PROGRAM OUTCOMES, PROGRAM SPECIFIC OUTCOMES, COURSE OUTCOMES

Bachelor of Arts (B.A)

1. The students acquire knowledge in the field of social sciences, literature and humanities which make them sensitive and sensible enough.
2. The B.A. graduates will be acquainted with the social, economical, historical, geographical, political, ideological and philosophical tradition and thinking.
3. The program also empowers the graduates to appear for various competitive examinations or choose the post graduate programme of their choice.
4. The B. A. program enables the students to aquire the knowledge with human values framing the base to deal with various problems in life with courage and humanity.
5. The students will be ignited enough to think and act over for the solution of various issues prevailed in the human life to make this world better than ever.
6. Programme provides the base to be the responsible citizen

Department of Economics

Course Outcome

Class	Semester	Paper	Outcome
BA 1	I	Micro Economics & Indian Economy	• Study of Micro Economics enables the students to have an understanding of theoretical aspects of the subject. Students are able to understand and define the basic concepts like consumer behaviour, production, rules of demand and supply etc. • Study of Indian Economy enables the students to know about the basic structure and various sectors of Indian Economy like agriculture and industry etc., and various policies framed by the Government to

			develop the economy during the post independence period.
BA 1	II	Micro Economics & Indian Economy	• Students learn about the price and output determination of the firm and industry under differnt market forms. They also learn about the distribution system. • Students get familiar with various problems before the Indian Economy. They also learn about the trends in foreign trade.
BA 2	III	Macro Economics and Public Finance	• Students learn about Macro Economics and different models by different economists for the determination of income and employment. They also learn about consumption and investment functions. • Students get enabled to understand the public finance in the context of Indian economy. They also learn about the tax structure, monitary and fiscal policies of the economy.
BA 2	IV	Macro Economics and International Economics	• Students learn about the money and banking and become able to the theories of inflation, trade cycle etc. • Students learn about the theories of International Economics and international financial regulatory bodies like WTO, IMF, IBRD etc.
BA 3	V	Development Economics	• Students learn about different models of economic development and can become good policy makers of the future. • Theory of planning in developing countries

			enables the students to contribute in the planning process of the country at different levels and in different secotrs.
BA 3	VI	Quantitative Methods	• After learning Quantitative Methods, the students are able to quantify various economic indicators.

Department Of Sociology

Program Specific Outcome

- Sociology helps to create critical thinking, problem solving skills, skillful communication, multi-cultural and global understandings.
- Cultivation of successful interactions among people of diverse racial and ethnic backgrounds.
- Researching and analyzing data
- A firm understanding of the leading sociological theoretical paradigms
- Sociology helps to create a responsible citizenry, and a responsive leadership.
- Sociology creates the awareness about the rights and a sensitization towards duties of the citizens.
- Knowledge of Social institutions of the country is necessary to ensure the required working of such institutions (family, marriage, kinship, religion).
- Most of the competitive examinations require knowledge of sociological institutions of the society. Sociology enables the students to understand the nature and working of these institutions and helps them to shine in competitive examinations.

Course Outcome:

Class	Sem.	Paper	Outcome
BA 1	1	Fundamentals of Sociology	• Study of Fundamentals of Sociology enables the student to have an understanding of the nature, scope, relation of sociology with other social sciences and utility of the subject. • Enables the students to understand the core concepts of the subject, like social structure, Society, Community, Association, Status and Role, Socialization, Culture and Social Norms and Values etc.
	2	Fundamentals of Sociology	• Student is enabled to understand basic concepts of the subject like, Cooperation, accommodation, Assimilation,

			Competition, Conflict, Primary and Secondary Groups, In-group, Out-group etc. • Fundamentals of Sociology enables the students to understand the concepts of Social Institutions like Marriage, Family, Kinship, Religion, social deviance and social control.
BA 2	3	Social Structure of Indian Society	• Study of Social Structure of Indian Society enables the students to understand the concepts of social stratification, caste, and class. • Student learns about changing pattern of marriage and family, gender discrimination, sex ratio and features of social organization in India.
BA 2	4	Social Change In India	• Student learns about factors and types of social change. • Student get familiar with the processes of social change and planned social change like CDP, MGNREGA, etc.
BA 3	5	Social Thought	• Students learn about theoretical concepts of different thinkers like August Comte, Karl Marks, Max Weber, Mahatma Gandhi and Emile Durkheim.
BA 3	6	Social Science Research Methods	• Students know about steps of social research and techniques of data collection. • Students learn about meaning and types of sampling, analysis of data, statistics.

DEPARTMENT OF POLICE/PUBLIC ADMINISTRATION

Subject Police Administration at graduation level helps candidates to know about the Law and Order Administration of all levels – Central, State, Range, District and Tehsil. This is a wise option choice especially for the candidates who have a good health and physique and are interested in dealing with the public on a daily basis. This course helps the students to understand the working of Indian Police, Investigation Agencies, Indian Judiciary, Indian Constitution, Indian Political System, etc. After studying this subject at graduation level students can go for M.A. in Police Administration or M.B.A. in Police Administration Management. This subject is also useful for those candidates who are willing to go for Indian Police Administration, Indian Administrative Services or Provincial Civil Services.

Course outcome

Class	Semester	Paper	Outcome
BA 1	I	**Police Administration**	1. B.A. first year students of Police Administration will be able to understand the history of Police in India: Its origin, development during Ancient, Medieval and British era in India. 2. The students will also able to understand the organization and functioning of Ministry of Home Affairs of India, Central Bureau of Investigation, Bureau of Police Research & Development, Intelligence Bureau, Border Security Forces, and Central Armed Forces etc.
BA 1	II		1. The students of B.A. Sem II students will be able to understand the Indian Constitution. 2. Students will get the awareness about Fundamental Rights, Fundamental Duties, and Police Rights etc.

		Police Administration	3. They will able to understand the functioning of Executive at Union and State level i.e. President, Prime Minister, Governor, Chief Minister, Council of Minister etc. 4. They will able to know about the organization and functioning of National Human Rights Commission, Schedule Caste/Schedule Tribe Commission, Lokpal and Lokyukta etc.
BA 2	III	**Police Administration**	1. Students will be able to understand the Police Personnel Administration in India. 2. They will know about the Career System in Police Administration, Job Analysis and Job Description of police Personnel, Concept and significance of Pay Policy etc. 3. They will able to understand the recruitment process of Police administration in India, their training, promotion, ethics and code of conduct etc.
BA 2	IV	**Police Administration**	1. In this semester, students will able to gain the knowledge about the law and order administration in India. 2. Students will know able the law and order administration agencies at the district level such as the Police, Civil Administration and Judiciary. 3. Students will be able to know about the challenges that have been faced by law and order administration while managing any type of crowd in India. 4. Students will able to understand the

			National Security system of India.
BA 3	V	**Police Administration**	1. students will study different type of theories of organizational behavior in this semester such as Scientific Management Theory, Human Relation Theory, Motivational Theory etc. 2. Students will study the concept of Communication like its process, types, barriers, models etc. 3. The students will also able to understand the concept of Organizational Development.
BA 3	VI	**Police Administration**	1. The students will study about the main provisions of Indian Panel Code in this semester. 2. They will also study the bailable and non-bailable offences, cognizable and non-cognizable offences, Public Prosecutor etc. 3. Students will also study the powers of Police Officers such as FIR, power of Police Investigation, Power to arrest someone etc.

Department Of Political Science

Program Specific Outcome

- Aristotle has rightly called Political Science as the 'master science', as politics is responsible to decide the direction of a nation in other fields also.
- Political Science helps to create a responsible citizenry, and a responsive leadership.
- Political Science creates the awareness about the rights and a sensitization towards duties of the citizens.

- Knowledge of political institutions of the country is necessary to ensure the responsible working of such institutions.
- Knowledge about the constitutional institutions and their working creates a pool of energetic young citizens, able to provide leadership to the nation in future.
- Most of the competitive examinations require knowledge of political institutions of the country, and constitutional provisions related with such institutions. Political Science enables the students to understand the nature and working of these institutions and helps them to shine in competitive examinations.

Course Outcome:

Class	Sem.	Paper	Outcome
BA 1	1	Political Theory	• Study of Political Theory enables the student to have an understanding of the nature, scope, and utility of the subject. • Enables the students to understand the core concepts of the subject, like state, government, sovereignty etc.
	2	Political Theory	• Student is enabled to understand basic concepts of the subject like, rights, duties, liberty, democracy etc. • Political Theory enables the students to understand the political issues before the nation as well as before the world as a whole.
BA 2	3	Indian Political System	• Study of Indian Political System enables the students to understand the basic features of the Constitution of India, historical background of framing of Constitution, Fundamental rights. • Student learns about national level constitutional institutions like the President, Parliament, Council of Ministers, and Supreme Court etc.
BA 2	4	Indian	• Student learns about the state level constitutional institutions,

		Political System	like the Governor, State Council of Ministers, State Legislatures, and High Courts etc. • Student get familiar with the emerging trends in the national politics, and the major issues before the nation like communalism, casteism etc.
BA 3	5	Comparative Government & Politics	• Students learn about the working and constitutional structure of the two great democracies of the world, i.e. the United Kingdom and USA. • Both of these democracies are known for their strength, stability, and adaptability.
BA 3	6	International Politics	• Students are able to understand the political affairs at international level and the core concepts of International Politics like Balance of Power, Collective Security etc. • Students learn about the international political institutions like the United Nations, SAARC, and EU etc.

Department Of Psychology

ProgramSpecific Outcome

Psychology as a discipline is important to explain human behaviour and cognitive processes, apply decision-making, and thinking skills, improve interpersonal communication. It offers great career opportunities in the field of education, health sector and industries. In schools, colleges & universities psychology individuals can work as a teacher and as a counsellor. In health sector they can work in de-addiction centres, hospitals as a counsellor/clinical psychologists. Further, in industries they can offer their services in human resource management departments effectively.

Course Outcome:

B.A.I	Paper	Subject/Paper Name	Outcomes

Semester-I	**Paper-I**	**General Psychology**	Students acquire the factual knowledge and the ability to apply this knowledge to understand their own behavior and others as well.
Semester-II	**Paper-II**		
B.A.II			
Semester-III	**Paper-I**	**Experimental Psychology**	Students know about the basics of Experimental Psychology and they also know about the findings discovered by psychologists which play significant role in their understanding of the human behaviour and cognitive processes.
Semester-IV	**Paper-II**		
B.A. III			
Semester-V	**Paper-I**	**Psychopathology**	To know about the causes, development,sympotms,course, classification, and treatment of mental disorders.
Semester-VI	**Paper-II**		

Department Of History

Program Specific Outcome

- History is the most important laboratory for the social sciences, that is why it is called as the 'mother' of all subjects.
- History enables the students to know about the culture and traditions of the people who have had lived at different periods.
- Polity, Constitution, and Law etc. all have their roots in the history. Mature understanding of these subjects requires the knowledge of History.
- All the major competitive examinations require the knowledge of History, so it enables the students to have success in such examinations.
- History, particularly the history of Punjab is full of the incidents of personal sacrifices for the collective welfare, and for the protection of weak. Study of such incidents promotes

moral values and a spirit of sacrifice of individual interests over the collective interests of the society.

- History of Punjab is full of incidents of struggle against social evils, particularly during the Sikh Gurus period. Still there are a number of social evils in the society. Knowledge of Punjab history enables the students to develop moral values, a spirit to renounce social evils, and the manners of curbing such evils.

Course Outcome

Class	Sem.	Paper	Outcome
BA 1	1	History of India (up to 1000 AD)	• Students will acquire knowledge regarding the primitive life and culture of the people of Ancient India. • They will learn about the origin of Indian empire, trade and urbanisation patterns of ancient civilisations like Harappa Civilisation, Vedic Civilisation, and Later Vedic Civilisation etc. • Students learn about the various religious movements in ancient India like Buddhism, Jainism, and Asoka's Dhamma etc.
	2	History of India (1000-1707 AD)	• Students learn about the weaknesses in the political and social structures of India and consequent subjugation to foreign invaders. • Students learn about the political integration under Mughal rulers, and administrative, political, and military reforms under various rulers, particularly under Akbar. • Students learn about the secularisation of governance under Akbar.
BA 2	3	History of India (1707-1964 AD)	• Students learn about the advent of the British first as a trading company and then becoming a political power in India and exploitation of its resources for the spread of

			their empire. • Students learn about the rise of nationalism as a reaction against the foreign rule and various social reform movements. • Students learn about the constitutional development in India.
BA 2	4	History of Punjab (1469-1799 AD)	• Students learn about the socio-religious reform movements under various Gurus. • Students learn about the consolidation of people's power against the totalitarian Mughal monarchies and consequent rise of small kingdoms or Missals.
BA 3	5	History of World (1500-1950)	• Students learn about various movements and events that have shaped the world politics, like the French Revolution and rise of nationalism in various countries of the world leading to their political unifications. • Students learn about the rise of racialism under various forms like Fascism and Nazism, and their consequences for the world and concerned nations.
BA 3	6	History of Punjab (1799-1966)	• Students learn about the integration of Punjab by the great Sikh monarch Ranjit Singh. • Political, Administrative, and economic reforms by the Ranjit Singh. • It sensitises the students about the role of secularism in the nation building. • Students learn about the role of technique in modernisation of military

Department Of Music

1. The student is able to give a practical demonstration of ragas.
2. He is able to demonstrate various aspects of ragas and their differentiation.

3. He studies about the theoretical aspects of the prescribed ragas.
4. Learns to write the practical compositions according to the Notation system.
5. He understands the basic terminologies of Indian Music.
6. He studies about the life and contribution of the composers of Hindustani music , western music and Karnatak music .
7. He learns about the music in the vedic period and also studies the works of music scholars of the past.
8. He studies about the Gharanas of Hindustani music .
9. He makes an analytical study of various musical forms of Hindustani music and Karnatak music .

Course outcome

Class	Semester	Paper	Outcome
BA-I	1st	**Music**	**Theory** 1. The student understand the basic terminologies of Indian music . 2. He studies about the theoretical aspects of ragas. **3.** He learns to write the practical compositions according to the Notation system. **Practical** 1. The student is able to give a practical demonstration of the prescribed ragas and is able to demonstrate various aspects of ragas and their differentiation. 2. He learns about tala and laya .
BA-I	2nd	**Music**	**Theory** 1. The student learns about the Notation system of Hindustani music . 2. He studies about the theoretical aspects

			of ragas . 3. The student studies about the compositional forms of Hindustani music. **Practical** 1. The student is able to give a practical demonstration of the prescribed ragas and is able to demonstrate various aspects of ragas and their differentiation. 2. He learns about tala and laya .
BA -II	3rd	**Music**	**Theory** 1. The student studies about the musical terms of Hindustani music. 2. He studies about the theoretical aspects of ragas . 3. He learns to write the practical compositions according to the Notation system . 4. He learns about the difference between Hindustani music and Karnatak music . **Practical** 1. The student is able to give a practical demonstration of the prescribed ragas and is able to demonstrate various aspects of ragas and their differentiation. 2. He learns about tala and laya .
BA 2	IV	**Music**	**Theory** 1. The student studies about different gayan shallies of Hindustani music .

			2. He studies about the role of computer and internet in music . 3. He studies about great masters of Hindustani music . 4. He learns about terms of Gurmat sangeet . **Practical** 1. The student is able to give a practical demonstration of the prescribed ragas and is able to demonstrate various aspects of ragas and their differentiation. **2.** He learns about tala and laya.
BA 3	V	**Music**	**Theory** 1. The student studies the texts of ancient scholars of Hindustani music. 2. He learns about the life and contribution of the composers of Hindustani music 3. He learns about Notaion system. 4. He studies about the theoretical aspects of ragas. **Practical** 1. The student is able to give a practical demonstration of the prescribed ragas and is able to demonstrate various aspects of ragas and their differentiation. 2. He learns about tala and laya .
BA 3	VI		**Theory** 1. The student studies about the Gharanas of Hindustani music. 2. He studies about different gayan shallies .

		Music	3. He studies about the Notation system of Hindustani music. 4. He studies about terms of Gurmat sangeet . **Practical** 1. 1. The student is able to give a practical demonstration of the prescribed ragas and is able to demonstrate various aspects of ragas and their differentiation. 2. He learns about tala and laya .

Department Of Religion

Program Specific Outcome

- Spiritualism helps to understand the real purposes of life.
- Spiritualism has the ability to provide guidance and capacity to humanity during any kind of circumstances.
- Religion is the major platform to fulfill the spiritual needs of humanity.
- Different religious faiths provide different ways of salvation and unity with the creator.
- Sometimes different religious faiths look to be at contradiction with each other.
- Religious contradictions and communal tensions develop on the basis of narrow and one sided interpretation of religious principles.
- Scientific and comparative study of various religious faiths enables the students to develop the spirit of mutual understanding and secularism.
- In our country knowledge of religion also provides opportunities of employment in religious and denominational institutions.

Course Outcome:

Class	Sem.	Paper	Outcome

BA 1	1	Sikh Dharam	• Study of Sikh Dharam enables the student to have an understanding of the Sikh religion. • Enables the students to understand the core concepts of the subject, like Gurudwara, Khalsa, Miri-Piri etc.
	2	Bharti Dharam	• Student is enabled to understand basic concepts of Vedic and Jain Dharam etc. • Bharti Dharam enables the students to understand the Budh Matt and Dharam Sanskar Like Birth, Death and Dharam Parvesh etc.
BA 2	3	Sami Dharam	• Study of Sami Dharam enables the students to understand the basic Knowledge of Judaism and Christianity. • Student learns about Islam and Persian Religion throughly.
BA 2	4	Madh-Kaleen Atte Adhunik Dharmik Lehran	• Student learns about the Bhakti movement and Suffi Vad etc. • Student get familiar with the different movements of nineteenth century like Arya Samaj, Bramho samaj, Namdhari movements etc.
BA 3	5	Prachin Dharam, Dharam Sanskar Te Udesh	• Students learn about origin of dharam, primitive beliefs,morality and philosophy. • Students learn about different dharam sanskar as like birth, death, dharam parvesh etc and Udesh of dharam.
BA 3	6	Sikh Dharam, Sidhant te Sansthavan	• Students are able to understand the Sikh Dharam in detail. • Students learn about sikh Sidhant te Sansthavan like Akal purkh,Akal thakht, Khalsa, Miri-Piri etc.

Department Of Hindi

Course Outcome

1. Mahatma Gandhi rightly said, “A country is numb without a National language.” So Hindi is the heart and soul of the nation which unites the country full of diversity. According to the 25th edition of *‘Ethnologue’*, Hindi is the fifth most spoken language in the world with 260 million speakers in India and 540 million worldwide. So Hindi is rightly not only the national language, but an international language.

2. Because India is a rapidly growing economy in the world, so learning Hindi language is extremely important and an important bridge in the conduct of businesses nationally and internationally.

3. Liaison work, advertising and management of international corporations encourage and prefer the people with greater command over Hindi Language.

4. Hindi is extremely beneficial for a person's career advancement as there are numerous career opportunities in films, media, singing, scriptwriting etc.

5. Since a large diaspora is settled overseas like in Canada, UK, USA and many other countries, so knowledge and learning of Hindi language can open floodgates of opportunities for the youth of the country as multilingual students are in greater demand overseas.

6. B.A. graduates in Hindi can easily get jobs as translators from Hindi to other languages and vice-versa. For example, translation of Hindi transcripts and documents, which are the basis for evaluation and assessment of the degrees in India and overseas.

Class	**Sem.**	**Paper**	**Outcome**
BA 1	1	Poetry, Novel, Grammar, History of Hindi Literature	• Improves Critical Thinking.
	2	Grammar,	• Develops Empathy and Insight.

		History of Hindi Literature, Stories, Play	
BA 2	3	Stories, Poetry, History of Hindi Literature, Hindi Language (History)	• Encourages Engagement with Other Art Forms
	4	Novel, One Act Play, Hindi Language (Alankaar), History of Hindi Literature	• Improves Verbal Skills and Memory
BA 3	5	Nibandh, Poetry, Hindi Language (Chhand), Kavya Shastra	• Better command over the language
	6	Nibandh, Play, History of Hindi Literature	• Helps create a positive atmosphere around themselves and others and inculcates important values in the society.

Department Of Mathematics

1. Enabling students to develop a positive attitude towards mathematics as an interesting and valuable subject of study.
2. A student should get a relational understanding of mathematical and statistical concepts and concerned structures, and should be able to follow the patterns involved, mathematical reasoning.

3. Ability to analyze a problem, identify and define the computing requirements, which may be appropriate to its solution.
4. Introduction to various courses like group theory, ring theory, calculus, analysis, number theory.
5. Enhancing students' overall development and to equip them with mathematical modeling abilities, problem solving skills, creative talent and power of communication necessary for various kinds of employment.
6. Ability to pursue advanced studies and research in pure and applied mathematical science.

B.A./B. Sc. (Mathematics)-I

Paper I : Calculus

Course Outcomes:-

1. Gain Knowledge of fundamental concepts of real numbers.
2. Student will be able to understand successive differentiation and integration of Hyperbolic functions.
3. Finding extreme values of function.
4. Introduction to curve tracing and Curvature etc.
5. Learn to solve improper integrals, Beta and Gamma functions.

Paper II and Paper V : Ordinary Differential equation and Partial Differential Equation

Course Outcomes

1. Student will be able to solve first order differential equations utilizing the standard techniques for separable, exact, linear, homogeneous, or Bernoulli cases.

2. Student will be able to find the complete solution of a nonhomogeneous differential equation as a linear combination of the complementary function and a particular solution.
3. Student will have a working knowledge of basic application problems described by second order linear differential equations with constant and variable coefficients.

4. Be familiar with Partial differential equation of First and Higher orders.
5. Recognize the major classification of PDEs i.e. Heat, Wave and Laplace's Equation.
6. Introduction to separation of variable method and D'Alemert's solution of PDEs.

Paper III and Paper VI : Coordinate Geometry and Analytic Geometry

Course Outcomes:-

1. Thoroughly study of Conic section i.e. Parabola, Ellipse and Hyperbola.
2. Finding equation in various form of Plane, Line, Sphere, Cones.

Paper IV : Algebra-I

Course Outcomes:-

1. Introduction to different types of matrices
2. Learn to solve system of linear equation.
3. Introduction to Eigen values and Caylay-Hamilton Theorem
4. Learn to find roots of polynomial.
5. Introduction to De Moivre's Theorem and its applications.

B.A./B.Sc.(Mathematics)-II

Paper I : Advanced Calculus

Course Outcome

1. Basic knowledge of continuity and differentiability of function of single variable.
2. To learn Limit, Continuity and Differentiability of functions of several variables.
3. Study of Schwarz's, Young's and Euler's theorem and their applications.
4. Study of Double and triple integrals.

Paper II and Paper V : Analysis

Course Outcomes

1. Describe fundamental properties of the real numbers that lead to the formal development of real analysis.
2. Understand Convergence of sequences, Infinite series, Power series and rigorous mathematical proofs of related results.
3. Recognize the difference between point wise and uniform convergence of a sequence of functions.
4. Illustrate the effect of uniform convergence on the limit function with respect to continuity, differentiability, and integrability.
5. Study of Riemann integration and Functions of bounded variations.
6. Students will be able to understand differentiation and integration of vector functions under Vector Analysis.

Paper III and Paper VI : Statics and Dynamics

Course Outcome

1. Thoroughly study of Statics.
2. Study of Varignon's, Lami's and λ-μ Theorems and their applications.
3. Study of friction and Centre of Gravity.
4. To learn Motion with constant and variable acceleration and laws of motion.
5. Understand Simple Harmonic and Relative motion.
6. Concept of Projectiles, Work, Power and Energy.

Paper IV : Numerical Methods

Course Outcome

1. To apply appropriate numerical methods to solve the problem with most accuracy.
2. Using appropriate numerical methods determine approximate solution of linear and non-linear equations.

3. Thoroughly study of Interpolation.

B.A./B.Sc.(Mathematics)-III

Course Title: Paper I : Algebra-I

Course Outcomes

1. Understand the importance of algebraic structure with regard to working within various number systems.
2. Generate groups given specific conditions and homomorphism of groups.
3. Students will be able to define ring and subrings and Ring Homomorphisms.
4. Study of ideals and concept related to ideals.
5. Study of Integral domain, Division ring, Field, Principal Ideal Domain and Euclidean Domains.

Course Title: - Paper II and Paper IV : Discrete Mathematics

Course Outcome

1. Basic knowledge of Relations and Functions.
2. To understand logical concepts and to show logical equivalences by using truth tables and rules in logics.
3. Learn concept related to probability.
4. Thoroughly study of Lattices, Graph Theory and Trees.
5. Study of Recurrence relations, Discrete Numeric and Generating Functions.

Course Title: - Paper III : Algebra-II

Course Outcome

1. Introduction to vector space and subspace.
2. Study of Linear Transformations and Matrices.
3. To Learn Characteristic and Minimal polynomial for linear operators.
4. To understand the importance of algebra of Linear Transformations.
5. Orthogonality and Diagonalization.

Course Title :- Option I and Option III : Mathematical Methods

Course Outcome

1. Thoroughly study of Fourier series.
2. Students can be able to understand Laplace transform and inverse Laplace transform.
3. Study of Fourier Transforms.
4. Applications of Laplace and Fourier Transforms.

Course Title: Option II and Option IV : Number theory

Course Outcome

1. Find quotients and remainders from integer division.
2. Apply Euclid's algorithm and backwards substitution.
3. Understand the definitions of congruence, residue classes and least residues add and subtract integers, modulo n, multiply integers and calculate powers, modulo n.
4. Determine multiplicative inverses, modulo n and use to solve linear congruence**.**
5. Theory of quadratic residue.

Department Of Physical Education

BA-1

The study of physical education help the students know about the importance of physical education in personality development and participation in sports. It helps them for higher level of

achievements. The specific outcome is preparing them to go for higher studies in physical education. This subject helps the students to understand the values and ethics of life and personality development. This subject helps them to know about health aspects and maintain good health and fitness for higher achievements in sports. The students can better understand the importance of physical education by studying the history. The subject helps the students to understand the psychological aspects include in sports for good performance. Study of this subject helps the students to know more about the human body which helps him for higher level of sports achievements and adopt training method. The students are able to better understand the body movement in sports.

BA-2

- . Demonstrate the skills necessary to participate, perform, and progress in a variety of sport and/or exercise classes.
- Apply the cognitive and/or movement experiences from the Physical Education curriculum in order to participate in lifelong fitness.
- Identify and explain the rules, concepts and vocabulary used in the Physical Education curriculum.

BA-3

Domain knowledge: Apply the knowledge of basic sciences that may be relevant and appropriate to physical education and sports sciences leading to solution of complex sports related issues and problems. Problem analysis: Ability to Identify, define the actual requirements, formulate, research literature, and analyze complex physical education and sports sciences related problems to reaching substantiated conclusions. Design/Development of Solutions: Ability to design, implement, and evaluate process or program to meet desired needs in the field of physical education and sport sciences. Individual and team work: Ability to function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings to accomplish a common goal. Ethics:. Understanding of professional, ethical, legal, security, social issues and responsibilities in teaching, learning.

Department Of English

On successful completion of the Program, the students will be proficient both in oral and written communication as they will be strong in language and its usage.

- They will have a command over English language and its linguistic Structures.
- They can apply critical frameworks to analyze the linguistic, cultural and historical background of texts written in English.
- They will be familiar with the conventions of diverse textual genres including fiction, nonfiction, poetry, autobiography, biography, Journal, film, plays, editorials etc.

Course Outcomes of BA-1st: General English

The main purpose of this course is to equip the students with the nuances of the English language which includes proficiency in grammar and its effective usage in speaking and writing. It further helps them to prepare for various competitive exams and to keep up with the increasing demand for English in Indian society and at the global level. It also develops their overall confidence and personality.

Course Outcomes of BA-1st: English Elective

- Acquaintance with English Literature, dramatists, authors and their works.
- Relation between pleasure of literature and real life.
- Enjoyment of literature.
- Pleasure of literacy forms such as novel, poem, play, stories, Literary terms.

Course Outcomes of BA-IInd: General English

- The main motive of this course is to enhance their awareness of correct usage of grammar and to develop their skills or expertise.
- Spoken communication and written communication.
- Narration of experience, daily routine.
- Understanding and interpretation of poem, prose, essay, short stories, etc

Course Outcomes of BA-IInd: English Elective

- Basic knowledge of various periods of English Literature.
- Emotional development of human mind.
- Critical study of English Literary studies.
- Introduction to various trends in literary criticism.

Course Outcomes of BA-IIIrd: **General English**

- To give knowledge about novels, poetry etc that will help in developing reading, writing, speaking and listening skills.
- Writing of Resume, letters or applications, business letters.
- Writing News-report, review, etc.
- Writing Essay, paragraph, stories etc.

Course Outcomes of BA-IIIrd: English Elective

- Enhancing the critical attitude for literary writing.
- Creating an interest for English literature.
- Imbuing the literary research attitude.

Diploma in Agriculture

Programme Outcome:

1. It is a two years course Programme to divulge the valuable knowledge about many things.
2. This programme gives the scientific methods to resolve their issues

3. To give much knowledge about the livestock and crop management as well as about the plant pathology, Agriculture extension, Agricultural Entomology and Plant Tissue Culture.
4. To develop the basic tools that will help in cropping, Harvesting and threshing processes of different crops according to the different climatic seasons.
5. To make students competitive to pursue their higher studies in the field of Agriculture.

Course Outcome:

Semester I		
Course Code	**Subject Name**	**Outcomes**
BOT 101	**Botany**	• To know about the development of useful plant products. • To analyze the character of pteridophytes and gymnosperms families • To understand the structure of various tissues and functions of various plant cells.
AGRON-102	**Agronomy**	• To know about the scientific laws to explain the natural actions and principles of ways and means for the betterment of soil, plant and environment. • To know about the knowledge of different relations of environment and sustain abilities and crop modeling.
AGRON- 103	**Agronomy**	• To understand the basic

		knowledge of Kharif and Rabi crops for their importance in daily life, their varieties, their cropping and their harvesting and threshing processes.
HORT-104	**Horticulture**	• To gain knowledge about the fundamental knowledge of Horticulture • To give knowledge about the various propagation and cultural practices of fruits crops will be provided by insighted ness.
FORST-105	**Forestry**	• It is the science of creating, managing, using conserving and repairing forests, woodlands that is associated resources for human and environmental benefits such as watershed protection, to prevent soil erosion and attenuate the climate change. • The students will learn about the silviculture and nursery technology of important agroforestry tree species.
SOILS-106	**Soils**	• To study about the basic ecosystem functions that promoted by advances in natural resource and environmental sciences.

		• To study the development of different methods to improve the use of soil to increase the production of food and fiber crops. • Soil science also helps to grow the sustainability of soil. • Soil science study to know about the knowledge of soil degradation such as Soil Erosion, compaction, lowered fertility and their contamination of soil.
VEG-107	**Vegetables**	• To study about the protection against the cancer, diabetes, heart diseases and other diseases. • To study about the increased production of vegetables to solve our food problem.
Semester II		
AGRON-201	**Agronomy**	• To study about the Rabi crops such as wheat, barley, mustard, sesame and peas, their sowing period, Harvested period as well as their threshing period.
LPM-202	**Livestock and Poultry Management**	• To study about the economic and socio cultural roles for well being and house hold practices.

		It includes the source of income, source of employment, soil fertility, livelihood, transport, agricultural traction, their diversification and sustainable agricultural practices. • To know about the Government and Central government schemes to develop the livestock and poultry programmes.
SOILS-203	**Soils**	• To study about the soil components, their measurements basic ecosystem functions that promoted by advances in natural resource and environmental sciences. • Soil science study to know about the knowledge of soil degradation such as Soil Erosion, compaction, lowered fertility and their contamination of soil
FT-204	**Food Technology**	• To know about the quality of food, safety consumption, variety of food items and their better preservation techniques and minimal wastage • To study about the full awareness of all important aspects of the problem to

		require the broad based training.
FLORI-205	**Floriculture**	• To study about the importance of floriculture In Punjab. • To study about the discipline of horticulture that is cultivated of flowering and ornamental plants for gardens for floristry. • To know about the development of plant breeding new varieties that is used by floriculturist's occupation.
AGROMET-206	**Agroclimatology**	• To study about the behavior of weather elements that has the direct relevance to agriculture and their effect on crop production. • It helps to study the planning and cropping pattern systems to select of sowing dates for optimum crop yield. • It also helps to study the cost effective ploughing, harrowing and weeding practices.
ECON-207	**Economics**	• To know about the Farm Management scope, their importance, their relationships and characteristics of Punjab farms with their packaging and practices. • It also helps to know about the

		Farm records with their agricultural finance including with their farm credits such as credit appraisal, acquisition and their schedule.

Diploma in Agriculture Second Year

Programme Outcome:

- It is a two years course Programme to divulge the valuable knowledge about many things.
- This programme gives the scientific methods to resolve their issues
- To give much knowledge about the livestock and crop management as well as about the plant pathology, Agriculture extension, Agricultural Entomology and Plant Tissue Culture.
- To develop the basic tools that will help in cropping, Harvesting and Threshing processes of different crops according to the different climatic seasons.
- To make students competitive to pursue their higher studies in the field of Agriculture.

Programme Specific Outcomes:

- To provide about the knowledge on analyzing the economic policies from Banks and Central Government policies.

- To provide the detailed knowledge on various agribusiness activities and horticulture, floriculture, sericulture and lac culture practices
- To provide the knowledge on working of different farm implements and their equipments
- To reveal the insight knowledge in crop cultivation practices.

Course Outcome:

Semester III		
Course Code	**Subject Name**	**Outcome**
HORT-301	**Nursery Production of Fruit Crops**	• To study about layout and seed bed preparation of nursery and different fruit plants. • To know about the soil solarization, plant propagation and management practices of weed control and removal of sprouts. • It helps to study about the diseases to control the pests in nursery.
ENT-302	**Agricultural Entomology**	• To study about the insects Morphology, their characteristics, their dominance, Growth and development, feeding stages and their adaptations. • To study about the pests

		population, their outbreaks and about their integrated pest management. • To know about the insects and pests on various crops such as on cereals such as on cotton, sugarcane, oilseeds, pulses, fruits and vegetables to know about their damage and their management. • It helps to know about the safe use of insecticides and plant protection equipments.
PPT-303	**Disease of field crops**	• To know about the plant diseases, their symptoms, their economic Importance and causes of diseases on Wheat, barley, cotton, sugarcane, sorghum, Gram, Moong, Mash, Red gram, rapeseed, Mustard and Groundnut.
FMN-304	**Farm Mechanization**	• To study about the Familiarization of sources of tractors, movers and agricultural machineries principles and their

		maintenance of two strokes and four strokes engines. • To know about the duties of tractors, drivers, and operators their offences, penalities, their mensuration weights and measures and about the agricultural machinery that is basically used in our Precision Farming.
Econ-305	**Marketing of Farm products**	• To study about the marketing importance, functions, services. Their types, methods, channels, charges and prices their information and regulation. • To know about the role of marketing agencies from State government. • It helps to know about the concept and importance of grading and their standardization of various food grains such as fruits, vegetables and food grains. • We also study about the sampling and analysis of

		standard specifications about Honey, flour, ghee and spices.
FIM-306	**Farm irrigation and management**	• To study about the Irrigation water, their measurements, channels, Methods, their selection and operations as well as their Drainage methods like types of wells and pumps and their components of drainage systems.
EAP-307	**Elementary Agro processing**	• To study about the agroprocessing importance in Punjab, their complexes, layouts, components and their unit operations in industries. • To know about the Milling techniques and Machineries of various crops such as Wheat, Paddy, Pulses and Oilseeds**.**
T**PBG- 308**	**Plant Breeding and Seed production**	• To study about the classification of plants, their modes, Objectives of plant breeding, selections and their sterility techniques and their

		utilization techniques. • To study about the seed production and their seed certification and their acts. • It helps to know about the seed testing quality, their health, treatment, storage and marketing techniques.
Semester 1V		
PPT-401	**Diseases of Fruits and Vegetables**	• To study about the various types of Fruits and vegetables Symptornatology, their etiology and Management and diseases of fruits and vegetables such as Citrus, guava, mango, peach, pear, plum, ber, papaya and grapes, potato, tomato, brinjal, Okra, cabbage, carrot, radish, turnip, onion, garlic and cauliflower.
MCL-402	**Mushroom Cultivation**	• To study about the scope Of Mushroom production, their cultivation techniques , Methods, their composting methodologies, their

		spawing techniques • To know about their nutritional status of Mushrooms their economicity and their nutritional value of Mushrooms.
PTC-403	**Plant Tissue Culture**	• To study about the Development of Plant Tissue Culture techniques, their nutritional requirements selection, collection, preparation, sterilization and inoculation techniques. • To know about the techniques of Plant Tissue Culture in vitro propagation in field, forestry and Horticultural plants, Organogenesis , Embryogenesis and Somatogenesis techniques.
UIN-404	**Useful Insects**	• To study about the insect importance in commercial purpose, Apiculture technique, Sericulture technique and Lac culture technique. • To study about the insects

		as food for medicinal and aesthetic value, their predators, parasitoides and Scavengers.
EED-405	**Extension Education**	• To know about the extension education principles, programmes, classification, selection and extension, qualities, planning and evaluation of extension programmes.
AED-406	**Agri bussiness and Entrepreneur Development**	• To know about the Features, structures, importance, Challenges factors of agri business. • To study about the types, their aids and functional areas of Entrepreneueship development their problems, financial, marketing and human resource management.
PCV-407	**Protected Cultivation of vegetable Crops**	• To know about the importance, media and types of Protected cultivation. • To study about the training and pruning techniques of fruits. • To know about the hybrid

		seed production, Fertigation and Mulching techniques of vegetables.
ZOO-408	**Fish Production**	• To know about the pragmatic knowledge about the importance of Fish, their types and their scopes in agroclimatic regions in Punjab and their economic importance. • To study about the Management of Fish farm, their nutrition and feeding, breeding techniques. • To study about the fish diseases, their economic importance, Integrated fish farming and know about the Introduction of fish post harvest technology.

Department Of B.Sc. (Med)

1. B.Sc. Medical student is able to acquire knowledge regarding Botany, Zoology, Chemistry, Biotechnology, Fish and Fisheries.

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 and Chemistry.

8. Biotechnology is another fast-growing field which is more applicable in Industries and Hospitals.

Department of Zoology

1. Students gain knowledge and skill in the fundamentals of animal sciences, understands the complex interactions among various living organisms
2. Analyse complex interactions among the various animals of different phyla, their distribution and their relationship with the environment
3. Apply the knowledge of internal structure of cell, its functions in control of various metabolic functions of organisms.
4. Understands the complex evolutionary processes and behaviour of animals
5. Correlates the physiological processes of animals and relationship of organ systems
6. Understanding of environmental conservation processes and its importance, pollution control and biodiversity and protection of endangered species
7. Understands about various concepts of genetics and its importance in human health
8. Apply ethical principles and commit to professional ethics and responsibilities in delivering his duties.

Program Specific Outcomes of Zoology in B. Sc. Medical

1. Acquire knowledge on the various aspects of life sciences, cell biology, genetics, taxonomy, physiology, applied zoology, general embryology and public health.
2. Analyse the relationships among animals, plants and microbes
3. Understand good laboratory practices and safety; carry out experimental techniques and methods of Physiology, Cell biology, Genetics, Biochemistry, Aquaculture, Ecology.

4. The students gained the knowledge to use modern sophisticated equipments and tools.
5. Recognize the scientific facts behind natural phenomena.

Course Outcomes of Zoology in B. Sc. Medical

B. Sc. I (Semester I)

Paper I: Cell Biology

1. The learner will understand the importance of cell as a structural and functional unit of life.
2. The learner understands and compares between the prokaryotic and eukaryotic system and extrapolates the life to the aspect of development.
3. Understand the main distinguishing characters between plant cell and animal cell.
4. Describe the function and the composition of the plasma membrane.
5. To study and understand the whole cell organelles with their structure and function.
6. Understand the importance of the nucleus and its components
7. Understand the cell cycle and know the importance of various cells in body of organisms.

Paper II: Non-chordates

1. To make students familiar with the non-chordate world.
2. Able to identify the invertebrates and classify them up to the class level with the basis of systematic.
3. Understand the basis of life processes in the non-chordates and recognize the economically important invertebrate fauna.

B. Sc. I (Semester II)

Paper III: Ecology

1. Students are able to describe the relation between abiotic and biotic factors.
2. Students are able to describe various biological interactions.
3. Students are able to understand how changes in population affect the ecosystem.
4. Students are able to understand ecological adaptations
5. To understand scope , importance and management of biodiversity
6. To understand food chain & food web in ecosystem.

Paper IV: Chordates

1. Student should be able to describe unique characters of urochordates, cephalochordates and fishes.
2. Student should be able to recognize life functions of urochordates to fishes.
3. To understand the ecological role of different groups of chordates.
4. To understand the diversity of chordates.
5. To understand general characteristics and classification of different classes of vertebrates.

B. Sc. II (Semester III)

Paper I: Chordates-I

1. Student should be able to describe unique characters of urochordates, cephalochordates and fishes.
2. Student should be able to recognize life functions of urochordates to fishes.
3. Student should be able to describe unique characters of pisces and amphibians.
4. Student should be able to recognize life functions of pisces and amphibians.

Paper II: Chordates-II & Evoluition

1. Student should be able to describe unique characters and life functions of reptiles, aves and mammals.
2. To understand general characteristics and classification of different classes of vertebrates.

3. Enable the students to understand the evolution of universe and life.
4. Understanding on the evidences and theories of organic evolution.
5. Able to describe origin of species on earth.
6. Able to describe evolutionary history of man.

B. Sc. II (Semester IV)

Paper I: Biochemistry

1. Attained the knowledge of macromolecule such as carbohydrates, protein and fat, their types and significance.
2. Described the enzymes, mechanism of enzyme action and factors affecting the enzyme activity.
3. Understood the types and importance of vitamins.
4. Familiar with various biochemical pathways.

Paper II: Animal Physiology

1. Students are able to describe the physiology of digestion.
2. Students are able to understand the physiology at cellular and system levels.
3. Students are able to describe the role and functions of different systems.
4. Able to describe the physiology of respiratory, renal, endocrine and reproductive systems to define normal and abnormal functions.
5. Students are able to understand how physiological parameters are measured in mammals.

B. Sc. III (Semester V)

Zoo.301 Paper-I Developmental Biology

1. Describe the process of gametogenesis.
2. Understand the development of extra embryonic membrane and the nature and physiology of placenta.
3. Familiar with types of placenta
4. Understand the basic concepts of organizers and inducers and their role
5. Understand the embryonic developmental processes in Herdmania, Amphioxus, frog, chick and rabbit.
6. Understand the metamorphosis in Herdmania and Rana (Frog). involved in Amphioxus, frog and chick

Zoo.302 Paper-II Genetics

1. To understand the non-allelic gene interaction, modified F2 ratios and extranuclear inheritance.
2. To understand the multiple alleles (Blood group inheritance, eye colour in Drosophila) and factors (skin colour in man).
3. To understand the population Genetics and principle of Hardy Weinberg Law.
4. To understand the recombinant DNA –technology, Genetic cloning and its applications in medicine and agriculture, DNA finger printing

B. Sc. III (Semester VI)

Option III: Zoo.307 Paper-I Aquaculture-I

1. To understand the inland fisheries of India and exotic fishes

2. To understand the morphology of typical fish and structure of mouth and bionomics of different fishes.
3. Identification and classification of important fishes of Punjab, Haryana & Himachal Pradesh
4. To understand the technique of induced breeding
5. To understand the pond culture and aquatic weeds

Option IV: Zoo.308 Paper-II Aquaculture-II

1. To understand the riverine and reservoir fisheries of river Sutlej and Beas.
2. To understand the culture systems and integrated fish farming systems.
3. To understand the sewage fed and cold water fisheries
4. To understand the various fish diseases and their control
5. To understand the fish by-products and marketing of fish.

DEPARTMENT OF CHEMISTRY

1. This course forms the basis of science and comprises of the subjects like physics, chemistry, biology, zoology and mathematics.

2. It helps to develop scientific temper and thus can prove to be more beneficial for the society as the scientific developments can make a nation or society to grow at a rapid pace.

3. After the completion of this course students have the option to go for higher studies i.e. M. Sc and then do some research for the welfare of mankind.

4. After higher studies students can join as scientist and can even look for professional job-oriented courses.

5. This course also offers opportunities for serving in Indian Army, Indian Navy, Indian Air Force as officers.

6. Students after this course have the option to join Indian Civil Services as IAS, IFS etc..

7. Science graduates can go to serve in industries or may opt for establishing their own industrial unit.

8. After the completion of the B.Sc degree there are various other options available for the science students. Often, in some reputed universities or colleges in India and abroad the students are recruited directly by big MNC's after their completion of the course.

9. Apart from the research jobs, students can also work or get jobs in Marketing, Business & Other technical fields. Science graduates also recruited in the bank sector to work as customer service executives. Students can also find employment in government sectors.

B.Sc. Medical

1. B.Sc. Medical student is able to acquire knowledge regarding Botany, Zoology, Chemistry, Biotechnology, Fish and Fisheries.

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 and Chemistry.

8. Biotechnology is another fast-growing field which is more applicable in Industries and Hospitals.

B.Sc.-1st Semester

Subject-Inorganic Chemistry

Learning Objectives

1. To understand the shapes of different orbitals.

2. To understand different principles for filling electrons.
3. To understand how to draw energy diagrams.
4. To understand how to calculate bond order and lattice energy through Born Haber Cycle..

Learning Outcomes

1. Able to write electronic configuration of given atomic number.
2. Able to tell the name of orbitals by recognizing shapes of orbitals.
3. Able to calculate bond order of different molecules.
4. Able to draw MO diagrams of different molecules.
5. Able to draw structures of different ionic solids.
6. Able to calculate effective nuclear charge using Slaters Rule.

Subject: Physical Chemistry

Learning Objective

1. Students will be able to describe the concept of pressure from a macroscopic and microscopic perspective.
2. Students will describe the relationship between partial pressures and total pressure as described in Dalton's Law of partial pressure.
3. Students will be able to explain the quantitative relationship between T,V,n & P as described by kinetic molecular theory.
4. The students will be able to compare and contrast the chemical behaviour and physical properties of common substances.
5. The students will be able to classify matter by its state and bonding behaviour using the periodic table as a reference.

Learning Outcomes

1. Students should be able to describe the characteristic of the three states of matter.
2. Students should be able to describe the different physical properties of each state of matter.
3. Students should be able to determine the difference between solids, liquids and gases.
4. Students will be able to define what matter is and where you can find it.
5. Students will be able to give examples of solids, liquids and gases**ubject : Organic Chemistry**

Learning Objective

1. To understand the core concepts of organic chemistry i.e. resonance, hyperconjugation, inductive effect etc. and their application.
2. To study about the isomerism and types of isomerism.
3. To understand optical isomerism, geometric isomerism and conformational isomerism.
4. To acquire basic knowledge of reactive intermediates and mechanism of organic reactions.
5. To study about nomenclature, synthesis, isomerism and physical properties of alkanes and cycloalkanes.

Learning Outcomes

Upon successful completion of this course, the student will be able to

1. Recognize and draw constitutional isomers,stereoisomers, including enantiomers and diasteromers, racemic mixture and meso compounds .
2. Know the fundamental principles of organic chemistry and predict outcomes and derive mechanism of various types of organic reactions.
3. Understand various types of reactive intermediates and factors affecting their stability .
4. Understand the nomenclature, synthesis, isomerism and physical properties of alkanes and cycloalkanes

B.Sc. - 2nd Semester

Subject : Inorganic Chemistry

Learning Objective

1. The purpose of study semiconductor devices and materials is to familiarize students with P-N junction and transistors.
2. The students will be able to understand general trends in the chemistry behind p-block elements.
3. The students will be able to know the important compounds and important applications of compounds of boron and carbon.
4. The students will understand the biological significance of sodium, potassium, magnesium and calcium.
5. The students will be able to explain large scale preparation and properties of industrially viz., cement, plaster of paris, sodium hydroxide, sodium carbonate and bicarbonate etc.
6. The students will be able to describe the salient features of alkali and alkaline earth metals.

Learning Outcomes

1. The students will be able to design and carry out scientific experiments as well as accurately record and analyze the results of experiments.
2. Students will be able to explain why chemistry is an integral activity for addressing social, economic and environmental problems.
3. Students will be skilled in problem solving, critical thinking and analytical reasoning as applied to scientific problems.
4. The students will be able to describe the periodic table as a list of elements arranged so as to demonstrate trends in their physical and chemical properties.

5. The students will able to state the principle resemblances of elements within each main group in particular alkali metals, alkaline earth metals, halogens and noble gases.

B.Sc.(Chemistry) 2nd Semester

Subject: Physical Chemistry

Learning Objective

1. To describe a reaction rate in terms of a change in concentration divided by a change in time (at constant volume) and a general form of a (differential) rate law.
2. To write a general form of the rate law for any chemical reaction and define the order of a chemical reaction.
3. To determine integrated rate expression for zero order, first order, second and third order reaction and their respective half-life period expressions.
4. To study the various factors which affect the rate of a chemical reaction such as concentration, temperature, solvent, catalyst etc. And theories of chemical kinetics.
5. acquire basic knowledge of electrode conduction.
6. determine the solubility of sparingly soluble salts.
7. explain the various methods for the determination of transport number.

Learning Outcomes

Upon successful completion of this course, the student will be able to

1. State the basic principles electrochemistry
2. Mention and explain various methods for the determination of transport number.
3. Explain the concepts of electrolytic conduction and dilution
4. Understand rate of reaction and factors affecting it.
5. Derive integrated rate expressions for zero order, first order, second order and third order reaction.
6. Understand theories of reaction kinetics and differentiate them.

B.Sc.-2nd Semester

Subject-Organic Chemistry

Learning objectives

1. To identify addition reactions for alkenes and alkynes.
2. To understand the nature of double and triple bonds for addition reactions.
3. To identify the difference between dienes and alkenes.
4. To understand the mechanism of attack of electrophiles and nucleophiles.
5. To understand the preparation methods for alkenes, alkynes, alkyl halides.

Learning outcomes

1. Recognize the basic practical skills for the synthesis of alkenes, alkynes, alkyl halides.
2. Able to predict the reactivity of organic compound from its structure.
3. Able to understand the rules for naming different organic compounds
4. Able to recognize mechanism for given chemical reaction.

B.Sc.- 3rd Semester

Subject: Inorganic chemistry

Learning Objective

1. In order to study transition metals to understand the trends in properties and reactivity of the d-block elements.
2. To explain the typical physical and chemical properties of the transition metals.
3. To identify simple compound classes for transition metals and describe their chemical properties.
4. To make the students understand that solutions which have water as a solvent are called aqueous solutions and those with solvent other than water are called non-aqueous solutions.
5. The students should know that that equivalent weight of an acid and base can be find out from their molecular weight and the acidity and basicity of that compound.
6. The student should understand that there are different methods of expressing concentration of a solution such as mass percent, ppm, normality, molarity, and molality.

Learning Outcomes

1. The students will be able to explain the fundamental concepts in coordination chemistry of transition metals.
2. The Students should be familiar with the basic knowledge of the non-aqueous solutions and applications of non-aqueous solvents in analytical chemistry.
3. The students will develop the ability of effective solving practical problem of analytical chemistry of non-aqueous solutions.
4. Students will be able to describe different quantitative methods of analysis of organic and inorganic substances.
5. Students will be able to demonstrate methods of drugs analysis and pharmaceutical calculations.

B.Sc.- 3rd Semester

Subject : Physical chemistry

Learning Objective

1. To understand thermodynamic terms: system, surrounding etc. Types of systems, intensive and extensive properties. State and path functions and their differentials.
2. To understand Heat capacity, heat capacities at constant volume and pressure and their relationship. Joule's law
3. To understand the concept of equilibrium constant, free energy, chemical potential
4. To understand the Nernst distribution law – its thermodynamic derivation, modification of distribution law when solute undergoes dissociation, association and chemical combination. Applications of distribution law
5. To understand the determination of degree of hydrolysis and hydrolysis constant of aniline hydrochloride

Learning Outcomes

After the completion of the course, Students will be able to

1. Recognize the basic terms of thermodynamic.
2. Able to predict the energy change in heat capacities at constant volume and pressure and their relationship.
3. Able to drive Joule's law and its application.
4. Able to derive relationship between modification of distribution law when solute undergoes dissociation
5. Able to recognize the degree of hydrolysis and hydrolysis constant of aniline hydrochloride.

B.Sc.- 3rd Semester

Subject-Organic Chemistry

Learning Objectives

1. To understand the methods for preparation of alcohols.
2. To understand the different classes of alcohols.
3. To understand the structure of carboxylic acid and their derivatives.
4. To understand the reactivity of different carboxylic acid derivatives.
5. To understand the chemical reactions of phenols.

Learning Outcomes

1. Able to recognize structures of acid halides, esters, amides, acid anhydrides.
2. Able to convert given name of alcohol to structure.
3. Able to write the order of reactivity of different carboxylic acid derivatives.
4. Able to describe different classes of alcohols.
5. Able to write down structure of phenol and phenoxide ion.

B.Sc. - 4th Semester

Subject: Inorganic chemistry

Learning Objective

1. The students will understand the importance of periodic table of the elements, how it came to be and its role in organizing chemical information.
2. The students will develop the ability to effectively communicate scientific information and research results in written and oral formats.
3. The students will learn the laboratory skills needed to design, safely conduct and interpret chemical research.
4. The primary aim of a qualitative research is to provide a complete detailed description of the research topic.
5. Quantitative research focuses more in counting and classifying features and constructing statistical models and figures to explain what is observed.

Learning Outcomes

1. By quantitative analysis courses, the students will be learnt to understand, communicate and interpret quantitative information and mathematical ideas.
2. All should able to develop skills in the recognition of patterns, generalization, abstraction to a formal system and application of the system to specific situations.
3. The students will be able to understand the various uses of lanthanides elements in flash light powders and in dying cotton.
4. The students will be able to understand about recently lanthanides have been used in lasers.
5. The students will be able to know about actinides elements are used as nuclear fuels for various purposes.

B.Sc. - 4th Semester

Subject : Physical Chemistry

Learning Objective

1. To understand the concepts of thermodynamics and its laws
2. To understand the entropy change in reversible and irreversible reaction
3. To understand the physical significance of third law of thermodynamics
4. To understand the concepts of electrochemistry
5. To understand the working and reaction of electrochemical cells

Learning Outcomes

After the completion of the course, Students will be able to

1. Recognize the basic concepts of thermodynamics
2. Able to predict the reversible and irreversible reaction
3. Able to understand the physical significance of third law of thermodynamics
4. Able to recognize the reaction of electrochemical cells and types

B.Sc. - 4th Semester

Subject-Organic Chemistry

Learning objectives

1. To understand how to name different aldehydes and ketones.
2. To understand the reactivity of different carbonyl compounds towards nucleophilic reaction.
3. To understand how to write the products of addition reaction to carbonyl compounds.
4. To understand to differentiate between primary, secondary and tertiary amines.
5. To determine the percentage composition of a liquid sample mixture by the application of Beers Law.

Learning outcomes

1. Students are able to recognize mechanism of different reactions related to carbonyl compounds.
2. Students are able to differentiate between given different amines.
3. Able to recognize different functional groups by given only graph of peaks.
4. Able to write mechanism of different condensation reaction.
5. Able to recognize the reactivity of substituted aromatic amines.

B.Sc. - 5th Semester

Subject : Inorganic chemistry

Learning Objective

1. To understand the concepts of metal ligand bonding in transition complex compounds.
2. To understand the thermodynamics and kinetic aspects of metal complexes.
3. To understand the nomenclature, classification, properties and preparations of coordination c
4. To understand the chemistry of organometallic compounds, homogenous hydrogenation and carbonyls.
5. To understand the bioinorganic chemistry of hemoglobin, myoglobin etc.

Learning Outcomes

After the completion of the course, Students will be able to

1. Recognize the bonding in transition compounds by VBT and CFST theories.
2. Able to predict the geometry of coordination compounds and type of hybridization.
3. Able to determine the properties and preparations of Li, Al, Hg, Sn, Ti etc. metal compounds.
4. Able to recognize the biological reaction alkali and alkaline earth metals, nitrogen fixation, hemoglobin and myoglobin.

B.Sc.-5th Semester

Subject- Physical Chemistry

Learning Objectives

1. To understand the concept of black body radiations.
2. To understand the concept of wave functions.
3. To understand different properties of molecular structure.
4. To understand the basic features of spectroscopy.
5. To understand the Harmonic Osillator.

Learning Outcomes

1. Able to recognize different regions for different spectroscopy.
2. Able to explain the concept of Electromagnetic Waves.
3. Able to explain the concept use in Black Body Radiation.
4. Able to calculate dipole moment in given molecules.
5. Able to use concept of polarizability.

Learning Objective & Outcome

B..Sc.-5th Semester

Subject: Organic chemistry

Learning Objective

1. In order to study the NMR spectroscopy to understand the important role of nuclear magnetic resonance spectroscopy in the study of the structures of organic compounds.
2. To develop an understanding of the significance of the number, positions, intensities and splitting of signals in nuclear magnetic resonance spectra.
3. To be able to assign structures to simple molecules on the basis of nuclear magnetic resonance spectra.

4. In order to study carbohydrates will develop the skills to recognize and draw particular carbohydrate structures.
5. To know general structural elements of cyclic monosaccharide and disaccharides and their implications for structure and function.

Learning outcomes

1. After study of course students have firm foundations in the fundamentals and application of current chemical and scientific theories.
2. Students are able to identify and solve chemical problems and explore new areas of research.
3. Students are skilled in problem solving, critical thinking and analytical reasoning.
4. After completion of course students should have the ability to identify organic compounds by analysis and interpretation of spectral data.
5. Students should have the ability to explain common terms in NMR spectroscopy such as chemical shift, coupling constant and anisotropy and describe how they are affected by molecular structure.
6. Students are skilled to perform the most commonly used NMR experiments and to interpret and document their results.

B.Sc.-6th Semester

Subject-Inorganic Chemistry

Learning objectives

1. To understand the role of metal ions in biological system.
2. To understand the role of metal ions in oxygen transport.
3. To understand the concept of acid and bases.
4. To understand the uses of inorganic polymers.
5. To understand the nature of bonding of different metals with carbon atom.

Learning Outcomes

1. Students are able to describe role of different metal ions in biological system.
2. Students are able to recognize role of porphyrin ring in haeomoglobin.
3. Students are able to count total of electrons in organometallic compound.
4. Students come to know about uses of different inorganic polymers in making of toys, plastics bags.
5. Students are able to name different organometallic compounds.

B.Sc. - 6th Semester

Subject : Physical chemistry

Learning Objective

1. To understand the transitions through electronic spectroscopy
2. To understand the term symbols of diatomic molecules
3. To understand the different type of vapour pressure curves
4. To understand the ideal and non-ideal solutions and their behavior
5. To understand the thermodynamics of one and two component system.

Learning Outcomes

After the completion of the course, Students will be able to

1. Recognize the basic rules of electronic spectroscopy.
2. Able to predict the term symbols of diatomic molecules
3. Able to understand the behavior of ideal and non-ideal solutions
4. Able to recognize the thermodynamics of one and two component system
5. Recognize the basic rules of various component system

B.Sc-6th Semester

Subject: Organic chemistry

Learning objective

1. The main aim of Heterocyclic compounds study is to develop novel, efficient, convenient, selective and environmentally benign synthetic methods in organic chemistry.
2. The objective of the present study of heterocyclic compounds is to develop green methodologies for the synthesis of nitrogen containing heterocyclic.
3. The students will be aware about most of drugs in the present market are the compounds containing various heterocyclic moieties.

4. To enable students to acquire a specialised knowledge and understanding of selected aspects by means of lecture series and a research project.
5. The course aims to provide an advanced understanding of the core principles and topics of biochemistry and their experimental basis.

Learning outcomes

1. The students should be able to demonstrate advanced knowledge and understanding in aspect of protein structure.
2. The students will be able to introduce about basic chemistry of the heterocyclic.
3. The students will get familiar with particular properties and reactions for the most important heterocyclic as well as different systems of nomenclature.
4. The students will develop fundamental theoretical understanding of heterocyclic chemistry.
5. The students will be able to fully comprehend the chemistry of many heterocyclic products, carbohydrate, amino acids, peptides, proteins and lipids in use such as drugs and food.

Department of Botany

B. Sc. Medical is an undergraduate three years program. It involves the study of field of sciences like zoology, botany and chemistry.

Program Outcomes of Botany in B. Sc. Medical

1. Students gain knowledge and skill in the fundamentals of plant sciences.
2. Analyse complex interactions among the various plants of different phyla, their distribution and their relationship with the environment.
3. Apply the knowledge of internal structure of cell, its functions in control of various metabolic functions of plants.
4. Students will be able to think logically and organize tasks into a structured form.
5. Knowledge and understanding of the role of plants in functioning of the global ecosystem.

6. Understanding of environmental conservation processes and its importance, pollution control and biodiversity and protection of endangered species
7. Students will be able to understand the impact of the plant diversity in social and environmental context, and demonstrate the knowledge, and need for sustainable development.
8. Function effectively as an individual and as a member or leader in diverse.

Program Specific Outcomes of Botany in B. Sc. Medical

1. Acquire knowledge on the various aspects of life sciences, cell biology, genetics, taxonomy, physiology, plant development, diversity of microbes and plant evolution.
2. Analyse the relationships among animals, plants and microbes
3. Understand good laboratory practices and experimental techniques.
4. The students gained the knowledge to use modern sophisticated equipments and tools.
5. Recognize the scientific facts behind natural phenomena.

Course Outcomes of Botany in B. Sc. Medical

B. Sc. I (Semester I)

Paper I: **Diversity of Microbes**

1. The learner will understand the importance of various microbes and their economic importance in life.
2. The learner understands and compares the differential developmental stages of different microbes.
3. Understand the integral role of microbes to cause the diseases and treatment of those diseases.
4. To understand the morphology and reproduction patterns of different fungi.

5. Understand the importance of lichens and their distribution.
6. To understand the structure and importance of Mycoplasmas and Cyanobacteria.

Paper II: **Diversity of Cryptograms**

1. To make students familiar with the cryptograms world.
2. Able to identify the basic characteristics and life cycle patterns of different species of algae.
3. Students will be able to identify amphibians of plant kingdom, bryophytes and there alteration of generations.
4. To study heterospory, apospory, apogamy and economic importance of pteridophytes.
5. To give general account of stellar evolution.

B. Sc. I (Semester II)

Paper III: **Cell Biology**

1. Students are able to outline the structure of the biomolecules found in plants.
2. Students are able to describe the function and structure of cells including the metabolic reactions that occur in cells.
3. Students will be able to understand the process of inheritance.
4. Students are able to understand intricate relationship between various cellular structures and their corresponding functions.
5. To understand scope, importance of cell biology.
6. Students will be able to understand cytological, biochemical, physiological and genetic aspects of the cell, including cellular processes common to all cells.

Paper IV: **Genetics and Evolution**.

1. Student will be able to understand basic principles of inheritance at the molecular, cellular and organism level.

2. Student will be able to select and apply experimental procedures to solve genetic problems.
3. To understand the mechanisms governing Mendelian inheritance, gene interactions, and gene expression.
4. To apply principles of genetics to real –world problems in biology.
5. To describe mechanisms that generates variation in traits.
6. To understand evolutionary theories and evidences for organic evolution.

B. Sc. II (Semester III)

Paper v: **Diversity and systematic of Gymnosperms**

1. Students will be able to describe processes involved in fossilization, types of fossils and importance of fossils.
2. Students will be able to understand Geological time scale.
3. Students will be able to understand the general characteristics, origin and evolution of Gymnosperms.
4. Student will be able to draw life cycle and economic importance different gymnospermic species.

Paper VI: **Diversity and systematic of Angiosperms**

1. Student will be able to to describe origin and evolution of angiosperms.
2. To recognize diverse taxonomic resourses for plant identification, including electronic and print media, reference materials, and herbarium collections.
3. Enable the students to understand angiosperm taxonomy and its components.
4. To identify and name a plant and fix its rank in a recognized system of classification.
5. Students will be able to describe technical description and economic importance of members of different angiosperm families.
6. Students will be able to describe biological basis of classification

B. Sc. II (Semester IV)

Paper VII: **Plant Anatomy**

1. Attained the knowledge of various tissue systems of plants.
2. Students will be able to describe histological organization of different plant parts.
3. To distinguish the characteristic features of monocots and dicots.
4. Attained the knowledge of anamalous secondary growth of different plant parts.

Paper VIII: **Development and Reproduction in Flowering Plants**

1. Students will be able to understand complete details about the structures, development of embryo at different stages including gametogenesis, fertilization.
2. Students will be able to correlate between the embryological structure and its significance.
3. Students are able to describe the development of male and female gametophytes in flowering plants.
4. Able to describe the process of double fertilization.
5. Students are able to understand types and development of fruits.

B. Sc. III (Semester V)

Paper IX:-**Plant Physiology**

1. To describe relationship between plant, water and soil.
2. Students will attain knowledge about mineral uptake by plants.
3. Familiar with different types of enzymes involves in plant metabolism.
4. Understand the detailed concept of Photosynthsis and Respiration in plants.
5. Understand the Nitrogen metabolism in plants.
6. Students will gain knowledge about Lipid metabolism in plants.

Paper X:-**Plant Growth, Development and Biotechnology**

1. To understand growth phases and effect of different plant hormones in growth.
2. To understand the concept of photomorhogenesis and photoperiodism.
3. To study tools and techniques of recombinant technology.
4. To understand the concept of Genetic cloning and its applications in medicine and agriculture, DNA finger printing.

B. Sc. III (Semester VI)

Paper XI:-**Plant Ecology**

1. Learner will be able to identify factors that effects biological diversity and the functioning of ecological systems.
2. To identify global environmental problems.
3. Students will be able to describe biogeochemical cycles.
4. To describe plant distribution patterns in relation to abiotic and biotic factors.
5. Students will be able to interpret ecological results.
6. To identify plant species in different ecosystems.

Paper XII:-**Plant Utilization**

1. To understand and investigate utilization and domestification of crop plants.
2. Students will study origin, distribution, and botanical description, idea of cultivation and economic uses of vegetables, fruits and spices.
3. Students will able to describe botanical description, processing and uses of beverages,tea, and coffee.
4. To understand the cultivation and process of rubber.
5. Students will be able to participate in plant identification using observation skills.

B.Sc English

Program Outcomes

- Basic knowledge of English as Language.
- Basic knowledge of English Grammar.
- Critical study of English Literary studies.

Program Specific Outcomes:

Students are able to demonstrate thinking skills by analyzing and evaluating information from multiple sources. Students produce well researched written work that engages them to think critically about the varieties of experience and exploring diversity as a critical component.

Course Outcomes of

- Explaining the basic scientific principles and methods.
- Inculcating scientific thinking and awareness among the student.
- Ability to communicate with others in regional language and in English.
- Ability to handle the unexpected situation by critically analyzing the problem. Understanding the issues related to nature and environmental contexts and sustainable development.

B.A./B. Sc. (Mathematics)-I

Course Title: Paper I : Calculus

Course Outcomes:-

1. Gain Knowledge of fundamental concepts of real numbers.
2. Student will be able to understand successive differentiation and integration of Hyperbolic functions.
3. Finding extreme values of function.
4. Introduction to curve tracing and Curvature etc.
5. Learn to solve improper integrals, Beta and Gamma functions.

Course Title: Paper II and Paper V : Ordinary Differential equation and Partial Differential Equation

Course Outcomes

1. Student will be able to solve first order differential equations utilizing the standard techniques for separable, exact, linear, homogeneous, or Bernoulli cases.

2. Student will be able to find the complete solution of a nonhomogeneous differential equation as a linear combination of the complementary function and a particular solution.
3. Student will have a working knowledge of basic application problems described by second order linear differential equations with constant and variable coefficients.
4. Be familiar with Partial differential equation of First and Higher orders.
5. Recognize the major classification of PDEs i.e. Heat, Wave and Laplace's Equation.
6. Introduction to separation of variable method and D'Alemert's solution of PDEs.

Course Title:- Paper III and Paper VI : Coordinate Geometry and Analytic Geometry

Course Outcomes:-

1. Thoroughly study of Conic section i.e. Parabola, Ellipse and Hyperbola.
2. Finding equation in various form of Plane, Line, Sphere, Cones.

Course Title:- Paper IV : Algebra-I

Course Outcomes:-

1. Introduction to different types of matrices
2. Learn to solve system of linear equation.
3. Introduction to Eigen values and Caylay-Hamilton Theorem
4. Learn to find roots of polynomial.
5. Introduction to De Moivre's Theorem and its applications.

B.A./B.Sc.(Mathematics)-II

Course Title:- Paper I : Advanced Calculus

Course Outcome

1. Basic knowledge of continuity and differentiability of function of single variable.
2. To learn Limit, Continuity and Differentiability of functions of several variables.
3. Study of Schwarz's, Young's and Euler's theorem and their applications.
4. Study of Double and triple integrals.

Course Title: Paper II and Paper V : Analysis

Course Outcomes

1. Describe fundamental properties of the real numbers that lead to the formal development of real analysis.
2. Understand Convergence of sequences, Infinite series, Power series and rigorous mathematical proofs of related results.
3. Recognize the difference between point wise and uniform convergence of a sequence of functions.
4. Illustrate the effect of uniform convergence on the limit function with respect to continuity, differentiability, and integrability.
5. Study of Riemann integration and Functions of bounded variations.
6. Students will be able to understand differentiation and integration of vector functions under Vector Analysis.

Course Title :- Paper III and Paper VI : Statics and Dynamics

Course Outcome

1. Thoroughly study of Statics.
2. Study of Varignon's, Lami's and λ-μ Theorems and their applications.
3. Study of friction and Centre of Gravity.
4. To learn Motion with constant and variable acceleration and laws of motion.

5. Understand Simple Harmonic and Relative motion.
6. Concept of Projectiles, Work, Power and Energy.

Course Title: - Paper IV : Numerical Methods

Course Outcome

1. To apply appropriate numerical methods to solve the problem with most accuracy.
2. Using appropriate numerical methods determine approximate solution of linear and non-linear equations.
3. Thoroughly study of Interpolation.

B.A./B.Sc.(Mathematics)-III

Course Title: Paper I : Algebra-I

Course Outcomes

1. Understand the importance of algebraic structure with regard to working within various number systems.
2. Generate groups given specific conditions and homomorphism of groups.
3. Students will be able to define ring and subrings and Ring Homomorphisms.
4. Study of ideals and concept related to ideals.
5. Study of Integral domain, Division ring, Field, Principal Ideal Domain and Euclidean Domains.

Course Title: - Paper II and Paper IV : Discrete Mathematics

Course Outcome

1. Basic knowledge of Relations and Functions.
2. To understand logical concepts and to show logical equivalences by using truth tables and rules in logics.
3. Learn concept related to probability.
4. Thoroughly study of Lattices, Graph Theory and Trees.
5. Study of Recurrence relations, Discrete Numeric and Generating Functions.

Course Title: - Paper III : Algebra-II

Course Outcome

1. Introduction to vector space and subspace.
2. Study of Linear Transformations and Matrices.
3. To Learn Characteristic and Minimal polynomial for linear operators.
4. To understand the importance of algebra of Linear Transformations.
5. Orthogonality and Diagonalization.

Course Title :- Option I and Option III : Mathematical Methods

Course Outcome

1. Thoroughly study of Fourier series.
2. Students can be able to understand Laplace transform and inverse Laplace transform.
3. Study of Fourier Transforms.
4. Applications of Laplace and Fourier Transforms.

Course Title: Option II and Option IV : Number theory

Course Outcome

1. Find quotients and remainders from integer division.
2. Apply Euclid's algorithm and backwards substitution.

3. Understand the definitions of congruence, residue classes and least residues add and subtract integers, modulo n, multiply integers and calculate powers, modulo n.
4. Determine multiplicative inverses, modulo n and use to solve linear congruence**.**
5. Theory of quadratic residue.

Department of B.sc (Non-Medical)

Course Outcome for B.Sc. PHYSICS

ELECTRICITY AND MAGNETISM

- Understanding the concepts of calculus in scalar and vector fields
- Calculation of the electric field using different laws in electrostatics of current
- Analyze the relations between b, h and m
- Understand the laws of electromagnetic induction
- Analyze the value of Maxwell equation- boundary conditions

MECHANICS

- Understand the basic significance of mechanics of a system of particles
- Analyze the basics in different co-ordinate systems
- Understand the definition for centre of gravity in hemisphere, hollow hemisphere etc.,
- Understand the dynamics and gravitation
- Study the behavior of rigid body dynamics
- Understand the results of Michelson Morley experiment , Galilean and Lorentz transformation

WAVES AND VIBRATIONS

On completing the Vibrations and Waves course, students will:

- Understand simple harmonic motion (SHM), be able to derive and solve the equations of motions for physical systems that undergo SHM;
- be able to adapt the general SHM solution for specific initial conditions;

- be able to derive the velocity and acceleration of SHM and the kinetic, potential and total energy of a mechanical system undergoing SHM;
- be able to calculate logarithmic decrement, relaxation factor and quality factor of a harmonic oscillator
- understand and be able to derive and solve the equations for the damped oscillator in the over damped, critically-damped and under damped regimes;
- Solve for the solutions and describe the behavior of a damped and driven harmonic oscillator in both time and frequency domains
- understand and be able to derive and solve the equations for a forced oscillator; understand the concept of resonance and the response of a system (amplitude and phase, power dissipation) as a function of driving frequency and the effects of transients;
- understand and be able to calculate the quality factor Q for damped and driven oscillators;

PHYSICS PRACTICAL-I

- Understand dependence of moment of inertia on distribution of mass
- Study the elastic behavior of materials
- Analyze the conservation of linear momentum and kinetic energy in elastic collisions.
- Perform the procedure as per standard values
- Understand the concepts of self and mutual inductances

QUANTUM PHYSICS

- Understand the old quantum theory
- Perform the theories of quantum mechanics into Schrödinger wave equation
- Understand the application of Schrödinger equation into potential well, barrier
- Analyze the basic functions of operators, Eigen values and Eigen functions
- Solutions of time-independent Schrodinger equation
- Study of quantum theory of Hydrogen atom and many electrons system

OPTICS

- Understand the wave nature of light with Huygens' Principle

- Study the theory and experiment of interference using air wedge, Newton's rings and Michelson interferometer
- Study the theory and experimental past of diffraction by Fresnel's and Fraunhoffer's methods
- Study the theories for production of polarization of light
- Understand the theory and application of microwave, infrared and Raman spectroscopy

LASER

- Understand the basic principle of laser and characteristics
- Understand the theory of types of lasers
- Perform the procedures into applications oriented one
- Understand the basic concepts of optical fibers
- Understand the applications part of optical fiber into communications systems

THERMAL AND STATISTICAL PHYSICS

- Understand the nature of calorimetry by specific heat of solids and law of thermodynamics and entropy
- Analyses of zeroth law of thermodynamics and entropy
- Understanding the low temperature physics
- Analyses thermal conducitivity and black body radiation
- Understanding the statistical methods

PHYSICS PRACTICAL-II

- Study the thermo emf, resistance, behavior of the materials
- Study the phenomena of interference, polarization, diffraction
- Analyze the specific heat capacity, refractive index, as per the standard procedure
- Understand the standard values of the results

CONDENSED MATTER PHSYICS

- Understand the basic concepts of crystal structure
- Study of force between atoms and bonding between molecules

- Analyze the relationship between conductors and insulators and super conductivity
- Understand the properties of semi conductors
- Analyze the relationship between semiconductor devices and understand the applications of semiconductor devices

NUCLEAR AND PARTICLE PHYSICS

- Understand the various properties of nucleus and their energy
- Study of magic numbers and nuclear models
- Analyze the relationship between various types of particles and forces
- Understand the properties of particles like muons, kaons etc.
- Perform the procedures for nuclear fission and fusion

ELECTRONICS

- Understand the basics of diode and working of rectifier circuits and characteristics
- Analyses the characteristics of transistor and transistor biasing circuits
- Perform the procedures for the working of single stage and multistage amplifier
- Analyze the relationship between amplifier and oscillators
- Understand the applications of op-amps i inverting and non inverting modes.

GENERAL PRACTICAL - III

- Study the basic ideas of the p-n junction and their characteristics
- Study the basic working conditions of the various transistors
- Perform the procedure as the laboratory standards
- Understand the applications of Zener Diode
- Exercise on various nuclear counters.

Department of Bachelor of Computer Applications (BCA)

PROGRAM OUTCOMES (POs)

Program: BCA

1. Basic knowledge: An ability to apply knowledge of basic mathematics, science and domain knowledge to solve the computational problems.

2. Discipline knowledge: An ability to apply discipline –specific knowledge to solve core and/or applied computational problems.

3. Experiments and practice: An ability to plan and perform experiments and practices and to use the results to solve computational problems.

4. Tools Usage: Apply appropriate technologies and tools with an understanding of limitations.

5. Profession and society: Demonstrate knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to professional practice.

6. Environment and sustainability: Understand the impact of the computational solutions in societal and environmental contexts, and demonstrate the knowledge and need for sustainable development.

7. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the professional practice.

8. Individual and team work: Function effectively as an individual, and as a member or leader in diverse/multidisciplinary teams.

9. Communication: An ability to communicate effectively.

10. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the context of technological changes

Program specific Outcomes

On completion of BCA degree the graduates will be able to

- Understand, analyze and develop computer programs in the areas related to

• algorithm, system software, web design and networking. Apply the standard Software Engineering strategies in software project

- development. Apply innovative ideas and solutions to existing problems
- Able to function effectively on teams to accomplish shared computing
- design, evaluation and implementation of goals. Able to work as a responsible computer professional with professional
- ethics.

COURSE OUTCOMES:

Fundamentals of Information Technology

Upon completion of this course, students will be able to:

Understand basic computer hardware architecture and be able to design fundamental logic

- circuits. Convert between different number systems and describe some different codes.
- Understand the functions of basic digital combinatorial circuits and sequential circuits.
- Understand the fundamental hardware components that make up a computer's hardware and
- the role of each of these components. Understand the role of CPU and its components.
- Learn essential IT support skills including installing, configuring, securing and
- troubleshooting operating systems and hardware. Gain hands-on experience of working in Microsoft products such as: MS Word, MS Excel and MS Powerpoint.

Programming Fundamentals using C

Upon completion of this course, students will be able to: Learn how to build by the algorithms for problems.

- Learn how to create pictorial representations of the program.
- Learn how to apply logic for problems.
- Enhance their programming skills.

Digital Electronics

- express basic concepts and logic circuiıts
- explains positive and negative logic states,TTL,MOS and CMOS integrated circuıts properties
- explains number systems and convert number systems.
- explains logical AND,OR,NOT,NAND,NOR,EX-OR,EX-NOR functions
- can show the simplification of logical statements
- explains the simplification of logical statements with using boolean rules and de-morgan thorems
- writes boolean equation by using truth table and shows its logic circuıts.
- writes boolean equation by logic circuıts and shows its truth table.
- explains the simplification of logical statements with karnaugh maps.

Data Structures

Upon completion of this course, students will be able to:

- Have a comprehensive knowledge of the data structures and algorithms on which file
- structures and data bases are based. Understand the importance of data and be able to identify the data requirements for an

- application. Have an understanding and practical experience of algorithmic design and implementation.
- Have practical experience of developing applications that utilize databases.
- Understand the issues involved in algorithm complexity and performance.

Computer System Organization and Architecture

- given an introduction to digital computer and their fundamental architectures
- Able to define the function units of computer architecture
- Input and Output peripheral devices and their communication with the rest of the computer components
- Able to find the various instruction type and addressing modes used for programming
- Functionalities and organization of processor units and their types.
- Able to understand the basic programming unit and execution of instruction COS4: (i)

Object Oriented Programming using C++

Upon completion of this course, students will be able to:

- Apply C++ features to program design and implementation.
- Explain object-oriented concepts and describe how they are supported by C++ including
- identifying the features and peculiarities of the C++ programming language. Use C++ to demonstrate practical experience in developing object-oriented solutions.
- Design and implement programs using C++.
- Analyze a problem description, design and build object-oriented software using good coding
- practices and techniques. Implement an achievable practical application and analyze issues related to object-oriented
- techniques in the C++ programming language.

Fundamentals of Database Management System

- Understand database concepts and structures.
- Understand the objectives of data and information management.
- Understand data modeling and database development process.
- Construct and normalize conceptual data models.
- Implement a relational database into a database management system.

Computer Networks

- Learn the need to create a Network.
- Learn about different layers and protocols present in those layers.
- Learn to configure the network devices.
- Learn about IP -Addressing.
- Learn about Network Security.

Management Information Systems

- To prepare students in understanding important MIS and ERP concepts.
- Awareness of utilization of business
- Knowledge about the system concepts used in information system.
- To know the information systems in business and management.
- Define the database management system.
- Write up the functional management information system.

Relational Database Management Systems with Oracle

- Master the basic concepts and appreciate the applications of database systems.
- Master the basics of SQL and construct queries using SQL.
- Be familiar with a commercial relational database system (Oracle) by writing SQL using the system.
- Be familiar with the relational database theory, and be able to write relational algebra expressions for queries.

- Mater sound design principles for logical design of databases, including the E-R method and Normalization approach.
- Usage of DML and TCL statements.
- Master the basics of PL/SQL Composite Data types like Procedures, Functions, Packages and Triggers.

System Analysis and Design

• Understand the steps in software development.

• Know the tools for System Analysis and design

Java Programming

- Understand the basic oops concept .Java evaluation and implementation overview of java
- Know operators and expressions, decision making and branching, Decision making and looping
- Able to understand classes and methods, array strings and vectors, interface concept instead of multiple inheritances
- Packages of java, multithreaded programming contains synchronization, managing errors and exceptions handling
- Able to perform applet programming designing HTML, graphic programming

Web Designing using HTML and DHTML

- Understand the basic working of Internet and its main services.
- Create web pages using HTML.
- Understand, analyze and apply the role of languages like HTML, DHTML,CSS, XML, JavaScript, VBScript, ASP, PHP and protocols in the workings of the web and web applications. Analyze a web project and identify its elements and attributes in comparison to traditional projects.
- Understand, analyze and create web pages using HTML, DHTML and Cascading Styles Sheets.

E-Commerce

- The objective is to expose the students to electronic modes of commercial operations.
- To prepare students to acquire the knowledge of recent trends in e-commerce. Also students are prepared for website management which can helpful in industry.

Operating Systems

• Learn different types of operating systems along with concept of file systems and CPU scheduling algorithms used in operating system.

• Provide students knowledge of memory management and deadlock handling algorithms.

• Implement various algorithms required for management, scheduling, allocation and communication used in Operating System

Software Engineering

- Know develop the software project
- Learn developing methodology of software project
- Understand tools and techniques of software engineering
- Verify and validate the problem of software programming
- Maintain the quality of software project

Web Designing using ASP.NET

- Understand .NET Framework and describe some of the major enhancements to the new
- version of C#. Learn to create applications using Microsoft Windows Forms.
- Learn to create applications with the use of ADO. NET.
- Learn how to work with XML Documents.
- Use Crystal Reports that may help in creating reports related to the project.

PROGRAM OUTCOMES (POs)

Provides technology-oriented students with the knowledge and ability to develop• creative solutions. Develop skills to learn new technology.• Apply computer science theory and software development concepts to construct• computing-based solutions. Design and develop computer programs/computer-based systems in the areas• related to algorithms, networking, web design, cloud computing, Artificial Intelligence, Mobile applications.

Program specific Outcomes

- Demonstration of the knowledge of advanced programming skills and distributed environmental need for sustainable development.
- Ability to design and develop hardware and software in emerging technology environments.
- Ability to solve problems using the techniques of data analytics like pattern recognition and knowledge discovery.
- Ability to work out effective and efficient real time solutions using acquired knowledge in various domains.
- Apply the learning from the courses and develop applications for real world problems.

COURSE OUTCOMES:

Semester 1

Introduction to Information Technology

- Understand different Computer Peripherals
- Understand and apply different Software components
- Learn WWW & Browsers

Computer Programming using C

After completing this course, students will be able to

- Create and initialize variables, constant, arrays, pointers, structures and unions.
- Manipulate values of variables, arrays, pointers, structures, unions and files

- Create the function that can receive variables, arrays, pointers and structures
- Define functions that can receive variables, arrays, pointers and structures.
- Create open, read, manipulate, write and close files.
- Select and use appropriate data structures for the given problems.

Computer Organization and Architecture

- given an introduction to digital computer and their fundamental architectures
- Able to define the function units of computer architecture
- Input and Output peripheral devices and their communication with the rest of the computer components
- Able to find the various instruction type and addressing modes used for programming
- Functionalities and organization of processor units and their types.
- Able to understand the basic programming unit and execution of instruction

Operating Systems

- To design and understand the following OS components: System calls,Schedulers, Memory management systems, Virtual Memory and Paging systems.
- To evaluate, and compare OS components through instrumentation for performance analysis.
- To analyze the various device and resource management techniques for timesharing and distributed systems
- To develop and analyze simple concurrent programs using transactional memory and message passing, and to understand the trade-offs and implementation decisions

Semester2

Object Oriented Programming Using C++

- Learn the functional units and classify types of computers, how they process information and how individual computers interact with other computing systems and devices.

- Understand an operating system and its working, and solve common problems related to operating systems
- Study to use the Internet safely, legally, and responsibly
- Understand Object oriented approach for finding solutions to various problems with the help of C++ language.
- Create computer based solutions to various real-world problems using C++

Data and File Structures

- Choose appropriate data structure as applied to specified problem definition.
- Handle operations like searching, insertion, deletion, traversing mechanism etc. on various data structures.
- Apply concepts learned in various domains like DBMS, compiler construction, computer graphics etc.
- Use linear and non-linear data structures like stacks, queues , linked list etc.
- Develop his/her logics and programming skills

Visual Basic

Upon successful completion of this course, students will be able to

- Design, create, build, and debug Visual Basic applications.
- Explore Visual Basic‘s Integrated Development Environment (IDE).
- Implement syntax rules in Visual Basic programs.
- Explain variables and data types used in program development.
- Apply arithmetic operations for displaying numeric output.
- Write and apply decision structures for determining different operations.
- Write and apply loop structures to perform repetitive tasks.
- Write and apply procedures, sub-procedures, and functions to create manageable code.

RDBMS and Oracle

- Understand the basic concepts of RDBMS.
- Formulate, using SQL, solutions to a broad range of query and data update problems.

- Demonstrate an understanding of normalization theory and apply such knowledge to the normalization of a database.
- Apply the concept of Transaction Management in RDBMS.

Semester III

Web Technology

- Understand the basics of Internet and Web Services.
- Describe and differentiate Programming Language and Markup Language
- Connect various web pages and web sites together.
- Capture user input from the remote users.
- Learn connectivity concepts of Front End and Back End.

Java Programming

- Understand the basic oops concept .Java evaluation and implementation overview of java
- Know operators and expressions, decision making and branching, Decision making and looping
- Able to understand classes and methods, array strings and vectors, interface concept instead of multiple inheritances
- Packages of java, multithreaded programming contains synchronization, managing errors and exceptions handling
- Able to perform applet programming designing HTML, graphic programming

Software Engineering

- Aware about the engineering approach to analysis, design and built the software
- Understand the phases and activities involved in the software life cycle models

- Analyse problems, and identify and define the computing requirements appropriate to its solution.
- Apply design and development principles in the construction of software systems of varying complexity
- Apply current techniques, skills, and tools necessary for computing practice.
- Apply various testing techniques to test a software
- Measure various characteristics of software.
- Compare and choose between maintenance and reengineering of software, when there is requirement to make changes in the software.

Computer Networks

- Familiar with the different Network Models
- Understand different protocols working at Medium Access Sublayer.
- Learn the concept of network routing through algorithms.
- Learn and understand Internet protocols and network security.

Semester IV

Computer Graphics

- Demonstrate an understanding of contemporary graphics hardware.
- Create interactive graphics applications in C++ using one or more graphics application programming interfaces.
- Write program functions to implement graphics primitives.
- Write programs that demonstrate geometrical transformations.
- Demonstrate an understanding of the use of object hierarchy in graphics applications.
- Write program functions to implement visibility detection.

- Write programs that demonstrate computer graphics animation.
- Write programs that demonstrate 2D image processing techniques.

Linux Administration

- To familiarize students with the Linux environment
- To learn the fundamentals of shell scripting/programming
- To familiarize students with basic linux administration

Research Methodology

- Formulate a real-world problem as a mathematical programming model
- Understand the theoretical workings of the simple method for linear programming and perform iterations of it by hand
- Understand the relationship between a linear program and its dual, including strong duality and complementary slackness
- Perform sensitivity analysis to determine the direction and magnitude of change of a model‘s optimal solution as the data change
- Solve specialized linear programming problems like the transportation and assignment problems
- Solve network models like the shortest path, minimum spanning tree, and maximum flow problems

Artificial Intelligence

- To analyze and formalize the problem as a state space, graph, design heuristics
- Ability to represent solutions for various real-life problem domains using logicbased techniques
- Understand the numerous applications and huge possibilities in the field of AI
- Ability to express the ideas in AI research and programming language
- related to emerging technology.

POST GRADUATE DIPLOMA IN COMPUTER APPLICATIONS (PGDCA)

PROGRAM OUTCOMES (POs)

- Computational Knowledge: Apply knowledge of computing fundamentals, computing specialisation, mathematics, and domain knowledge appropriate for the computing problems and requirements.
- Design /Development of Solutions: Design and evaluate solutions for computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.
- Modern Tool Usage: Select, adapt and apply appropriate techniques, resources, and modern computing tools to computing activities, with an understanding of the limitations.
- Professional Ethics: Understand and commit to professional ethics and cyber regulations, responsibilities, and norms of professional computing practices.
- Life-long Learning: Recognize the need, and have the ability, to engage in independent learning for continual development as a computing professional.
- Communication Efficacy: Communicate effectively with the computing community, and with society at large, about computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions.
- Societal and Environmental Concern: Understand and assess societal, environmental, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to professional computing practices.
- Individual and Team Work: Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary environments.

Program specific Outcomes

- The ability to understand the evolutionary changes in computing, apply standard practices and strategies in software project development using open-ended programming environments to deliver a quality product for business success, real world problems and meet the challenges of the future.

- The ability to understand, analyse and develop computer programs and algorithms in the areas related to Machine learning, Artificial Intelligence to develop system software, multimedia and web design on the basis of data analytics, and high performance networking that foster the needs of future Internet of Things optimized solutions.

COURSE OUTCOMES:

Semester 1

PGDCA-101 Fundamentals of Information Technology

- To provide the practical skill in developing the simple applications.
- To enrich the students knowledge in the recent trends that the industry is seeking for.
- To impart comprehensive knowledge with equal emphasis on theory and practices.
- To enhance the employability, the students are to be stimulated to work in a team

PGDCA-102 Operating Systems

- Identify the role of different components of operating systems.
- Implement various strategies for task management in operating systems.
- Explain various implementation issues in operating systems.
- Discuss how various resource managements are implemented in operating systems.

PGDCA-103 Problem Solving using C

- Understand the fundamentals of C programming. Students will acquire knowledge and skills of programming.

- Students will be able to develop logics which will help them to create programs.
- applications in C. Also by learning the basic programming constructs they can easily switch over to any other language in future.

Semester 2

PGDCA-201 Database Management System

- It aims at acquainting students better with the basics of DBMS, different Architectural Models for DBMS, Normalization of data, Concurrency control problems and its management, Protection, Security and recovery aspects of databases along with practical knowledges of databases using SQL and PL/SQL. The key goal is to prepare students for a professional career in the field of data
- administration and database design. To get acquaint students with good knowledge of DBMS. During the course, students
- will learn about database design and database handling activities. Learn how to identify an organization's information processing requirements.
- Learn how to develop a detailed specification for an information system that can fulfil• these requirements. Understand that the successful systems analyst needs to have a broad understanding of organizations, organizational culture, organizational change, organizational operations, and business processes.

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PGDCA-202 Introduction to Computer Network, Internet and E-Commerce

- Familiar with the different Network Models.
- Understand different protocols working at Medium Access Sublayer.

PGDCA-203 Object-oriented Programming using C++

- Understand Object oriented approach for finding solutions to various problems with the help of C++ language.

- To understand Object oriented approach for finding Solutions to various problems with the help of C++ language.
- Create computer based solutions to various real-world problems using C++

Post Graduation Departments

Department of M.A Music (Vocal)

1. The student is able to give a practical demonstration of ragas.
2. He studies about the theoretical aspects of the prescribed ragas.
3. He comes to know about the historical background of the ragas that we sing.
4. He studies about the music of various nations of the world .
5. He studies about the evolution and development of music concepts.
6. He makes an analytical study of the Aesthetic approaches in Indian music.
7. He gains knowledge about the multi-dimensional values of Indian music .
8. He understands the concept of Aesthetic and its appreciation in Indian music.

M.A. Semester -1

Scientific & Accoustical Study of Hindustani music (vocal)

1. The student learns about voice culture in the context of Hindustani music.
2. He studies the correct intonation of swaras.
3. He learns about technical terms of music.
4. He studies acoustical terms: vibration, Pitch, intensity.

History of Indian music

1. The student studies about life sketch and contribution of music scholars and musicians.
2. He studies musical references mentioned in Shri Guru Granth Sahib.
3. He studies about the development of Indian music in various periods.
4. He studies about gharanas in Indian classical music .
5. He studies about different gayan shallies.

Stage Performance

The student is able to give a practical demonstration of ragas for a period at least half an hour.

Viva voce

The student is able to demonstrate various aspects of ragas and their differentiation .

M.A. Semester -2

Scientific & Accoustical Study of Hindustani music (vocal)

1. He studies acoustical terms: Frequency, beats, echo, resonance, overtones.
2. He studies about studio recording techniques.
3. He studies comparison of Hindustani and karnatak system of music.
4. He learns about savar samvad .
5. He learns about melody and harmony.

History of Indian music

1. The student studies about life sketch and contribution of music scholars and musicians.
2. He studies musical references mentioned in Shri Guru Granth Sahib.
3. He studies about the development of Indian music in various periods.
4. He studies about gharanas in Indian classical music .
5. He studies about different gayan shallies.

Stage Performance

The student is able to give a practical demonstration of ragas for a period at least half an hour.

Viva voce

The student is able to demonstrate various aspects of ragas and their differentiation .

M.A. Semester -3

Aesthetical study of Hindustani music

1. The student studies relationship of music with other fine arts.
2. He studies Role of classical music in film music.
3. He studies forms of Punjabi folk music.
4. He studies about the importance of electronic media in promotion of music
5. He studies principles of aesthetics with particular reference to music.

Raag and taal: their physics and aesthetics

1. The student studies about raag and its concept.
2. He studies about raag classification.
3. He learns about time theory of ragas.
4. He learns about laya and layakaries.

Stage Performance

The student is able to give a practical demonstration of ragas for a period at least half an hour.

Viva voce

The student is able to demonstrate various aspects of ragas and their differentiation.

M.A. Semester -4

Aesthetical study of Hindustani music

1. The student studies about the concept of rasa in Indian music .
2. He studies about modern trends in classical music.
3. He learns about the relation of music with religion.
4. He learns about the relation pf music with philosophy.

Raag and taal: their physics and aesthetics

1. The student studies about the raag dhyan.
2. He studies about the raag classification.
3. He studies about the samprakirtik raga.
4. He learns about tabla and its various styles.

5. He learns about percussion instruments.

Stage Performance

The student is able to give a practical demonstration of ragas for a period at least half an hour.

Viva voce

The student is able to demonstrate various aspects of ragas and their differentiation.

Department of sociology

M.A

Programme outcome:

Sociology: Sociology as a subject seeks various aspects to study about human social behaviour. It refers to social behaviour, society, patterns of social relationships, social interactions, everyday life,
phenomenology, etc. that surrounds life of human being. It also studies norms, values, ethics, social status, stratifications, social change as well as social disorder in the form of crime, deviance, agitation and revolution. Further sociologist utilizes the researches conducted by social researchers for the betterment of society.

Programme specific outcome:

- To understand basic concepts of sociology and develop the understanding the perspectives of micro and macro sociology.
- To study comprehend features of Indian society.
- To develop the understanding of various aspects regarding social science research with the aim of methodology, making research proposal, field work and report writing.
- To understand the sociology of development and policy making skills for extension planners.
- To understand several facets of industry, population studies.

Sr. no.	Subject name Semester-I	Course outcome
Paper I.	General sociology	General sociology includes the study of conditions, forms, processes, implication of human association. General sociology throws light on various factors of human behaviour such as association, communities, marriage, family etc.
Paper II.	Sociological and Anthropological theories: I	Theories are the essential part of sociology. Students can apply various theories and concepts to contemporize real life events or topic of social importance.
Paper III.	Indian society	To elaborate the concept of Indian society. Various quays such as Ashram Dharma Varna system, caste system etc. are included to make knowledge vast about historical fact of Indian society.
Paper IV.	Methodology of social research-I	Students are able to design implements and write up a high quality original academic or applied research in a thorough, rigorous and consistent manner, of a quality to merit publication in peer reviewed journals.
	Semester- II	
PAPER I.	Sociological and Anthropological theories-II	Students can integrate sociological and anthropological knowledge and perspective to an understanding of post graduate. To select the appropriate sociological and anthropological research methods to study socio-cultural phenomena.
Paper II.	Social change and social problems in India	This paper will describe about social and cultural change in Indian society. It will provide deep insight about cultural process. It will enhance the theoretical understanding to study various social problems
Paper III.	Perspectives on Indian society	

Paper IV.	Methodology of social research –II	Students are familiar with major methods of social research such as qualitative and quantitative research methods.
	SEMESTER - III	
Paper I.	Sociological and anthropological theories-III	It describes how sociology and anthropology interact with one another and contribute to various interdisciplinary conversations. It will make the cognitive skills better in students.
Paper II.	Rural sociology in India	It provides importance, origin and development of rural sociology in India. It throws light on rural social structure, economic structure, political structure and development
Paper III.	Environmental Sociology	It explains the concept of environment and environmental sociology. It describes theoretical perspectives of ecology. It elucidates views of sustainable development. It helps in identify issues about environment.
Paper IV.	Political Sociology	It provides acquaintance about emergence, nature and various theoretical approaches of Political sociology.it gives knowledge about power, elites with reference to Mosca and Mills. It also describes about Indian political system.
	SEMESTER – IV	
Paper I.	Sociological and anthropological theories-IV	It provides substantive knowledge of contemporary social issues. Along with this, it provides existing knowledge of social debates and phenomena.
Paper II.	Sociology of development	It gives immense knowledge about development and underdevelopment. It explains various theoretical perspectives of World bank. WTO, IMF, UNO etc. It

		provides vast concept about paths of development.
Paper III.	Gender and society	It gives broader concept of gender by providing sociological analysis. It throws light on concepts such as feminism, women policies and relation between gender and development.
Paper IV.	Sociology of Religion	Various approaches to study religion. Theories provides vast concept of totemism, of Indian society as well as tribal society. Main aspects of religion such as leadership, organisation, religion in modern society are included.

MA-English

- Educate students in both the artistry and utility of the English language through the study of literature and other contemporary forms of culture.

- Provide students with the critical faculties necessary in an academic environment-on the job, and in an increasingly complex, interdependent world.
- Assist students in the development of intellectual flexibility, creativity, and cultural literacy so that they may engage in life-long learning.
- Students should be familiar with representative literary and cultural texts within a significant number of historical, geographical, and cultural contexts.
- Students should be able to apply critical and theoretical approaches to the reading and analysis of literary and cultural texts in multiple genres.
- Students should be able to identify, analyze, interpret and describe the critical ideas, values, and themes that appear in literary and cultural texts and understand the way these ideas, values, and themes inform and impact culture and society.

Course Outcomes of: MA-English-Sem-1

Medieval and Renaissance Poetry-Core course-I

- To expose students to some of the best samples of English Poetry and to make them understand creative uses of language in English Poetry.
- To make the students see how English poetry expresses the ethos and values of culture.
- To introduce students to some advanced areas of language study.

Classical and Elizabethan Drama-Core Course-II

- To encourage students to make a detailed study of a few sample masterpieces of English Drama from different parts of the world.
- To develop interest among the students to appreciate and analyze drama independently.

Rise of the novel-Core Course-III

- To introduce students to the basics of novel as a literary form.
- To make students aware of different types and aspects of novel.
- To expose students to some of the best examples of novel.

Shakespearean Drama-Elective Course-IV

- Identify and discuss qualities of Shakespeare's earlier texts and the issues of interpretation.
- Discuss the development of Shakespeare's art and contribution to literature and culture.
- Read analytically to determine Shakespeare's purpose, historical and cultural perspectives.

Course Outcomes of: MA-English-Sem-2

Literary Criticism from Johnson to Eliot-Core Course-V

- To introduce students to the nature, function and relevance of literary criticism and theory.
- To encourage them to deal with highly intellectual and radical content and thereby develop their logical thinking and analytical ability.
- To develop sensibility and competence in them for practice.

Poetry from Neo- Classical to Victorian age-Core Course-VI

- To familiarize students with excellent pieces of poetry in English so that they realize the beauty and communicative power of English.
- To develop students' interest in reading literary pieces.

Nineteenth Century Fiction-Core Course-VII

- To make the student thorough with the main writers and their works of the literary period.
- To introduce works of different authors and their styles.
- To make the students capable of analyzing these works.

Modern Drama-Elective Course-VIII

- To introduce students to major movements related to drama, works and dramatists through study of selected texts.
- To create literary sensibility for appreciation in students and expose them to artistic and innovative use of language by writers and to various worldviews.

Department of M.A History

Program outcome:

1. History is a great domain to pursue,gradually it is becoming quite a popular subject. Post Graduation in history paves way to different government jobs such as SSC, UPSC, IBPS, Bank, PO etc.Students can work as a Manager, Administrator, Lecturer, Political Content Writer/ Journalist and Archaeologist etc.
2. Students will have the ability to apply historical methods to evaluate critically the past and how historians and others have interpreted it. M.A in History graduates can get a doctorate degree with a Ph.D. in History. They can also clear the NET examination.
3. Students should understand the basic skills that historians use in research and writing and also understand the basic tools of historical analysis and Participate knowledgeably in the affairs of the world around them, drawing upon understandings shaped through reading, writing, and lectures concerning the past.
4. Students should understand the value of diversity. Interpret, evaluate, compare, and critique historiographical arguments and also grasp the complexities of historical causation.
5. Students will distinguish between Primary and Secondary sources and identify and evaluate evidence and Students will produce their own historical analysis of documents and develop the ability to think critically and historically when discussing the past.
6. Students will demonstrate in discussion and written work their understanding of different peoples and cultures in past environments and of how those cultures changed over the course of the centuries.
7. Students will demonstrate in written work and class discussions the ability to recognize and articulate the diversity of human experience, including ethnicity, race, language, situations, and societies gender, as well as political, economic, social, and cultural structures over time and space.

Course Outcome:

M.A. Semester -I

Programme Specific Outcome: Students will have the ability to apply historical methods to evaluate critically the past and how historians and others have interpreted it.

PAPER-I (COMPULSORY):HISTORY OF PUNJAB (1469 -1675)

The course inculcates the knowledge of traditions in Punjabi society and guides the students to analyze it with reasons and logics.

PAPER- II (OPTION-1): HISTORY OF THE WORLD (1500-1815)

The course imparted knowledge to the students about the political history of the world during the mentioned period in an analytic way.

PAPER-III (OPTION-I): HISTORY OF THE WORLD (1871 -1919)

The course imparted knowledge to the students, the political transformations of the modern world that took place from the sixteenth century till the end of the 1919.

PAPER- IV (OPTION-I): THEORY AND RESEARCH METHODOLOGY

The course introduced to the students 'what exactly is history'. It teaches the students, how to study history. The acquainted the students with the methodological framework within which historians work.

M.A. Semester –II

Programme Specific Outcome: Students will be able to demonstrate broad knowledge of historical events and periods and their significance of Punjab and modern World History.

PAPER-I (COMPULSORY): HISTORY OF PUNJAB (1675-1799)

The course inculcates the knowledge of traditions in Punjabi society and guides the students to analyze it with reasons and logics.

PAPER-II (OPTION-I): HISTORY OF THE WORLD (1815-1870) With an emphasis on Europe, the course will impart knowledge to the students regarding the political transformations of the modern world that took place from the sixteenth century till the end of the 1870.

PAPER-III (OPTION-I): HISTORY OF THE WORLD (1919-1991)

The course will impart knowledge to the students about the political history of the world since the end of the First World War focusing on the change and continuity over time and

space. The course will impart knowledge on the economic developments of the said period in an analytic way.

PAPER-IV (OPTION-I):THEORY AND RESEARCH METHODOLOGY

The students will get knowledge about various research methods, techniques of sample design with the methodological framework within which historians work..

M.A. Semester -III

Programme Specific Outcome: Students will be able to demonstrate broad knowledge of historical events and periods and their significance of Punjab and Modern Indian History.

PAPER-I (COMPULSORY): HISTORY OF PUNJAB (1799-1849)

The course will inculcate the knowledge of Punjabi history and culture. Students will be guided to analyze it with reasons and logic.

GROUP :C- MODERN INDIA

PAPER II: HISTORY OF INDIA FROM 1707-1772

The students will gain knowledge regarding the historiography of the Mughal decline and get information regarding various theories which help them to better understand the historical events.

PAPER III: HISTORY OF INDIA FROM 1818-1947

The students will be able to understand the significance of 1818 in modern Indian history. During this course, they become aware of the process and phases of modernization in Indian history.

PAPER IV:NATIONAL MOVEMENT IN INDIA 1858-1930 AND CONSTITUTIONAL DEVELOPMENT

The students will attain knowledge of the emergence and growth of political consciousness among Indian masses during the above mentioned period.

M.A. Semester -IV

Programme Specific Outcome: Students will be able to demonstrate broad knowledge of historical events and periods and their significance of Punjab and Modern Indian History.

PAPER-I (COMPULSORY): HISTORY OF PUNJAB 1849-1947

The course will inculcate the knowledge of Punjab history and culture .Students will be guided to analyze it with reasons and logic.

GROUP : C- MODERN INDIA

PAPER II: HISTORY OF INDIA FROM 1772-1818

The student will able to understand the agrarian polices and constitutional development under British rule with special emphasis on lord Hasting, Wellsley and lord Cornwallis.

PAPER III: HISTORY OF INDIA FROM 1818-1947

The students will gain the knowledge of British Educational policies, socio-religious reform movements,the condition of depressed class and role of reformers to improve their position in society.

PAPER IV : NATIONAL MOVEMENT IN INDIA AND CONSTITUTIONAL DEVELOPMENT 1930-1947.

The students will gain the knowledge of later phase of National movement with emphasis on Gandhian movements.

DEPARTMENT OF B.VOC

Bachelor of Vocation (B.Voc.) is launched under the scheme of University Grants Commission for skill development based on higher education leading to Bachelor of Vocation (B.Voc.) Degree,with multiple exits as Certificate/Diploma/Advanced Diploma/Degree under the National Skill Qualification framework (NSQF).The B.Voc. Programme incorporate specific job roles and their National Occupational Standards along broad based general education. B.Voc. Programme has been designed as per National Skill Qualification Framework (NSQF) emphasizing on skill based education. The B.voc Program is for duration of three years consisting of six semesters and is judicious mix of skills relating to professional education and general education on credit based system.

The Objectives of B.Voc degree Programmes are

1. To provide judicious mix of skills relating to a profession and appropriate content of general education.
2. To ensure that the students have adequate knowledge and skills, so that they are work ready at each exit point of the program
3. To provide flexibility to students by means of pre- defined entry and multiple exit points.
4. To integrate NSQF within the undergraduate level of higher education in order to enhance employability of the graduates and meet industry requirements. Such graduates apart from meeting the needs of local and national industry are also expected to be equipped to become part of the global workforce
5. To provide vertical mobility to students coming out of a) 10+2 with vocational subjects and b) Community Colleges.

Course Outcome

B.Voc. Retail Management & IT

B.Voc in Retail offers a judicious mix of skills related to Retail Operations along with appropriate content for General Education. This course is concentrated on making the students “ready to work” for different retail industries enhancing their employability. This course combines vocational and management concepts. The course has essentially been

designed for students wishing to enhance their employability. The Curriculum in each of the semester/years of the programme will be a suitable mix of general education and skill development components. The General Education Components shall have 40% of the total credits and balance 60% credits shall be of skill components. This course facilitates such students in learning, earning and growing professionally.

General Education

C.O. No.	Name of Course	Description of Course outcome
CO-1	Functional Punjabi, General English & Workshop	It develops effective communication on complex management activities with the management community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations and give and receive clear instructions. Workshop develops Oral Communication(Internal & External), Professional Skills Personal Hygiene & Grooming, Job Interview readiness, Planning & Organizing (in capacity of the Role) Problem Solving
CO2	Introduction of Marketing Management & Brand Management	It familiarizes the students about marketing and brand concepts and contemporary issues and its Philosophies. It develops ability to understand the changing marketing environment and get knowledge of different consumer and business buying behavior.
CO3	Information Technology & its Practical	It helps to understand the computer fundamentals, Input & output devices, memories, languages and number system in computer. It also focused on application of information Technology and Trends.
CO4	Retail Management	It familiarizes the students about retail formats theories and models and operations of retail stores. It develops understanding of retail merchandising.

CO5	Office Automation and its Practical	This course helps to learn MS Word, MS PowerPoint, and MS- EXCEL. The practical will comprise of exercise to what is learnt under this course.
CO6	Sales Management & Distribution	It familiarizes the students about sales and distribution concepts, theories and process. It develops ability to understand the sales ethics and distribution process.
CO7	Internet and E-Commerce	It helps to understand Electronic commerce

		and trends of advertising and marketing on the internet.
CO8	Consumer Buying Behaviour	This subject enhances awareness about role of consumer in present scenario and the factors shaping the behavior of consumers. It is helpful to understand key concepts and theories of it.
CO9	Information Technology for Retail Management	This course makes students familiar with computer environment & operating systems and applications of internet in retail sector, and also helps to introduce students with many softwares used in retail industry.
CO10	Business Research Methodologies	This subject develops understanding about concept of research methodology and judge the reliability and validity of experiments to perform exploratory data analysis. It also sharpens the awareness to use parametric and non- parametric hypothesis tests.
CO11	Structural Programming & Desktop Publishing	The students after completing the course will be able to prepare a document & publishing by using DTP Program.
CO12	Training Project and Viva-Voca	It helps students to develop a thorough understanding of the chosen subject area and demonstrate the ability to critically assess/ interpret data. It creates an ability to effectively communicate knowledge in a scientific manner.

Skill Components

The curriculum is designed in a manner that at the end of 6 months, year-1, year-2 and year-3 students are able to meet level 4, 5, 6 and 7 of NSQF, respectively

LEVEL	Eligibility for the job	Job Profile
NSQF Level-4	Sales Associate	It is the entry level post of retail business. But as every retail shop is completely dependent upon the sales they get, this is one of the important posts in this profession. To be a good sales person, one should have good knowledge about the products, the shop, the customers etc.

NSQF Level-5	Team Leader	A retail team leader is a person who holds a supervisory position directing the sales team in the retail environment. It is his/ her job to help implement a company's sales strategy and ensure that the rest of the sales team adheres to these guidelines.
NSQF Level-6	Departmental Manager	retail department manger organizes and maintains store merchandise according to the merchandising layout plan, also known as a planogram.
NSQF Level-7	Store Manager	Store Manager sometimes called General Manager or Store Director, are responsible for managing an individual store and its day-to-day functioning. The store manager is in charge of the employees of the store and he himself may report to a District or Area manger or the store's owner.

Program Outcome

Bachelor of Vocation (B.Voc.) is launched under the scheme of University Grants Commission for skill development based on higher education leading to Bachelor of Vocation (B.Voc.) Degree,with multiple exits as Certificate/Diploma/Advanced Diploma/Degree under the National Skill Qualification framework (NSQF).The B.Voc. Programme incorporate specific job roles and their National Occupational Standards along broad based general education. B.Voc. Programme has been designed as per National Skill Qualification Framework (NSQF) emphasizing on skill based education. The B.voc Program is for duration of three years consisting of six semesters and is judicious mix of skills relating to professional education and general education on credit based system.

The Objectives of B.Voc degree Programmes are

1. To provide judicious mix of skills relating to a profession and appropriate content of general education.
2. To ensure that the students have adequate knowledge and skills, so that they are work ready at each exit point of the program
3. To provide flexibility to students by means of pre- defined entry and multiple exit points.
4. To integrate NSQF within the undergraduate level of higher education in order to enhance employability of the graduates and meet industry requirements. Such graduates apart from meeting the needs of local and national industry are also expected to be equipped to become part of the global workforce
5. To provide vertical mobility to students coming out of a) 10+2 with vocational subjects and b) Community Colleges.

Course Outcome

B.Voc. Retail Management & IT

B.Voc in Retail offers a judicious mix of skills related to Retail Operations along with appropriate content for General Education. This course is concentrated on making the students “ready to work” for different retail industries enhancing their employability. This course combines vocational and management concepts. The course has essentially been designed for students wishing to enhance their employability. The Curriculum in each of the semester/years of the programme will be a suitable mix of general education and skill development components. The General Education Components shall have 40% of the total

credits and balance 60% credits shall be of skill components. This course facilitates such students in learning, earning and growing professionally.

General Education

CO1: Functional Punjabi, General English & Workshop- It develops effective communication on complex management activities with the management community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations and give and receive clear instructions.

Workshop develops Oral Communication(Internal & External), Professional Skills Personal Hygiene & Grooming, Job Interview readiness, Planning & Organizing (in capacity of the Role) Problem Solving

CO2: Introduction of Marketing Management & Brand Management- It familiarizes the students about marketing and brand concepts and contemporary issues and its Philosophies. It develops ability to understand the changing marketing environment and get knowledge of different consumer and business buying behavior.

CO3: Information Technology & its Practical -It helps to understand the computer fundamentals, Input & output devices, memories, languages and number system in computer. It also focused on application of information Technology and Trends.

CO4: Retail Management- It familiarizes the students about retail formats theories and models and operations of retail stores. It develops understanding of retail merchandising.

CO5: Office Automation and its Practical-This course helps to learn MS Word, MS PowerPoint, and MS- EXCEL. The practical will comprise of exercise to what is learnt under this course.

CO6: Sales Management & Distribution-It familiarizes the students about sales and distribution concepts, theories and process. It develops ability to understand the sales ethics and distribution process.

CO7: Internet and E-Commerce-It helps to understand Electronic commerce and trends of advertising and marketing on the internet.

CO8: Consumer Buying Behaviour-This subject enhances awareness about role of consumer in present scenario and the factors shaping the behavior of consumers. It is helpful to understand key concepts and theories of it.

CO9: Information Technology for Retail Management- This course makes students familiar with computer environment & operating systems and applications of internet in retail sector, and also helps to introduce students with many softwares used in retail industry.

CO10: Business Research Methodologies-This subject develops understanding about concept of research methodology and judge the reliability and validity of experiments to perform exploratory data analysis. It also sharpens the awareness to use parametric and non-parametric hypothesis tests.

CO11: Structural Programming & Desktop Publishing- The students after completing the course will be able to prepare a document & publishing by using DTP Program.

CO12: Training Project and Viva-Voca-It helps students to develop a thorough understanding of the chosen subject area and demonstrate the ability to critically assess/ interpret data. It creates an ability to effectively communicate knowledge in a scientific manner.

Skill Components

The curriculum is designed in a manner that at the end of 6 months, year-1, year-2 and year-3 students are able to meet level 4, 5, 6 and 7 of NSQF, respectively

NSQF Level-4: Sales Associate- It is the entry level post of retail business. But as every retail shop is completely dependent upon the sales they get, this is one of the important posts in this profession. To be a good sales person, one should have good knowledge about the products, the shop, the customers etc.

NSQF Level-5: Team Leader- A retail team leader is a person who holds a supervisory position directing the sales team in the retail environment. It is his/ her job to help implement a company's sales strategy and ensure that the rest of the sales team adheres to these guidelines.

NSQF Level-6: Departmental Manager- retail department manger organizes and maintains store merchandise according to the merchandising layout plan, also known as a planogram.

NSQF Level-7: Store Manager- Store Manager sometimes called General Manager or Store Director, are responsible for managing an individual store and its day-to-day functioning. The store manager is in charge of the employees of the store and he himself may report to a District or Area manger or the store's owner.

DEPARTMENT OF COMMERCE

Program Outcome

This program aim to provide students with specific knowledge and skills relevant to their discipline and careers. After completing two year of Masters of commerce (M.com) and three years for Bachelors in Commerce (B.Com) program, students would gain a thorough grounding in the fundamentals of Commerce and Finance which offers a number of specializations and practical exposures for the students to face the modern-day challenges in different professional bodies.

This program could provide well trained professionals for the Industries, Banking Sectors, Insurance Companies, Financing companies, Transport Agencies,

Warehousing etc., to meet the well trained manpower requirements. The broader perspective of this programme offers a number of value based and job oriented courses which ensure that the students are trained into up-to-date. In advanced accounting courses beyond the introductory level, provide students with the analytical, evaluative and problem-solving skills commensurate with degree level higher education. At the end of the B.com degree course, by virtue of the training, they can become an manager, accountant, management accountant, cost accountant, bank manager, auditor, company secretary, teacher, professor, stock agents, government jobs etc.,

The Program Specific Outcome (PSO)

- Develop a critical awareness and understanding of the main functional areas of business administration and the management process within a variety of institutional and organisational contexts.
- Utilise their knowledge, understanding and skills to work successfully in a professional orbusiness house.
- To demonstrate and understanding of the principles of accounting, finance, economic andbusiness law.
- To develop numerical abilities of students.
- To inculcate writing skills and business correspondence.
- To acquire practical skills related with banking and other business.
- To develop knowledge about economic environment of country as well as world.
- To demonstrate progressive learning of various tax issues and tax forms related to individuals so that learners can also acquire practical skills to work as tax consultant, audit assistant and other financial supporting services.
- To demonstrate knowledge in setting up a computerized set of accounting books.

General Education

C.O. No.	Name of Course	Description of Course outcome

CO-1	**Financial Accounting**	1) To enable students to learn principles and concepts of Accountancy as well as to acquire the knowledge for its practical applications. 2) To enables the students to learn the basic concepts of Partnership Accounting, and allied aspects of accounting. 3) The Advanced Financial Accounting helps the students to obtain the knowledge of advantages, disadvantages and the procedure of accounting for mergers and acquisitions, amalgamations and holding companies, etc. 4) To develop the students to be aware on the Corporate Accounting in conformity with the provisions of the Companies Act. 5) To appraise the students about Need and importance of Accounting Standards, and to impart the students, knowledge about preparation of Company Final Accounts and accounting

		treatment of corporate undertakings. 6) To get acquainted with the procedure of preparation of income statements, retained earnings, balance sheet and statement of cash flows which are required for external users and more useful to managers for managerial decision making.

CO2		

	Cost and Management Accounting	This course aims to develop an understanding of the conceptual framework of Cost & Management Accounting which helps the students to acquires the knowledge in the Management Accounting Techniques in business decision making. **Costing:** The main objective of this course is to familiarize students with the basic concepts of cost and various methods and techniques of cost accounting. The students understand clearly to reduce and control the cost during the course of production because cost is a vital aspect in the modern business. It also helps to provide knowledge about the ascertainment the profitability of each of the products and advise the management to maximize its profits.

		Management Accounting: This course provides students with an understanding of management accounting concepts related to the management functions of planning, control, and decision making. It helps the students to compare the financial statements and financial analysis. In addition, the course focuses on the provision of accounting information for managerial control and decision making, related to planning and budgeting, variance analysis and performance evaluation.
CO3	**Financial Management**	1) To enable the students with the knowledge about the Capital budgeting, Working capital management, cash management, and better financial management techniques. 2) To develop the concept of

		Business Finance and the Application of Finance to Business. 3)To provide a comprehensive coverage of financial management from a corporate perspective, together with a comprehensive coverage of elementary financial mathematics. Discuss the core objectives of corporate financial management, and the application of a range of analytical techniques and technologies, including investment, financing and dividend decisions.
CO4	**Auditing**	1) To develop the fundamental concepts of Auditing. 2) To inculcate the knowledge of the principles and practices of internal and external auditing. 3) To help the students to understand the auditing as a component of recurrent and strategic activities, risk assessment, internal control, systems evaluation, and other contemporary audit issues and challenges.

		4) To obtain working knowledge of generally accepted auditing procedure, techniques and skills. .
CO5	**Principles of Management**	1)To make the students to understand different principles of management and various skills to practice in management. 2)To examine fundamental management theories and traditional managerial responsibilities in formal and

		informal organisational structure. 3) To describe different managerial functions like planning, organising, directing, co-ordinating, controlling and staffing. 4) To focus on the basic roles, skills and functions of management, with special attention to managerial responsibility for the effective and efficient achievement of goals. 5) To present a thorough and systematic coverage of management theory and practice.

CO6	**Marketing Management**	1) To introduce students to marketing concepts, the environmental and organisational factors that shape marketing decisions. 2) To examine the role of marketing decisions in a variety of settings including manufacturing and service firms, consumer and business markets, profit and non profit organisations, domestic and global companies and small and large businesses. 3) To develop a solid understanding of the relationship between business strategy and the decision areas under marketing responsibility. 4) To apply tools and conceptual models for understanding consumer behaviour, competition and relevant environmental issues. 5) To acquire skills for marketing manager, selling Manager, over all administration abilities of the company

CO7	**Human Resource Management**	1) To help the students to uerstand various aspects of Human Resource development, managing human resources and develop skills in HR policies. 2) To provide the students the concept of the functioning of Human Resource /Personnel Department, Manpower planning, performance appraisal, Selection and Recruitment process, Labour Welfare, Industrial Relations etc.

CO9	**Direct and Indirect tax:**	1) To acquire conceptual and legal knowledge about Income tax provisions relating to the computation of income from different heads with reference to an individual assesse 2) To familiarize the students with recent amendments in Income-tax so that the students become well versed in the prevailing act. 3) To make the students competent to compute the total income and tax liabilityof individual assesses and firms. 4) To give them the necessary expertise to file return of income tax and to take up job in filing of tax. 5) To learn and apply principles and provisions of indirect tax
CO10	**Business Economics**	.1) To teach the students to explore a set of interrelated issues relating to the growth and development of the Indian Economy and application of Economic Theory in

		the context of India. 2) To enable the students to learn about the basic economic theory that applies to issues of demand, supply, production, costs, market structure, pricing and regulation. 3) To make the students familiar with introductory, canonical models of consumer and producer behaviour and of macro economy have a basic understanding of the operation of a modern economy be able to evaluate the effects of government interventions in individual markets and in the macro economy. 4) To analyze operations of markets under varying competitive conditions

CO11	**Commerce Project work**	1) The aim of the Project work is to acquire practical knowledge on the implementation of perceptions studied through the programmed. 2) To impart knowledge about the primary elements of Project Management so that the students ars able to develop a detailed project plan . 3) To introduce and develop the skills needed to conceptualise a problem, make use of available literature, design a research strategy, evaluate, organise, and integrate relevant data (both existing and new), derive useful solutions based on knowledge, and communicate those solutions to clients and colleagues. 4) To understand the basic process of research methodology as

		practiced in the social sciences and business.

DEPARTMENT OF BACHELOR OF BUSINESS ADMINISTRATION

Management department of Desh Bhagat College was established in 2012. It offers course B.B.A, a fulltime three years graduation program. The department is contributing every year in producing well trained corporate oriented students with overall development.

Program Outcome

A well customized course helping students to enter into business world with required knowledge and skills. The outcomes of the program as follows:

- In depth understanding of various disciplines those are integral part of managing business.
- Overall development of the students with interaction and communication skills so that they can offer themselves to employer and client with ease.
- Provide a platform for students to get insight understanding of economies at global level, various business events, culture and issues.
- Practical exposure to work culture in business through training during the program.
- Prepare them to get job and self-employment by developing various skills such as critical thinking, Technical & Entrepreneurial skills
- Develop leadership skills, creativity and entrepreneurship to maximize outcomes of business activities.
- Develop decision making skills by analyzing data and information to solve various business problems using quantitative, qualitative and logical reasoning.
- Numeral career opportunities in various fields and sectors such as banking, retail, pharmaceutical and tourism etc.

Program Specific outcome

- Critical Thinking Skills: Students are able to define, analyze, and devise solutions for structured and unstructured business problems and issues using cohesive and logical reasoning patterns for evaluating information, materials, and data.
- Communication Skills: Students are able to conceptualize a complex issue into a

coherent written statement and oral presentation.

- Technology Skills: Students are competent in the uses of technology in modern organizational operations.
- Entrepreneurship and Innovation: Students can demonstrate the fundamentals of creating and managing innovation, new business development, and high-growth potential entities.
- Business Knowledge: Students can demonstrate technical competence in domestic and global business through the study of major disciplines within the fields of business.

Course Outcome

C.O. No.	**Name of Course**	**Description of Course outcome**
CO-1	Communication Skills in English & Punjabi	•Understand communication process and barriers to communication. Develop skills for Verbal and Non-verbal communication. Have ability to give Effective Presentations. Understand the basics of Internal as well as External communication. Develop the art of facing Interviews. Develop business and social etiquette.

CO-2	Introduction to Business Organization & Management Principles	• Understand fundamental concepts, functions and principles of management also the skills required and role expected by organizations. Identify and evaluate the complexities of business environment and their impact on the business. Analyze the relationships between Government and business and understand the political, economic, legal and social policies of the country. Analyze current economic conditions in developing emerging markets, and evaluate present and future opportunities. • Understand the Industrial functioning and strategies to overcome challenges in competitive markets Be familiar with interactions between the environment, technology, human resources, and organizations in order to achieve high performance. Understand realistic and practical applications of management concepts. Compare and contrast different types, roles and styles of managers across organizations.
CO-3	Introduction to Business Economics	•Basics of Micro and Macro Economics.

		• Understand background of managerial economics. Develop an understanding of role and function of managers. Provide a detailed view of various roles played by cost and revenue in business considering monetary & Fiscal Policies. Understand the term inflation and measures to control inflation.
CO-4	Introduction to Business Mathematics & Statistics	• Do calculation of arithmetic mean, median and mode and partition values. Understand calculation of moments, skewness and kurtosis and determining whether the given distribution is normal or not. Understand Probability and applications of probability theory. Understand correlation regression analysis and their applications. Understand statistical testing and their applications.
CO-5	Workshop on Computer Application, Internet & E-Commerce	•This course helps to learn MS Word, MS PowerPoint, and MS- EXCEL. The practical will comprise of exercise to what is learnt under this course. It helps to understand Electronic commerce and trends of advertising and marketing on the internet.
CO-6	Seminar	• Familiarity with Current Business Issues to get expertise knowledge in relevant field. Development of Reporting & Presentation Skills. Overall Development of students through confidence building and motivation

CO-7	Introduction of Marketing Management	• It familiarizes the students about marketing and brand concepts and contemporary issues and its Philosophies. It develops ability to understand the changing marketing environment and get knowledge of different consumer and business buying behavior.
CO-8	Introduction to Human Resource Management	• Understand the role of human resource management in organizations and the factors shaping that role. Understand key concepts and theories from the field of HRM. Apply key course concepts to actual HRM problems in organizations. Understand the financial impact of HRM activities on organizations. Understand the implications of increasing

		diversity and globalization for HRM processes.
CO-9	Business Accounting	•Understand different accounting concepts and conventions. Prepare financial statements in accordance with generally accepted Accounting Principles (GAAP). Be familiar with the rules governing accounting transactions. Analyze financial statements with the help of various tools and techniques of accountancy
CO-10	Business Law	• Become aware of Law in general. Become aware of legal aspects of business. Become familiar with the laws governing commercial deals. Create commercial contracts. Raise his over-all interest in laws prevalent in the country relevant to his job such as Consumer Protection Act, Sales & Good Act and Negotiable Act.
CO-11	Financial Management	• Maximization of value of the firm. Determination of patterns of determining capital structure. Assessment of working capital needs of the firm. Focus on various decision of the firm like investment, financing and dividend.

CO-12	Advertising and Sales Management	• Identify functions of advertising and marketing communications through the study of advertising theories in marketing. Understand the advertising and promotional techniques through the analysis of market situations. Develop creative solutions through applying relevant advertising and marketing principles. Understand how the role of the manager impacts the success of an advertising industry.
CO-13	Marketing of Services	• Understand the fundamental concepts of service marketing and its functions. Identify the role and significance of various elements of service marketing mix. Analyze customer requirement, measure service quality and design and deliver better service. Understand how to manage different service organizations.
CO-14	Training and Development	• Analyze problems and provide solutions to enable effective presentation of input and activities provide constructive feedback to

		trainees. Evaluate training materials for trainees of different experiential levels. Establish a checklist of evaluation criteria.
CO-15	Financial Instruments & Services	• Describe the role of financial system. Summarize the reasons to study financial institutions. Explain the structure of financial markets. Identify roles of financial intermediaries within financial markets. Describe the various types of risk and its management. Discuss internationalization of financial markets and their investment opportunities. Describe operational, business, financial and traditional risk. Distinguish among various financial intermediaries and markets.
CO-16	Business Research Methodologies	• This subject develops understanding about concept of research methodology in social sciences and judge the reliability and validity of experiments to perform descriptive & exploratory data analysis. It also sharpens the awareness to use Questionnaire for data collection.
CO-17	Rural Marketing	• Understand the basics of Rural marketing. • Sensitize to the need of Consumer and channels of rural area. Utilize the understanding on peculiarities of rural markets, channels and competition in marketing decision making. Understand the Rural Market Segmentation and Rural Products. Expose the students to Rural Market Distribution and services

CO-18	Brand & Product Management	• Demonstrate understanding of brands and brand management in context with brand equity. Understand the relation between various components of a brand and brand value. Explore key components of brand positioning and how these components work together in creating brand strategy. Evaluate how a brand equity management system can capture customer mindset and market performance through sources and outcomes of brand equity. Design specific strategies to grow and/or sustain brand equity over the long-term.

CO-19	Security Analysis & Portfolio Management	• Understand the nature of investments in corporate securities. Knowledge of fundamental & technical analysis Develop the relationship between interests and prices of bonds. Use duration and convexity in the analysis of the price sensitivity to interest rate changes. Understand the nature of share prices movements. Interpret the evidence relating to market efficiency.
CO-20	Interpersonal Skills in Management	• Understanding of Individual Behavior and group Behavior. Demonstrate to Group Decision Making. Basics of Transaction Analysis. Development of Team Work Spirit.
CO-21	Training Project and Viva - Voce	• It helps students to develop a thorough understanding of the chosen subject area and demonstrate the ability to critically assess/ interpret data. It creates an ability to effectively communicate knowledge in a scientific manner.

M.Com (Master in Commerce)

Program Outcomes

- To acquaint a student with conventional as well as contemporary areas in the discipline of Commerce.
- To enable a student well versed in national as well as international trends.
- To enable the students for conducting business, accounting and auditing practices, role of regulatory bodies in corporate and financial sectors nature of various financial instruments.
- To provide in-depth understanding of all core areas specifically Advanced Accounting,

International Accounting, Management, Security Market Operations and Business Environment, Research Methodology and Tax planning.

Program Specific Outcomes

After the completion of the M.Com Course, a student is able

- For pursuing research in their chosen areas.
- For teaching in Schools and Colleges after qualifying requisite tests.
- For working as data analyst.
- To work as investment consultants after a brief internship in suitable organizations absorbed in Banking and Insurance sector as executives

Course Objectives and Outcomes

Managerial Economics

Course Objectives

- To help the students form a clear idea of Managerial Economics.
- To enable the students understand determination of price under different market forms.
- To enable the students understand the situation of consumer and producer equilibrium.
- To describe the concept of Inflation and its consequences in an economy.
- To illustrate the calculation of national income.

Course Outcomes

- Ability to forecast demand in light of changing circumstances and to formulate

business plans.

- Ability to chalk out Business Policies.
- Knowledge about Profit Planning and control.
- Skill to analyze effects of Government Policies.

Management Principles and Organization Behavior

Course Objectives

- To enable the students analyze the implementation of different functions of management.
- To develop an understanding regarding the role of leaders in decision making process in an organization.
- To help students get an insight into the behavior of individuals and groups in an organization.
- To apprise the students regarding the impact of important developments on organization behavior.
- To assess the role of emotional intelligence in an organization.

Course Outcomes

- Ability to execute managerial tasks of planning, organizing and controlling.
- Understanding of different styles of leadership and its impact on decision making process.
- In-depth understanding of emotional labour and different types of emotions.
- Ability to analyze challenges and opportunities in the field of organization behavior.

Business Environment

Course Objectives

- To give an insight into meaning of business environment and its components.
- To familiarize with Economic System & its types.
- To enable the students to analyze Positive and Negative impact of Liberalization, Privatization and Globalization in Indian economy.

- To make the students aware about provisions of FEMA, The Consumer Protection Act 1986, The Environment Protection Act 1986 and various regulatory policies of Indian Government.

- To describe implication of Deficit Financing, Disinvestment of Public enterprises and Demonetization etc. in Indian Economy.

Course Outcomes

- Skill to identify and differentiate various Micro and Macro factors affecting functioning of Business.
- Ability to analyze Indian Economy in light of changing government regulatory policies.
- Understanding of the targets and priorities of five years plans.
- Ability to file complaint against unfair trade practices under Consumer Protection Act.
- Familiarization with the objectives and strategies in Economic planning with special reference to Planning Commission and NITI Aayog.

Management Accounting and Control Systems

Course Objectives

- To introduce a separate branch of accounting i.e. Management Accounting and its relevance in a business organization.
- To enable the students to understand Managerial behavior, Control structure and Control Process under different circumstances.
- To understand the applicability of certain contemporary techniques of management i.e. Target Costing, Value Chain Analysis, Activity Based Costing etc.
- To familiarize the students about the various measures of segment performance evaluation like Balance Scorecard, Economic Value Added.
- To enable the students to understand objectives of managerial reporting and reporting requirements at different levels of management.

Course Outcomes

- Familiarization with the Management Control Systems.
- Ability to understand Managerial Behaviour and Control Structure prevalent under varied business environment.
- Skill to evaluate the Segment Business Units.
- Familiarization with Contemporary issues in management.
- Clarity about the reporting requirements of management.

Financial Management

Course Objectives

- To introduce the students about the importance of Finance Management for a business.
- To enable them to understand the various modes and techniques of managing the financial resources of an organization.
- To know about the various factors to be considered while planning for financial policies.
- To acquaint the students regarding the various types of decisions taken by financial managers in current competitive environment.
- To enable students to select an investment project out of alternative investment proposals.

Course Outcomes

- Skill to manage financial resources of a company.
- Knowledge about the various sources of finance available to businessmen these days.
- Ability to select an investment proposal by analyzing the compounded and discounted value of money invested.

Research Methodology

Course Objectives

- To introduce the concept of Research and Research Methodology.
- To enable the students to understand the Quantitative and Qualitative Methods for

conducting research.

- To make students understand about Tabular and Graphical Description of Data.
- To enable the students to use SPSS for solving the research data.
- To enable the students to understand the Structure and Components of Research Report.
- To enable the students to write the research report using hypothetical data.

Course Outcomes

- Familiarization with Research and research problems.
- Understanding of the Quantitative and Qualitative Methods of research.
- Ability to represent data in tabular as well as graphical manner.
- Skill to write Research paper.
- Detailed knowledge about SPSS and its application.

Marketing Management

Course Objectives

- To develop understanding about holistic nature of Marketing.
- To enable the students understand the techniques to scan Marketing Environment.
- To make students understand the different buying behavior of consumers.
- To familiarize the students about the techniques of Market segmentation, Product Pricing, Promotion, Packaging and distribution.
- To familiarize with the importance of social responsiveness in marketing decisions.

Course Outcomes

- Familiarization with Marketing Concepts and Philosophies.
- Ability to understand the changing Marketing Environment.
- Knowledge of different consumer and business buying behaviors.
- Familiarization with product related decisions.

Human Resource Management

Course Objectives

- To enable the students to evaluate the process of recruitment and selection.
- To impart knowledge for developing an organization's remuneration plans.
- To analyze the changes in human resource practices.
- To design and implement different methods for training of human resources.
- To apprise the students regarding various methods of collecting job analysis information.

Course Outcomes

- Capability to understand employee recruitment and selection process.
- Understanding of different types of remuneration plans and their significance.
- Capability to evaluate different training programs and understanding of their limitations.
- Knowledge regarding the developing role of human resource management in the globalized world.

Banking and Insurance Services

Course Objectives

- To provide fundamental understanding of the structure of commercial banking in India and its management.
- To apprise the students regarding the regulatory environment in which insurance companies operate.
- To give an insight into new innovations in the banking sector.
- To apprise the students regarding the status of bancassurance in India.
- To make the students understand the various risks faced by the banking sector in India.

Course Outcomes

- Understanding the operations and working of insurance companies in India.
- Capability to assess the significance of online banking.

- Understanding the functions and significance of RBI in India.
- Knowledge regarding different models of bancassurance in India.
- Understanding of the different techniques of risk management.

Security Analysis and Portfolio Management

Course Objectives

- To gain knowledge of importance of Security Analysis and Portfolio Management in taking investment decisions.
- To enable students to understand various dimensions of managing an investment programme.
- To understand the intricacies of analyzing securities to design a portfolio.
- To familiarize the students regarding the techniques of analyzing securities being applied by fund managers.
- To develop an insight into various issues in portfolio construction, revision and evaluation.

Course Outcomes

- Familiarization with the designing and construction of portfolios.
- Knowledge about techniques of doing investment analysis.
- Ability to identify and study the trends of stock markets.
- Ability to take investment decisions taking into consideration various determinants influencing investment decisions.

Strategic Management

Course Objectives

- To describe the role of strategic management in the success of successful companies.
- To enable the students understand the components which formulate a strategic intent.

- To make students understand and formulate different strategies at business level and corporate level.
- To discuss the role of corporate governance and social responsibility in the strategic management of an organization.

Course Outcomes

- Familiarization with the strategic management process.
- Understanding about the techniques to scan an environment and the role of environment scanning in hurdle less strategic management of an organization.
- Understanding about the equal importance of strategy formulation and strategy implementation.
- Clarity about the strategies followed by different companies in the corporate world.

International Accounting

Course Objectives

- To introduce another specialized branch of Accounting and bring out its evolution and relevance in the contemporary business environment.
- To focus on the specific needs and techniques of financial analysis in the MNCs.
- To bring out the need and relevance of harmonization of Financial reporting practices globally.
- To give an overview of the distinctive issues in accounting at international level viz. International transfer pricing, foreign currency translation and Strategic accounting issues in MNCs.

Course Outcomes

- Knowledge of concept, evolution and relevance of international accounting.
- Understanding of varying patterns and practices of financial reporting across the nations.
- Development of an insight to read between the lines while studying a financial statement of an MNC
- Understanding the procedures related to foreign currency translation, International

taxation and Consolidation of Financial Statements in the context of MNCs.

Corporate Tax Law & Planning

Course Objectives

- To make the students aware of the Income Tax laws prevalent in the country related to Corporate Sector.
- To gain knowledge about the role of tax planning in managerial decision making.
- To familiarize with the relevant provisions and procedure to compute total income of a company.
- To understand how the Corporate Tax Laws can be used for tax planning.

Course Outcomes

- Ability to identify the difference between Tax Evasion, Tax Planning and Tax Avoidance.
- Understanding of various deductions, rebates and reliefs to reduce the taxable income and tax liability.

Seminar

Course Objectives

- To create research ability among the students in writing seminar report on some current issues of the economy and curriculum.
- To enable the students to use some statistical techniques in showing the trend of the various economic variables used in the study.
- To make students understand the need and objectives of the study by giving real world examples.
- To make the students develop logical reasoning and built up confidence in themselves while answering any question in case if there is questioning on their topic

Course Outcomes

- Basic orientation towards research.
- Understanding the practical application of theoretical models in the discipline of Commerce, Economics and Business Administration etc.
- Clarity regarding difference between qualitative and quantitative methods of research while writing a seminar report.
- Skill to write bibliography of a seminar report citing references from different sources.

Certificate Course in Organic Farming

Programme outcomes

Student's will able to:

1. know the benefits of organic culture.
2. To gain knowledge about the staple food crops and their cultivation practices.
3. Understand new crop management practices.
4. Gain information about the impact of organic farming and indigenous practices on environment.

Course Outcomes

	Subject Name	**Outcomes**
Paper 1	Basics of organic Farming	• To understand the basic knowledge of organic farming • To study about the sustainable agriculture • To study about the organic food and their packaging.
Paper 2	Nutrients Management in organic farming	• Know about the Biological activities. • To study about the organic indigenous practices. • To study about the traditional input preparations.