Name of Program: B.Sc.(Non Medical)

Program Outcome

1. Students are able to join Government sector jobs.
2. Students can do B.Ed., M.A., MBA, MFC course.

Program Specific Outcome

1. Students are able to become Quality Control Manager in Industries as well as Government sector.
2. Students are able to become Medical Representative.
3. Students can do M.Sc. Physics, Chemistry and Mathematics.

Course Outcome of Chemistry

1. Students can demonstrate the application of chemistry in different spheres of life like agriculture, medicines, kitchen chemistry, etc.
2. Students can demonstrate various methods for classification, identification and characterization of different chemical compounds.
3. Students can demonstrate the methods for checking adulteration in food products.
4. Students can understand formulation of various drugs, soaps & detergents, cosmetics, etc.
5. Students gain knowledge regarding causes of soil, air and water pollution and remedies to check it.
6. Students gain insight of all the basic elements of which the whole universe is made up of such as plastics, paints, dyes, cement, glass, etc.

Course Outcome of Physics

1. Display intellectual curiosity about and intuition into the processes of the physical universe.
2. Evaluate a physical problem to determine the relevant parameters and approximation schemes to be used within the framework of the fundamental laws of nature.
3. Demonstrate proficiency in mathematics and the mathematical concepts needed for a proper understanding of physics.
4. Demonstrate a rigorous understanding of the core theories and principles of classical mechanics, quantum mechanics, electromagnetism, nuclear and particle physics, statistical and thermal physics, optics and be able to apply this knowledge to analyze a broad range of physical phenomena.
5. Learn laboratory skills, enabling them to take measurements in a physics laboratory and analyze the measurements to draw valid conclusions.
6. Demonstrate proficiency in the collection, analysis and interpretation of data.

Course Outcome of Mathematics

1. Students can understand the concepts of algebra, geometry, trigonometry and beginning level calculus.
2. Students can develop an understanding of the underlying unifying structures of mathematics (i.e., sets, relations and functions, logical structure) and the relationships among them.
3. Students can understand the value of proof, the single factor that distinguishes mathematics from all other disciplines, and will demonstrate proficiency in writing and understanding proofs.
4. Students gain proficiency in transmitting mathematical ideas both orally and in writing.
5. Students can gain exposure to a variety of areas of mathematics and related fields such as computer science, the natural sciences, business and economics.
6. Students can gain experience investigating the real world problems and learn how to apply mathematical ideas and models to sort out those problems.
7. Students can develop the ability to read and learn mathematics on their own.
8. Students can understand the historical and contemporary role of mathematics and be able to place the discipline properly in the context of other human intellectual achievement.
9. Students can develop the ability to use statistical concepts to analyze real world issues.
10. Students can develop the ability to solve financial Mathematics problems.

11. Students can nurture the qualities of power of reasoning, creativity, abstract or partial thinking, critical thinking, problem solving ability.

Course Outcome of English

1. It will help the students to develop literary sensibility, critical thinking, and sharp vision, penetrating to create a thrust for literature.
2. The objective of this course is to take an integrative approach to the appropriate use of English in different situations and for different purposes.
3. It cuts across the curriculum and broadens the learners' perceptions of the world by exposing them to a variety of topics based on contemporary socio-cultural issues.
4. Students are trained in communication at various levels by providing proactive training in Speech, Oral, Writing and Business Skills.
5. Students are empowered to be active participants/contributors in the critical societal issues.
6. The learners are equipped with skills that will enable them to cope with understanding the core theoretical principles behind grammar. It is also intended to develop continuing proficiency in communication.

Course Outcome of Punjabi Compulsory

- Develop regard in the mother tongue.
- Students can self expression.
- Students will understand the other scholars thoughts.
- Create interest in reading books.
- Increase the knowledge of students.
- Develop moral values in students.
- Develop interest in creativity.
- All round development.

Course Outcome of Drug Abuse: Problem, Management & Prevention

1. Students learn about drug abuse and its prevalence in the society.
2. Students get the knowledge of different types of drugs and their short and long term effects.
3. Students become aware of causes and consequences of drug abuse.
4. Students get information of management and prevention of drug abuse.

Course Outcome of Environmental & Road Safety Awareness

1. Environmental Studies is a multidisciplinary subject that gives information about our surroundings.
2. Students learn about various types of pollutions, their causes and preventions.
3. Students learn about various renewable and non renewable natural resources as well as the ways of energy conservation.
4. Students become aware of safety on roads, traffic signs, rules as well as first aid in road safety.

Name of Program:- Bachelor of Computer Applications

Program Outcome

1. **Knowledge and understanding of**
   a) Information Technology Fundamentals, C Language Basics, Office Automation, Digital Electronics, Data Structure, Basic Mathematics(Year I)
   b) C++ Basics, Database Management System, Computer Organization & Architecture, Management Information System, Computer Oriented Numerical & Statistical Methods, Computer Networks(Year II)
   c) Web Technology, Java Programming, System Analysis & Design, System Software, Java Programming(Year-III)
   d) English and Punjabi.
2. **Practical Skills**
   a) Students can execute and develop codes of different programs in Computer Labs.
   b) Students can design different types of Web Pages using HTML, JAVA Script in Computer Labs.
   c) Students can demonstrate the Computer Oriented Numerical & Statistical Methods in Computer Labs.
3. **Professional Skills**
   a) Students are eligible to pursue B.Ed., Post graduation or jobs in various Multinational Companies, Banks, Industries and other office jobs.
   b) Students can appear for State and National level exams for Government jobs.

Program Specific Outcome

1. Students can apply their knowledge of programming techniques to design different software.

2. Students can design database, Website of various firms or institutions.
3. Students can take admission in Master of Computer Applications (MCA) Program.
4. Students become eligible for Government Computer Teachers in state schools.

Course outcome of Computer Applications

1. Students can understand the concept of different programming languages.
2. Students can design web pages using HTML, DHTML.
3. Students can learn how to make power point presentation.
4. Students can design different programs using different programming techniques.
5. Students can understand concept database management system and how to design good database.
6. Students can learn about basic networking modules and installation of different software.

Name of Program:- B.Sc.(Computer Applications)

Program Outcome

1. Students are able to join Government sector jobs.
2. Students can do B.Ed., M.A., MBA, MFC course.

Program Specific Outcome

1. Students are able to become Quality Control Manager in Industries as well as Government sector.
2. Students are able to become Medical Representative.
3. Students can do M.Sc. Physics, Chemistry, Information Technology and Mathematics.

Course outcome of Computer Applications

1. Students can understand the concept of different programming languages.
2. Students can design web pages using HTML, DHTML.
3. Students can learn how to make power point presentation.
4. Students can design different programs using different programming techniques.
5. Students can understand concept database management system and how to design good database.
6. Students can learn about basic networking modules and installation of different software.

Name of Program:- Bachelor of Commerce

Program Outcome

1. Students become effective communicators on matters related to economics and commerce.
2. Students gain knowledge to effectively Participate in discussion and debate on national and international issues related to the disciplines of the faculty.
3. Students become effective decision makers in business and commerce.
4. Students develop ethical and collegial in professional practice.
5. Students develop specific skills to go in for Law, Charted Accountancy, Masters in Commerce, Business Management programs, Banking Sector, Company Secretaries and host of other opportunities in corporate world.

Program Specific Outcome

1. Students learn labour laws, business laws, negotiable instruments law, cyber law, micro economics, macro economics, financial accounting (including e-accounting) in first year of Bachelor of Commerce study
2. In second year students gain knowledge of Corporate Accounts, Company Law, Auditing, Business Mathematics, Statistics, Income Tax Law and Management Thought.
3. Third year equips the students with vast knowledge of Indirect Taxation (Newly introduced GST), Cost Accounting, Management Accounting, Governance, Ethics and Corporate Social Responsibility, Banking, Money & Insurance matters.

Course Outcome of Commerce

1. Students can develop ability for analysis and evaluation of evidence in the commerce disciplines in support of an argument, proposition or solution to problems in organizations and in society.
2. Students are empowered to learn strategic and critical thinking in relation to business and commerce related issues.
3. Students are empowered to gain knowledge across disciplines; Accountancy, Law, Audit, Economics, Taxation (direct\indirect taxes)
4. Students are educated to synthesis of knowledge across disciplines and relate them with daily emerging business developments.
5. Students develop problem solving ability through the application of appropriate theories, principles and data.
6. Students learn skills in the use of computer systems and software used in commerce and business through practical assignments, exercises and demonstrations.

Name of Course: Bachelor of Business Administration

Program Outcome

BBA program is a strong foundation in core business disciplines, helping students to acquire competency needed by all business management. The outcome of the program is:

1. Business knowledge and skills while handling the activities
2. Effective interaction and communication skills to promote respect, trust and relationships.
3. Provide a platform for students to demonstrate their understanding of current business events, world culture or global economies.
4. Develop appropriate leadership skills, creativity and entrepreneurship to maximize employee productivity.
5. Analyze and develop solutions for business problems and issues by using logical reasoning & patterns for evaluating information materials and data.
6. Choose careers in the Public, Private and Government sector.
7. Further study in advanced level program in management studies.

Program Specific Outcome

1. First year is to build the basic concepts of various business related management principles, management functions and economics.
2. Second year is devoted to specialized subjects i.e. marketing management, human resource management, business accounting and mercantile laws.
3. In the third year they learn about business research methods, Organizational behavior and values, Industrial relations.
4. Students will be exposed to current business events, world culture and global economies.

Course Outcome of Management

1. Students can learn the major concepts in the functional areas of accounting, marketing, finance, information technology and management.
2. Students can learn legal, social, ethical and economic environment of business in a global context.
3. Students can solve organizational problems, individually and /or in teams, using quantitative, qualitative, and technology based approaches.
4. During this three year program students take up live projects related to marketing, human capital management, finance and policies concerning business management etc., aiming to have a hold on theoretical aspects of different concepts of business administration.

Name of the Course: M.A. English

Program Outcome

Students can pursue B.Ed. which will make them eligible to get jobs in schools as teachers. Students can appear for State and National level exams for various Government Jobs including the prestigious exams like UPSC or PPSC as there is one full fledged paper of English in these exams. They can also appear for banking exams, FCI and other such exams.

Program Specific Outcome

1. Students become eligible to pursue M.Phil. and Ph.D.
2. They can also appear for NET to pursue their career in teaching.
3. Students are enabled to translate the literary works of other authors of Hindi, Punjabi etc.
4. They can setup independent translation firms as well as become eligible for official translators in embassies and for official visits of the dignitaries from foreign countries.
5. They can do reporting, public relations, proof reading, interpreting, free lancing.
6. They can be bloggers or content writers for ad agencies.
7. Students can be creative writers and thereby can author books.
8. They can write information for magazines, websites, doctors or any other firm.
9. They can avail overseas scholarships and get jobs there.

10. They can try their hands as independent literary critics writing for print or online publications.
11. With a pen, paper and empowered with language students can be executive communication administrators or business communication experts.
12. They can be campaign managers or speech writers.
13. As post graduates from this field, they develop ample critical ability to analyze and reproduce matter easily, so they can avail job opportunities in national as well as international magazines such as India Today, Vogue or National Geographic etc.

Course Outcome of M.A. English

Students learn English Literature from Medieval Age to Victorian Age including poetry, novel, drama and criticism. They also learn English Literature from Modern Age to the Contemporary Times including poetry, drama, novel and criticism in addition to English Literature, the students are also acquainted with Indian Literature in English, World Literature in English and translated works.

Name of Program: Bachelor of Arts

Program Outcome

1. Students are able to do MBA, MCA or other Higher education courses.
2. Students are able to join Civil Services.
3. Students are able to join Government sector jobs.

Program Specific Outcome

1. Students are able to do M.A. in any subject which they have studied in graduation.

Course Outcome of Hindi

1. As literature is a source of knowledge and inspiration for man, Hindi literature fulfills this function by enlightening the students about the path of healthy, prosperous and generous lifestyle.
2. Hindi being an official language of India is a widely spoken language in most of the states. Hindi language symbolizes national unity.
3. Hindi literature helps in developing moral values among students. The students from non-Hindi states like Punjab get access to the great culture, tradition and civilizations of India by studying Hindi literature.
4. In this course, students are empowered to learn the evolvement of different genres of literature like stories, poetry and drama and the relation of these literary forms with one another besides learning their relation with contemporary culture.
5. This course takes an integrative approach to the appropriate use of Hindi in different situations.
6. Students learn the rules of Hindi grammar and are enabled to use them in an appropriate manner.

Course outcome of Music Instrumental

1. Students may get job as Music Teacher in schools after graduation.
2. Students can do post graduation in Music Instrumental.

Course outcome of Tabla

1. Students may get job as Tabla Player in Music Departments of schools & colleges.
2. Students can do post graduation in Tabla.

Course outcome of Political Science

1. Students can do M.A.(Political Science)
2. Students can join Civil Services.
3. Awareness of Political System
4. Awareness of Constitution.
5. Awareness about Fundamental Rights.
6. Awareness about Right to Service.
7. Awareness about Right to Information.

Course outcome of Public Administration

1. Awareness about Indian Administration.
2. Awareness about District Administration.
3. Awareness about Panchayati Raj Institution.
4. Process of making Indian Budget.

Course outcome of Psychology

1. Students can recognize and appreciate the diversity of views that have historically been expressed about nature of psychology and its scope

2. Students can understand the concepts such as mental health, the human behaviour and the contents of consciousness, the determinants of learning, memory and intelligence.
3. Students can identify, interpret, and analyze human behavior based on data obtained from standard tests, observation, interview and case studies methods.
4. Students can become best decision makers by avoiding the biased thinking up to possible extent by expressing relationships between concepts through imagination, shallow and deep processing of memory etc.
5. Students can understand the role of public in political system of India by predicting the needs of common people and can make policies to influence the politician as well as public by understanding political psychology.
6. Students can understand forensic psychology and can work to deal with witness' tools and concepts to address policy issues such as National income, investment, choice of technique, international trade and role of Public Finance.
7. Students can understand the theories of learning, role of counseling to improve interpersonal relations in family and professional settings.
8. Students can understand the concepts of the human development, and the various models of child development and can evaluate the role of parenting, schooling etc. in child development.
9. Students can understand human psychology and division of labour phenomenon, so can design and help in creating ambience and instruments for human wellbeing.
10. Students can generate advertisement ideas to influence the buying behaviour of human.
11. Students can become motivational speakers.
12. Students can deal with clients suffering from clinical mental disorders.

Course outcome of Economics

1. Students can recognize and appreciate the diversity of views that have historically been expressed about economic problems and alternative economic systems.
2. Students can understand the concepts such as supply and demand, the consumer and the producer equilibrium, the determination of price in different markets, various aspects and problems of Indian economy.
3. Students can identify, interpret, and analyze quantitative economic data to discuss the accuracy, the bias and variance of possible measurement and estimation procedures by expressing relationships between concepts through mathematical tools, graphs and statistical analysis.
4. Students can understand the role of public policies in addressing issues of unemployment, poverty, inflation, exchange rates, balance of payments and economic growth in a liberalized world.
5. Students can understand macroeconomic tools and concepts to address policy issues such as National income, investment, choice of technique, international trade and role of Public Finance.
6. Students can understand the theories of International trade and role of various national and international organizations and institutions in developing international trade in recent times.
7. Students can understand the concepts of under development, the human development, the various models of economic development and can evaluate the role of planning in India.

Course outcome of English Compulsory

1. It will help the students to develop literary sensibility, critical thinking, and sharp vision, penetrating to create a thrust for literature.
2. The objective of this course is to take an integrative approach to the appropriate use of English in different situations and for different purposes.
3. It cuts across the curriculum and broadens the learners' perceptions of the world by exposing them to a variety of topics based on contemporary socio-cultural issues.
4. Students are trained in communication at various levels by providing proactive training in Speech, Oral, Writing and Business Skills.
5. Students are empowered to be active participants/contributors in the critical societal issues.
6. The learners are equipped with skills that will enable them to cope with understanding the core theoretical principles behind grammar. It is also intended to develop continuing proficiency in communication.

Course outcome of English Literature

1. Studying literary books gives students access to the full range of English studies.
2. Alongside the traditional range of English Literature, students can develop their spill in creative writing and film scripts, popular song and new media.
3. It helps students develop a critical understanding of the representation of allegedly ‘natural’ or ‘universal’ concepts.
4. It boosts students imagination thereby it enhances their capability to respond independently and intellectually to make informed choices for future development.
5. By understanding the world around them through different literatures in English students. It makes them better human being.

Course Outcome of Physical Education

1. It will help the students to become Instructors in Physical Education, Directorate, Coaches and Dieticians.
2. Students are able to become Referees to conduct games, Commentators, Teachers in Schools, Colleges & Universities.

Course Outcome of History

1. Students will be able to demonstrate thinking skills by analyzing, synthesizing and evaluating Historical information from multiple sources.
2. Students will develop the ability to distinguish between fact and fiction while understanding that there is no one Historical truth.
3. Students will produce well researched written work that engages with both Primary Sources and Secondary Literature.
4. Students will develop an informed familiarity with multiple cultures.
5. Students will employ a full range of techniques and methods used to gain historical knowledge.
6. Students will develop an ability to convey verbally their historical knowledge.
7. Students will demonstrate their understanding of cause and effect along with their knowledge of the general chronology of Human experience.

Course outcome of Journalism & Mass Communication

1. Students can pursue MJMC after B.A. in Journalism and Mass Communication, which will make them eligible to get job as journalists in media (Print/Broadcast or online) industry. Students can become Public Relation Officers too after MJMC. They can also join Advertisement Industry.
2. Students become eligible to pursue M.Phil. or Ph.D They can also appear for NET to pursue their career in teaching.
3. Students can make career in film Industry too after the completion of MJMC degree.

Course outcome of Punjabi Compulsory

- Develop regard in the mother tongue.
- Students can self expression.
- Students will understand the other scholars thoughts.
- Create interest in reading books.
- Increase the knowledge of students.
- Develop moral values in students.
- Develop interest in creativity.
- All round development.

Course outcome of Punjabi Literature

- Students can learn phonetics, graphology, morphology, syntax, semantic, computing- linguistics, stylistics.
- Students can get knowledge of all types of literature Novel, story, play, prose, poetry etc.
- This subject make students perfect in conversation, debate, interviews, autobiography etc.
- With the help of literature, students follow grammatical rules in writing, reading language.
- Literature creates interest in creativity.
- Literature build language teacher which can teach Punjabi literature in future.
- Students can self expression.
- Students can social, intellectual and moral values develop.
- Students will be able to get knowledge of culture and folklore.
- Punjabi Literature develop Source of pleasure in students.
- Students personality will increase and all around development.

Course outcome of Course Outcome of Drug Abuse: Problem, Management & Prevention

1. Students learn about drug abuse and its prevalence in the society.
2. Students get the knowledge of different types of drugs and their short and long term effects.
3. Students become aware of causes and consequences of drug abuse.
4. Students get information of management and prevention of drug abuse.

Course Outcome of Environmental & Road Safety Awareness

1. Environmental Studies is a multidisciplinary subject that gives information about our surroundings.
2. Students learn about various types of pollutions, their causes and preventions.
3. Students learn about various renewable and non renewable natural resources as well as the ways of energy conservation.
4. Students become aware of safety on roads, traffic signs, rules as well as first aid in road safety.

Course Outcome of Mathematics

1. Students can understand the concepts of algebra, geometry, trigonometry and beginning level calculus.
2. Students can develop an understanding of the underlying unifying structures of mathematics (i.e., sets, relations and functions, logical structure) and the relationships among them.
3. Students can understand the value of proof, the single factor that distinguishes mathematics from all other disciplines, and will demonstrate proficiency in writing and understanding proofs.
4. Students gain proficiency in transmitting mathematical ideas both orally and in writing.
5. Students can gain exposure to a variety of areas of mathematics and related fields such as computer science, the natural sciences, business and economics.
6. Students can gain experience investigating the real world problems and learn how to apply mathematical ideas and models to sort out those problems.
7. Students can develop the ability to read and learn mathematics on their own.
8. Students can understand the historical and contemporary role of mathematics and be able to place the discipline properly in the context of other human intellectual achievement.
9. Students can develop the ability to use statistical concepts to analyze real world issues.
10. Students can develop the ability to solve financial Mathematics problems.
11. Students can nurture the qualities of power of reasoning, creativity, abstract or partial thinking, critical thinking, problem solving ability.

Course outcome of Computer Applications

1. Can get the basic knowledge of Information Technology.
2. Can become a Java Programmer
3. Can become a System Administrator after getting the knowledge of Networking.
4. Can become a website designer.
5. Can become a C programmer.
6. Installation of software and Operating systems on various computers.

Program Name: B.Sc.(Biotechnology)

B.Sc. Biotechnology is a research oriented field with a fusion of Biology and Technology. Expected program outcomes are:

1. **Knowledge and understanding of**
    a. Microbiology and Cell biology (year I)
    b. Biochemistry, Biophysics, Genetics and Recombinant DNA Technology (year II)
    c. Immunology, Tissue culture Technology, Biochemical Engineering, Fermentation Technology, Environmental and Microbial Technology (Year III)
    d. Chemistry, English and Punjabi.

2. **Practical Skills**
    a. Students can demonstrate different Microbiological, Immunological as well as Biochemical Techniques.
    b. Students can demonstrate use of microorganisms in industries, agriculture, health and in bioremediation of environmental pollution.
    c. Students can demonstrate the separation and purification of biomolecules.

3. **Professional Skills**
    a. Students are eligible to pursue B.Ed., Post graduation or jobs in various Food, Chemical and Pharmaceutical industries.
    b. Students can appear for State and National level exams for Government jobs in Banking sector, FCI etc.

Program Specific Outcome

1. Students can apply their knowledge of biotechnological techniques to manipulate living organisms.
2. Students can design, optimize, analyse and scale up a bioprocess to develop value added products.

Course outcome of Microbiology

1. Students can demonstrate the application of Microbiology in different spheres of life as well as its relevance to Biotechnology
2. Students can demonstrate various methods used for the characterization, classification and identification of the microorganisms
3. Students can differentiate between prokaryotic and eukaryotic microorganisms as well as viruses with respect to their structure, reproduction and functions of their cell organelles
4. Students can demonstrate the working and applications of various microscopes as well as practical skills in microbiological techniques such as staining and growth of microorganisms.
5. Students can demonstrate the knowledge as to how microorganisms interact with the environment in terms of their beneficial and detrimental effects
6. Students can demonstrate the importance of microbial genetics and mutations in biotechnology.

Course outcome of Cell Biology

1. Students will be able to demonstrate cell structure and function in terms of cellular organelles, membranes and biological molecules.
2. Students will be able to demonstrate diversity and similarity of living organisms at organization levels

Course outcome of Bio Chemistry & Biophysics

1. Students can demonstrate an understanding of fundamental biochemical principles, such as the structure/function of biomolecules, metabolic pathways, and the regulation of biological/biochemical processes.
2. Students can demonstrate the knowledge of Intermediates in enzyme-catalysed reactions, specificity of enzymes, and the chemistry involved in enzyme action.
3. Students can demonstrate principal laws of thermodynamics, bioenergetics and chemical kinetics, and how these laws dictate the behaviour of chemical substances.
4. Students can demonstrate the working knowledge of different spectroscopic and chromatographic techniques and how these techniques can be used to detect, identify and quantify information about the atoms and molecules.
5. Students can demonstrate current biochemical and biophysical techniques to plan and carry out experiments. They can generate and analyze data, and appreciate the limitations of conclusions drawn from experimental data.

Course outcome of Genetics and R-DNA Technology

1. Students can demonstrate working knowledge in a defined skill set of molecular biology and biotechnology protocols including PCR, gene isolation and cloning, DNA sequencing, sequence analysis, genetic mapping
2. Students can delineate the steps used in gene manipulation, gene expression techniques, recombinant protein development, and relate these processes to current commercial and research applications
3. Students can describe the applications of molecular biology in areas such as transgenic plants and animals, vaccines and therapeutic agents

4. Students can assess the potential benefits and hazards associated with molecular biotechnology.

Course outcome of Environmental Biotechnology and Microbial Technology

1. Students can demonstrate an awareness of emerging concerns such as climate change, rising pollution levels, waste management or reductions in fossil fuels, and new technologies for addressing these such as vermin composting and bioremediation.
2. Students can demonstrate the principles of methods for wastewater treatment as well as various approaches to aerobic and anaerobic digestion of wastes
3. Students can demonstrate a clear understanding for the production of various enzymes, primary and secondary metabolites.
4. Students can explain the importance of patents, the impact of GMO versus non-GMO organism in processes, the pathway of biologics development and how various organizations regulate the steps of development of a human therapeutic.

Course outcome of Immunology and Tissue Culture Technology

1. Students will be able to understand the development of the immune system, innate and adaptive immunity, structure of immunoglobulins, antigen antibody reactions and compliment system
2. Students will be able to demonstrate role of immune system in hypersensitivity, autoimmunity, transplantation as well as the importance of vaccines.
3. Students will be able to demonstrate various methods of culturing plant and animal cells as well as tissues.

Course outcome of Biochemical Engineering and Fermentation Technology

1. Students can describe the variety of fermentation and subsequent processing approaches available for the manufacturing of biological products and design and operation of these systems an appreciation of the regulatory framework under which the industry operates
2. Students can evaluate quality of raw materials and their influence on the quality of final product.
3. Students have the caliber to describe malting, brewing, wine making spirit and dairy production processes from raw materials to final products

Course Outcome of Environmental & Road Safety Awareness

1. Environmental Studies is a multidisciplinary subject that gives information about our surroundings.
2. Students learn about various types of pollutions, their causes and preventions.
3. Students learn about various renewable and non renewable natural resources as well as the ways of energy conservation.
4. Students become aware of safety on roads, traffic signs, rules as well as first aid in road safety.

Course outcome of Course Outcome of Drug Abuse: Problem, Management & Prevention

1. Students learn about drug abuse and its prevalence in the society.
2. Students get the knowledge of different types of drugs and their short and long term effects.

3. Students become aware of causes and consequences of drug abuse.
4. Students get information of management and prevention of drug abuse.

Name of program: Bachelor of Library Science

Program outcome

1. B.Lib.Science is an Information gathering, storage and retrieval oriented field. Expected program outcomes are:

1. **Knowledge and understanding of**

   a) Foundation of libraries

   b) Role of libraries in society

   c) Role of libraries in educational organizations

   d) Organize the information sources to facilitate easy and effective usage.

   e) Classification and cataloging of documents

2. **Practical skills :**

   a) Students can make traditional catalogue card

   b) Students can classify the subject of documents according to CCC and DDC classification scheme.

   c) Student can work with basic application softwares like MS WORD, MS POWER POINT.

3. **Professional skills:**

   a) Student becomes eligible to pursue post graduation and jobs in various government and private organizations, information and documentation centers.

Program specific outcome

1. Students can develop the classification scheme with the help of classification principles.
2. Students can design the new Information system for gathering, storing and disseminating information.

Course outcome of Foundation of Library and Information Science

1. Students can understand Concept of Library-Definition, purpose and functions. Place of library in dissemination of information. Changing role of library in socio-economic development, education and recreation.
2. Students are enabled to know Librarianship as a profession & its Professional ethics, Role of library associations: ILA, IASLIC, ALA, CILIP, Promoters of Library and Information Services at national and international level.

Course outcome of Knowledge organization and information processing (Classification theory)

To develop the students' skill in information processing, organization and retrieval.

Concept of Library Classification: Need and purpose. Theory of Subjects: Basic, Compound, and Complex subjects and modes of subject formation.

Course outcome of Library classification (practice)

The aim of library classification practice is to enable the students to classify the subject of documents with the help of colon classification scheme and DDC.

Course outcome of Management of libraries and information centers

1. Students can understand organizing and managing library and information centers while applying principles, techniques and functions of management.
2. Housekeeping functions and managerial skill of library and information centers .

Course outcome of Library and its user

Students can develop their survey skill to check the effectiveness of services of the library by doing survey of users. Students can understand different categories of users and their information needs and familiarize them with types of information systems and information services.

Course outcome of Knowledge organization and information processing (Cataloging theory)

Students learn theory of cataloging and to study the principles. Students learn theoretical standard codes of cataloging CCC, AACR 2, RDA.

Course outcome of Knowledge organization and information processing (Cataloging practice)

Students are able to do cataloging of documents practically according to classified catalogue code(CCC) and Anglo American cataloging rules(AACR2).

Course outcome of Information Sources and Services

To develop the knowledge of students regarding basic reference and information source, to give them practice in the use of these in answering queries of users. Students are able to use information sources like encyclopedias, biographical, geographical, news digests.

Course outcome of Information and communication technology: Basics

To develop the usage of ICT in modern society to give the services of library to users effectively. Student acquaint with computers, computer architecture, system’s software, application software and use of ICT in libraries.

Course outcome of Media and Information literacy

Students can understand functions of media and information channels in society. Students are enabled to develop advanced skill of information gathering and acquaints them with various information sources. Students also understand the role of global and national level organizations for promoting media and information literacy.

Name of Course: Master of Science (Mathematics)

Program outcome

1. Students learn to know how and when to use technology.
2. Students become involved with professional organizations and develop network with successful former graduates of our programs. Such an exposure will aid them in establishing professional contacts, in gaining insight about future employment prospects, and in tailoring their education to complement their career goals
3. The students will have sufficient mathematical knowledge to begin a career in mathematics, applied mathematics or a related field.
4. The students will critically analyse theorems, proofs and larger mathematical writings for the completeness, accuracy and effectiveness of their presentation.
5. Gain experience while exploring open ended problems, learn to make conjectures and gather evidence to support or refuse these conjectures.
6. Students will learn mathematics through modelling real world situations.
7. Students will demonstrate the ability to use symbolic, graphical, numerical and written representations of mathematical ideas.
8. Students are able to discover the challenge of research in mathematics and statics.
9. Students will be able to write simple computer programs to perform mathematical computations.
10. Students will be able to present mathematics clearly to an audience of peers and faculty.

11. Students will learn how to access and utilise resources that will facilitate further mathematical study or research.

Program Specific Outcome

1. In first Semester students study Algebra-1, Mathematical Analysis, Topology-1, Differential Geometry and Linear Programming Problems.
2. In second Semester students study Algebra-II (Rings & Modules), Topology-II, Differential Equations-I, Functional Analysis, Complex Analysis.
3. In third Semester students study Field theory, Differential Equations-II, Complex Analysis-II, Optimization Techniques-I and Algebraic Topology
4. In fourth semester students study Optimization Techniques-II, Operation Research, Mathematical Methods, Commutative Algebra and Theory of linear operators.

Course outcome of Mathematics

1. Students will demonstrate the ability to use statistical concepts to analyze real world issues.
2. Students will demonstrate the ability to solve financial math problems.
3. Students can demonstrate how to write proofs properly.
4. Students can communicate mathematical ideas both orally and in writing
5. Students can investigate and apply mathematical problems and solutions in a variety of contexts related to science, technology, business and industry, and illustrate these solutions using symbolic, numeric, or graphical methods and solve unfamiliar math problems.
6. Students are enabled to simplify and evaluate algebraic expressions.

7. Students can use mathematical concepts in real world situations.
8. Students will apply basic algebra and geometry to problems in radiological sciences
9. Students can read, understand and construct correct mathematical and statistical proofs and use the library and electronic data –bases to locate information on mathematical problems.
10. Students can make vague ideas precise by formulating them in mathematical language
11. Students will demonstrate the ability to formulate models of natural phenomenon using differential equations.
    Students will compute the appreciation and depreciation in property values.
12. Students can develop an understanding of the underlying unifying structures of mathematics (i.e., sets, relations and functions, logical structure) and the relationships among them.
13. Students can understand the value of proof, the single factor that distinguishes mathematics from all other disciplines, and will demonstrate proficiency in writing and understanding proofs.
14. Students will be able to transmit mathematics' ideas both orally and in writing.
15. Students can gain exposure to a variety of areas of mathematics and related fields such as computer science, the natural sciences, business and economics.
16. Students can gain experience investigating the real world problems and learn how to apply mathematical ideas and models to those problems.
17. Students can develop the ability to read and learn mathematics on their own.
18. Students can understand the historical and contemporary role of mathematics and be able to place the discipline properly in the context of other human intellectual achievements.
19. Students can develop the ability to use statistical concepts to analyze real world issues.
20. Students can develop the ability to solve financial Mathematics problems.

21. Students can nurture the qualities of power of reasoning, creativity, abstract or partial thinking, critical thinking, problem solving ability.

Name of Program: M.Sc.(Information Technology)

Program Outcome

1. Students can do B.Ed.
2. Can do M.A.
3. Can join government sector jobs.

Program Specific Outcome

1. Students are able to do M.Tech., MCA
2. Students can become programmers.
3. Become website designers.
4. Become System Analysts.
5. Become computer teachers.

Course outcome of Information Technology

1. Can get the basic knowledge of Information Technology.
2. Can become a Java Programmer
3. Can become a System Administrator after getting the knowledge of Networking.
4. Can become a website designer
5. Can become a C programmer.
6. Installation of software and Operating systems on various computers.

Name of Program: M.Sc.(Information Technology) Lateral Entry

Program Outcome

1. Students can do B.Ed.
2. Can do M.A.
3. Can join government sector jobs.

Program Specific Outcome

1. Students are able to do M.Tech. or MCA
2. Students can become programmers.
3. Become website designers.
4. Become System Analysts.
5. Become computer teachers.

Course outcome of Information Technology

1. Can get the basic knowledge of Information Technology.
2. Can become a Java Programmer
3. Can become a System Administrator after getting the knowledge of Networking.
4. Can become a website designer
5. Can become a C programmer.
6. Installation of software and Operating systems on various computers.

Name of Course: Post Graduation of Computer Applications

Program Outcome

Students can join Government & Private sector jobs.

Program Specific Outcome

1. Students are able to do M.Sc.(IT) Lateral Entry
2. Students can become programmers.
3. Become Computer Technicians.

Course outcome of Computer Applications

1. Can get the basic knowledge of Information Technology.
2. Can become a Java Programmer
3. Can become a System Administrator after getting the knowledge of Networking.
4. Can become a website designer.
5. Can become a C programmer.
6. Installation of software and Operating systems on various computers.

Name of Program: M.A.(Punjabi)

Program Outcome

1. Students can pursue B.Ed. which will make them eligible to get jobs in schools as teachers.
2. Students can appear for State and National level exams for various Government Jobs including the prestigious exams like UPSC or PPSC as there is one full fledged paper of Punjabi in these exams.
3. They can also appear for banking exams, FCI and other such exams.

Program Specific Outcome

1. Students become eligible to pursue M.Phil. and Ph.D. They can also appear for NET to pursue their career in teaching.
2. Students gain ability to translate the literary works of other authors of Hindi, English etc.

Course Outcome of M.A.(Punjabi)

1. Students learn History of Punjabi Literature, novel, drama, poetry and criticism.
2. They also learn Linguistics, prose, Gurmat poetry, Legends, Sufi Poetry, Punjabi culture and Folklore.
3. Students come to know about the emergence of different genres in different time periods.

Name of course: B.Sc.(Medical)

Program Specific outcome

1. On graduating with a degree in B. Sc. Medical one can apply their knowledge of biology to study, identify and classify living organisms.
2. One can design, optimize, analyse and scale up a bioprocess to develop value added products. One can engage in apiculture, sericulture, pisciculture mushroom cultivation etc. in better way.

Program outcome

(a)Discipline specific knowledge and understanding:

i. Virus, bacteria, Cell biology, Genetics, Concepts of Evolution, Environmental Ecology, Taxonomy along with specific topics of

- Zoology (Nonchordates, Chordates, Biochemistry and Physiology Embryology, Diseases, Lab. Techniques).
- Botany (Diversity of microbes, cryptogams; systematics of Gymnosperms and Angiosperms; plant anatomy, plant physiology, economic botany; development and reproduction of flowering plants).

ii. Chemistry, English, Punjabi, Environmental studies

(b) Transferable skills :

(i) Oral and written communication: Communicate with clarity and coherence, concepts and arguments in Biological Sciences

(ii) Numeracy: Demonstrate the capacity to analyze and criticize data from experimental procedures.

(iii) Team working: Demonstrate the ability to work as part of a group.

(iv) Problem solving: Apply a scientific approach to the solution of problems in context of their chosen specializations and appreciate the rationale of experimental design.

(v) Information handling: Demonstrate the capacity to access a variety of materials and to analyze evidence from both experimental procedures and the literature. the ability to think independently, set tasks and solve problems

(vi) Skills for lifelong learning: Demonstrate the acquisition of the skills and attributes necessary for lifelong learning, including: intellectual independence, effective time management, the ability to work as part of a team, and the capacity to access and utilize a variety of materials.

❖ **Practical skills:**

- Students can demonstrate various techniques like section cutting, staining, mounting; temporary and permanent slide preparation; chromatography, biochemical analysis and their effective utilization for study of various aspects of plants, animals.
- Students learn to analyze observations statistically in ecological and genetic studies.

- ♦ Students can perform various medical laboratory tests.
- ♦ Students can identify plants and animals on the basis of their external characters.
- ♦ Students can demonstrate the dissection of organisms to study body systems.
- ♦ Students can carry out routine investigations as instructed, using ecological methodologies and data analyses.

❖ **Professional Skills**

- ➢ Students are eligible to pursue for B.Ed., Post graduation or jobs in various fields like education, industry, business or agriculture, field etc.
- ➢ Students can appear for state level and National level exams for Government jobs in different sectors like Banking, FCI, police services etc.

Course Outcome of B.Sc.(Medical)

❖ Describe the structure, diversity and reproduction of the organisms studied; describe how organisms are classified and identified; describe mechanisms for the life processes and also how the physiology of an organism fits it for its environment; show an appreciation of the integration of metabolism; describe knowledge of the basic genetic principles and evolution in general and of the organisms studied; appreciate the interactions of organisms with each other and the environment; appreciate the importance of the behaviour of the organisms studied.

- Understand how the chemistry and structure of the major biological macromolecules, including proteins and nucleic acids determines their biological properties; understand how the principles of genetics underlie much of the basis of modern molecular biology; understand the main principles of gene expression, the structure and function of cell membranes and other cell organelle; cell differentiation; cell metabolism including the main anabolic and catabolic pathways; have knowledge of enzyme structure and function.
- Demonstrate knowledge of biogeochemical cycles and pathways; describe and exemplify nutrient and energy flow through individuals, populations and communities; describe the structure, biogeography and diversity of ecosystems in relation to climate, geology, soils, palaeo-historical and evolutionary factors; fossilization and geological time scale: students come to know about evolutionary development of organisms from unicellular to most advanced ones; describe and exemplify patterns of distribution of organisms in relation to biotic and abiotic factors; demonstrate knowledge of population processes, dynamics and interactions, and community structure, demonstrate awareness of human interactions with natural populations and ecosystems including habitat modification, pollution, exploitation and conservation; demonstrate awareness of significance of species as resources and as damage-causing organisms