moreover, the course acquaints them with the role of the immune system, how both genetics and environment contribute in the development of immunity.  3. To understand various approaches to manipulate immune system in terms of autoimmunity, transplantation and immunotherapy of tumors.	antigen-antibodies and the techniques like double- immunodiffusion, ELISA, western blotting etc. 4. Overall this course will help the students to encourage for Research assignments and has applications in practical life.
2 <sup>nd</sup> Semester/MBIO- 204	Enzymology and Enzyme technology	Study of structure, functions, behaviour of enzymes has important applications in medicine and industry at large.	Knowledge of basic and applied Enzymology is essential for bioprocess/ Pharma/ biopharma / Food/ leather / textile industries /etc and environmental biotechnology related applications.
2 <sup>nd</sup> semester/MBIO 205	Environmental Biotechnology	1. This course examines current applications of biotechnology to environmental quality evaluation, monitoring, and remediation of contaminated environments.  2. Relevant topics	1. Environmental Biotechnology will make the students aware with the present problems of air, water and soil pollution and hoe to use technology to get rid of pollutants for sustaining the environment for coming generations.

		of microbiology and plant biology are presented. These provide a foundation for subsequent discussions of microbial removal and degradation of organics.  3.  Phytoremediation of soil and water contaminated with toxic metals and radionuclides, wetlands as treatment processes, biofilms/bio filters for vapor phase wastes, and composting. Advantages and disadvantages of each application are compared.	<ol> <li>What are the problems associated with solid waste and to reduce it, recycle it and reuse it, ie the aim of this course.</li> <li>The students will lean the methods of recycling of waste water and the methods of its treatment so thaw ate can be made potable to avoid the water scarcity in future.</li> <li>They will as0 learn the methods of biodegradation of xenobiotic compounds and pesticides using plants and microbes. i.e the solution for making environment free from chemicals which are responsible for diseases and pollution.</li> </ol>
Sem3/MBIO-302	Genetic engineering	Introduction to gene manipulation and Transgenic technology, GEMs, GMOs etc.	Scope in biomedical/ plant / microbiology research Institutes as also biopharma industry.
3 <sup>rd</sup> / MBIO-303 SYPG	Plant Biotechnology	<ol> <li>Plant biotechnology comprises of Plant tissue culture (PTC), genetic engineering of plants and use of various tools for the same &amp; their applications.</li> <li>The knowledge of PTC has contributed greatly in understanding the factors responsible for growth, differentiation &amp; morphogenesis of plant cells, tissues &amp;</li> </ol>	improvement of plants.  2. They will gain the knowledge of how to develop various transgenic plants of enhanced quality using r-DNA techniques and other applications.  3. They will also get the hand on experience of plant Tissue culture and

		organs in vitro.  It has been applied for plant improvement, plant protection and also for large-scale production of industrially important compounds by manipulating not only the nutritional and environmental conditions but also the genetic makeup of the plants.  Besides clonal multiplication, we can have designer crops with agronomic traits of interest or go for molecular farming for production of therapeutic proteins, industrial enzymes, antibodies or vaccines. In recognition of the wide spread interest, PTC and plant genetic manipulation along with their applications needs to be a part of the curriculum.	using Agrobacterium mediated gene delivery.  4. They will be able to use this knowledge for further research and starting their own entrepreneur venture.
MBIO 304	Bioprocess Engineering and Technology	1.Bioprocess engineers are trained in the application of engineering sciences and problem solving techniques. 2. It requires knowledge of biological processes and application of chemical engineering methodology and strategy. 3.During the course the students are introduced to the fundamentals of	1. This will make students awe with the technology pats which is important for making the aware with the present global scenario of applications ofmicrobial world for the welfare of human beings.  2. They will learn various steps to handle the bioreactors for the growth of microbes/ cells for bulk production of products like organic acid, amino acids, enzymes and antibiotics  3. How to handle the

3 <sup>rd</sup> Semester/MBIO- 305	Advances in Genomics and Proteomics	processes such as enzymatic conversion, fermentation, bioconversion, cell cultivation and sterile techniques.  4. The students are trained using case studies from industry. The lectures are supplemented by assignments and laboratory practical work, hand on training so that they can receive comprehensive information and develop skill for the diverse requirements of the modern biotechnology industry.  1. This course has been specifically designed to meet	enzymes and their applications in industries like Textiles, leather and food industries so as to reduce the chemical uses which will reduce the pollution as well as increasing the efficiency of processes.  4. They will learn the disposal of industrial liquid and solid waste and also to get value added products.  The students become aware of the techniques and applications of Genomics
		the requirement of post graduate students of Biotechnology.  2. Genome is the blue print of life to understand its intricate nature; the gene analysis is must, therefore the entire topic such as, cDNA arrays, proteins arrays, next generation sequencing technologies search databases have been included.  3. The modern methods of protein detection	and proteomics.

		and sequencing
		have revolutionized the
		protein science
Sem4/MBIO-401	Stem Cell and	and proteomics.  Introduction of Basics of Regenerative medicine.
Sem4/MBIO-401	regenerative medicine	Introduction of Basics of stem cell mechanisms, behaviour, Controls and applications in therapeutic s and medicine.  Regenerative medicine, Tissue engineering, Stem cell transplantation has great potential for curing, till date incurable, diseases.
4 <sup>th</sup> / MBIO-403 SYPG	Intellectual Property rights, Bioethics & Biosafety	<ol> <li>This course has been designed to cover various aspects of IPR, Biosafety and bioethics.</li> <li>IP systems protect certain well-defined subject matter by giving limited entitlements to eligible right holders in the form of Patents, Copyrights, Trademark, Plant Breeder's Rights, Geographical indications etc. which gives the owner rights to exclude others from certain uses of the protected material.</li> <li>However worldwide, some of biotechnology application has generated a number of human health, environment, economic and social concerns on the safety of the technology.</li> <li>Many of these concerns have legal, policy and ethical</li> <li>In this course the students get knowledge about how to protect their inventions in biotechnology and other fields during their research career or elsewhere in various forms of IP Protection.</li> <li>The students are also able to understand the ethical issues related to Biotechnology products their pros and cons.</li> <li>They gain knowledge about how to protect their inventions in biotechnology and other fields during their research career or elsewhere in various forms of IP Protection.</li> <li>The students are also able to understand the ethical issues related to Biotechnology about Good Lab Practices, Biosafety protocols&amp; management in the labs and various agencies which govern them.</li> <li>This knowledge about how to protect their inventions in biotechnology and other fields during their research career or elsewhere in various forms of IP Protection.</li> <li>The students are also able to understand the ethical issues related to Biotechnology about Good Lab Practices, Biosafety protocols&amp; management in the labs and various agencies which govern them.</li> <li>This knowledge will help them to be a good scientist and worker and work for the benefit of the society.</li> </ol>

		icouco on application	
		issues on application	
		of biotechnology will	
		be discussed under	
		the current issues	
		associated with the	
		benefits and risk	
		concerns on	
		biotechnology.	
MBIO 102	Biomolecules	Basic structure, function,	Students are acquainted with
		reactions and	Biochemical concepts and
		metabolism of	intermediary pathways, their
		macromolecules is	regulation and
		studied	interrelationships
MSc 301	Bioanalytical	The techniques for	Students are equipped with
	techniques	macromolecular	knowledge of all the basic
		identification, isolation	and advanced techniques
		and characterization are	applied in laboratories and
		studied in detail	industries
MBIO 301	Animal Cell	The basics of cell	Students have knowledge of
	culture	culture establishment,	culturing and maintaining
		characterization, scale	animal cell culture for various
		up and mutagenesis is	applications like trans
		thoroughly studied.	genesis and cytotoxicity
MBIO 402	Drug Delivery	The concept of different	,
	and drug	drug delivery	
	design	techniques,	Students have a knowledge
		pharmacokinetics and	of modern drug designing
		pharmacodyanamics is	and development process
		introduced. In silico drug	alongwith the knowledge of
		design is also studied	virtual drug design

### **Botany Department**

### Programme Outcomes

- PO1. Knowledge and understanding of: 1.The range of plant diversity in various life forms of plant kingdom. 2. The insight into the plant wealth. 3. Identification, Nomenclature and classification of plants. 4. The functioning and metabolism of. 5. Insight into the structural and cytological basis of functional differentiation in plants.
- PO2. Intellectual skills able to: 1. Enhance logical thinking. 2. Knowledge building through wider reading.
- PO3. Practical skills: Students learn to carry out practical work, in the field and in the laboratory, with various safety protocols. 1. Interpreting plant morphology and anatomy. 2. Plant identification. 3. A range of plant physiochemical analyses in the context of plant physiology and biochemistry.
- PO4. Transferable skills: 1. Communication of scientific ideas verbally and in written modes. 2. Ability to use library resources. 3. Time management. 4. Career planning.
- PO5. Scientific Knowledge: Apply the knowledge of Plant sciences and fundamental process of plants to study and analyze any plant form.
- PO6. Problem analysis: Identify the taxonomic position of plants, using methods of nomenclature and classification in Botany.
- PO7. Creating social awareness about medicinal plants: To spread awareness about various medicinal plants for health problems, disorders and disease of human beings in the society.
- PO8. Spreading Commercial and economic awareness of plant wealth: To sensitize about the economic uses of different plants and their commercial uses.
- PO9. Modern tool usage: Equipping with understanding of role of modern tools in basic aspects of Plant Tissue culture techniques along with their limitations and challenges.
- PO10. The Botanist and society: Apply the appropriate knowledge to assess plant diversity, its importance for society, health, safety, legal and environmental issues.
- PO11. Environment and sustainability: Understand the environmental needs of the plant diversity and work towards the goal of sustainable development.
- PO12. Ethics: Apply environmental ethical principles and norms of the plant biodiversity conservation.
- PO13. Individual and team work: Function effectively as an individual and as a member or leader in during practical classes and study tours.

PO14. Communication: Communicate effectively through group discussions and power point presentations.

PO15. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of scientific changes encompassing the modern world.

## **Program Specific outcomes:**

#### B.Sc. General Medical

- 1. B.Sc. Medical student is able to acquire knowledge regarding Botany, Zoology, and Chemistry.
- 2. Medical Students will be able to define and explain major concepts in the biological sciences.
- 3. They are able to correctly use biological instrumentation and proper laboratory techniques.
- 4. Students will be able to communicate biological knowledge in oral and written form
- 5. Students will be able to recognize the relationship between structure and function at all levels: molecular, cellular, and organismal.
- 6. They can go for Indian Forest Service and other competitive examinations.
- 7. They can opt for higher studies in Botany, Zoology, Chemistry,.

#### **Course Outcomes**

Botany covers a diverse range of scientific disciplines related to the study of plant diverse groups ranging from simple to complex forms, including structure, growth, reproduction, metabolism, development, and evolutionary relationships among taxonomic groups. The course structure is designed keeping in mind the market demand for skilled professionals who can effectively cater to the demands of growing botanical industry and research organizations. Job opportunities are also wide as research organisations, herbal products companies, farm management organizations; biotechnology firms always require the services of botany students. After the completion of the course, botany students can work in the state departments, botanical survey of India and environmental protection agency. The department aims to provide the students an up to date level of understanding of plant science and allows them to develop an aptitude towards science and nature. Along with it the students are equipped with the basic skills in identifying and labelling different plants.

A holistic development and academic excellence to contribute effectively to the understanding of the subject along with sensitizing the students towards the need for keeping the environment clean and conserve our natural resources is the prime motive of the department.

Class	Course/ Course	Course Objective	Course Outcome
B.Sc General First Semester	Paper A Plant Diversity-I	On completion of the course, students are able to:  1. Understand the diversity among various life forms of Plant Kingdom.  2. Know the systematic, morphology and structure, of Algae and fungi.  3. Understand the heterotrophic and autotrophic modes of nutrition in the plant kingdom.  4. Know the Economic Importance of Algae and Fungi	1. To get knowledge about the plant diversity with respect to non flowering plants. 2. To apply the knowledge for economic use of lower groups of plant kingdom.
	Paper B Cell Biology	On completion of the course, students are able to:  1. Understand the basic structural unit of plant life i.e. Cell & its organelles 2. Get an insight into structural and cytological basis of functional differentiation in plants. 3. To study cell division and its significance. 4 To understand variation in chromosome structure. 5. To understand DNA replication and protein synthesis.	1. To get the knowledge about plant body functioning through various cell organelles. 2. To get the knowledge about process of DNA replication and protein synthesis.
B.Sc General Second Semester	Paper A Plant Diversity II	On completion of the course, students are able to:  1. Know the systematic position, occurrence, thallus structure, reproduction of Bryophytes.  2. Know the systematic	1. To get knowledge about the plant diversity 2. To have an idea about evolution of

		position, occurrence, structure, reproduction and life cycle of Pteridophytes. 3. Have broad	different life forms from simpler to complex one in plant kingdom
		prospective of evolutionary trends in Plant Kingdom from amphibians of the plant kingdom to the first vascular land plants.	
	Paper B Genetics	On completion of the course, students are able to:  1. To know about different terms in genetics and Mendelian genetics.  2. To study the phenomenon of dominance, laws of segregation, independent assortment of genes.  3. To understand the different types of genetic interaction, incomplete dominance, codominance, inter allelic genetic interactions, multiple alleles and quantitative inheritance etc.  4. To study chromosomal theory of heredity and genetic variation.	<ol> <li>To get knowledge of Mendelian and post Mendelian genetics.</li> <li>To get insight into the heredity trends observed in successive generations.</li> </ol>
B.Sc General Third Semester	Paper A Diversity of Seed Plants and their systematic-I	On completion of the course, students are able to:  1. Understand the diversity in highly advanced and evolved group of plants with naked seeds i.e. Gymnosperms.  2. Know about the general features and economic importance of the Gymnosperms.  3. Study fossil gymnosperms, their formation, various types and geological time scales.	1. To get knowledge about the plant diversity with respect to vascular plants. 2. To know the economic relevance of gymnosperm.
	Paper B Structure Development and Reproduction	On completion of the course, students are able to:  1. Understand the basic body plan and diversity in flowering plant forms	1. To get knowledge about root system, stem

	in Flowering Plants-I	Learn about the vegetative and reproductive morphology in angiosperms.     Understand the basic morphology of flowering plants.     To learn about double fertilization and its significance.	and leaf.  2. Familiarising with flower with regards to reproduction and fertilization.
B.Sc General Fourth Semester	Paper A Diversity of Seed Plants and their systematic-II	On completion of the course, students are able to:  1. To understand the system of plant identification nomenclature and classification.  2. To study aims and objectives of plant taxonomy.  3. Learn about the diagnostic features and general account of some families of angiosperms.	1. To get knowledge of plant diversity with respect to flowering plants. 2. To have knowledge of taxonomy and species concept. 3. To help in identification, nomenclature and classification of angiosperms.
	Paper B Structure Development and Reproduction in Flowering Plants-II	On completion of the course, students are able to:  1. Understand the Anatomy of plant along with abnormalities in structural development.  2. Know the methods of pollination and fertilization.  3. Know endosperm, embryogeny and seed formation.  4. Understand various methods of vegetative propagation.  5. Understand normal secondary growth in dicot and monocot.	1. To study diversity in anatomy and embryology. 2. To know about various basic techniques of vegetative propagation.

		<ol> <li>Learn the simple tissue system and conducting tissue system.</li> </ol>	
B.Sc General Fifth Semester	Paper A Plant Physiology-I	On completion of the course, students are able to:  1. To understand various concepts of functions and metabolism of plants.  2. To correlate structural diversity of various plant forms with functional differentiation and its biological aspects of biological nitrogen fixation.  3. Learn and understand about mineral nutrition in plants.	1. To study the importance of water and minerals, transport of water.  2. To understand Nitrogen and lipid metabolism.  3. To learn functioning of enzymes and role of proteins in plant growth.
	Paper B Plant Ecology	On completion of the course, students are able to:  1. To know energy pyramids and energy flow in an ecosystem.  2. To understand types of ecosystem and interactions between ecosystems and organisms.  3. Understand the biogeochemical cycles, ecological factors and community ecology.	1. To create awareness about the environmental factors and community study.  2. To gain knowledge of basic concepts of ecology.
B.Sc General Sixth Semester	Paper A Plant Physiology-II	On completion of the course, students are able to:  1. To study the metabolic and physiological processes like photosynthesis, respiration, Photoperiodism and flowering of plants.  2. To study the role of growth regulating substances in plants.  3. To understand basic	1. To get the knowledge about plant physiological processes. 2. To familiarise with the growth kinetics of plants. 3. To have basic knowledge of basic aspects of plant tissue culture and their applications.

	concepts in tissue culture.	
Paper B	On completion of the course,	1. To have insight
Economic	students are able to:	into plant
Botany	<ol> <li>Understand the role</li> </ol>	wealth.
	plant wealth in human	2. To develop interest
	welfare.	in various forest
	<ol><li>Have basic</li></ol>	products like spices
	understanding of	condiments.
	forestry and its	
	conservation.	3. To conserve forest
	<ol><li>Know about wood</li></ol>	land.
	seasoning and its	4. To learn about
	preservation	wood seasoning and
	techniques.	its preservation
		techniques.

For measuring the levels of attainment of course outcomes, programme specific outcomes and programme outcomes.

### **Attainment of the Course Outcomes**

The course outcomes are measured through syllabus, continuous evaluation (internal evaluation), evaluation, and results.

At the Departmental level the Heads of the Department and the teachers who are engaged in any class strive to complete the courses in time and in some cases extra classes are conducted for the students who they identify as relatively average. The 75 percent of compulsory attendance to qualify for writing the examination of the courses is adhered to, to ensure students participation in the class. The continuous evaluation is done through tests, quizzes, written assignments, presentations and so on. The end semester examination of every course is based on written examination of three hours, the question paper of which is required to test the knowledge of the student from every unit prescribed for study.

## **Attainment of the Programme Specific Outcomes**

The programme specific outcomes are measured by taking the aggregate result of all courses in a given programme of an individual student.

### **Attainment of the Programme Outcomes**

At the Undergraduate levels, the attainment of programme outcomes is measured through students' progress to higher studies. Another, measurement of attainment is students' placement in companies and institutions.

### **Bachelor of Commerce (B.COM)**

- **PO1-** The course equips the students with knowledge and techniques to understand the requirements of both business and professional world.
- **PO2-** It enables students to understand and demonstrate the knowledge of major theories, keyconcepts and principles underlying the theories relating to firm, markets and government policies.
- **PO3-** To understand the statistical skills, generic and analytical skills for solving case studies and problems related to the field of finance, marketing and economics
- **PO4-** To gain specialization into their chosen subjects of interest in the field of commerce and beeffective decision makers
- **PO5-** To gain knowledge of macro and micro environment, domestic and international markets, organizational behavior and other current issues related to the said discipline.
- **PO6-** To be able to evaluate, innovate ideas and new methodologies in a particular domain /subject
- **PO7-** To enable students to gain ability of retrieving and synthesising the data/information from various sources and applying it appropriately for resolution of complex problems.
- **PO8-** The course builds up sound foundation of required technical, analytical and decision-makingskills for taking up challenging careers like CA, CS etc.

# COURSE OUTCOMES (COs)

# B.Com (Semester I)

CODE	COURSE
BCM 101 A	PUNJABI
	OR
BCM 101 B	HISTORY AND CULTURE OF PUNJAB
BCM 102	ENGLISH AND BUSINESS COMMUNICATION
BCM 103	INTERDISCIPLINARY
100	PSYCHOLOGY FOR
	MANAGERS
BCM 104	BUSINESS ECONOMICS-I
BCM 105	PRINCIPLES OF FINANCIAL ACCOUNTING
BCM 106	COMMERCIAL LAWS
BCM 107	PRINCIPLES AND PRACTICES OF MANAGEMENT

## BCM 101 A: Punjabi

- ਪੰਜਾਬੀਭਾਸ਼ਾਦੀ ਗੁਆਨਨਾਲੀ ਵੀਦੁਆਰਥੀਆਂ ਵਿਚਭਾਸ਼ਾਈ ਸਮਰਥਾਵਿਚਵਾਧਾਰਦਾ ਹ**ੈ**।
- ਸਮਹੀਤਕਰਚਨਾਵਾਦ ਮੁਮਿਧਅਮਨਾਲ ਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰਸਮਹੀਤਕਰਚ ਆਦੇ ਵਿਕਾਸਰਦ
- ਸਾਹਿਤਕਰਜਨਾਵਾਦ ਮਹਿਅਮਤੀਵੀਦਆਰਥੀਆਂ ਵਿਚੀਸਰਜਨਾਤਮਕਸਜ਼ਦਾਵਿਕਾਸ਼ਹਦਾਹ**ੈ**।
- ਵਿਦਿਆਰਥੀਆਂ ਵਿਚ ਆਪਣ ਭਾਵਾ ਨੀਲੀਖ਼ਤ ਅਤ ਮੀਖਕ ਰ**ਹ**ੈ। ਵਿਚ ਵਿਅਕਤ ਕਰਨ ਦਾ ਹਨ ਰ ਪ**ੈ**ਦਾ ਹੋਦਾ

ातै।

- ਭਾਸ਼ਾਦੀਵਿਆਕਰਣਮਹਾਰਤਨਾਲਵਿਦਿਆਰਥੀਆਵਿਚਹਰਭਾਸ਼ਾਵਾਨਅਸਾਨੀਨਾਲਸਮਝਣਦੀਯਾਗਤਾ ਪ**ੈ**ਦਾਹਦੀਹ**ੈ**।
- ਵਿਆਕਰਣਪ ਰਨਾਲਵਿਦਆਰਥੀਆਵਿਚਸ਼ਧਪ ਯਗਭਾਸ਼ਾਉਚਾਰਣ, ਪੜਨਤੀਲਖਣਦਾਰਨ ਰਪ**ੈ**ਦਾ ਹੁੰਦਾਹ**ੈ**।
- ਸਮਜਿਕ, ਰਾਜਨੀਤਕਅਤਧਾਰ ਮਕਮਦਿਆਪ, ਤੀਵਿਚਾਰਾਦੀਨਰਮਾਣਦੀਸਮਰਥਾਵਿਚਵਾਧਾਹਦਾਹ**ੈ**।
- ਅਨਵਾਦਰਾਹੀਵੀਦ**ਆ**ਰਥੀਆਵਿਚਹਰਭਾਸ਼ਾਵਾਨਪੁਜਾਬੀਭਾਸ਼ਾਨਾਲ ਜੜਕ ਸਮਝਣਦਾਹਨਗ
- ਵਪਾਰਕਇਸ਼ੀਤਹਾਰਰਾਹੀ ਵੀਦਆਰਥੀਆਂ ਵਿਚਆਪਣਵਪਾਰਨਸਥਾਪਿਤਕਰਨਦਾਹਨਗ
- ਲੱਖ ਰਾਹੀਵਿਦਿਆਰਥੀਆਂ ਵਿਚ ਮਜਦਾਮੀਦਆਂ ਬਾਰ ਜਾਨਣ ਸਮਝਣ ਅਤੇ ਆਪਣ ਵਿਚਾਰ ਪੇਸ਼ ਕਰਨ ਦਾ ਹਨਰਪੈਦਾਰਦਾਰੈ।
- ਸ਼ਧ— ਅਸ਼ਧਰਾਹੀਵਿਦਿਆਰਥੀਆਂ ਵਿਚਪੰਜਾਬੀ ਦ ਸ਼ਬਦਾ ਦ ਸ਼ਧਰ**਼**ੈ। ਨਪਹਿਚਾਨਣ ਦਾ ਹਨ ਰਪ**ੈ**ਦਾ ਹੁੰਦਾ

# **BCM 101B: History and Culture of Punjab**

- ਵਿਦਿਆਰਥੀਪਜ਼ਾਬਦਵਿਸ਼ਾਲਭਗਲਬਾਰੀਗ**ਆ**ਨ।
- ਵਿਦਿਆਰਥੀਪਜ਼ਾਬਦੀਵਸ਼ਾਲਇਤਿਹਾਸਬਾਰੀਗ**ਆ**ਨ।
- ਵਿਦਿਆਰਥੀਆ ਨੇਆਪਣ ਧਰਮਦ ਹਦਵਿਚ ਆਉਣ ਦੋਇਤਿਹਾਸਦ<sup>†</sup>ਗਿਆਨ।
- ਵਿਦਆਰਥੀਆ ਨੁਆਪਣੀ ਸਭਿਅਤ ਦਹੰਦੀ ਵਚਆਉਣ ਦੋ ਇਤਿਹਾਸੀ ਗੁਆਨ।
- ਆਪਣ ਸਿਭਅਤ ਵਿਚਮਨ ਏਜ਼ਾਦੀ ਦਨੀ ਤੋਰ ਹਾਰ ਦੋ ਇਤਿਹਾਸਦਾ ਗਿਆਨ।
- 5000 ਬੀ.ਸੀ. ਤਹਣਤ ਦਪਜਾਬਦਇਤਿਹਾਸਦਾਗਿ**ਆ**ਨ।
- ਪੰਜਾਬਦੀਸਲਤਨਤਤਰਮਕਰਨਵਾਲ ਸਾਸ਼ਕਾਦੀ ਜ਼ਿਦਗੀਤ ਸਾਸ਼ਨਕਾਲ ਬਾਰੀਗ**ਅ**ਾਨ।
- ਨਕਸ਼ਰਾਹੀ**ਆ**ਪਣੀ**ਆ** ਮਹਤਵਪਰਣਇਤਿਹਾਸਿਕਥਾਵਾਦਾਗਿਆਨ।

## **BCM 102: English and Business Communication skills**

The course will enrich the students to

**CO1**: interact with their peers and friends in business English

CO2: succeed in global business with multilingual communications skills

**CO3:** inculcate strong pronunciation as well as the ability to express themselves

**CO4:** increase sustainability and career progression in the workplace

**CO5:** develop high- end interpersonal and networking skills

**CO6:** develop clear and lucid writing skills

**CO7:** assist in communicating more meticulously

CO8: express themselves in the most convincing ways

**CO9:** draft empathetic social communication in business dealings

**CO10:** have a better and impressive personality

## **BCM103: Psychology for Managers**

After completing the course, students will be able to:

CO1: Acquaint themselves with concepts, definitions; Need and Importance of Organisational Behaviour for Managers

CO2: Understand the Contributing Disciplines of OB.

**CO3**: Recognize the concept of Individual Behaviour: Introduction and Meaning, Factors Affecting Individual Behaviour, Models of Individual Behaviour.

**CO4:** Familiarize themselves with the concept of Personality: Meaning, Characteristics, Determinants and Theories of Personality

**CO5**: Acquaint themselves with the concept of Perception: Nature & Importance, PerceptionProcess, Perpetual Errors and Distortions.

**CO6**: Know the concept of Attitudes and Values: Components, Sources and Measurement of Attitudes as well as Concept, Sources and Types of Values.

**CO7:** Know the concept of Motivation: Meaning and Importance of Motivation, Theories of Motivation, Morale.

CO8: Understand the Inter Personal Behaviour and Transactional Analysis (TA).

**CO9**: Familiarize themselves with the concept of Leadership: Definition, Importance, Leadership Styles, Models and Theories of Leadership.

**CO10:** Know the concept of Conflict Management: Traditional vis-a-vis Modern View of Conflict, Types and Causes of Conflict, Conflict Resolution.

### **BCM 104: BUSINESS ECONOMICS-I**

After completion of this course the student will be able to:

**CO1:** Analyse the important concepts of microeconomic theory related to consumerbehaviour such as theory of demand, its determinants and the elasticity of demand.

**CO2:** Understand the laws of consumptions using cardinal Utility analysis and consumer equilibrium with the help of utility and indifference curve analysis.

**CO3:** Examine the change in output resulting from variation in inputs during the production process.

**CO4:** Know the basic concepts concerned with the theory of cost and Revenue.

**CO5:** Assess the knowledge regarding different Market forms and the decision regarding price and output determination of firm and industry under various market structures.

BCM 105: Principles of Financial Accounting

After completion of this course the student will be able to:

**CO1:** Acquire conceptual knowledge of Generally Accepted Accounting Principles, Accounting Software and Tally

**CO2:** Equip themselves with the knowledge of preparing the Financial Statements of SoleProprietor and Partnership Firm

**CO3:** Understand the concept and preparation of accounts relating to of Branch Accounting, Departmental Accounting.

**CO4:** Understand the meaning and process of preparation of Accounting for Consignment and Accounting for Joint Venture.

**CO5:** Understand the Accounting for Dissolution of Partnership Firm, Insolvency of Partnersand Piecemeal Distribution, Preparation of Royalty Accounts.

**CO6:** Apply previously acquired accounting and computer skills by using software Tally.

#### **BCM 106: Commercial Law**

The main objective of the paper is to acquaint the students with general Commercial Laws. On Completion of this course student will be able to:

**CO1:** Understand the relevance of Law of Contract Act, 1872.

**CO2:** Understand the legal framework of formation, performance, discharge of contract and its Remedies in case of breach of contract.

**CO3:** Apply basic knowledge about entering into special contracts like indemnity, guarantee, bailment, pledge and agency.

**CO4:** Learn the purpose of establishment of Right to Information Act, 2005 which describes objectives, powers, functions and the role of state, central and information commissions to handle appeals and grievances and imposition of penalties.

**CO5:** Learn the legal framework of Consumer Protection Act, 1986 which includes Objectives, Rights, and Consumer Forums and Composition, Role of Three tier redressal machineries to settle consumer disputes at District, State and National level and how appealand penalties are imposed.

### **BCM 107: Principles and Practices of Management**

After completing this course, the students will be able to:

**CO1:** Acquaint with Basic Concept of Management, its nature, scope, levels, process and significance

CO2: Know about various Management Thoughts such as Classical, Neo-Classical Systems, Contingency and Contemporary Approaches

**CO3:** Understand the concept, process, nature, types, significance of Planning, DecisionMaking and Management by Objectives

**CO4:** Gain an insight of concept of Organization, its nature, process, significance, and types

**CO5:** Recognize the concept of Authority and Responsibility, Delegation, Decentralization and Departmentation

**CO6:** Familiarize with the concept, features, importance and limitations of Direction, itselements like Supervision, Motivation, Leadership and Communication

**CO7:** Understand the importance of Control in an organisation as well as its process andtechniques, relationship between planning and control

# **B.Com I (Semester II)**

CODE	COURSE
BCM 201 A	PUNJABI
BCM 201 B	OR
	HISTORY AND CULTURE OF PUNJAB
BCM 202	ENGLISH AND BUSINESS COMMUNICATION
BCM 203	INTERDISCIPLINARY
203	E- COMMERCE
BCM 204	BUSINESS ECONOMICS-II
BCM 205	CORPORATE ACCOUNTING
BCM 206	BUSINESS LAWS
BCM 207	HUMAN RESOURCE MANAGEMENT

## BCM 201 A: Punjabi

- •ਪ<sup>ਾ</sup>ਬੀਭਾਸ਼ਾਦੀਗਆਨਨਾਲੀਵੀਦਆਰਥੀਆਂਵਿਚਭਾਸ਼ਾਈਸਮਰਥੀਵਰਵਾਧਾਹਦਾਹ**ੈ**।
- ਸਾਹਿਤਕਰਚਨਾਵਾਦਮਾਧਿਅਮਨਾਲਵਿਦਿਆਰਥੀਆਂ ਅੰਦਰਸਾਹਿਤਕਰਚ ਆਦਾਵਿਕਾਸਰਦ ਹ**ੈ**।
- ਸਮਹਾਤਕਰਚਨਾਵਾਦ ਮਹਿਅਮਤੀਵੀਦਆਰਥੀਆਂ ਵਿਚੀਸਰਜਣਾਤਮਕਸਚਦਾਵਿਕਾਸਹਦਾਹ**ੈ**।
- ਵਿਦਿਆਰਥੀਆਂ ਵਿਚ ਆਪਣ ਭਾਵਾਨੀਲੀਖ਼ਤ ਅਤੇ ਮੀਖ਼ਕ ਰ**ਹ**ੈ। ਵਿਚ ਵਿਅਕਤ ਕਰਨ ਦਾ ਹਨ ਰ ਪ**ੈ**ਦਾ ਹੋਦਾ
- ਭਾਸ਼ਾਦੀਵਿਆਕਰਣਮਹਾਰਤਨਾਲਵਿੰਦਆਰਥੀਆਵਿਚਹਰਭਾਸ਼ਾਵਾਨਅਸਾਨੀਨਾਲਸਮਝਣਦੀਯੰਗਤਾ ਪ**ੈ**ਦਾਰਦੀਹ**ੈ**।
- ਵਿਆਕਰਣ ਪੱਧਰਨਾਲ ਵਿੱਦਆਰਥੀਆਂ ਵਿਚਸ਼੍ਧਪ ਹੁੰਦਾਹ**ੈ**। ਬੀਭਾਸ਼ਾਉਚਾਰਣ, ਪੜਨਤੀਲਖਣਦਾਰਨ ਰਪ**ੈ**ਦਾ
- ਸਮਜਿਕ, ਰਾਜਨਤਿਕਅਤਧਾਰ ਮਕਮਦਿਆਪ੍ਰਤੀਵਿਚਾਰਾਦੀਨਰਮਾਣਦੀਸਮਰਥਾਵਿਚਵਾਧਾਹਦਾਹ**ੈ**।
- ਅਨਵਾਦਰਾਰੀ ਵੀਦ**ਆ**ਰਥ ਆਵਿਚਹਰਭਾਸ਼ਾਵਾਨਪੁਜਾਬੀਭਾਸ਼ਾਨਾਲ ਜੜਕ ਸਮਝਣਦਾਹਨਗ
- ਵਪਾਰਕ ਪਤਰੀਵਰਾਰਰ ਗੋਵਪਾਰਕ ਪ੍ਰਧਰਤ ਸੰਚਾਰਦੀ ਸਮਰਥਾਵਿਚ ਵਾਧਾ।

- ਤਕਨੀਕ ਸਬਦ ਦੀ ਗੁਆਨਨ ਲਾਵੀਦੁਆਰਥੀਆਂ ਦੇ ਪੰਜਾਬੀ ਸ਼ਬਦ ਕੁਸ਼ ਵਿਚਵਾਧਾ
- ਵਿਸ਼ਰਾਮੀ ਜਨਨਾਲ ਵੀਦ**ਆ**ਰਥੀਆਂ ਵਿਚਸ਼ ਸਬਦੀ ਲਖਣ ਤੇ ਅਸਧੂਸਬਦੀ ਨਪੀਰਜ਼ਾਨਣ ਦੀ ਸਮਰਥਾ।

### **BCM 201B: History and Culture of Punjab**

- ਵਿਦਆਰਥੀਪਜ਼ਾਬਦ ਵਸ਼ਾਲਭਗਲਬਰ ਗਿਆਨ।
- ਵਿਦਆਰਥੀਪ ਬਦ ਵਸਾਲ ਇਤਿਹਾਸਬਾਰੀ ਗ**ਆ**ਨ।
- ਵਿਦਆਰਥੀਆਨਆਪਣ ਧਰਮਦ ਹਦਵਿਚਆਉਣ ਦਈ ਤਹਾਸਦ<sup>ੀ</sup> ਗਆਨ।
- ਵਿਦਿਆਰਥੀਆਨਆਪਣੀਸੀਭਅਤਾਦਰ ਵਿਚਆਉਣਦਈਤਹਾਸੀਗਆਨ।
- **ਆ**ਪਣੀ ਸਭਿਅਤ•ਵਿਚਮਨ•ਏਜ਼ਾਦੀ ਦਨੀ ਤਉਹਾਰਾ ਦ ਇਤਿਹਾਸਦ <sup>ਗ</sup>ਗਆਨ।
- 5000 ਬੀ.ਸੀ. ਤੁਹਣਤਕਦੇਪੂਜ਼ ਬਦ ਇਤਿਹਾਸਦਾ ਗਿ**ਆ**ਨ।
- ਦਸਦੀਵ**਼ਿ**ਚਪਜਾਬਦੀਵਡਦਇਤਿਹਾਸਦਾ ਗਿਆਨ।
- ਪੰਜਾਬਦ ਸਲਤਨਤਤਰਜਕਰਨਵਾਲ ਸਾਸ਼ਕਾਦੀ ਜ਼ਿਦਗੀਤ ਸਾਸ਼ਨਕਾਲ ਬਾਰੀ ਗ**ਆ**ਨ।
- ਨਕਸਰਾਹੀਆਪਣੀਆ ਮਹਤਵਪਰਣ ਇਤਿਹਾਸਕਥਾਵਾਦਾ ਗਿਆਨ।

# **BCM 202: English and Business Communication skills**

The course will enrich the students to

CO1: interact with their peers and friends in business English

CO2: succeed in global business with multilingual communications skills

CO3: inculcate strong pronunciation as well as the ability to express themselves

CO4: increase sustainability and career progression in the workplace

CO5: develop high- end interpersonal and networking skills

CO6: develop clear and lucid writing skills

CO7: assist in communicating more meticulously

CO8: express themselves in the most convincing ways

CO9: draft empathetic social communication in business dealings

CO10: have a better and impressive personality

### BCM 203: E- Commerce

After completing this course, the students will be able:

**CO1**. To understand the Meaning of Electronic Commerce, Brief History of Electronic Commerce, importance of E-commerce & Growth of E-Commerce – Present, Future and Potential

**CO2**. To understand E-Business: Meaning, Importance, Models Based on the Relationships of Transacting Parties (B2B, B2C, C2C and C2B)

**CO3.** To analyse the impact of e-commerce on Various Business Sectors such as Entertainment, Education, Health Services, Publishing and Financial Services.

CO4. To understand the impact of E-Commerce on Society and Economy.

**CO5**. To Assess Electronic Payment Technology, Limitations of Traditional Payment and Types of E-Payment System — E-Cash and Currency Servers, E-Cheques, Credit Cards, Smart Cards, Electronic Wallets and Debit Cards.

CO6. To make students aware about the ethical, social, legal & security issues of E-commerce

**CO7**. To receive knowledge about Digital Signatures, Cryptography, Interoperatibility and Inter compatibility

#### BCM 204: Business Economics-II

### After completing this course ,students will be able to:-

**CO1:** Understand the meaning of economics and how economists use economic models. Students will be able to determine the profit maximizing price and quantity of resources in factor markets under perfect and imperfect competition by use of marginal analysis

**CO2:** Understand theories and principles in macroeconomics and explain how economic indicator like GDP, National income are used to assess the state of the economy.

CO3: Describe ,calculate unemployment and examine causes and types of unemployment, including cyclical, frictional, structural, and natural

unemployment.

**CO4:** Use the AD-AS model to explain the equilibrium levels of real GDP and price level and examine factors that shift aggregate supply and aggregate demand. Students will also be able to illustrate economic growth, unemployment, and inflation using the AS/AD model.

**CO5:** Explain/Describe the Classical model of income and employment and describes the situation of full employment in the economy.

**CO6:** Describe the Keynesian economics with its policy implications, Compare the Keynesian model of income and employment with classical model along with the significance of Keynes theory.

**CO7:** Apply these principals to analyze economic issues.

BCM-205: Corporate Accounting

After completing this course, the students will be able:

**CO1** To attain basic knowledge of corporate accounting.

**CO2** To acquire the detailed knowledge about the issue, forfeiture and buyback of shares and redemption of preference shares

**CO3** To understand the concept of Right Issue and Bonus Issue and its accounting treatment.

- CO4 To get knowledge about the Company Accounts and how to prepare Final Accounts according to Companies Act 2013 (Including Managerial Remuneration and Profit Prior to Incorporation).
- **CO5** To understand the concept of Underwriting of Share and Debentures, issue and redemption of debenture and its accounting treatment.
- **CO6** To learn the methodology to prepare the final accounts of Banking and Insurance companies and to acquire knowledge about its schedules.
- CO7 To acquire the skills of critical evaluation of Final Accounts of Companies and making comparison of Annual Reports of Companies and Disclosure Norms.

#### **BCM-206: Business Laws**

After completing this course, the students will be able to:

CO1: Understand the basics of Business Law

**CO2:** Identify the legal rules of Sales of Goods Act, 1930.

**CO3:** Differentiate between condition and warranty.

**CO4:** Understand and appreciate the significance of negotiable instruments like promissory note, bill of exchange and cheque in their day-to-day life and business under Negotiable Instrument Act 1881.

**CO5:** Acquire knowledge about the legal provisions of Factories Act 1948.

**CO6:** Understand the legal framework for health, safety and welfare of workers.

**CO7:** Recognize and respect the provisions regarding employment of women, young person and Children.

**CO8:** Handle and minimize the Industrial Disputes and promote industrial Peace under Industrial Dispute Act, 1947.

#### **BCM 207: Human Resource Management**

After completing this course, the students will be able to:

**CO1**: Acquaint with Concept, Nature, Functions, Importance and Limitations of HRM

**CO2:** Understand and analyse the Contemporary Challenges faced by human resourcedepartments

**CO3:** Have an insight of need, process, types and benefits of Human Resource Planning, and factors affecting HRP

CO4: Recognise the concept of Job Analysis and Job Design as well as its importance in HRM

**CO5:** Familiarize with the process of Recruitment and Selection in an organization; constraints, challenges and recent trends in recruitment

**CO6:** Understand the methods, techniques and importance of Training and Development of employees along with their Performance Appraisal

**CO7:** Know the concept, purpose and types of Internal Mobility and Transfers including Promotions, Demotions and Separations

## B.Com. (Semester III)

CODE	COURSE
BCM 301	INTERDISCIPLINARY ISSUES IN INDIAN COMMERCE
BCM 302	COST ACCOUNTING
BCM 303	COMPANY LAW
BCM 304	BUSINESS MATHEMATICS AND STATISTICS
BCM 305	BANKING AND INSURANCE
BCM 306	GOODS AND SERVICES TAX

**BCM 301: Issues in Indian Commerce** 

After completing this course, the students will be able to:

**CO1:** Gain information about Foreign Direct Investment- Its Concept, Historical Perspective, Incentives for attracting Foreign Capital and its Implications for Indian industry.

**CO2:** Gather knowledge about Automatic Route and Sectoral Limits of FDI.

CO3: Acquaint the concept of "Make in India" - its Objectives, Sectors in Focus and Issues & Challenges of make in India

**CO4:** Gain in-depth knowledge regarding International Finance: its meaning, need, importance and Sources, primarily, External Commercial (FCCBs) Borrowings (ECB), American Depository Receipt (ADR) and Global Depository Receipt(GDR).

CO5: Gather information about Growth of Infrastructure- Energy, Transport and Communication, Public-Private Partnership (PPP) in Infrastructure Development in India. CO6: Gain deeper insight about Stock Exchanges in India: Organisation, Nature, Functions, Benefits, Growth, Trading in Stock Markets- Electronic Trading and Commodity Exchanges in India.

**CO7:** To get a better understanding of Corporate Debt Restructuring: its Concept, Importance, Methods, Corporate Scams and Regulatory Authorities-Serious Fraud Investigation Office (SFIO).

**CO8:** Familiarize with Recent Trends in Credit Rating Services in India, Role of ICRA and CRISIL.

BCM 302: Cost Accounting

After completing this course, the students will be able:

**CO1:** To understand basic Cost concepts, elements of Cost and preparation of Cost Sheet, difference between Cost and Financial Accounting.

**CO2:** To learn the cost accounting techniques that are applied in manufacturing and servicebusinesses, installation of costing system.

**CO3**: To acquaint with the concept of material purchase and control, pricing methods of material issues, techniques of material control.

**CO4**: To acquire knowledge about labour cost concepts, its components, accounting and, control of idle time and overtime.

**CO5:** To attain the knowledge about methods of remuneration and incentives plans.

**CO6:** To acquaint with the concept of overheads, collection, classification, allocation, apportionment and methods of absorption of overheads, machine hour rate, etc.

**CO7:** To understand the concept of operation costing and service costing and cost ledgeraccounting

CO8: To get knowledge about Reconciliation of Cost and Financial Accounts

# **BCM 303: Company Law**

After completion of this course the student will be able:

**CO1:** To understand the separate legal entity of a company, its characteristics, concept of corporate veil and when it can be lifted.

**CO2:** To acknowledge the procedure and documents involved in formation of company and understand the importance of major documents i.e. Memorandum of Association, Articles of Association and Prospectus.

**CO3:** To understand the process of alteration of MOA, AOA and consequences of misrepresentation in prospectus.

**CO4:** To know the process of appointment and removal of directors, their rights, duties and liabilities, share qualification and disqualification of directors.

**CO5:** To understand the difference between member and shareholder, rights and duties of members of company.

**CO6:** To know the process and formalities involved in winding up of the company.

#### **BCM 304: Business Mathematics and Statistics**

The objective of this paper is to help the students in understanding mathematical and statistical tools in business decisions. After completion of this course the student will be ableto:

**CO1:** To analyse and demonstrate mathematical skills which are required in mathematical intensive areas in economics and business.

**C02:** Apply the knowledge in mathematics in solving business problems.

**CO3:** Learn the properties and applications of matrices and determinants in commerce, finance, economics etc.

**CO4:** Learn about mathematical applications of differentiation.

**CO5:** Use Derivatives to solve problems of finding maximum and minimum value.

**CO6:** Understand basic concepts of Statistics such as Meaning, types, collection of data, tabular and graphical representation of data.

**CO7:** To understand the concept of population and sample and to make students familiar with Calculation of Measures of Central Tendency and Dispersion and their Measures, Measures of Skewness, Concept of Kurtosis.

**CO8:** Analyse time series and various components of time series.

**CO9:** To understand the techniques and concept of different types of index numbers and to solve the problems relating to Index number.

## **BCM 305: Banking and Insurance**

**CO1:** To acquaint the students with knowledge of Indian Banking and Insurance industry.

**CO2:** To provide the students' knowledge of Indian banking system including the commercial banks and their functioning.

**CO3:** To receive the knowledge about reforms in Indian banking along with the implementation of these reforms.

**CO4:** To understand the e-banking, mobile banking, electronic fund transfer and how to usethese facilities in real life to transfer funds through NEFT or IMPS etc.

**CO5:** To get knowledge of insurance sector, its functioning and importance insurance sector.

**CO6:** To understand about the regulatory authority of insurance (IRDA) and the various duties and responsibilities of IRDA.

**CO7:** To get the knowledge about how to deal with grievances mechanism regarding insurance policies and the role of Ombudsman in insurance sector.

#### BCM 306: Goods & Services Tax

After completion of this course the student will be able:

**CO1:** Get an overview of Goods and services tax, Implementation of GST: GST Council, Reasons for GST introduction.

**CO2:** Get familiar with Registration: Persons liable for Registration- Procedure of registration- Exemption from Registration

**CO3:** Get knowledge about administration: Officers under GST- their appointment and powers, Levy and collection of CGST/ SGST, Composition levy scheme, Input tax credit (Simple problems), Time of supply, Tax invoice, Credit and debit notes.

**CO4:** Get informed about supplies in the course of interstate trade or commerce- Supplies in the course of intra state trade or commerce- Levy and collection of IGST- Place of supply, Exemption from GST.

**CO5:** Know about value of supply: Computation of taxable value & tax liability-Valuation rules, Returns and Payment under GST, Refund of taxes

CO6: To get information about Offences and penalties

CO7: Get information about GST portal: GSTN, GSP's and ASP's.

# B.Com (Semester IV)

CODE	COURSE			
BCM 401	INTERDISCIPLINAR SECURIT ANALYSIS AND PORTFOLI YMANAGEMENT Y			
BCM 402	ADVANCED ACCOUNTING			
BCM 403	AUDITING AND SECRETARIAL PRACTICE			
BCM 404	COST MANAGEMENT			
BCM 405	MARKETING MANAGEMENT			
BCM 406	QUANTITATIVE TECHNIQUES AND METHODS			

## **BCM 401: Security Analysis and Portfolio Management**

The course aims at providing the students a comprehensive knowledge about security analysis and portfolio management and equipping for taking profitable investment decisions. The objectives of this course are as follows:-

**CO1:** To gain deeper understanding about Investment – its Meaning, Nature, Objectives and Process.

**CO2:** Understand the Investment Philosophy, Value Investing and Growth Investing.

**CO3:** To Introduce the concept of Security Analysis – its Meaning, Risk and Return, Typesand Measurement of Risk, Risk and Return Trade Off.

**CO4:** To Familiarize with the concept of Investment Analysis that includes Fundamental Analysis – Economic, Industry and Company Analysis.

**CO5:** To Acquaint the students with the concept of Technical Analysis, Fundamental v/sTechnical Analysis.

**CO6:** To Gain information about Portfolio Management – its Concept, Portfolio Management Schemes and different Portfolio Theories.

**CO7:** To gain knowledge regarding Markowitz Model, Sharpe Model, Jensen and TreynorModel.

**CO8:** To Understand the concept of Capital Asset Pricing Model, Arbitrage Pricing Theory, Efficient Market Theory and Security Market Line.

CO9: To learn about Portfolio Performance Evaluation and Revision

BCM 402: Advanced Accounting

After completing this course, students will get the knowledge about advanced accounting problems with the relevant Indian Accounting Standards. The objectives of this course are as follows:-

**CO1:** To understand the concept and different methods of valuation of Goodwill and Shares.

**CO2:** To know the concepts regarding accounting of loss of profit and loss of stock in insurance claim

CO3: To enlarge capability to understand the concepts and preparation of

Investment accounts and preparation of Hire purchase and Instalment System

**CO4:** To know the Accounting Standard of Amalgamation, Absorption (Excluding Inter-Holding) & External and Internal Reconstructions helps the students to know the process and preparation of different accounts relating to Amalgamation and Internal Reconstruction.

**CO5:** To Develop the ability to understand the concepts of Holding Company and its Subsidiary Company and its various adjustments for the preparation of Consolidated Balance Sheet.

**CO6:** To gain knowledge about the Accounting Standard of Liquidation of Companies helps the students to understand the liquidation process of companies and liquidator's statement of accounts.

## **BCM 403: Auditing and Secretarial Practices**

After completing this course students will be able to:

**CO1:** Understand the concepts and issues in Auditing and Secretarial Practices.

**CO2:** Learn the meaning, principles and classification of auditing.

CO3: Learn vouching and Audit Report preparation.

**CO4:** Understand the Role, Rights, Duties and Responsibilities of Auditor.

**CO5:** Describe the procedure of vouching of cash and trading transactions, assets and liabilities in financial statements.

**CO6:** Understand the qualification, Role, Responsibilities of Company Secretary.

**C07:** Learn how to prepare minutes, resolutions and how to hold different meetings.

# **BCM 404: Cost Management**

Through this course it is expected to:

**CO1:** Develop an understanding of students to utilize cost data in planning and control and to acquaint them with different areas of Cost Management.

**CO2:** Provide knowledge about the various methods of Cost Determination like Job Costing, Batch Costing, Contract Costing, Uniform Costing and Inter Firm Costing, Process Costing (including joint and by-products)

CO3: Provide knowledge of Contemporary Concepts: Activity Based Costing, Target Costing, Life Cycle Costing, Value Chain Analysis

**CO4:** Help them in evaluating choices between alternative product costing system and methods in a cost benefit context.

CO5: Impart knowledge on cost control system and its concepts in making decisions.

**CO6:** Enable them to use cost management techniques like marginal costing, break even analysis, budgetary Control, standard costing and variance analysis.

CO7: Facilitate them to become a Cost Accountant/Cost Executive Or Manger/Senior Accountant

## **BCM405: Marketing Management**

After completing this course, the students will be able to:

**CO1:** List the foundation terms, concepts and principles of marketing.

**CO2:** Classify the marketing environment and learn how to cope with changing marketingforces.

**CO3:** Use the various essential tools and techniques for effective marketing practice.

**CO4:** Examine relationship between marketing and other management functions.

**CO5:** Illustrate various marketing decision related to product, price, place and promotions.

CO6: Recommend the various marketing strategies for Service Marketing,

Rural marketing, Marketing Research, Advertisement and Sales Management etc.

## **BCM 406: Quantitative Techniques and Methods**

The objective of the paper is to acquaint the student with the various Quantitative Techniques and Methods used in managerial decisions. After completion of this course the student will be able to:

**CO1:** Understand introduction of quantitative techniques and its uses in Business.

**CO2:** Apply probability calculations and normal distribution techniques to calculate probabilities for business scenarios.

**CO3:** Help students understand the basic terminology and formulation of linear programming problem.

**CO4:** Enable students solve linear programming problem to maximize the profit and tominimize the cost.

**CO5:** Understand the applications of linear programming problem in commerce, economics and banking etc.

**CO6:** Enable the understanding of concept of interpolation and extrapolation with the help ofbinomial expansion method, newton's Method and lagrange's Method.

**CO7:** Learn the difference between interpolation and extrapolation.

**CO8:** Know about the relationship between two variables with the help of correlation analysis.

**CO9:** Learn the computation of correlation with the help of methods-scattered Diagram, KarlPearson's coefficient of correlation, rank Correlation and concurrent deviation method.

**CO10:** Use regression analysis to estimate the average relationship between two variables and to use frequency distribution to make decision.

**CO11:** Learn simple linear regression and estimation of parameters (slope and intercept).

CO12: Understand the difference between correlation and regression.

## **B.Com (Semester V)**

CODE	COURS E		
BCM 501	INCOME TAX LAWS		
BCM 502	MANAGEMENT ACCOUNTING		
BCM 503	INDIAN ECONOMY		
BCM 504	PRODUCTION AND OPERATIONS MANAGEMENT		
BCM 505	ENTREPRENEURSHIP AND SMALL BUSINESS		
BCM 506	FINANCIAL MARKETS AND SERVICES		

**BCM 501: Income Tax Law** 

Upon completion of this course, the students will acquire the knowledge of laws pertaining to levy of income tax in India and to enable students to apply the same practically. The objectives of the course are to:-

**CO1:** Understand the basic concepts in the law of Income Tax and determine the residential Status of different persons.

**CO2:** Identify the various incomes which are not included in Gross Total Income.

CO3: Identify the five heads in which income is divided.

**CO4:** Understand the provisions regarding computation of Income under the head Salary, House Property, Profits and Gains of Business and Profession, Capital Gains and Income from other Sources.

**CO5:** Acquaint students with the concepts of Agriculture Income and its Tax treatment.

# **BCM-502: Management Accounting**

After completion of this course the student will be able:

**CO1:** To participate in effective decision making by understanding and analysing financial statements from practical point of view.

**CO2:** To make intra firm and inter-firm comparisons of financial statements of the concerns.

**CO3:** To understand cash flow and fund flow statements for effective planning of short-termfinances of the organisation.

**CO4:** To apply the art of understanding and interpreting the ratios and analyses its effects onshort term and long-term financial position of the concern.

**CO5:** To understand the inflation accounting and its impact on business.

**CO6:** To understand the importance of social and human resource accounting.

## **BCM 503: Indian Economy**

#### The objectives of this course are to:-

**CO1:** Give comprehensive understanding of Indian economy and explains nature of development in various economies.

CO2: Understand government policies and programs to boost economic development; understanding of Indian economy with global economy with special reference to comparison of India and China.

**CO3:** Understand how planning and infrastructure support economic development of an economy. And to explain demographic features of India.

**CO4:** Explain structural aspects of Indian economy, economic reforms and problems of the economy with latest data that will increase analytical skills of students.

**CO5:** Explain volume, composition and direction of foreign trade with government policy to increase foreign trade. Describe different economic problems like unemployment, inflation and poverty with their causes and suggestions.

## **BCM 504: Production and Operation Management**

After completing the course, the students will be able to:

**CO1:** Gain Knowledge about managing production processes.

**CO2:** Learn the ways to run the operations effectively.

CO3: Better understand the modern production techniques.

**CO4:** Gain an understanding and appreciation of the principles and applications relevant to the planning, design, and operations of manufacturing/service firms.

**CO5:** Understand the concepts of Production and Operations management of an industrial undertaking.

**CO6:** Have an understanding of the development of manufacturing and service operations management as a subject and be able to outline the strategic concerns involved in operations decisions.

# **BCM 505: Entrepreneurship and Small Business**

## The objectives of this course are to:-

**CO1:** Familiarize the budding entrepreneurs with the competencies and qualities of the successful entrepreneurs.

**CO2:** Make students understand the needs and beginning of entrepreneurial class and communicate the applicability of different entrepreneurial theories.

**CO3:** Help learners understand various issues involved in setting up a private enterprise and develop required entrepreneurial skills in economic development.

**CO4:** Evaluate the different factors which affect the growth of entrepreneurs and developments of women entrepreneurship.

**CO5:** Analyse the role of EDP's and different financial or non-financial authorities for sustainability and encouraging entrepreneurship.

**CO6:** Get awareness about different Governmental and Non-Governmental policies and assistance in setting up SSI, Institutional support to small entrepreneurs from NSIC, SIDOand TCOs.

### BCM 506: Financial Markets and Services

After Completing this Course, the students will be able to:

**CO1:** Understand the basic knowledge about the Finance concepts, markets and various services provided by those markets.

**CO2:** Describe the types of financial markets and identify the functions of those markets and institutions and examine their role in the current economic scenario of the country.

**CO3:** Understand the mechanism and regulation of the stock market operations and clearing& settlement procedures of online trading on the Stock Exchange.

**CO4:** Determine and analyze the appropriate measures of risk and return for various financial instruments.

**CO5:** Understand the significance of various money market and capital market instruments that operate in today's financial markets.

**CO6:** Acquaint themselves with the knowledge of various types of financial services such asfactoring, leasing, merchant banking etc.

**CO7:** Know about the different financial institution established by the government forproviding financial services to the Businesses and smoothening of the business processes.

## B.Com (Semester VI)

CODE	COURSE	
BCM 601	DIRECT TAX LAWS	
BCM 602	FINANCIAL MANAGEMENT	
BCM 603	ISSUES IN FINANCIAL REPORTING	
BCM 604	SOCIAL AND BUSINESS ETHICS	
BCM 605	OPERATIONAL RESEARCH	
BCM 606	SECTORAL ASPECTS OF INDIAN ECONOMY	

**BCM 601: Direct Tax Laws** 

After completion of this course the student will be able:

**CO1:** To gain knowledge about Deemed Incomes and Clubbing of Incomes (Aggregation ofIncomes)

CO2: To get acquainted with Set-off and Carry Forward of Losses

**CO3:** To get information about Deductions to be made in Computing the Total Income, Rebate & Relief

CO4: To get familiar with Assessments of HUF, Association of Persons &Firm.

**CO5:** To know about Income Tax Authorities, Procedure of Assessment (Practical aspects of Filing of Return to be stressed) and the Penalties.

**CO6:** To familiarize themselves with Deduction & Collection of Tax at Source, AdvancePayment of Tax, Appeals & Revision.

## **BCM-602: Financial Management**

After completion of this course the student will be able:

**CO1**: To elucidate the basic analytical techniques and methods of financial management ofbusiness firms.

**CO2**: To apply the concept of Financial Management in understanding the managerial decisions and corporate capital structures.

**CO3**: To understand the importance of time value of money and analyse the real impact of monetary transactions.

**CO4**: To analyse the viability and suitability of long-term investments proposals throughvarious techniques/methods of capital budgeting.

**CO5**: To develop awareness of various determinants and theories of Capital Structure.

**CO6:** To understand the determinants of working capital and able to estimate the short-termsources requirement.

**CO7:** To acquire theoretical & practical knowledge of various dividend models and understand the dividend policies of corporates.

BCM 603: Issues in Financial Reporting

After Completing this Course, the students will be able to:-

**CO1:** Understand the need and emergence of international financial reporting standards.

**CO2:** Understand the history of accounting standard-setting in the United States and applyingthis concept when explaining the current standard-setting environment.

**CO3:** Examine the role of the Conceptual Framework in the standard-setting process.

**CO4:** Discuss Generally Accepted Accounting Principles in relation to a variety of controversial accounting issues

**CO5:** Understand and explain the various Indian accounting standards.

**CO6:** Understand the concepts and Models of price level changes and Human ResourceAccounting

**CO7:** Describe and explain the ethical and social responsibilities of accountants in ensuring the integrity of financial information

#### BCM 604: Social and Business Ethics

After completing this course, the students will be able to:

**CO1:** Acquire the knowledge of various Business Ethics which contribute substantially in theachievement of Corporate Excellence.

CO2: Become aware about the acts which a corporate should follow.

**CO3:** Understand that adoption of Business ethics helps the corporate bodies to reach tomaximum heights.

**CO4:** Become aware about the Business Ethics that discourages corporate wrong doing.

**CO5:** Understand the importance of Ethical Conduct for Business and Community.

CO6: Analyse the Employee conditions and Business Ethics affecting them.

## **BCM 605: Operational Research**

To understand the concepts and techniques of Operations Research for business decision making and to acquire required skills to solve various problems in OR. Students completing this course will be able to:

**CO1:** Understand the basic concept of Operational Research its Significance and Scope to make effective business decisions.

**CO2:** Describe the basic concepts of convex analysis and explain the theoretical foundations of various issues related to linear programming modelling.

**CO3:** Formulate real-world problems as a linear programming model and describe the theoretical workings of the graphical and simplex method.

**CO4:** Explain the relationship between a linear program and its dual, including strong duality and complementary slackness.

**CO5:** Formulate specialized linear programming problems, namely transportation and assignment problems and describe theoretical workings of

the solution methods for transportation and assignment problems.

**CO6:** Apply the knowledge of game theory concepts to articulate real-world decision situations for identifying, analyzing, and practicing strategic decisions to counter the consequences.

**CO7:** Demonstrate solution methods including graphs and linear programming to analyzeand solve the Two-person, zero-sum games.

**CO8:** To understand mathematical models used in Decision Theory and Replacement Problem (Individual and Group replacement Problems both).

**CO9:** To impart the knowledge in concepts and tools of Simulation and Applications.

## BCM: 606- Sectoral aspects of Indian economy

After completing this course, the students will be able to:

**CO1:** Acquire the knowledge of Agriculture: Features, Agricultural Productivity and Income,

CO2: Understand the agricultural Finance and Agricultural Policy

**CO2:** Gain knowledge about Contract Farming, Organic Farming and Corporate Farming.

**CO3:** Become familiar about Industrial Development during the Planning Period, Industrial Policy of Govt. of India and national manufacturing policy.

**CO4:** Understand about Services Sector in India: Growth and Contribution of Services in India in Pre and Post Reform Period

**CO5:** Know the Problems of Indian Economy: Poverty, Unemployment, Inflation, Unequal distribution of Income and Wealth

CO6: Understand the Inter-State disparities in the Pattern of Development.

#### **B.Com Honors**

#### **BCH 507: STRATEGIC FINANCIAL MANAGEMENT**

After completing this course, the students will be able to:

- **CO 1:** Understand various financial management concepts and apply financial management theories.
- **CO 2:** Manage basic corporate finance transactions along with investing more profitably and operating more efficiently.
- CO 3: Understand the interface of Financial Policy and Strategic Management.
- **CO 4:** Gain knowledge about Strategic Business Units as well as Financing Choices and decisions.
- **CO 5:** Figure out differences among financing of Venture firms, Mature Companies and Firms in High growth stage.
- **CO 6:** Describe the financial aspects of Corporate Restructuring and monitor the Restructuring Process.
- **CO 7:** Discuss about Leveraged Buyouts, Management Buyouts, Spin Offs and Asset Divestitures.
- **CO 8:** Understand the ethical aspects of Strategic Financial Management as well as financial aspects of Supply Chain and Distribution Chain Management.
- **CO 9:** Develop an innovative approach to internal cost-profit analysis.
- **CO 10:** Conduct Valuation of a Business Enterprise.

## **BCH 607: INVESTMENT MANAGEMENT**

After completing this course, the students will be able to:

- **CO 1:** Apply the Finance theory to issues faced by portfolio managers and investors in India.
- **CO 2:** Obtain theoretical and practical knowledge about the field of investments.
- **CO 3:** Gain comprehensive knowledge about the Financial System in India.
- **CO 4:** Describe the role and function of Primary and Secondary Markets and also different types of Market transactions.
- **CO 5:** Conduct Valuation of bonds, debentures, preference shares and equity shares.
- **CO 6:** Compute India's leading Stock Indices and obtain an overview of different Benchmark Indices.

**CO 7:** Gain knowledge about Credit rating Agencies in India (their functions and approaches) and Business Models.

**CO 8:** Describe benefits of Credit Rating and Regulatory concerns.

**CO 9:** Understand the concepts of Derivative Markets, Forward and Future Contracts, Hedging, Valuation and Swaps.

**CO 10:** Gain practical knowledge about investing in Alternative Asset Classes.

## **Programme & Course Outcome Master of Commerce (M.Com)**

## PROGRAM OUTCOMES (POs)

## After completion of this Program the students will be able to:

PO1: Update themselves with the sound knowledge of Concepts, Structure and nature of Business Finance.

PO2: Disseminate the knowledge regarding various aspects of Financial Accounting, its principles and the latest application-oriented accounting methods.

PO3: Develop the decision making skill regarding various costing methods and practical applications of management accounting principles.

PO4: Inculcate the knowledge of business and the techniques of managing the business with special focus on marketing, Insurance and banking theory law and practices.

PO5: Expand their horizon of knowledge in all the spheres of commerce including entrepreneurial development.

PO6: Acquire knowledge of various application oriented research techniques and would have knowledge on how to use these techniques in business related problems.

## COURSE OUTCOMES (COs)

#### M.Com Semester I

CODE	COURSE
MC 101	MANAGERIAL ECONOMICS
MC 102	QUANTITATIVE METHODS FOR BUSINESS
MC 103	MODERN ACCOUNTING THEORY & REPORTING PRACTICES
MC 104	ORGANIZATION THEORY AND BEHAVIOUR
MC 105	MARKETING MANAGEMENT
MC 106	MANAGEMENT INFORMATION SYSTEM
MC 107	WORKSHOP ON IT APPLICATIONS IN COMMERCE

# MC 101: Managerial Economics

## After completing this course, the students will be able to:

CO1: Comprehend the nature and scope of Managerial Economics and its role in business decision making Process.

CO2: Analyse the various objectives, constraints and functionality of the firm.

CO3: Asses the concepts, theories of profit and the important tools and techniques of optimisation used by the firm.

CO4: Examine some fundamental economic concepts concerned with the consumer behaviour including demand functions, elasticity of demand and consumer equilibrium with Cardinal utility, indifference curve analysis and Revealed preference theory.

CO5: Understand the decision making of the firm and industry regarding Price and Output determination under different market forms, Pricing Practices including Pricing of multiple products, Transfer Pricing and the Risk analysis using probability distribution and utility theory.

CO6: Know the relationship between the technological change, productivity of labour and market structure and acquaint themselves with the technological environmental forecasting.

#### MC 102 - Quantitative Methods for Business

## After completion of this course the student will be able to:

CO1: Acquire conceptual knowledge of Probability and Probability Distribution and Application of Probability Rules.

CO2: Equip themselves with the knowledge of population, sample and sampling distribution, parameters and statistics, Central limit theorem and Statistical Estimation.

CO3: Acquaint students with the concept of Hypothesis Formulation and testing procedure - Type I and Type II errors – one tail and two tail tests, Concept of Standard Error - Confidential limits etc.

CO4: Acquaint students with the procedure and applications of some of the important statistical tests on large samples as well as on small sample (like Z-test, t-test, F test and ANOVA etc.)

CO5: Understand the concepts and techniques of Statistical Quality Control and Decision Tree Analysis and their applications in business and economic situations.

# MC 103 - Modern Accounting Theory & Reporting Practices

## After completing this course, the students will be able

CO1: To understand the convergence of the Indian Accounting Standards with the IFRS.

CO2: To equip themselves with the required knowledge of International financial reporting standards and practices.

CO3: To achieve a clear conceptual understanding of the IFRS and possess sufficient knowledge expected out of an expert.

CO4: To acquaint themselves with the knowledge of Regulatory and Financial Reporting Framework.

CO5: To understand the various elements of financial statements as per International Financial Reporting Standards.

CO6: To familiarize themselves with presentation and additional disclosures as per International Financial Reporting Standards

CO7: To Integrate the knowledge of preparation of external financial reports for single entities as per International Standards

## MC104: Organization Theory and Behaviour

#### After completing this course, the students will be able

CO1: To know the Classical, Neo - classical and Contemporary theories of organization.

CO2: To understand the formal and informal structure, Flat and Tall structures And bureaucratization of organizations

CO3: To learn about Organizational Behavior Concepts, determinants, models, challenges and opportunities of OB.

CO4: To know the individual behavior determinants, personality, perception and Group Decision making.

CO5: To get familiar with motivation and leadership theories

CO6: To get knowledge about the power, conflict and transactional analysis.

CO7: To understand the causes of conflict and stress and its resolution

# **MC 105: Marketing Management**

## After Completing this Course, the students will be able to:

CO1: Understand the basic concepts, principles and relevant functional areas of marketing management and its application to a new or existing business.

CO2: Develop their conceptual and analytical skills to be able to manage marketing operations of a business firm and identify and resolve the problems pertaining to marketing management.

CO3: Develop skills of organizing, analyzing and synthesizing information and data in order to reveal patterns, and manage them to derive insights related to various functional areas of marketing management.

CO4: Analyze elements of a brand and explain how the brand-building process contributes to the success of products or services.

CO5: Plan and conduct an investigation into an organization's marketing strategy, and communicate findings in an appropriate format.

CO6: Develop marketing strategies after analyzing and coordinating each functional area of marketing.

CO7: Understand the significance of innovation and research & development in the achievement of business goals.

## MC106: Management Information System

## After completion of this course the student will be able:

CO1: To develop an understanding of fundamental concepts of information systems and evaluate the role of information systems in today's competitive business environment.

CO2: To understand the process of information generation, processing, storage & dissemination and ways to manage the information overload.

CO3: To acquaint with the process of system development, approaches and methodologies.

CO4: To get basic knowledge of various information systems and their usage in effective decision making.

CO5: To identify the various threats to the information and learn the ways to secure the information.

CO6: To use knowledge and skills related to digital technologies in order to enhance business administration and decision making.

# MC-107 Workshop on IT Application in Commerce

## After the course completion, the students will be able to:

CO1: Understand the essentials Information Technology concepts and emerging technologies.

Co2: To state and explain Data capture, analysis, presentation and report formatting techniques.

CO3: To learn the online purchase from E-Commerce website and understand the mechanism of payment gateway system.

CO4: To understand the principles of cyber security, online threats and get prepared to adopt safe methods.

#### M.Com Semester II

CODE	COURSE
MC 201	BUSINESS ENVIRONMENT
MC 202	RESEARCH METHODOLOGY IN COMMERCE
MC 203	FINANCIAL MANAGEMENT AND POLICY
MC 204	PRODUCTION AND MATERIALS MANAGEMENT
MC 205	OPERATIONS RESEARCH
MC 206	BUSINESS POLICY AND STRATEGIC MANAGEMENT
MC 207	SUMMER TRAINING REPORT AND VIVA VOCE

#### MC 201: Business Environment

## After completing this course, the students will be able to:

CO1: Understand the changing dimensions of Business Environment including its impact on policy formulation and analyse the environmental forecasting techniques.

CO2: Evaluate the impact of Economic Reforms in India and overview the strategies, competitive strengths and growth of Multi-National Corporations under Foreign Investment policy in India.

CO3: Review the important dimensions of Government regulatory policies including industrial policies since independence, Foreign direct investment policy, Fiscal Policy, Monetary Policy and their impact on Indian Economy.

CO4: Analyse the Indian Financial system including working, structure and recent developments of Money market and Capital market in India.

CO5: Familiarize with the Legal Framework of the country including Consumer Protection Act 1986, Right to Information and Right to Service Acts and their implications for Business.

# MC 202 - Research Methodology in Commerce

## After completion of this course the student will be able to:

CO1: Acquire conceptual knowledge of Research, methods and steps of conducting research, sources of data collection, testing hypothesis etc.

CO2: Understand the use of the library & organization of material for conducting research.

CO3: Equip the students with in-depth knowledge of Sampling Method – Observation Method – Case Study Method – Interview Method – Survey Method – Experimental Method – Questionnaire Method - Library Method – Documentary Method – Suitable Combination & Selection of Method

CO4: Understand the methods and ways of Presentation of data and analysis of data.

CO5: Understand the concept of Multivariate analysis –multiple regression, discriminate analysis, conjoint analysis, factor analysis, cluster analysis

CO6: Prepare research report; understand its ingredients and constructions of research report – procedure of preparation of reference and bibliography.

## MC 203 - Financial Management and Policy

# After completing this course, the students will be able

CO1: To acquaint themselves with basic analytical techniques and methods of financial management of business firms.

CO2: To demonstrate the applicability of the concept of Financial Management to understand the managerial decisions and corporate capital structures.

CO3: To understand the various techniques/methods for choosing best alternative among various investment proposals.

CO4: To develop awareness of various Determinants of Capital Structure Decision Approach to Estimate the Target Capital Structure Variations in Capital Structures.

CO5: To develop an understanding of determinants and need of Working Capital.

CO6: To acquire theoretical & practical knowledge of various dividend models.

# MC 204 - Production and Materials Management

## Objectives of this course are -

CO1: To impart knowledge regarding production and management techniques, process, tools, and acquaint the students with the knowledge of marketing functions, techniques and strategies.

CO2: To understand about Materials Management, Inventory Control, Introduction to purchasing, Functions, procedure of purchasing and Selection Sources of Supply, Negotiation with Suppliers.

CO3: To acquaint students with Price determination; Price Cost Analysis, Quality determination and control value analysis and Forecasting of demand.

CO4: To learn the concept of Business Location & Layout, Installation of facilities and Principles and Types of Facilities Layout.

CO5: To analyse and interpret PERT / CPM – Network and Crashing.

CO6: To learn Work Study its Objectives, Scope and Uses along with Methods Study, Work Measurement, Performance Rating Standard Time.

## MC 205: Operations Research

#### After Completing this Course, the students will be able to:

CO1: Understand the concepts and techniques of operations research for business decision making.

CO2: Acquire required skills to solve various problems of O.R.

CO3: Understand the characteristics of different types of decision-making environments and the appropriate decision making approaches and tools to be used in each type.

CO4: Build and solve Transportation Models and Assignment Models.

CO5: Design new simple models, like: PERT & CPM to improve decision-making and develop critical thinking and objective analysis of decision problems.

# MC 206: Business Policy and Strategic Management

# After completion of this course the student will be able:

CO1: To identify the environmental issues which have direct and indirect impact on business policy and strategic decisions of corporate sector.

CO2: To develop an understanding of the making corporate strategic decisions and get familiar with the issues and practices involved.

CO3: To build skills in conducting strategic analysis of competitive situations of various industries and develop strong understanding of the competitive challenges of a global market environment.

CO4: To cultivate skills for making and implementing effective functional strategies for growth and sustainability of business.

CO5: To understand the ethical behavior and be aware of the importance of ethical behavior, core values, and socially responsible management practices in the conduct of a company's business.

CO6: To assess the challenges faced by managers in implementation and evaluation of various strategies based on the nature of business, industry, and cultural differences.

CO7: To appreciate the role of technology/E-Commerce in growth of present day business and to identify the challenges posed by technology.

## MC. 207- Summer Training Report and Viva Voce

# After completion of the training and preparing the report, the students will be able to:

CO1: Develop conceptual and applied research skills as well as competencies required for effective problem solving and right decision making.

CO2: Gain opportunity to work in various types of situations.

CO3: Explore career alternatives for future by assessing their interests and abilities in their field of study.

CO4: Develop work habits and attitudes necessary for job success.

CO5: Practice and improve their industry skills while also learning how to work.

CO6: Articulate and apply principles learned in and outside of the classroom to a specific Job

#### M.Com Semester III

CODE	COURSE
MC 301	BUSINESS PERFORMANCE MEASUREMENT
MC 302	TAX PLANNING AND MANAGEMENT
MC 303	INTEEGRATED MARKETING COMMUNUCATION AND BRAND
	EQUITY
MC 304	MARKETING RESEARCH
MC 305	HUMAN RESOURCE DEVELOPMENT
MC 306	INDUSTRIAL RELATIONS

#### MC 301 - Business Performance Measurement

# After completing this course, the students will be able to:

CO1: Understand need and importance, historical overview of Corporate Performance Measurement

CO2: Familiarize with role of Product Costing in price estimates and profit management; techniques to measure and enhance profitability and quality of products and services

CO3: Acquaint with modern techniques of business performance measurement like Activity Based Costing & Management, Target and Kaizen costing; Benchmarking and Environmental Costing; Strategic Profitability Analysis and EVA; Balance Score Card; Throughput Accounting

CO4: Learn the process and role of setting of Performance Goals and Incentives, and the use of diagnostic tools and control

CO5: Recognize the importance of Management Information System as well as Management Control System for the efficient and effective performance of a business

CO6: Understand various aspects of Responsibility Accounting and Transfer Pricing

# **MC 302: Tax Planning and Management**

# Objectives of this course are CO1: To familiarize the student with major latest provisions of the Indian tax laws.

CO2: To provide information to the students on how corporate enterprises having implications for various aspects of Corporate planning, derive maximum possible tax benefits admissible under the law.

CO3: To get knowledge of various provisions of tax so that students are able to guide companies regarding their tax planning to get maximum benefit.

CO4: To understand in detail about the provisions, deductions and exemptions available to the companies so that students can become good tax planner.

CO5: To provide the detailed information about the provisions of GST and its implementation.

CO6: To provide information about the GST regarding registration of company under GST and how to calculate the amount of GST

## MC 303 - Integrated Marketing Communication & Brand Equity

## After completion of this course, the learner will be able to:

CO1: Explain different promotion techniques with the special emphasis on advertising.

CO2: Describe functional areas of marketing communication and different advertising agencies along with knowledge of creating and maintaining the brand.

CO3: Gain knowledge of different branding concepts and awareness about building a strong brand.

CO4: Expand knowledge regarding internal marketing; segmenting and targeting; along with awareness about developing creative message strategy.

CO5: Classify media strength and weakness, know sales promotion tools and strategies

#### MC. 304 - MARKETING RESEARCH

The course aims at exposing the students to the concept, tools and techniques of marketing research and developing their skills to be able to apply research techniques to aid marketing decision making. The objectives of this course are -

CO1: To gain knowledge about the meaning, nature and importance of marketing research.

CO2: To gain knowledge about the concept of Research reliability and validity.

CO3: To learn about different Problems in conducting marketing research.

CO4: To familiarize themselves with Marketing Information System (MIS).

CO5: To get acquainted with different steps involved in conducting marketing research;

CO6: To understand the concept of Research Design which includes vividly the Types of research designs – explorative, descriptive and conclusive researches.

CO7: To learn about different sources of primary and Secondary data.

CO8: To getting acquainted with different steps in Questionnaire preparation.

CO9: To gain insights on sampling and non-sampling methods.

CO10: To understand the univariate and multivariate Data Analysis techniques

CO11: To learn about the different steps in Report Preparation.

CO12: To understand the basics of Product research, Advertising research, Marketing and

sales forecasting and Sales analysis.

## MC. 305 - Human Resource Development

## The objective of the course is -

CO1: To make student aware of the concepts, techniques and practices of human resource development. This course is intended to make students capable of applying the principles and techniques as professionals in organizations they work for.

CO2: To understand the Human resource development Conceptual base ,its Concept, evolution and mobilizations, Strategic interventions in HRD sector and target groups and Attitude of top management towards HRD

CO3: To enable easy understanding of HRD Activities like HRD culture and climate and measurement of HRD mechanisms for workers. Role of trade unions.

CO4: To provide easy approach towards Role of HRD in Government organizations, educational institutions, armed forces, police and industry, private sectors and public sectors units.

CO5: To analyse and interpret Emerging Issues in HRD: Creating awareness and commitment to HRD, Industrial relations and HRD, Utilization of HRD efforts, Future of HRD, International comparison of HRD (Commonalities and differences).

## MC 306- Industrial Relations

## After completing this course, the students will be able to:-

CO1: To understand the Concepts and scope, Historical development, Unilatarist, Pluralist and Marxist perspective of industrial relations

CO2: To know the Concepts and scopes of industrial democracy

CO3: To learn about the role of trade unions, trade union in India, national level federations, Goals and objectives of unions and union leadership

CO4: To know the union management perspectives, organizational factors affecting union management relations. Public policies and union management relations

CO5: To get familiar with the Statutory and non-statutory methods of industrial dispute resolution; Conciliation, mediation, arbitration and adjudication.

CO6: To get knowledge about the Comparative Industrial Relations

CO7: To understand the Collective bargaining, negotiation skills, industrial conflict resolution.

#### M.Com Semester IV

CODE	COURSE
MC 401	PROJECT PLANNING AND CONTROL
MC 402	KNOWLEDGE MANAGEMENT
MC 403	BUSINESS ETHICS AND CORPORATE GOVERNANCE
MC 404	ADVERTISING AND SALES MANAGEMENT
MC 405	SERVICES MARKETING
MC 406	CONSUMER BEHAVIOUR

# MC 401 - Project Planning and Control

## After completing this course, the students will be able to:

CO1: Acquire basic knowledge of different facets of Project Identification, Formulation and Planning like understanding business environment, idea generation, venture appraisal, factory design and layout

CO2: Understand about the various steps, format and contents regarding Feasibility Report Preparation for new enterprise

CO3: Familiarize with various aspects of Market Appraisal of a project like market survey, market segmentation and product differentiation, forecasting future demand and distribution analysis

CO4: Know different aspects of Financial Appraisal like capital budgeting techniques, risk and uncertainty analysis for the new enterprise, and various sources of finance as well as planning capital structure

CO5: Understand about the Project Implementation, its Organization and Management

CO6: Learn Project Control techniques, network analysis – PERT & CPM, project follow up and monitoring

#### MC 402 - Knowledge Management

CO1: Objective: The main aim of the course is to create awareness amongst the students to know the details of Knowledge Management in the changing scenario and its significance in framing the business strategy.

CO2: To provide a better view of the Concept of 'knowledge', 'Knowledge intensive organization' and 'Knowledge value chain'.

CO3: To learn about the Knowledge management systems and various Barriers to knowledge sharing.

CO4: To gain understanding of tacit and explicit knowledge and various Models of knowledge creation process.

CO5: To analyse the Knowledge management strategy and business strategy and Role of Top and Middle management.

# MC 403: Business Ethics and Corporate Governance

## The objectives of this course are :-

CO1: To provide the knowledge of ethical value system of the companies.

CO2: To provide the knowledge on how companies should behave ethically in the various decision makings such as in the areas of Finance, marketing and HR.

CO3: To get information about Ethical Dilemma, Ethical Leadership and wisdom-based leadership including decisions on how a person should deal in these situations at the time of decision-making.

CO4: To understand about corporate governance and about the various provisions of corporate governance.

CO5: To get detailed knowledge on Internal Corporate Governance Mechanism: Board of Directors- Functional Committees of Board; Code of conduct, whistle blowers. External Corporate Governance Mechanism: Regulators, Gate keepers of companies.

## MC 404 - Advertising and Sales Management

## After completing this course, students will be able to:

CO1: To understand the basics of Communication, role of communication, communication process and flows.

CO2: To gain deeper knowledge about meaning, nature and importance of Advertising.

CO3: To learn about Advertising management process – its overview, determining target audience, advertising objectives, positioning decisions and advertising budget decisions.

CO4: To gain insight into message decisions which include determining advertising message, developing advertising copy, layout and creativity in advertising.

CO5: To gain knowledge about the online advertising which includes media selection and media scheduling.

CO6: To Get acquainted with social and regulatory aspects of advertising, recent developments and issues in advertising.

CO7: To understand the fundamentals of sales management and personal selling: its nature

and importance; types of selling; salesmanship and sales management and process of effective selling.

CO8: To learn about market analysis and sales forecasting, sales budget, sales territory and sales quota.

CO9: To get familiar with the concept of sales organization: its structure; relationship of sales department with other departments and distribution networks relationship.

CO10: To learn about Sales Force Management which covers Recruitment and selection, training and development, motivating, supervising and compensating sales personnel, Controlling the sales effort, Evaluation of sales personnel and Sales and cost analysis.

## MC- 405 Services Marketing

## After completing this course, the students will be able

CO1: To understand the role of services marketing; consumer behaviour in service encounters; customer interaction and purchase process

CO2: To understand the market segmentation, positioning vis-à-vis competitors.

CO3: To learn about the planning and branding of service-products, new service development; designing communication mix; branding and communication;

CO4: To understand about the effective pricing objectives and foundations for setting prices; distributing services

CO5: To get familiar with the Designing and managing service processes

CO6: To get knowledge about the Managing relationship and building loyalty; customer-firm relationship

CO7: To understand the service quality and the gap model, measuring and improving service quality, defining, measuring and improving service productivity

#### MC. 406 - Consumer Behaviour

#### After completion of this course, the learner will be able to:

CO1: Gain the knowledge of consumer behaviour which is a prerequisite for developing effective marketing strategy.

CO2: Explain knowledge regarding types of consumers and their role; along with Consumer buying process and determinants.

CO3: Expand knowledge regarding Individual Differences in Consumers, motivation; Perception; Attitude, Learning and personality.

CO4: Get deep insight into family, group, culture and subculture influence on the consumer behaviour.

CO5: Know complexities and issues in consumer research, along with gaining knowledge about models of consumer behavior

# DEPARTMENT OF EDUCATION PROGRAMME OUTCOMES(PO)FOR UNDERGRADUATE PROGRAMMES

The learning outcomes after completion of undergraduate programme vary with each programme. The programme outcomes are achieved through curriculum which is framed by the affiliating university for the mandatory courses as well as elective courses. The curriculum delivery methods are chosen appropriate to the programme to meet the specific outcomes. Further each course has defined course outcomes that meet the programme outcomes.

# PROGRAMME OUTCOMES(PO) FOR B.A., B.Ed. FOUR YEAR INTEGRATED UNDERGRADUATE PROGRAMME

- To prepare professionally trained teachers.
- To build the right attitude, values this is needed for the teaching profession.
- To develop teachers who are professionally equipped with essential skills and competencies.
- To develop teachers who can understand the concerns of the learner at every level and from all perspectives.
- To prepare teachers who are empowered in subject content and pedagogy.
- To develop teachers who have an understanding of the contemporary Indian society, with special reference to education.
- To create teachers who can identify the various challenges and have the capacity to overcome them at all levels.
- To develop responsible teachers with the sociological and psychological knowledge.

# PROGRAMME SPECIFIC OUTCOMES(PSO) FOR B.A., B.Ed. FOUR YEAR INTEGRATED UNDERGRADUATE PROGRAMME

- To develop teachers who own critical thought and scientific mind.
- To equip the teachers with the knowledge of ICT.
- To prepare teachers with humanitarian values.
- To prepare creative teachers.
- To develop enthusiastic teachers who could stimulate creativity among students.
- To prepare teachers who follow learner centered approach.
- To prepare responsible teachers.
- To prepare dedicated teachers for the improvement of education system.
- To equip the teachers with latest techniques and methods for the development of skill in teaching.
- To prepare teachers who can successfully connect theoretical curricular areas with with practicum.
- To provide the pupil teachers with reflective school experience through internship programme.
- To develop teachers with social awareness.
- To train the pupil teachers towards achieving excellence in the field of teaching and learning.

# TABLE FOR COURSE OUTCOMES IN EDUCATION

Code	Course Title	Course Outcomes	Teaching Learning Methodology	Assessmen t Method
Semester-I			used	
EDUC01	Education in Emerging Indian Society	<ul> <li>The students will be able to:</li> <li>Describe development of Indian education from ancient period to an independent nation.</li> <li>Describe the recommendations of various commissions since independence.</li> <li>State various provisions of education in Indian constitution.</li> <li>Explain in detail the role of education in social and cultural change.</li> <li>Explain the relationship of education with economic issues such as poverty, inequality and unemployment.</li> </ul>	Lectures, Discussions, Presentations, Online, Audio- Video	Project Work, Assignments , Individual term papers, Seminars, Terminal Examination, Classroom Interactions etc.
EDUC02	School Organization and Administration	<ul> <li>differentiate between the concepts of school administration, school organization and school management.</li> <li>describe a school plant and its components.</li> <li>identify the need, scope and purpose of educational planning in terms of national and community needs.</li> <li>acquire knowledge of duties of school head and teachers.</li> <li>understand the concept of institutional planning and prepare an institutional plan.</li> <li>acquire knowledge about the preparation of time table and maintenance of different school records and registers.</li> </ul>	Lectures, Discussions, Presentations, Online, Audio- Video	Project Work, Assignments , Individual term papers, Seminars, Terminal Examination, Classroom Interactions etc.

Semester-II				
EDUC03	Philosophical and Sociological Foundations of Education	<ul> <li>The students will be able to:</li> <li>define the concept of education and give details of its parameters.</li> <li>identify the relationship between philosophy and education.</li> <li>identify the relationship between sociology and education.</li> <li>describe the philosophy of the educational thinkers, prescribed in the syllabus.</li> <li>identify the relationship of education with sociocultural change, modernization and social mobility.</li> </ul>	Lectures, Discussions, Presentations, Online, Audio- Video	Project Work, Assignments , Individual term papers, Seminars, Terminal Examination, Classroom Interactions etc.
EDUC04	Psychological Foundations of Education	The students will be able to:      describe concept of educational psychology and explain its significance.      discuss the meaning of intelligence, measurement and theories.      understand individual differences, their meaning, areas and role in individual development.      understand the nature and needs of exceptional children.      understand the recent trends in the education of exceptional children.	Lectures, Discussions, Presentations, Online, Audio- Video	Project Work, Assignments , Individual term papers, Seminars, Terminal Examination, Classroom Interactions etc.
EDUC05	Human Development	<ul> <li>The students will be able to:</li> <li>describe the concept of human development and its significance for education.</li> <li>discuss the principles of human growth and development.</li> <li>describe the role of education in development and growth.</li> <li>enumerate different stages of growth and development in the life span of human being.</li> <li>describe characteristic</li> </ul>	Lectures, Discussions, Presentations, Online, Audio- Video	Project Work, Assignments , Individual term papers, Seminars, Terminal Examination, Classroom Interactions etc.

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		<ul><li>features of each stage.</li><li>explain various theories of human development.</li></ul>		
EDUC06	School Community Participation	<ul> <li>The students will be able to:</li> <li>discuss concept of Sarv Shiksha Abhiyan and its implementation.</li> <li>define the meaning and concept of Life Long Education.</li> <li>describe concept and implementation of vocationalization of education.</li> <li>understand the role of NCERT, SCERT, SIE, DIET, Village Education Committees, NGO's and Parent Teacher Associations.</li> </ul>	Lectures, Discussions, Presentations, Online, Audio- Video	Project Work, Assignments, Individual term papers, Seminars, Terminal Examination, Classroom Interactions etc.
Semester-IV				
EDUC07	Curriculum Development and Evaluation	<ul> <li>The students will be able to:</li> <li>describe the nature and characteristics of curriculum.</li> <li>explain the various foundations and components of curriculum.</li> <li>differentiate among goals, aims and objectives.</li> <li>differentiate among general objectives, course objectives and lesson objectives.</li> <li>state levels of course content.</li> <li>discuss the need and guiding principles of curriculum development.</li> <li>discuss different methods and media used in transactional processes.</li> <li>explain different types of evaluation.</li> </ul>	Lectures, Discussions, Presentations, Online, Audio- Video	Project Work, Assignments , Individual term papers, Seminars, Terminal Examination, Classroom Interactions etc.
EDUC08	Guidance and Counselling	The students will be able to:	Lectures, Discussions, Presentations, Online, Audio- Video	Project Work, Assignments , Individual term papers, Seminars, Terminal Examination,

		of guidenes		Classroom
On the second se		<ul> <li>of guidance.</li> <li>explain different types of tools and techniques, their needs and importance.</li> <li>describe various guidance and counselling services available in schools.</li> <li>explain the organization of guidance programme.</li> </ul>		Classroom Interactions etc.
Semester-V	<u> </u>			
EDUC09	Technological Bases of Education and Pedagogy	<ul> <li>The students will be able to:</li> <li>define educational technology and discuss its historical development.</li> <li>explain the concept, nature, phases, operations and levels of teaching.</li> <li>discuss concept of teacher behaviour and use techniques of modifying teaching behaviour.</li> <li>explain the concept of evaluation and its characteristics.</li> <li>describe the concept of teaching models and basic structure of teaching models.</li> <li>identify the components of Glasers, Ausubel, Taba and Bruner models of teaching.</li> </ul>	Lectures, Discussions, Presentations, Online, Audio- Video	Project Work, Assignments , Individual term papers, Seminars, Terminal Examination, Classroom Interactions etc.
EDUC10	Health and Yoga Education	<ul> <li>The students will be able to:</li> <li>develop an understanding of the importance, meaning, concept, aims and objectives of Health Education.</li> <li>enlighten themselves about infectious diseases and their control.</li> <li>become aware about balanced diet.</li> <li>use good postures for various purposes and first Aid.</li> <li>know the historical and philosophical background of Yoga.</li> <li>learn about the different types of Yoga and understand their educational implications.</li> </ul>	Lectures, Discussions, Presentations, Online, Audio- Video, Practice sessions	Project Work, Assignments , Individual term papers, Seminars, Terminal Examination, Classroom Interactions etc.

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Comparison		<ul> <li>know about major classical Yogic texts.</li> <li>have an insight into the practical aspect of Yoga in contemporary times.</li> <li>understandthe concept of holistic health and contribution of Yoga in promoting holistic health.</li> <li>applyYogic knowledge in educational and stress related situations.</li> <li>acquaint themselves with major Yogic practices.</li> </ul>		
Semester-VI	Educational	The students will be able to:	Locturos	Drainet
EDUC11	Educational Research and Statistics	<ul> <li>The students will be able to:</li> <li>explain the concept of educational research.</li> <li>differentiate between methods of educational research.</li> <li>formulate hypotheses of research.</li> <li>explain the applications of statistical techniques in education.</li> <li>develop the skills to carry out research.</li> </ul>	Lectures, Discussions, Presentations, Online, Audio- Video	Project Work, Assignments , Individual term papers, Seminars, Terminal Examination, Classroom Interactions etc.
EDUC12	Value Education	<ul> <li>describe the concept of values and value system.</li> <li>explain various intervention strategies for value inculcation in education.</li> <li>describe tools of value inculcation.</li> <li>explain various bases of value education.</li> </ul> Discussions, Presentations, Online, Audio-Video <ul> <li>Ser</li> <li>Ter</li> <li>Exa</li> <li>Classions, Presentations, Online, Audio-Video</li> </ul>		Project Work, Assignments , Individual term papers, Seminars, Terminal Examination, Classroom Interactions etc.
Semester- VII				
EDUC13	Philosophical Sociological and Political Perspective	<ul> <li>The students will be able to:</li> <li>explain the discipline of education in philosophical, sociological and political perspective.</li> <li>discuss the contribution of eminent thinkers to education.</li> <li>be aware of current acts in education</li> <li>discuss the role and</li> </ul>	Lectures, Discussions, Presentations, Online, Audio- Video	Project Work, Assignments , Individual term papers, Seminars, Terminal Examination, Classroom Interactions

		functions of UNESCO & UNICEF		etc.
EDUC14	The Learner Nature and Development	<ul> <li>The students will be able to:</li> <li>explain the various dimensions of personality of an individual.</li> <li>describe the role of education in nurturing the creativity.</li> <li>describe the concept of motivation.</li> <li>explain the importance of mental health and ways and means to improve the mental health.</li> <li>explain the concept and factors of learning.</li> </ul>	Lectures, Discussions, Presentations, Online, Audio- Video	Project Work, Assignments , Individual term papers, Seminars, Terminal Examination, Classroom Interactions etc.
EDUC15	Theory of Instructional Technology	<ul> <li>The students will be able to:</li> <li>explain the principles of instructional design and apply them to develop design of instruction.</li> <li>describe different media and their applications.</li> <li>explain the concept, process and application of team teaching, group interaction.</li> <li>discuss the need, concept and principles of self-instruction programme.</li> </ul>	Lectures, Discussions, Presentations, Online, Audio- Video	Project Work, Assignments , Individual term papers, Seminars, Terminal Examination, Classroom Interactions etc.
EDUC16	School Management	<ul> <li>The students will be able to:</li> <li>explain the various elements of school management.</li> <li>explain the organization of various co-curricular activities.</li> <li>enumerate the factors affecting classroom management.</li> <li>explain the role and importance of various government agencies.</li> <li>explain the significance and applications of TQM in Education.</li> </ul>	Lectures, Discussions, Presentations, Online, Audio- Video	Project Work, Assignments , Individual term papers, Seminars, Terminal Examination, Classroom Interactions etc.

EDUC17	Information and Communicatio n Technology (ICT)in Education	<ul> <li>The students will be able to:</li> <li>explain different parts of computer and their functions.</li> <li>explain various computer applications.</li> <li>run different software on computer.</li> <li>describe Internet and its uses.</li> <li>able to use computer for enhancing teacher learning process.</li> </ul>	Lectures, Discussions, Presentations, Online, Audio- Video, Practical	Assignments, Individual term papers, Seminars, Terminal Examination, Classroom Interactions, Practical work etc.
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# **Department of Computer Science**

# **Programme Outcomes**

Program	Program Specific Outcome
B. Sc. (Computer Sc.)	A B. Sc. graduate with Computer Science Elective course will have the ability to: PSO1.Acquire knowledge in core areas of Computer Science such as
	PSO2. Apply problem-solving skills and the knowledge of computer science to solve real world problems.  PSO3.Learn the tools and techniques of project development and applying the same in developing projects.
BCA	PO1: Acquisition oftalent to evaluate and solve complex computing problems using fundamentals of computer knowledge PO2: Ability to invent ways to interpret data and present conclusions using statistical methods. PO3: Skill to select recent computing tools, skills and techniques compulsory for providing software solutions PO4: Converse successfully with the computing society by being able to know successful documentations and presentations. PO5: Ability to work as a part of team or lead the team in multidisciplinary situations.
	PSO1: Enabling students to make use of the acquired knowledge in providing real time solutions.  PSO2: Developing English as well as regional language proficiency to handle corporate communication demands.  PSO3:Training students in varied technologies such as computer

networking, Software Engineering,
Programming Languages, Web
development, Database concepts,
Algorithms etc.
<b>PSO4:</b> Explaining the concept of project
development using the technologies
learnt during the course
PSO5:Enhancing logical ability and
programming concepts by providing
sufficient lab hours.

# Course Outcomes

# BCA

Code	Course Title	Outcomes
BCA-16-101	English(Compulsory)-A	
BCA-16- 102	Fundamentals of Mathematical Statistics	Understanding of the basic techniques of Statistical Methods. After completing this course students will be able to solve various Financial, Scientific and Engineering fields" problems.
BCA-16- 103	Computer Fundamentals and Computing Software	Familiarization with complete fundamentals and learning the packages commonly used in computing software.
BCA-16- 104	Problem Solving Through C	Understanding programming language concepts like control structures, reading a set of data, stepwise refinement, function and arrays. After completion of this course, the student should be able toanalyse the real life problems and write programs in "C" language to solve these. The main emphasis of the course is on problem solving aspect.
BCA-16-201	English (Compulsory)	
BCA-16-202	Computer Organization	Understanding of the basic organization of computer system and system maintenance.
BCA-16-203	Fundamentals of Web Programming	Ability to build and publish web sites using HTML, DHTML, CSS, JavaScript and Dreamweaver
BCA-16-204	Object Oriented Programming using C++	Ability to write C++ programs using the more esoteric language features, utilize Object Oriented techniques to design C++ programs, use the standard C++ library, and explore advanced C++ techniques.
BCA-16-301/ BCA-16-302	Punjabi-A/ History & Culture of Punjab	

DOA 10.000		
BCA-16-303	Information System Design and Implementation	Knowledge about the various aspects of Information Systems along with their analysis and design. Learner will be aware about pre requisite of software development and associated paradigms. After completing this course students will be able to be analyse and design information systems.
BCA-16-304	Computer Oriented Numerical Methods	Understanding of the essential techniques of Numerical Methods. After completing this course students will be able to solve various Scientific and Engineering fields' problems.
BCA-16-305	Data Structures	Knowledge regarding various data structures and the basic operations performed using them. At the end of course, students ought to have complete knowledge of data structures, thus should be able to use them for solving real world problems.
BCA-16-401/ BCA-16-402	Punjabi-B/History & Culture of Punjab	
BCA-16-403	Software Project Management	Understanding of important concepts and terms related to various phases during the development of a software project. At the end of the course the student will be able to apply software project management techniques to manage a software project
BCA-16-404	Operating System Concepts and Linux	Development of skills in operating systems concepts and gaining proficiency in using Linux commands
BCA-16-405	Database Management System	Understanding of the underlying concepts of database management system and getting skilled in implementing them using Database software.
BCA-16-501	Computer Networks	The outcomes of the course would be:  •Acquisition of knowledge about computer network related hardware and software using a layered architecture.  •Having good understanding of the concepts of network security, wireless and various emerging network technologies.
BCA-16-502	Discrete Mathematical Structure	Acquisition of knowledge of Logic, Relations and Functions, Algebraic Functions and Graph Theory.
BCA-16-503	Java Programming	Knowledge about all the programming concepts of JAVA programming language.
BCA-16-504	Web Application Development using PHP	Ability to do web programming using PHP and MySQL. It would enable them to develop websites and other web based applications.
BCA-16-601	E-Commerce	Understanding of the process of electronic

		commerce and familiarization with the technology involved in it.
BCA-16-602	Application Development using VB.Net	Ability to develop applications using event driven programming with VB.net (as front end) and accessing database at back end.
BCA-16-603	Computer Graphics and Multimedia Applications	Basic knowledge of computer graphics concepts and algorithms. The student will also learn about essential concepts used in developing multimedia applications.

# Computer Sc. (Elective)

Code	Course Title	Outcomes
CS01	Computer Fundamentals	Knowledge regarding the fundamentals of
		computer related to its hardware & software
CS02	PC Software	<ul> <li>Understanding of basic functionality of Disk</li> </ul>
		Operating System & Windows.
		<ul> <li>Acquisition of knowledge required for</li> </ul>
		creating word processing, spreadsheet &
		presentation documents
CS03	Operating System	Knowledge about various operating system
	Concepts	concepts relating to managing processes,
		memory and deadlocks.
CS04	C Programming	Understanding of basic constructs of 'C'
		programming language and ability to create 'C'
0005		based applications.
CS05	Computer Organization	Understanding of the basics of computer
		organization, Microprocessor & basic know how
0000		about system maintenance
CS06	Object Oriented	Knowledge about the implementation of various
	Programming using	object oriented programming concepts through
CS07	(C++)	C++ programming
C301	Database Concepts	Understanding of underlying concepts of database system in depth.
CS08	Data Structures	Knowledge of various data structures and
C300	Data Structures	operations performed on them using algorithms.
		The students will be able to implement these
		operations using any programming language
CS09	Project Management	The students will come to know how a project
0000	Tojout management	needs to established, organized, coordinated,
		controlled and evaluated
CS10	Relational Database	Learners will get well versed with the SQL and
	Management System	PL/SQL concepts
CS11	E-Commerce	Understanding of concepts of E-Commerce
CS12	Web Programming	Ability to build and publish web sites using HTML,
		CSS, JavaScript and PHP.

## **DEPARTMENT OF PUBLIC ADMINISTRATION**

## KI- 2.6.1

## **COURSE: BACHELORS OF ARTS (PUBLIC ADMINISTRATION)**

#### **COURSE OBJECTIVES**

- 1. To impart knowledge about various theories of evolution, nature, scope, concepts and principles of public administration.
- 2. Knowledge and understanding of the development and functioning of Indian administration.
- 3. To gain understanding of specialized aspects and areas of public administration.
- 4. An understanding of current and future trends in development administration and facets of sustainable development.

#### **COURSE OUTCOME**

- 1. The students acquire in-depth knowledge and insights about the working of Indian administration, civil services, public sector and the government.
- 2. Knowledge of various policies and programmes of the government for nation building and social welfare.
- 3. Students are able to think critically and analyze administrative and political issues.
- 4. Inculcating values and ethics as responsible citizens.
- 5. Students are prepared for career in civil services and PSO'S.

## COURSE: BACHELORS OF ARTS (PUBLIC ADMINISTRATION HONOURS)

#### **COURSE OBJECTIVES**

- 1. To introduce students with the advanced concept of administrative thought and its evolution.
- 2. To acquaint students with the nature and objectives of research methodology.
- 3. To create awareness among the students about the issues of agricultural administration.
- 4. To critically analyze and evaluate various aspects of organizational behaviour.

#### COURSE OUTCOME

- 1. The students after completing the course will have insights and competencies in the field of research and practice of administrative sciences.
- 2. The students acquire capabilities to contribute to the nation and society in the capacity as a researcher, teacher, innovator or civil servant.
- 3. The course opens the gateway for future study and research in the discipline.

# **COURSE: BACHELORS OF ARTS (PUBLIC ADMINISTRATION)**

# **COURSE SPECIFIC OUTCOME:**

Class/Course Code	Course Name	Course Objectives	Course Outcome
BA I (1 <sup>st</sup> semester)/ 0034	Administra tive Theory	1. To identify and explain the concepts and theories of Public Administration.	1. Students will understand the meaning, nature and significance of Public Administration. 2. Students will learn about various concepts like forms and types of organization, decision making, communication, coordination, leadership, etc.
BA I (2 <sup>nd</sup> semester)/ 0136	Indian Administrat ion	1. To give the students an indepth understanding of various aspects of Indian Administration particularly the functioning of executive, legislature and judiciary at the union and state levels.	1. Students will get knowledge about Parliament, State Legislatures, President, Prime Minister, Council of Ministers. 2. Students will also be made aware regarding Centre-State relations, Delegated Legislation, District Administration.
BA II (3 <sup>rd</sup> semester)/ 0236	Personnel Administrat ion	1. To make awareness regarding various aspects of Personnel Administration.	1. Students will learn about various concepts of Personnel Administration particularly recruitment, training and promotion. 2. Students will also be able to examine contemporary issues like corruption, morale and Administrative tribunals.

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BA II (4th semester)/0336	Financial Administrat ion	To make students aware regarding various aspects of Financial Administration.  2. To familiarize students with role of financial institution like Ministry of finance CAG, Finance Commission, Parliament and its committees in effective fiscal management.  To make students understand technical terms related to budget and monetary policy	4. Students will learn about various concepts of Financial Administration particularly budgeting, auditing, deficit financing and public debt. 5. Students will also be able made aware regarding institutions of Ministry of Finance, Finance Commission and Parliamentary Committees.
BA III (5th semester)/0429	Local Governmen t (with special reference to Punjab)	1. To give the students an understanding of the concept, significance and evolution of local government in India.	1. Students will be able to understand the types, structure, functions and finances of Panchayati Raj Institutions and Urban Local Bodies.  2. Students will also get to know about the concept of state control over local bodies, provincialization and rural-urban relationship.
BA III (6th semester)/0533	Developme nt Administrat ion (with special reference to Punjab)	1. To understand various aspects of Development Administration.	1. Students will learn about various features of developed and developing countries and India being a welfare state.  2. Students will be made aware about the Planning machinery at Centre, state and

local levels.
3. Students will
understand the
linkages between
<b>Education</b> and
Development,
Health and
Development and
Voluntary Sector
and Development.

# **COURSE: BACHELORS OF ARTS (PUBLIC ADMINISTRATION HONOURS)**

# **COURSE SPECIFIC OUTCOME:**

Class/ Course code	Course Name	Course Objectives Course Outcome
BA II (3 <sup>rd</sup> Semester) (Honours)	Administrative Thinkers	1. The objective of the paper is to give the student an understanding of select ancient, classical, neoclassical and modern administrative thinkers and their contribution to administration.  1. The objective of the study of this paper will equip the student with a deep understanding of the historical evolution of administrative thought, various conceptualization in modern administration.
BA II (4 <sup>th</sup> Semester (Honours)	Agriculture Administration	1. The objective of the paper is to give understanding about the role of agriculture in the economic development of the country, role of technology in agricultural development, marketing of agricultural produce.  1. It would also give understanding about the agricultural policies of the government and introduce the student to certain related issues like agricultural finance, agricultural education, research, and extension.
BA III (5 <sup>th</sup> Semester) (Honours)	Research Methods	1. The objective of the paper is to give the student an in-depth understanding 1. It would also acquaint the students with basics of sampling and statistical

D.A. III. (oth		about the nature and scope of Social Research, Methods of Social Research, data collection and data processing.  1. The objective of	methods including measures of central tendency, dispersion, correlation and Chi-Squares Test.  1.The students will
BA III (6 <sup>th</sup> Semester) (Honours)	Organizational Behaviour	the paper is to give the student an in-depth insight into the various aspects and factors affecting individual, interpersonal and group behaviors in organisations. The key areas include study of human behavior and concepts like Attitudes, Morale, Leadership, Motivation and Organizational Change.	therefore gain an understanding of the ways in which change can be managed in an organization at the operations and policy planning levels.

## **MASTERS OF ARTS (PUBLIC ADMINISTRATION)**

#### **COURSE OBJECTIVE:**

The M.A. Programme in Public Administration is multi-disciplinary and job oriented. The Curriculum integrates theoretical and practical perspectives in the field of Public Administration. This is a four-semester programme. Each semester has three core papers and two optional papers which help the students to understand the dimensions and different aspects of Public Administration.

## **COURSE OUTCOME:**

The course is designed to nurture the attributes of intellectual inquiry, scholarship, research and writing. This will include lectures, seminars, class discussion, term papers and

other writing assignments, presentations, role play, case studies, field visits etc. and is Information and Communication Technology supported. The use of these methods equips the student with listening, writing and presentation skills along with the capacity for analysis and evaluation. Peer evaluation, people skills, navigating public spaces, leadership and team work will be skills expected to develop and to prepare the student for the world of work. Apart from regular classroom teaching, special talks/lectures from experts as well as practitioners are organized. It prepares them for a successful career in teaching, research, civil services and as policy consultant in public or private sector.

## **COURSE SPECIFIC OUTCOME:**

Class/ Course code	Course Name	Course Objectives	Course Outcome
FIRST SEMESTER MA	ADMINISTRATIVE THEORY	familiarize the student with the basic approaches, theories, principles concepts of Public Administration in developed and developing countries. In addition, the course will also cover new areas and developments in the field of Public Administration. The paper will also cover various theories of organization.	1.To establish links between theory and practice and develop the student's critical skills.
	INDIAN ADMINISTRATION	1. This paper attempts to familiarize the students of Public Administration with the basic philosophy and features of the Indian Constitution and the organization, structure and functioning of Indian Administration. It focuses on studying particularly those constitutional references on the basis	1.The students will understand the historical, social, political and economic factors affecting Indian Administration. They will understand the functioning of various administrative institutions,

	of which the administrative set up in India is carried out. The students will also be familiarized with the institutions that make up the system along with a conceptual and historical understanding.	authorities and especially role of bureaucracy. It helps to establish correlation between theory and practices in Indian administration.
COMPARATIVE AND DEVELOPMENT ADMINISTRATION	1. Apart from regular classroom teaching, special talks/lectures from experts as well practitioners from the civil service/industry will be organized to establish links between theory and practice and develop the student's critical skills.	1.Teaching and learning is not only through lecture, seminars, but also group work, case study analysis and presentations, which enables them to learn the factors affecting working of modern governments in different countries.
CITIZEN-CENTRIC ADMINISTRATION	1. The paper is designed to acquaint the student both with the participatory and people empowerment based approaches. Good governance and citizen centric administration are inextricably linked. The paper will also cover various cases of citizen engagement initiatives. It helps them to understand their rights as electorate, consumers and interest articulation for the same	1.To enable the students gain awareness about their rights and duties and understand the working of modern governance machinery

		4 D	1. Apart from
	ECONOMIC ADMINISTRATION	of study the student will be familiarized with the economic models of the government, industrial policies and economic legislations. In addition, the students would be taught about the promotional role of State by referring to various promotional and infrastructural public sector undertakings.	regular classroom teaching, special talks/lectures from experts as well practitioners from the civil service/industry will be organized to establish links between theory and practice and develop the student's critical skills and enable better understanding of the Indian economy.
SECOND SEMESTER MA-	ADMINISTRATIVE THOUGHT	attempts to make the student aware of theories and thoughts of various classical, neo-classical and modern thinkers in the area of administration and organizations.	1.The study of this paper will equip the student with a deep understanding of the historical evolution of administrative thought, various conceptualizations and their application in modern administration.
	PUBLIC FINANCE AND FINANCIAL ADMINISTRATION	to familiarize the students of Public Administration regarding various aspects of financial administration, particularly Budgeting in India. In addition, the students would be made aware of the role of Comptroller and Auditor General, mobilization of resources and fiscal federalism.	1.At the end of the course, the student will be able to undertake detailed analysis, present reports and develop critical skills regarding the budgetary, monetary and fiscal system in India

PUBLIC PERSONNEL ADMINISTRATION	1. The syllabus of the paper attempts to familiarize the student with the concepts of Public Personnel Administration, significance of man power planning, career systems and classification in India, various aspects of Human Resource Development, Recruitment, Training, Promotion and other personnel policies of Indian civil services, rules of service, code of conduct and ethics, disciplinary action, negotiation machinery etc.	interaction with experts, case studies and discussions will be used for delivery of course content. The students will develop group work, leadership and analytical skills
POLICE ADMINISTRATION	1. The students will understand the complex role of police in contemporary society. Pedagogical tools to be used by teachers include: short films, role plays, field visits, case studies, visits to police stations.	1. The students will develop analytical and critical skills and develop an understanding of working of police administration. They will also gain knowledge about theory and practice of police agencies in India.
INTERNATIONAL ADMINISTRATION	1. The important international organizations at the global and regional level including specialized agencies will be studied and their role and working critically understood in light of their effectiveness in influencing the national	1. A focused and critical study of various institutions and agencies will provide a deep understanding about their working and role as well as help the students to understand the

		policy agendas	international geo political, economic factors influencing power equations and cooperation between modern governments.
THIRD SEMESTER MA-	RESEARCH METHODS AND STATISTICS	1. This paper aims to acquaint the student with the knowledge of rationale and methodology of conducting good quality research in social sciences with special reference to Public Administration. The major Objectives of this paper is to prepare students for undertaking quality research at Masters' level and a basis for pursuing research as a career.	he course seeks to equip students in structuring research design, formulating research questions/hypothese s, tools to collect data and analyze it with the help of suitable statistical techniques. It enables the students to undertake future role as a researchers and research writing, undertaking data collection exercises and preparing a research proposals. It also equips them to conduct research with the use of latest tools of Information and Communication Technology
	LOCAL GOVERNANCE IN INDIA	1. The course will help students develop an understanding of the concept and theories of decentralization and the nature of local institutions both at the urban and rural level. Apart from covering problems and	1.Using important pedagogical tool including discussions, presentations and field visits to have a feel of working of urban and rural local

	challenges of urban and rural development, various programmes for the same will be studied.	bodies. The students are able understand relevance of democracy and to critically evaluate the functioning of these grass root institutions and further play a constructive role as future leaders or researchers.
SOCIAL SYSTEM AND WELFARE ADMINISTRATION	1. The endeavor is to make the student understand the multidisciplinary nature of the subject of Public Administration and the relationship between Sociology and Public Administration. The students will be apprised about the basic concepts of social structure, social change in contemporary Indian Society and social tensions and their relevance in the field of Public Administration.	1. Apart from the lecture methods, presentations and documentaries (audio-visual aids), case studies and special lectures by experts are organized to enable the students clearly understand and correlate theories with actual facts. The students develop critical and analytical skills to understand Indian Society and link this with social policy and administration
DISASTER MANAGEMENT	1. This paper seeks to make the student of Public Administration aware about different types of disasters and their management in India. Apart from developing and understanding of the strategy for disaster management, it also	1. Case studies, role plays, mock drills, field visits, audio visual aids, documentaries and interaction with experts in the field of disaster management helps

helps to understand their role of nodal national and I international agencies in disaster relief, rescue and mitigation. the students acquire practical skills and concern for managing manmade natural The disasters. course will develop leadership and skills management of the disaster management SO critical in today's times.

# PUBLIC HEALTH POLICY AND ADMINISTRATION

The paper prepares students in the area by exposing them to theoretical issues related to the challenges of Public **Health Administration** besides implementation... The study of the structure and role of the National Institute of Health and Family Welfare and Medical Council of India and the World Health **Organization** (WHO) will inform the student of the national and international institutional structures health administration. Special Seminars and workshops are organized to impart specialist knowledge to students. Field trips will also be organized to expose the student working and challenges of health administration on the ground level.

The student will understand healthcare policies and programmes including organizational set up at the union, state and local levels. Focused study of some health care programmes is included besides the concept of hospital management and trends in international health care.

		_	1
FOURTH SEMESTER MA-	PUBLIC POLICY AND ANALYSIS	1. This core course on Public Policy comprehensively introduces the concept and significance of public policy, the history of policy sciences and the public policy process. Thus, the student will develop a critical understanding of the policy process as well as the capacity to undertake policy analysis in substantive areas of public policy	1.At the end of the course the student will understand the evolution of policy sciences, the significance and different stages of the public policy process in terms of the theoretical formulations as well as the working of this process with special reference to India. The pedagogical tools used will include lectures, case studies, policy analysis exercises, seminars and
	ADMINISTRATIVE	1. Administrative Law is an integral part of Public Administration and the basis of administrative activity and its control. The student is expected to develop an understanding of the various components of administrative law along with the principles of natural justice, rule of law, administrative legislation, adjudication and much more. In this paper the most important pedagogical tool is the study and analysis of case law	presentations.  1. By the end of the course, a student should be able to specify the significance of administrative law, rule of law and the quasi-legislative, quasi-judicial procedures within administration

#### The objectives of 1. The students will 1. ORGANIZATIONAL this paper are to therefore gain an DEVELOPMENT comprehensively deal understanding of the AND with the varied which ways in **ADMINISTRATIVE** reference points change can be leading to promoting **IMPROVEMENT** managed in an administrative efficiency, reforms and organization at the development. Need of operations and policy **Planned** Change. planning levels. Organizational learning thorough study of the Organizational in reports of the growth and Government of India development, OD Commissions interventions. on Techniques and role of Administrative Human Resource Improvement and management. the Reforms and **Administrative** working of the O&M Improvement a are a Division of the part of this paper. Government of India effectively link the theoretical and operational aspects of administrative improvement in public administration. 1. The aim of the The students will **ETHICS IN** paper is to acquaint learn to effectively **GOVERNANCE** the students with the communicate ethics concept and governance philosophy of ethics concepts and with special reference arguments in а to ethics in public life and accountability of logical manner. As public services in future citizens and India. The paper professionals this through teaching in knowledge will help studies case will them to maintain high enhance the problem degrees of integrity skills solving on and discipline situations relating to probity integrity, in public life. public life and problem solvina approach to various

	issues and conflicts face by him in dealing with society.	
EDUCATION POLICY AND ADMINISTRATION	1. The basic Objectives of this paper is to familiarize the students with the concepts of various systems of education and educational administration in India. In particular, the paper covers the provisions of the National Policy on Education, Five Year Plans and Sarv Shiksha Abhiyan. The organizational set up for administration of education and various agencies would also be taught.	1. The pedagogical tools used will include lectures, case studies, policy analysis exercises, seminars and presentations will help the students to assimilate required knowledge of the working of educational administration and its role in nation building.

# **Department of English: Course Outcomes**

Course/class	Course Objective	Course Outcome
B.A. (English Compulsory)	To enhance language proficiency by providing adequate exposure to reading and writing skills.  To develop among students an insight into the structure of English language and develop their skills of grammatical analysis and description. To provide knowledge of the underlying 'rules' of grammar.	* Considerable acquaintance of the students with literary texts and the importance of language across the disciplines. * Critical interpretation of meanings and references of literary texts. * Self-directed understanding of high language and capability of self-expression. * Enablement of writing skills that are relevant and can empower in real life. *Students will know the basic concepts of English grammar. *Knowledge of word, sentence formation and translation.
B.A. (English Elective)	To enhance language proficiency by providing adequate exposure to reading and writing skills. To orient the learners towards the functional aspects of language. To introduce the learners of literature to the basics of literary criticism. To sensitize them to critical approaches and literary theories. To impart the technique of close	* Empowerment of the students to critically understand and analyze poetry across a wide range of literary age and context.  Development of the critical idea of identifying genres of poetry and figures of speech and reference to specific context and relevance to everyday life.  * Enablement of the students to understand distinctive features of novels, shorter fiction and essays and relate the texts and contexts to real life.  *Development of an acumen for self-expression.  *Empowerment of the students to critically understand and read plays across a wide range of literary age and context.  Development of the critical idea of identifying genres of plays and literary terms and reference to specific context and relevance to everyday life.  * A holistic idea of the distinctive features of Indian Writing in English and their history

reading of
literary texts.
To enable the
learners to analyze,
interpret,
explicate and
evaluate literary
texts.
To develop among
students an insight

texts.
To develop among students an insigh into the structure of English language and develop their skills of grammatical analysis and description.
To provide knowledge of the underlying

'rules' of grammar.

through the texts and contexts of prose and poetry by Indian authors.

\*Development of self-expression through various skills of creative writing.

# B.A. (English Hons.)

To introduce the learners of literature to the basics of literary criticism. To sensitize them to critical approaches and literary theories. To impart the technique of close reading of literary texts. To enable the learners to analyze, interpret, explicate and evaluate literary texts.

- \* Express their ideas clearly and respond appropriately to the communications of others in speech and writing.
- \*Students will have an enhanced capability of developing an argument in writing, state facts clearly and cogently and recognize and use the formats of different forms of writing.
  \*Through exposure to great literature, students should be able to discern the distinguishing features of good writing and be able to differentiate between it and inferior work. The primary objective is to help students understand important literature of the past and contemporary cultures and to equip them to find connections and continuities as well as identify disjuncture in these traditions.
  \* Students of the undergraduate course will
- be aware of the importance of the coexistence of different cultural perspectives and be tolerant to views different from their own. The course seeks to enable students to use their study of literature to initiate cultural, ethical, and global awareness.
- \* The students will be able to develop an argument in writing, state facts clearly and

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B.Com.(English and Business Communication)	To enhance language proficiency by providing adequate exposure to reading and writing skills. To develop awareness of the complexity of the communication process. To develop effective oral skills so as to enable students to speak confidently interpersonally as well as in large groups. To develop effective writing skills so as enable students to	cogently and arrive at a clear conclusion using appropriate vocabulary and syntactic structures.  *The students will learn to read, analyze, and interpret works of literature, to acquaint them with the forms, structures and the aesthetics of style and techniques of literary works.  *Skills of interpretation, analysis, appreciation of literature as well as writing and presentation skills that would eventually help in career Development.  *The primary outcome of students is capability of understanding important literature of the past and contemporary cultures and capability to find connections and continuities as well as to identify disjuncture in these traditions.  * Empowerment of students to use their study of literature to initiate cultural, ethical, and global awareness.  *Enabling students to read, analyze, and interpret works of literature, acquainting them with the forms, structures and the aesthetics of style and techniques of literary works.  * Students will be able to express themselves effectively in speech and writing.  *Students will have an enhanced capability of developing an argument in writing, state facts clearly and cogently and recognize and use the formats of different forms of writing like letters, Report and CV.  * Express their ideas clearly and respond appropriately to the communications of others in speech and writing. *Students will be able to read and comprehend matter written in English.  * Students will be able to write letters in the correct format.  * Students will be able to formulate appropriate curriculum vitae applicable for practical purpose.
	write in clear,	
I	concise,	

	norousoive and	
	persuasive and	
	audience centered	
	manner.	
	To enhance	'
B.B.A& B.C.A. (English)	To enhance language proficiency by providing adequate exposure to reading and writing skills. To develop awareness of the complexity of the communication process. To develop effective oral skills so as to enable students to speak confidently interpersonally as well as in large groups. To develop effective writing skills so as enable students to write in clear, concise,	* Express their ideas clearly and respond appropriately to the communications of others in speech and writing. *Students will be able to read and comprehend matter written in English.  *Proficiency in the Communication skills.  *Knowledge of basic English language.  *Skills regarding comprehension and Expression.  *Knowledge of various types of correspondence.  * Students will be able to write letters in the correct format.  * Students will be able to formulate appropriate curriculum vitae applicable for practical purpose.  * Students will be able to express themselves effectively in speech and writing. *Students will have an enhanced capability of developing an argument in writing, state facts clearly and cogently and recognize and use the formats of different forms of writing like letters, Report and CV.
	persuasive and audience centered	
D.Co. (English)	manner.	* Everyone their idean placety and respect
B.Sc. (English)	To enhance language proficiency by providing adequate exposure to reading and writing skills. To develop awareness of the complexity of the communication process. To develop effective oral skills so as to enable students to speak confidently	* Express their ideas clearly and respond appropriately to the communications of others in speech and writing. *Students will be able to read and comprehend matter written in English.  *Proficiency in the Communication skills.  *Knowledge of basic English language.  *Skills regarding comprehension and Expression.  *Knowledge of various types of correspondence.  * Students will be able to write letters in the correct format.  * Students will be able to formulate appropriate curriculum vitae applicable for practical purpose.

interpersonally as	* Students will be able to express themselves
well as in large	effectively in speech and writing. *Students
groups.	will have an enhanced capability of
To develop effective	developing an argument in writing, state facts
writing skills so as	clearly and cogently and recognize and use
enable students to	the formats of different forms of writing like
write in clear,	letters, Report and CV.
concise,	
persuasive and	
audience centered	

manner.

# Department of Psychology

Courses offered: BA Psychology, Honours in Psychology, MA in Psychology, PhD in Psychology

Courses	Semesters	Course Outcome
BA with Psychology as an elective	Semesters 1,2	General Psychology I     This course enlightens the students with the nature of psychology, evolution of psychology as a science, pure and applied branches of psychology, different schools of thought and development of psychology in India. Along with this, it throws light on important psychological constructs such as emotions, motivation and various aspects of research in psychology like sampling, survey, observation etc.
		General Psychology II:     It focuses on concepts and theories of     Personality, Intelligence and Lifespan     development. The course also sheds light     on the topic development, role of heredity     and environment, in addition to insightful     theories given by eminent psychologists. It     also enlightens the students with basic     Statistical techniques like Measures of     central tendency, deviation and     correlation. Students would reap benefits     from certain applied aspects of these     topics.
BA with Psychology as an elective	Semesters 3,4	Experimental Psychology:     This course aims at explaining the biological processes like Sensation and working of the nervous system. Also the experiments and theoretical aspects related to learning and Psychophysics.
		Experimental Psychology II :     This course helps to understand the

		fundamental subjective processes like Memory, perception, attention, thinking, problem solving and creativity, with the help of experimental illustrations and theories. Also, the elementary statistics is introduced which includes Normal Probability Curve, Hypothesis and Chi square.
BA with Psychology as an elective	Semesters 5,6	Clinical Psychology:     It elaborates on nature and criteria of abnormality with an emphasis on the history and viewpoints regarding abnormality. The course covers the concept of stress and causes of abnormal behavior. It included a portion of statistics.
		Behavioural Disorders:     Dynamics of behavioural disorders such as Anxiety disorders, Mood disorders and Schizophrenia. It also elaborates the various psychotherapies for the disorders. This course would certainly help the students to be more compassionate towards fellow human beings and encourage the value of seeking professional help from a therapist.
BA Psychology Honours	Semesters 3,4	Social Psychology:     This course aims at introducing the branch of Social Psychology, methods used in research and applications of Social Psychology. Further the concepts and theories associated with attitudes and leadership are also incorporated.
		<ul> <li>Recent perspectives in Psychology:         Basic theories and concepts of Positive psychology with special focus on     </li> </ul>

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BA Psychology Honours	Semesters 5,6	Emotional Intelligence, Spirituality, Positive emotions in relation to gratitude and forgiveness. It also includes the concept of stress and its relationship with coronary heart diseases.  Psychological Testing: This course aims at helping the students to learn about the introduction and historical background of psychological testing. Also the steps related to test construction which includes item analysis, reliability, validity and interpretation.
		Counselling and Organisational     Psychology:     This course deals with different     approaches and theories of Counselling     and Work motivation. It also includes     awareness about the risks and protective     behaviours in the context of coronary     diseases due to substance addiction.     Further to cater the needs of exceptional     children is also the subject matter.
MA in Psychology	Semesters 1,2	<ul> <li>Theories &amp; Systems:         Presents contemporary systems, theories and perspectives of psychology as evolutionary developments from their historical roots. To establish and broaden students' theoretical orientation towards the subject and facilitating the application of this approach to relevant topics like personality, learning, motivation, intelligence and creativity     </li> <li>Social Psychology:         This paper aims at apprising the students with the basic themes and key research areas in the applied field of social psychology. The students should develop     </li> </ul>

		a critical approach to the observation and analysis of social phenomenon encountered by each of us as a member of society. The course content covers theoretical and applied aspects of social phenomena.
		<ul> <li>Experimental And Cognitive Psychology:         This course aims at helping the students to acquire an intensive knowledge about the     </li> </ul>
		experimental and cognitive researches and insights in the areas of Attention, Perception,
		Memory, Imagery and different aspects of Learning. The basic knowledge acquired during this
		course helps the students to understand how cognitive functions operate and can be observed in
		emotions and actions.
		<ul> <li>Research Methodology and Statistics:         Introducing the nature of research,         different research designs and the         techniques of research applied in         Psychology. Enhancing students         knowledge     </li> </ul>
		regarding appropriate usage of parameteric and non-parameteric statistical
		techniques used in research in Psychology.
MA in Psychology	Semesters 3,4.	Organisational Psychology:  Aim is to make the students understand

psychological aspects of behaviour in organisations, by providing them a theoretical framework, along with an exposure to various principles and practices of organisational behaviour. Also attempts to familiarise them with real world practices and application of psychology in work context.

## Child Psychopathology:

The course over the third and fourth semesters introduces the concept of development of human life, beginning with the biological basis of life, development in utero, biological, psychological and sociocultural causal influences on the growing child including an understanding of critical periods. The students are familiarized with the field of child psychopathology, along with the professions and procedures and research methods involved. The coursework proceeds to a detailed analytical understanding of the presentation, etiology, and therapeutic interventions in various disorders of childhood and infancy such as Intellectual Disability, Attention Deficit Hyperactivity Disorder, Conduct Disorder and Oppositional Defiant Disorder, Autism, Childhood Onset Schizophrenia, Communication and Learning Disorders, Feeding, Eating and Elimination Disorders. Emphasis is on a practical understanding of these concepts as expected to be encountered in a clinical setting.

#### Applied Counselling:

Introducing the nature, concept, history and the process of counseling to the

students. Teaching students the theoretical foundations of counseling and the appropriate counseling skills to be applied in diverse fields such as schools, career choices, college and student services.

#### Clinical Disorders:

This course helps the students to obtain an in-depth understanding of nature and scope of clinical disorders, various manifestations of Psychopathology focusing on their etiology, diagnosis, clinical picture and treatment, along with different methods used in clinical psychology.

Semester 4 - Clinical Psychology: Prevention and Intervention:

This course helps the students to understand the nature and scope of clinical psychology, fundamentals of psychotherapy, different types and techniques of psychotherapies, community psychology approach, psychopharmacology, and contemporary usage of yoga and meditation in treatment of psychopathology. Along with theoretical understanding, students get to know about practical considerations to be ensured while transacting a psychotherapy.

#### Positive Psychology :

This course helps the students to trace the development of positive psychology as an independent discipline with its multidimensional perspectives. Students can understand the relationship of

		personality and situational variables with positive psychology, with special focus on forgiveness, gratitude, happiness, religion, spirituality, family dynamics and interpersonal relationships; and how they impact one's well-being. This course helps the students to understand the basic techniques to identify and classify the strengths and virtues, within the context of positive traits, with special emphasis on wisdom, self-efficacy, resilience, flow, emotional intelligence and creativity; and how they impact one's well-being.  Students also learn about the applied focus of positive psychology across diverse life settings.
		<ul> <li>Research Methodology and Statistics-II:         This course provides the students with the knowledge, understanding and application of test construction, standardization of psychological tests with respect to reliability, validity and norms. Providing knowledge on experimental designs, qualitative methods and analyses.     </li> </ul>
PhD in Psychology	As per Punjab University schedule	Doctorate in Psychology from Punjab University

#### **Department of Zoology**

## Programme specific outcomes

#### B.Sc. Medical (General) and B.Sc. Biotechnology (Elective)

The Bachelor of Science (B.Sc. Medical/Biotech elective) is a three year degree programme having six semesters. This course comprises three main subjects *viz.*, Zoology, Botany and Chemistry in Medical and Chemistry, Biotechnology with either Zoology or Botany in Biotech Elective. The programme outcomes are achieved through curriculum framed and approved by the UG Board of studies of the Affiliated University. Various programme specific outcomes in B.Sc. having Zoology as one of the main subjects are listed below:

- 1. Students develop an understanding about the basic concepts in Zoology, knowledge and applications of various laboratory techniques, proper handling of various equipments and about the safety rules and precautions during laboratory investigations.
- 2. The Programme provides in-depth knowledge about classification, general organization and morphology of different invertebrate and vertebrate phyla through detailed type studies from simple to complex organisms, their evolutionary trends and Phylogenetic relationships.
- 3. To provide insight into structure and functions of various metabolites, regulation of metabolic pathways and functioning of important physiological systems.
- 4. It provides awareness about conservation and management of Biodiversity, Natural resources, Wildlife and Environmental Pollution.
- 5. On completion of course, students can either pursue higher studies in Life Sciences or Bachelor of Education (B.Ed) to work as a trained Graduate teacher (TGT) in schools. Apart from core courses, some other PG options could be post graduation in Public Health or Masters in Business Administration.
- 6. The students are eligible for various competitive examinations like Civil services, Banking, SSC, Railways, Combined defense services etc.
- 7. Students can get other job opportunities like Medical representatives in Pharmaceutical companies, Lab Technicians, Research Assistants and Supervisor in Zoological gardens.

# **Course outcomes: Department of Zoology**

Class/	Title	Course outcome
Semester Paper/		
B.Sc I Semester IPaper I	Biodiversity and Cell Biology- I (ZOO 101)	The course aims at making the students understand the Animal diversity from phylum Protozoa to Coelenterata and structure and function of cell organelles, Basic knowledge, principles and application of some of the equipments used in cell biology.
B.Sc I Semester IPaper II	Biodiversity and Cell Biology- II (ZOO 102)	This course is designed to understand the structural organization of invertebrates from phylum Platyhelminthes to Annelida, some other animal cell organelles and elementary idea about cell transformation
B.Sc I Semester IIPaper I	Biodiversity and Ecology-I(ZOO 201)	in cancer and cellular basis of immunity.  This course helps the students to explore animal diversity in phylum Arthropoda, Basic insights into social organization in insects, life cycle of mosquitoes, structure and functions of Ecosystem and various other
B.Sc I Semester IIPaper II	Biodiversity and Ecology- II(ZOO 202)	ecological processes.  Further exploration about animal diversity from phylumMollusca to Hemichordata. Detailed understanding about conservation of wild life and natural resources andmethods to control environmental pollution.
B.Sc II Semester IIIPaper I	Biodiversity (Chordates) and Evolution-I (ZOO 301)	This course imparts basic knowledge to understand the structure and organization from Protochordates to Amphibians, parental care and migration in chordates. To familiarize the students about the origin of life and concepts of organic evolution.
B.Sc II Semester IIIPaper II	Biochemistry and Physiology-I (ZOO 302)	The course is designed to know the physiology of Digestion, Respiration and blood Circulation, structure and functions of biomolecules such as carbohydrates, proteins, lipids, enzymes, nucleic acids.

B.Sc II Semester IVPaper I	Biodiversity (Chordates) and Evolution-II (ZOO 401)	The course enables the students to study structural organizations through type studies from class Reptilia to Mammalia. Knowledge about poisonous and non-poisonous snakes, flight adaptations in birds, species concept, Fossils and their dating and Evolutionary trends in man.
B.Sc II Semester IVPaper II	Biochemistry and AnimalPhysiology-II (ZOO 402)	The course enables the students to understand metabolism of lipids and proteins, physiology of Excretory, muscular, nervous and endocrine system formaintaining a stable internal body environment.

B.Sc III Semester VPaper I	Developmental Biology(ZOO 501)	The course is designed to understand the process of gametogenesis, fertilization and reproduction, development and metamorphosis in vertebrates and invertebrates.
B.Sc III Semester VPaper II	Applied Zoology- I (ZOO502A)  Option I: (Medical Zoologyand Medical Laboratory Technology- I)	To introduce the students to the world of Parasites, their life cycle, economic importance and control measures to curtail the burden of pathogenic Protozoans, Helminthesand Arthropod vectors.
B.Sc III Semester VIPaper I	Genetics (ZOO 601)	In depth understanding of chemical basis of heredity, various concepts of genetics and quantification of heritable traits in families.
B.Sc III Semester VIPaper II	Applied Zoology- II (ZOO602A) Option I: (Medical Zoologyand Medical Laboratory Technology- II)	To impart knowledge about human defense mechanisms, Antigen-Antibody interactions, Serodiagnostic assays and vaccines. Understanding of general laboratory safety rules, and use of various laboratory equipments and techniques used in biologicalsciences.

### Programme specific outcomes M.Sc.

#### **ZOOLOGY (PASS COURSE)**

The Master of Science (M.Sc.) in Zoology is a two years' programme comprising of four semesters with five papers in each semesters. The programme outcomes are achieved throughcurriculum designed and approved by the PG Board of studies of the affliated University. The programme specific outcomes are listed below:

- 1. The focus is to make students familiar with evolutionary diversification, significance and phylogenetic relationships in Invertebrates and Vertebrates.
- 2. To impart an enhanced knowledge and understanding of human physiology.
- 3. To sensitize the students towards sustainable ways of conservation of Biodiversity and Natural Resources.
- 4. To enlighten the students towards the importance of taxonomy, role of mutations, variations, Natural selection in speciation and evolution.
- 5. To develop an understanding about human immune system, its structural components, knowledge of Antigen- Antibody interactions and serodiagniostic assays based on them.
- 6. To acquaint the students about mechanism and regulation of gene expression, classical and molecular genetics, principles and methods of genetic engineering and their applications in disease diagnosis and targeted therapy.
- 7. The course enables students develop a research aptitude, critical thinking and analytical skills. Students are taught how to choose, design and develop statistical tools and methods, review of literature, compilation of research work in the form of projects using anti-plagiarism tools and further communications in the form of scientific presentations and publications in National and International journals.
- 8. To impart knowledge about various principles and practices in Aquaculture, Sericulture, Apiculture and Lac culture for better self-employment ventures.
- 9. After completion of this course, the students have an option to pursue for higher education like Ph.D and can appear for UGC-CSIR NET Exam for their eligibility as Assistant Professor in Colleges/Universities. Other opportunities are work as scientists in Zoological Survey of India or in other Research Institutes. They can also be employed as Fisheries Officer, Malaria Officer, and Research programmer in Government sector. Students can avail jobs in areas like Education, Environment, Agriculture, Healthcare, Pharmaceutical companies and other allied sectors.
- 10. The students can also work as Lecturer in Biology in schools after doing Bachelor of Education (B.Ed).
- 11. The students are also eligible for various competitive exams in Banking, Railways, Indian Forest Services, Indian Civil Services, Combined Defense services, Judiciary etc.

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Class/Semest er/ Paper	Title	Course outcome
M.Sc I Semeste r IPaper I	Structure and Functions of Invertebrates - I	This course has been designed to impart detailed knowledge about the classification, general organization and various characteristics from phylumProtozoa to Aschelminthes.
M.Sc I Semeste r IPaper II	Lower chordates. comparative anatomy of Vertebrates - I	The purpose of this course is to enable the students tolearn about structure and functions of Protochordates, understanding the comparative anatomy of skeletal, digestive, circulatory system and patterns of evolutionary diversification.
M.Sc I Semeste r IPaper III	Animal Physiology	This course enables the students to understand the functioning of important physiological systems including digestive, cardiovascular, excretory and
M.Sc I Semeste r IPaper IV	Ecology and AnimalBehaviour	muscular systems.  To acquaint the students regarding different aspects of ecological processes and functions, to orient the students about different behavioral aspects like learning, motivation, rhythms, migrations and parental care in animals to better understand the interactions among organisms.
M.Sc I Semeste r IPaper V	Research Methodology& Scientific Writing	The course aims to provide the students with analytical and presentational skills. To familiarize the students about sample collection, research design, use of statistical tools and methods, scientific writing, review of literature, citations, plagiarism, intellectual property rights, research ethics, compilation of
		presentation and publication of Research work.
M.Sc I Semester IIPaper VI	Structure and functions of Invertebrates –II	To impart knowledge of the classification, general organization, and specific characteristics of invertebrate phyla from Annelida to Echinodermata
	_	along with minor phyla.
M.Sc I Semester IIPaper VII	Comparative anatomy of Vertebrates – II	To enable the students to analyze and critically evaluate comparative anatomy and evolutionary diversification in Respiratory, Urinogenital, Nervous,
		Sensory systems.

M.Sc I Semester IIPaper VIII	Biosystematics and Evolution	To enlighten the students towards the importance of taxonomy, history and theories of classification, principles and rules in International code of Zoological Nomenclature, Importance of polytypic species and other intraspecific variants in speciation. Role of mutations and natural selection in Evolution,
		Interrelationship and evolutionary significance of different phyla of Invertebrates.

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M.Sc I Semester IIPaper IX	Endocrinology andNeural Physiology	To make the students understand the functions and composition of hormones, their mode of action at molecular level. To provide in depth knowledge about nerve physiology, molecular mechanism of
		neurotransmitters and visual cycles.
M.Sc I Semester IIPaper X	Immunology	The course aims at making the students to know about the components of immune system, types of defense mechanisms, principles and working of various immunological assays used in detection of
		various infections and diseases.
M.Sc II Semester IIIPaper XI	Developmental Biology - I	To understand the basic and molecular concepts of development and differentiation, cell specification, determination and differentiation in organism.
M.Sc II Semester IIIPaper XII	Biochemistry	The course aims to provide an advanced understanding of core principles in Biochemistry, structure and functions of various metabolites in
		human body and regulation of metabolic pathways, classification and mechanism of enzyme action.
M.Sc II Semester IIIPaper XIII	Cell and MolecularBiology	To develop an understanding of various techniques to study histology and histochemistry of animal tissues, molecular basis of cell-cell signaling, cell division and transport of ions across cell membranes and in
		depth study of cell organelles.
M.Sc II Semester IIIPaper XIV	Instrumentation and Research Techniques	The course aim at making the students understand the methodological techniques, principle, working and applications of various analytical instruments such as PCR, Centrifugation, Chromatography,
		Electrophoresis, Tissue Culture etc.
M.Sc II Semester IIIPaper XV	Advances in Entomolog y	To impart detailed knowledge about various insect orders, pests of crops, vegetables, fruits and their control including Integrated Pest Management. The types of metamorphosis, diapause and parthenogenesis in insects, principles and practices of

		Apiculture, Sericulture and Lac culture.
M.Sc II Semester IVPaper XVI	Developmental Biology - II	To draw a correlation between evolution of animals and changes in environment. To acquaint the students with the latest concepts of Hemopoietic stem cells and gene therapy and understanding of medically relevant processes including birth defects due to teratogenesis and malformation.
M.Sc II Semester IVPaper XVII	Advances in Parasitolog y	Students will develop an understanding of important human parasitic diseases, their life cycles, vectors of transmission, distribution and epidemiology, pathophysiology, clinical manifestations, treatment, prevention and control.

M.Sc II Semester IVPaper XVIII	Advances in fish andfisheries	To acquaint the students with aquatic animal life and various aquaculture techniques, methods of induced breeding, fish preservation, fish diseases, fish marketing concept of molecular markers and transgenic fish.
M.Sc II Semester IVPaper XIX	Environmental Biologyand Wild life	To educate and aware the students about the basic environmental phenomena like pollution, waste management, natural resources, sustainable development and to develop positive attitude towards the conservation of nature and wildlife.
M.Sc II Semester IVPaper XX	Cytogenetics and Molecular Genetics	To impart knowledge about chromosome structure, concept of gene and its function, overview of classical and molecular genetics, population genetics, principles and methods of genetic engineering.