Session 2020-21

Programme and Course Outcomes

Programme: B.A.

Overall Programme Outcome (PO)

PO 1: The students will acquire knowledge in the field of social sciences, literature, computers, mathematics which will develop critical temper, logical skills, analytical competence and creative ability. They will become sensitive and sensible enough to apply acquired knowledge in real life situations for upliftment of the society.

PO 2: The proficiency in languages will help the students to be adapted in writing and speaking and will be instrumental in developing the learners' communication skills.

PO 3: The students will be familiar with the social, political and economic set up of the nation. Thus, by acquiring the insight of it, they would become responsible citizens and they will be able to participate in nation building.

PO 4: The Programme will empower the students to appear in competitive exams or choose the post graduate programme of their choice.

PO 5: The programme has a capacity to make the learners aware of the climate and atmosphere around the globe. Numerous environmental issues have been identified as issues of global concern. The learners will be able to sensitize the society regarding these concerns.

PO 6: Various courses under this programme will enhance the prospects of employability by developing creative, communication and computer skills of the students. The programme will also enable them to be self- sustainable in this highly competitive world.

ENGLISH LITERATURE

Course Outcomes

Course Outcomes (SEM-I)

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

- Develop literary and critical thinking;
- Enrich their knowledge of 'What is Literature?', Why do we study Literature? Literature and Society, Relevance of Literature in today's world;
- Equip them with literary terms pertaining to Prose and will use these terms in analyzing literary texts;
- Analyse prominent literary essays from different historical periods.
- Comprehend, analyse and interpret prose other than the prescribed literary texts;
- Develop their interest in reading so that they may engage in life-long learning;
- Learn and use IPA symbols; and
- Study basics of phonology of English and will be able to pronounce effectively.

Course Outcomes (SEM-II)

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

- Develop a literary and critical thinking.
- Read short stories from different cultural contexts and will comprehend that human values and emotions are universal.
- Analyse characters, themes, setting, and atmosphere by connecting the stories with real life situations
- Critically analyse novel 'The Old Man and Sea' by Earnest Hemingway.
- Examine characters, point of view, setting, atmosphere, irony and other literary devices employed in the novel.
- Equip themselves with literary terms pertaining to fiction and will use these terms in analyzing literary texts.
- Enrich their vocabulary and use the new words and phrases in their conversation and writing

Course Outcomes (SEM-III)

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

- Enrich their knowledge of history of English Literature from Chaucer to 18th century.
- Familiarize with important literary terms pertaining to drama.

- Develop their understanding of drama with the help of two literary texts- Julius Caesar and She Stoops to Conquer
- Acquaint themselves with prominent literary texts of historical period from Chaucer to 18th Century.
- Equip themselves with theory of drama, tragedy, literary devices pertaining to drama, setting, characters and theme.
- Learn to connect the story with real life situations.

Course Outcomes (SEM IV)

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

- Analyse literary masterpieces and interpret them critically in writing.
- Develop their interest in study of classics.
- Enrich their background of history of English Literature.
- Comprehend, analyse and interpret classics of English other than the prescribed literary texts.
- Learn basic nature, branches and history of linguistics.
- Get knowledge of scientific aspect of Linguistics.
- Acquaint themselves with Morphology, Syntax and Inflection.
- Learn grammatical categories and constituent structures.

Course Outcomes (SEM V)

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

- Enrich themselves with different historical periods- Romantic Period, Victorian Period and Modern Period.
- Learn literary terms/concepts pertaining to drama.
- Acquaint themselves with prominent literary texts of historical period Romantic Age to Modern Age.
- Develop aesthetic sense by reading poems belonging to different historical periods.
- Analyse literary devices incorporated in the texts.
- Deconstruct the text and find out in-depth meaning.
- Employ knowledge of literary traditions and devices to produce imaginative writing.
- Write analytically in a variety of formats, including research papers and critical reviews.

Course Outcomes (SEM VI)

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

- Read literary masterpieces from different cultural contexts.

- Appreciate literature and focus on extensive reading of texts.
- Analyse things critically and will be able to make learning process enjoyable by watching cinematic adaptations of the prescribed texts.
- Develop their understanding of different cultures.
- Understand that human values are universal in nature.
- Learn cultural, political and social aspects of different countries.
- Improve pronunciation skills
- Acquire knowledge of organs of speech, vowel, diphthongs, consonants and word accent in detail.

PUNJABI COMPULSORY
Course Outcomes

Course Outcome (Co)

pMjwbI lwzmI : bI.ey.Bwg pihlw (smYstr pihlw Aqy dUjw)

1. ividAwrQI ies rwhIN jIvn- jwc, nYiqk kdrW kImqW, AwDuink Xu`g ivc bzurgW dw siqkwr Aqy irSiqAW dI t`ut-B`j nUM smJx Aqy hW p`KI rv`eIey nUM Apnwaux dy Xog ho jWdw hY[

2. ividAwrQI AwDuink kQw khwxIAW rwhIN smkwlI, smwijk, AwriQk, rwjnIiqk, Dwrimk pRsiQqIAW nUM smJx dy smr`Q ho jWdw hY[

3. ividAwrQIAW nUM pMjwbI BwSw Aqy sMswr dIAW hor BwSwvW nUM Su`D rUp ivc bolx, is`Kx Aqy ilKx dw igAwn pRwpq ho jWdw hY[

4. ividAwrQI v`Ko–v`Kry iK`qy iv`c bolIAW jwx vwlIAW pMjwbI dIAW aup-BwSwvW rwhIN v`Ko-v`Kry ik`iqAW nwl sMbMiDq SbdwvlI nUM jwxn Aqy smJx dy kwibl ho jWdy hn[

• bI.ey. Bwg dUjw (smYstr qIjw Aqy cOQw)

1. ividAwrQI smkwlI lyKkW duAwrw smwijk, AwriQk, rwjnIiqk, Dwrimk pRsiQqIAW nUM smJdw hoieAw auhnW nUM auh nwtkI Aqy kwivk AMdwz iv`c pyS krn dy Xog bx jWdw hY[

2. ividAwrQI ies rwhIN pMjwbI BwSw dI ilKq dy hoNd iv`c Awaux dy pVwvW bwry jwxkwrI hwisl krdw hY ^ws krky pMjwbI BwSw dI ilpI gurmuKI bwry[

3. ies ivSy dy mwiDAm rwhIN ividAwrQI BwSw dy mu`Fly pRbMD nUM smJ ky iksy dUjI BwSw dy pRbMD nUM smJx dy smr`Q bxdw hY[

- **bI.ey. Bwg qIjw (smYstr pMjvW Aqy CyvW)**

1. ies ivSy dy mwiDAm rwhIN ividAwrQI glpI vwqwvrx nUM smJ ky s`c Aqy JUT dw inKyVw krdw hoieAw nYiqk jIvn jwc nUM Apnwaux dy Xog ho jWdw

2. purwqn prMprwvW, rIqI-irvwj, iq`Q-iqauhwr, irSqw-nwqw pRxwlI dI jwxkwrI hwisl krky AwDuink kwl rwhIN bdl rhy lokDwrweI pirpyKW nwl qulnw krn dy smr`Q ho jWdw hY[

HISTORY

Course Outcomes

Course Outcomes (SEM-I)

After completing the course, the students will able to:

- Understand the meaning of History, its emergence, and relationship with social science.
- Explain the nature and nature of History.
- Understand the types of history, like Ancient, Medieval, Modern etc.
- Students identify different type of sources; archaeological sources and literary sources and its importance in history.
- Students learn to draw maps, charts, diagrams etc relating to Hoistory
- Learn to read historical documents, maps and charts.
- Deevelop a taste to visit places of historical interests, archaeological sites, museums and archives.

Course Outcomes (SEM-II)

After completing the course, the students will able to:

- To study the facts, terms, concepts, events, etc.
- Recognize facts, terms, concepts, events, etc.
- To explore the information on maps, charts, diagrams, etc.
- Participate in historical dramas and mock sessions of historical events.
- Possess the sense of patriotism.
- Show respect towards other people's opinion, ideas, beliefs and
- Cooperate with others in the social and civic activities.

Course Outcomes (SEM-III)

After completing the course, the students will able to:

- Classify facts, events, terms, and concepts, etc.
- Illustrate events, trends, etc., by citing examples.
- Compare and contrast the events, trends and concepts, etc
- Explain events, terms, and concepts, causes and effects, trends, etc
- Discriminate between the significant and insignificant, important and less important causes, effects events, etc.
- Identify relationship between cause and effect, means and ends.

- Arrange facts, trends, etc., in a particular known order.
- Interpret the maps, charts, etc.

Course Outcomes (SEM-V)

After completing the course, the students will be able to

- Participate in debates and other forms of verbal historical discussion.
- Deliver a historical presentation orally.
- Identify biases of the authors of sources.
- Frame and answer historical questions
- Students will describe historical events from multiple perspectives.
- Students will formulate, sustain, and justify a historical argument using original ideas.
- Students will support arguments with historical evidence drawn from primary and secondary sources.
- Students will learn to understand, analyze, and evaluate both evidence and arguments.
- Students will learn to explain how and why important events happen and change over time occurs.

Course Outcomes (SEM-V)

- Understand the role of history in developing international understanding.
- Students will demonstrate knowledge of the chronology, narrative, major events, personalities and turning points of the history of the England, Europe, Asia and non-Western area.
- Students will offer multi-causal explanations of major historical developments based on a contextualized analysis of interrelated political, social, economic, cultural and intellectual processes.
- Students will correctly extract evidence from primary sources by analyzing and evaluating them in relation to their cultural and historical context and use that evidence to build and support an argument.
- Students will evaluate secondary historical sources by analyzing them in relation to the evidence that supports them, their theoretical frameworks, and other secondary historical literature.
- A glance at world map gives idea as to how closer are the countries to each other Students will learn the general course of human history in multiple areas of the world.
- Students will learn to understand the world contextually, that is, to interpret human experiences and the meanings people have given them in relationship to the place and time in which they occurred.

Course Outcomes (SEM VI)

- Students Identify the biases and overcome it

- Students will frame research questions.
- Students will access appropriate primary and secondary sources.
- Explain the principles of selecting History curriculum at different levels Describe the different approaches in arrangement of content in history
- Students will assess the reliability of sources and evaluate their content.
- Students will use sources to contextualize historical events and describe change over time
- Students will produce written evidence of research competence. The ability to engage critically with historical argument: identifying underlying theories, assumptions, and approaches.
- The ability to conduct original historical research using primary and secondary sources, and placing one's own work within historical debates.
- The ability to communicate historical knowledge, interpretations, and arguments clearly in writing, oral presentations, or public history projects.

POLITICAL SCIENCE

Course Outcomes

Course Outcomes (SEM-I)

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

- Understand the meaning, nature and scope of Political Science as a discipline.
- Distinguish between Political Science and Political Theory.
- Understand the subject in a multidimensional manner, especially with respect to Economics, History and Sociology.
- Understand the concept of State as the focal point of the subject.
- Appreciate the difference between State and Government, Society and Association.
- Understand the various ideas about origin of state like Social Contract and Evolutionary.
- Understand the various views about nature of state, particularly Liberal and Marxist View.
- To identify the functions of state according to Liberal and Marxist Perspectives.
- To comprehend the concept of Sovereignty and its various theoretical ideas like Monistic Theory and Pluralistic Theory.

Course Outcomes (SEM-II)

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

- Understand the meaning and characteristics of a Political System.
- Appreciate Easton's and Almond's ideas relating to functions of Political System.
- Realize the meaning of Rights and Duties and the relationship between the two.
- Understand the concepts of Liberty and Equality and how they both relate to each other.
- Comprehend the idea of Justice and its various dimensions.
- Understand the meaning of Democracy and its various theoretical perspectives Liberal and Marxian. In addition to this, the students will be able to see and visualize these concepts in their life and be able to further understand the functioning of a Political System.

Course Outcomes (SEM-III)

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

- Appreciate the making of the India's Constitution and the role of the Constituent Assembly.
- Understand the Preamble and and Basic features of India's Constitution.

- Realize the nature of Indian Federalism and the various new Emerging Trends
- Understand their Fundamental Rights and Fundamental Duties.
- Comprehend the various Directive Principles of State Policy
- Know the Election, Powers, Position and the Role of President.
- Understand the Composition and Powers of the Parliament and the role played by the Prime Minister.
- Comprehend the Powers of SC (esp. Judicial Review) and its Composition.

Course Outcomes (SEM-IV)

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

- Identify and appreciate the role of the various organs of the Government working at the State Level like the Governor, the State Legislature, the Council of Ministers and the High Court.
- Understand the nature of Party System in India.
- Identify the organization and the ideology of major Political Parties like Indian National Congress, BJP, SAD, DMK, AIADMK.
- Realize the role of Religion and Caste in Indian Politics.
- Comprehend the various dimensions of the Gender and Dalit Politics in India.
- Know the Composition and Powers of the Election Commission and the Electoral Reforms in India.
- Apply this knowledge in their lives and become responsible voters and citizens who are aware of their rights and duties.

Course Outcomes (SEM-V)

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

- Understand the Theoretical Framework of Comparative Politics and Comparative Method.
- Comprehend the British Political Tradition and the role of the Parliamentary Government, Monarchy, Cabinet and Parliament in the United Kingdom.
- Identify the various Features of Constitution and American Bill of Rights.
- Understand the role of the US President and Congress.
- Know the nature and working of the US Federal System.
- Compare and Contrast the Party System, Pressure Groups and the Judiciary.

Course Outcomes (SEM-VI)

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

- Understand the meaning and scope of International Politics.

- Comprehend the Realist and Idealist Approaches to International Politics.
- Understand the Concept and Elements of National Power.
- Appreciate System of Balance of Power and Collective Security.
- Comprehend the era of Cold War and Post Cold war era in International Politics.
- Understand the concept of Human Rights and the United Nations' Declaration of Human Rights.
- Realize the role and importance of Regional Organizations like SAARC and EU.
- Understand the idea World Peace and the role of United Nations.
- Apply this knowledge and understand how different democracies work and distinguish it with Indian System learnt in previous semesters.
- Gain a better understanding the International Politics and the role of various stakeholders.

ECONOMICS

Course Outcomes

Course Outcomes (SEM-I)

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

- Train students in basic economic microeconomic theory and Indian economy.
- Train students to apply economic concepts to complex economic realities.
- Enable students to have greater understanding about economic news and issues around the world.
- Discuss real world economic issues and problems facing the country and the world.
- Equip students with the fundamentals of economics and the fundamental economic techniques to think about a number of policy questions related to the operation of the real economy.

Course Outcomes (SEM-II)

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

- Understand the fundamentals of Microeconomics and explain the role of scarcity, specialization, opportunity cost and cost/benefit in economic decision-making.
- Identify the determinants of supply and demand; demonstrate the impact of shifts in both market supply and demand curves on equilibrium price and output.
- Examine the framework for learning about consumer/producer behavior and analyzing consumer/producer decisions
- Understand the development paradigm adopted in India since independence and evaluate its impact on economic as well as social indicators of progress and well being.

Course Outcomes (SEM-III)

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

- Train students in basic economic Macroeconomic Theory and Public Finance.
- Enhance the capability of students to understand the prevailing economic policy in totality and its impact on the development of an economy.
- Enable students to associate the historical and current economic phenomenon with existing economic theory and put their views on contemporary economic issues.
- Discuss real world economic issues and problems facing the country and the world.
- Equip students with the fundamentals of economics and the fundamental economic techniques to think about a number of policy questions related to the operation of the real economy.

Course Outcomes (SEM-IV)

The course aims at to:

- Train students in basic Macroeconomic Theory and International Trade.
- Enhance the capability of students to understand the prevailing economic policy in totality and its impact on the development of an economy.
- Enable students to associate the historical and current economic phenomenon with existing economic theory and put their views on contemporary economic issues.
- Discuss real world economic issues and problems facing the country and the world.
- Equip students with the fundamentals of economics and the fundamental economic techniques to think about a number of policy questions related to the operation of the real economy.
- Explain the fundamentals of money and banking.
- Identify the phases of the business cycle and the problems caused by cyclical fluctuations in the market economy.
- Analyze fiscal and monetary policy decisions to counter business cycle swings.
- Explain the mechanics and institutions of international trade and their impact on the macro economy.

Course Outcomes (SEM-V)

The course aims at to:

- Train students in basic Economic Development Theory.
- Discuss various theories of development in economics and policy responses to similar economic problems in different types of economic set-ups.
- Equip students with the fundamentals of economics and the fundamental economic techniques to think about a number of policy questions related to the operation of the real economy.
- Understand the basics of Development Economics, with in-depth discussions of the concepts of development, growth, poverty, inequality, as well as the underlying political institutions.
- Critically evaluate the arguments in various theories of development ranging from Classical, Keynesian, and Monetarist.
- Understand the role of economic policies in shaping and improving economic performance in agriculture, manufacturing and services.
- Analyse the working of the macroeconomy with long run economic phenomena like economic growth, technological progress, R&D and innovation.

Course Outcomes (SEM-VI)

The course aims at to:

- Train students in basic quantitative and statistical methods used in economics.
- Equip students with the mathematical and statistical techniques necessary for a proper understanding of the discipline.
- Equip students with the fundamentals of economics and the fundamental economic techniques to think about a number of policy questions related to the operation of the real economy.
- Apply the mathematical and statistical methods to the economic theory.
- Solve optimization problems in economic decision-making.
- Become more logical in making or refuting arguments.

PHYSICAL EDUCATION

Course Outcomes

Course Outcomes (SEM I)

- Students will be able to recognize the relationship between history, culture, physical activities and games including different agencies guiding principle.
- Student will apply basics principles of health and wellness to develop an informed, personal approach to cogitative, physical, biological, sociological health.
- Attain the physical fitness and performance as signify the knowledge of fitness concepts, principles and strategies.
- Students attain the knowledge of history, records, awards, different competitions.

Course Outcomes (SEM-II)

- Students attain the knowledge Psychology, Anthropometry, Sports Medicine, Sports training aspects.
- Attain the knowledge of fitness concepts, principles and strategies of sports training concepts.
- Identify the basics roles, guiding principle of agencies involved in sports field.
- Students get the understanding of measurements, rules, regulations, fundamental skills, specific skills, technique, officiating, demonstrate, equipments, materials about different games and event.

Course Outcomes (SEM-III)

- Understand the sports sciences concepts related to skillful movement, movement patterns, motor development and motor learning, biomechanics and developmental readiness to learn.
- Attain and apply basic different physical tricks, theories, training principles for health-related fitness protocol.
- Students attain the knowledge of fundamental skills, specific skills, technique of different event.
- Develop loco-motor movement skills such as stability, controlling movement.

Course Outcomes (SEM-IV)

- Understand the principles of lifetime fitness and will incorporate fitness activities into a healthy and active lifestyle.
- To develop the creativity movement activities and different events.
- Understand the scientific behavior and sportsmanship in physical activities.

- Understand the measurements, rules, regulations, officiating, demonstrate, equipments, materials about different games and event.

Course Outcomes (SEM-V)

- Identify the basics principles of sports sciences such as (Anatomy, Kinesiology, Physiology, Biomechanics, Psychology, Anthropometry, Sports Medicine, Sports training and Biology) and apply the knowledge to scientific approach to movement activities.
- To develop suitable training programs for the sport activities and also judge fitness and create appropriate fitness plans.
- To think critically about current issues in Physical Education and Sports also apply problem-solving skills when facing problems in a Physical Education learning context.
- Give a way of active lifestyle and understand the body responses by performing physical activity and provides opportunities for pleasure, brave and self- expression.

Course Outcomes (SEM-VI)

- Create a safe and successful fitness program using the knowledge and skills required at an intermediate level of physical fitness.
- Formulate his/her coaching philosophy, style, and objectives.
- Identify the concepts of sports management and sports marketing.
- Explain risk management, safety, and liability as it relates to fitness, sport activity, and facility.

PUBLIC ADMINISTRATION

Course Outcomes

Course Outcomes (SEM-I)

- To understand the nature and scope of Public Administration;
- To appreciate the methodological pluralism and synthesizing nature of knowledge in Public Administration;
- To comprehend the changing paradigms of Public Administration;
- To acquaint with the theories, approaches, concepts and principles of Public Administration;
- To understand the administrative theories and concepts to make sense of administrative practices.
- To Understand public administration theory and concepts from multiple perspectives

Course Outcomes (SEM-II)

Students will be able to:

- To identify the transformative role of Indian Administration;
- To make out the multi-dimensionality of problems and processes of Indian Administration;
- To understand the form and substance of Indian Administration;
- Acquaint with the functioning of the Indian administration, at central levels and the responses of these systems in addressing the concerns of the people
- Understand the Indian Administration role as the main instrument of State to achieve its developmental goals;
- Acquaint with the functioning of the Indian administration, at State levels;
- Appreciate the varying historical, socio-economic, political and other conditioning factors that gave Indian Administration its distinct nature to the learner; and
- Acquaint with the functioning of the Administrative Accountability: Legislative and Judicial Control.

Course Outcomes (SEM-III)

- To comprehend the nature, scope, structure & processes of human resource management;
- To identify the systems and processes of financial and material management;
- To appreciate institutional capacity building strategies and programmes;
- To understand the changing paradigms of Resources management;

- Understand the way in which the public power is exercised and public resources are managed and expanded;
- Unravel the varying methods of performance assessment of public institutions; and
- Appreciate the changing paradigms of human resource management.

Course Outcomes (SEM IV)

- To acquaint with the Budget making process in India;
- To understand the limitation of resources allocated to the ministries;
- To know about the different types of budget making process and their suitability in Indian scenario; and
- To critically understand the powers and weaknesses of the auditing bodies in india.

Course Outcomes (SEM-V)

- Comprehensively understand the concept of Local Governments;
- Familiarise with the functionaries involved in the Local Level Administration;
- To know about the legal, constitutional statuses of the offices associated with the local level Administration; and
- Critically Analyze their role and success as per the objective set up for their establishment.

Course Outcomes (SEM-VI)

- To understand the historical evolution and socio-economic, political, cultural and global context of Indian Administration;
  - Acquaint with India's development experience and changing role of administration.
- Understand the need, role and type of corporatization of governmental activities.
- Understand the theoretical and practical concepts behind the planning in India.
- To acquaint with the positive and negative aspects of the welfare policies designed in India.

COMPUTERS

Course Outcomes

Course Outcomes (SEM I)

Upon the completion of the course the learner will be able to:

- Familiarize with the types of computer, peripheral devices, memory management, multimedia and number system;
- Learn about working of various input and output devices;
- Learn about binary number representation along with its operations;
- Understand theoretical framework of internet and associated application of the internet;
- Acquire the knowledge about the binary number representation along with its operations; and
- Understand of the role of computers in business, education and society.

Course Outcomes (SEM-II)

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

- Have a basic knowledge of computer Hardware and Software;
- To understand business areas to which computers may be applied;
- Installation of Operating System (Windows), application software and to use Windows OS;
- Provide practical knowledge to Office tools (MS Word, Excel and Power Point):
- Use of MS-Word to type documents with various formatting;
- Creating and manipulating Datasheets for different applications; and
- Designing effective presentations using Power Point software
  Computer

Course Outcomes (SEM III)

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

- Understand of various concepts of programming language;
- Develop logics and analytical ability solve problem;
- Learn about procedural programming using functions;
- Design various flow control statements;
- Learn about various storage classes along with user defined data types;

- Acquire knowledge of file handling;
- Work with arrays of complex structure data types; and
- Understanding a concept of functional hierarchical code organization.

Course Outcomes (SEM-IV)

Upon the completion of the course the learner will be able to

- Familiarize with various features and applications of Database Management system;
- Acquire knowledge about database languages (DDL, DML, DCL);
- Learn how to design a database by using different data models;
- Understand the database handling during execution of the transactions along with concurrent access;
- Ability to perform various types of SQL queries; and
- Able to design a good database using normalization, decomposition and functional dependency.

Course Outcomes (SEM-V)

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

- Understand the intricacies of Object Oriented Programming including the features and peculiarities of the C++ programming language;
- Illustrate the concept of Inheritance, operator overloading, and polymorphism;
- Implement various objects oriented concepts to solve practical problems; and
- Apply the concepts of OOPs using C++ in programming.

Course Outcomes (SEM VI)

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

- Write and debug webpage using HTML;
- Knowledge and Use of web publishing and phases related with the website development;
- Make use of knowledge related to links, addresses, images and tables;
- Get knowledge of various formatting options on HTML page and web site; and
- Get Knowledge of Server Side programming.

Session 2020-21

Programme and Course Outcomes

Programme: B.Com.

Overall Programme Outcome (PO)

PO1- After completing three years of B.com, students will have a deep insight of fundamentals of commerce and other related disciplines like statistic, taxation, law, economics and finance.

PO2- The curriculum offers a numbers of courses to equip the students to face modern day challenges in field of business and profession.

PO3- The learners will acquire skills like communication, decision making and leadership qualities in solving day to day business affairs.

PO4- Students will have a comprehensive understanding of accounting skills, which can further be applied in their future careers and higher education.

PO5- The learners will involve in various practical work as tax consultant, audit assistant and other financial supporting services.

Course Outcomes (COs)
B. Com – I; Semester-1st and 2nd

BC 101 Punjabi
BC 102 Communication Skills
BC 103 Financial Accounting-I
BC 104 Business Law-I
BC 105 Computer Applications in Business
BC 106 Principles of Economics- I

B. Com Semester- 2ND
BC 201 Punjabi
BC 202 Communication Skills
BC 203 Financial Accounting-II
BC 204 Business Law-II
BC 205 Business Mathematics
BC 206 Principles of Economics- II
BC 101 Punjabi

BC-101: PUNJABI

COURSE OUTCOME

1. ividAwrQI ies rwhIN jIvn- jwc, nYiqk kdrW kImqW, AwDuink Xu`g ivc bzurgW dw siqkwr Aqy irSiqAW dI t`ut-B`j nUM smJx Aqy hW p`KI rv`eIey nUM Apnwaux dy Xog ho jWdw hY[

2. ividAwrQI AwDuink kQw khwxIAW rwhIN smkwlI, smwijk, AwriQk, rwjnIiqk, Dwrimk pRsiQqIAW nUM smJx dy smr`Q ho jWdw hY[

3. ividAwrQIAW nUM pMjwbI BwSw Aqy sMswr dIAW hor BwSwvW nUM Su`D rUp ivc bolx, is`Kx Aqy ilKx dw igAwn pRwpq ho jWdw hY[

4. ividAwrQI v`Ko–v`Kry iK`qy iv`c bolIAW jwx vwlIAW pMjwbI dIAW aup-BwSwvW rwhIN v`Ko-v`Kry ik`iqAW nwl sMbMiDq SbdwvlI nUM jwxn Aqy smJx dy kwibl ho jWdy hn[

BC 102 & 202: COMMUNICATION SKILLS

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

- Understand cultural diversity and values of life;
- Become well versed in effective business communication;
- Develop clear and lucid writing skill;
- Approach ideas with a creative bent of mind;
- Draft business correspondence effectively with great brevity and clarity;
- Relate with the nuances of business strategies and organisation with familiarity; and
- Enhance their employability by developing effective verbal communication skills.

BC 103 & 203 FINANCIAL ACCOUNTING-I & II

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

- Acquire conceptual knowledge of basics of accounting, prepare ledger accounts and do journal entries accordingly;
- Equip with the knowledge of accounting process and prepare financial statements in accordance with appropriate standards;
- Prepare Bank Reconciliation Statement from incomplete statements of Cash book and Pass Book.
- Understand Partnership accounts for admission, retirement, death of partner and dissolution of Partnership Firm;
- Understand the meaning of Hire- Purchase, Branch, Department and Consignment and also the preparation of the related accounts; and
- Apply previously acquired accounting and computer skills by using software Tally.ERP.9.0

BC 104 & 204 BUSINESS LAW-I & II

After completing this course the students will be able to:

- Appreciate the relevance of Law of Contract Act for an individual as well as for business houses along with the significance of forming, performing and discharging written and verbal contracts and agreements;
- Acquire knowledge about entering into special contracts like indemnity, guarantee, bailment, pledge and agency including the remedies available to the parties for the breach of contracts;
- Hold grip on basics of Sales of Goods Act including conditions, warranties, sale by auction and hire purchase agreements and Partnership Act that consists of nature, types, registration process, rights, duties, authorities and dissolution defined under the act;
- Gain knowledge about the contents like features, agreements and incorporation by registration covered under The Limited liability Partnership Act;
- Understand the significance of negotiable instruments like promissory note, bill of exchange and cheques in the day to day life and business under Negotiable Instrument Act;
- Understand the legal framework under the Consumer Protection Act and the procedure to seek justice under grievance redressal machinery and get deep insight into the Patent Act;
- Acquire knowledge about the provisions of Factories Act regarding health, safety and welfare of workers with additional provisions regarding employment of women, young person and Children; and
- Comprehend the purpose behind establishment of Right to Information Act and IT Act that describes objectives, penalties, powers, functions and the role of State, central and information commissions to handle appeals and grievances.

BC-105: COMPUTER APPLICATION FOR BUSINESS

After Completion of this Course the student will be able to:

- Understand the Practical aspects of MS-Windows 7;
- Learn the MS-Office 2007 including Ms-Word, Ms-PowerPoint, Ms-Excel and their utility in writing document, creating spreadsheet, preparation PowerPoint presentation;
- Learn working of computer system & its parts; and
- Learn Number system and technique to represent computer system architecture, every value that you are saving and getting into/from computer memory

BC-106 & 206: PRINCIPLES OF ECONOMICS I & II

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

- Understand theories and principles in microeconomics including demand theory, elasticity of demand and consumer equilibrium with utility and indifference curve analysis;
- Analyse the relationship between inputs used in production and the resulting output and cost, integrate the concepts of price and output decisions of firms and industry under

various market structure;

- Understand theories and principles in macroeconomics including national income, models of employment and output determination, consumption function and investment multiplier;
- Assess business fluctuations, expansions and recessions, long term macroeconomic growth trends and concept of Inflation;
- Apply these principles to analyze economic issues; and
- Communicate effectively using written and oral arguments about specific economic issues.

BC 201: Punjabi

1. ividAwrQI ies rwhIN jIvn- jwc, nYiqk kdrW kImqW, AwDuink Xu`g ivc bzurgW dw siqkwr Aqy irSiqAW dI t`ut-B`j nUM smJx Aqy hW p`KI rv`eIey nUM Apnwaux dy Xog ho jWdw hY[

2. ividAwrQI AwDuink kQw khwxIAW rwhIN smkwlI, smwijk, AwriQk, rwjnIiqk, Dwrimk pRsiQqIAW nUM smJx dy smr`Q ho jWdw hY[

3. ividAwrQIAW nUM pMjwbI BwSw Aqy sMswr dIAW hor BwSwvW nUM Su`D rUp ivc bolx, is`Kx Aqy ilKx dw igAwn pRwpq ho jWdw hY[

4. ividAwrQI v`Ko–v`Kry iK`qy iv`c bolIAW jwx vwlIAW pMjwbI dIAW aup-BwSwvW rwhIN v`Ko-v`Kry ik`iqAW nwl sMbMiDq SbdwvlI nUM jwxn Aqy smJx dy kwibl ho jWdy hn[

BC-205: Business Mathematics

After Completion of this Course the student will be able to:

- To analyse and demonstrate mathematical skills which is required in mathematical intensive areas in economics and business;
- Learn about mathematical applications in commerce, finance, economics etc.;
- Apply the knowledge in mathematic in solving business problems;
- Use simple and compound interest to do business calculations such as value of money, present value and future value and will be able to differentiate which math method should be used for different problems; and
- Use differential calculus to solve problems of finding maximum profits and minimum cost.

B. Com - II Semester-3rd and 4th

BC 301 Punjabi
BC 302 Communication Skills
BC 303 Principles of Business Management
BC 304 Corporate Accounting - I
BC 305 Income Tax – I
BC 306 Business Statistics

BC 401 Punjabi
BC 402 Communication Skills
BC 403 Company Law
BC 404 Corporate Accounting - I
BC 405 Income Tax – I
BC 406 Operation Research

COURSE OUTCOMEs

BC 301: Punjabi

1.ividAwrQI smkwlI lyKkW duAwrw smwijk, AwriQk, rwjnIiqk, Dwrimk pRsiQqIAW nUM smJdw hoieAw auhnW nUM auh nwtkI Aqy kwivk AMdwz iv`c pyS krn dy Xog bx jWdw hY[

2. ividAwrQI ies rwhIN pMjwbI BwSw dI ilKq dy hoNd iv`c Awaux dy pVwvW bwry jwxkwrI hwisl krdw hY ^ws krky pMjwbI BwSw dI ilpI gurmuKI bwry[

3. ies ivSy dy mwiDAm rwhIN ividAwrQI BwSw dy mu`Fly pRbMD nUM smJ ky iksy dUjI BwSw dy pRbMD nUM smJx dy smr`Q bxdw hY[

BC 302 & 402: Communication Skills

After Completion of this Course the student will be able to:

- Develop overall linguistic competence and communication skills;
- Understand and be aware of cultural diversities and problems of the world;

- Make abstracts and summaries of business proposals;
- Communicate in an ethical manner;
- Demonstrate effective verbal and non-verbal skills through presentations;
- Participate in brainstorming sessions in a business organization; and
- Gain proficiency in soft skills required for national and global placements.

BC 303 PRINCIPLES OF BUSINESS MANAGEMENT

After Completion of this Course the student will be able to:

- Define the meaning, scope, significance, functions and process of management;
- List the characteristics, process and types of plans and understand the difference between delegation and decentralisation of authority and types of organisation structure;
- Have an insight of the process of recruitment, selection and various types of training provided to the employee; and
- Learn various theories of motivation and leadership and types of leadership styles along with importance of communication and Co-ordination.

BC 304 & 404 CORPORATE ACCOUNTING-I & II

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

- Acquire knowledge of corporate accounts, accounting standards and to describe various practices and procedures related to Company Act, 2013;
- Understand the basic structure and redemption of share capital and debentures, ability to grasp knowledge of right issue and bonus share;
- Develop ability to understand underwriting of shares, preparation of income statement, position statement and consolidate balance sheet for holding company;
- Learn Accounting Standard-14 that helps them to know the process of Amalgamation and Internal reconstruction, interpretation and preparation of liquidation final accounts; and
- Enlarge capability to understand the concept and preparation of accounts related to banking and insurance company, calculation of profit prior to incorporation.

BC 305 & 405 INCOME TAX LAW-I & II

After completing this course the students will be able to:

- Define the procedure of direct tax assessment;
- Identify the five heads in which income can be categorized;
- Understand clubbing provisions, aggregation of income after set-off and carry forward of losses;
- Compute total income and define tax complicacies and structure; and
- Learn about appeal & revision, tax penalties, offences and prosecutions.

BC 306 BUSINESS STATISTICS

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

- Understand basic concepts of Statistics such as collection of data, tabular and graphical representation of data;
- Calculate Measures of Central Tendency, Dispersion, Correlation and Regression analysis;
- Analyze time series and its trend including seasonal indices. CO4: solve the problems relating to Index number; and
- Understand the concept relating to forecasting, and they would be able to forecast the demand and sales of companies or industries

BC 401: Punjabi

1. ividAwrQI smkwlI lyKkW duAwrw smwijk, AwriQk, rwjnIiqk, Dwrimk pRsiQqIAW nUM smJdw hoieAw auhnW nUM auh nwtkI Aqy kwivk AMdwz iv`c pyS krn dy Xog bx jWdw hY[

2. ividAwrQI ies rwhIN pMjwbI BwSw dI ilKq dy hoNd iv`c Awaux dy pVwvW bwry jwxkwrI hwisl krdw hY ^ws krky pMjwbI BwSw dI ilpI gurmuKI bwry[

3. ies ivSy dy mwiDAm rwhIN ividAwrQI BwSw dy mu`Fly pRbMD nUM smJ ky iksy dUjI BwSw dy pRbMD nUM smJx dy smr`Q bxdw hY[

BC 403 COMPANY LAW

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

- Understand the background of new companies Act, 2013 and kinds of companies;
- Acknowledge and explicate the three important documents for incorporation and commencement of Business of Company: Memorandum of Association, Articles of Association and Prospectus;
- Specify various types of shares and share capital and elucidate the alteration of MOA, AOA and consequences of misrepresentation in prospectus; and
- Recognize the powers and duties of directors and know various forms of winding up of company.

BC 406 OPERATIONS RESEARCH

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

- Understand concepts, scope and techniques of operations research for business decision making;
- Appropriately formulate linear programming models and application of or techniques to solve these Linear programming problems;
- Propose the strategy using decision making method under uncertainty and game theory;
- Understand and interpret variety of problems such as assignment, transportation and travelling salesman, etc.; and
- Solve multilevel decision problems and simulate different real-life probabilistic situations using Monte Carlo simulation techniques

B. Com - III Semester- 5th and 6th

BC 501 Punjabi

BC 502 Management Accounting-I

BC 503 Cost Accounting-I BC 504

Indirect Taxes BC 505 Auditing

BC 506 Corporate Finance

B. Com - III Semester- 6th

BC 601 Punjabi

BC 602 Management Accounting-II

BC 603 Cost Accounting-II

BC 604 Business Environment

BC 605 Entrepreneurship and Governance

BC 606 Financial Planning

BC 501 PUNJABI

1. ies ivSy dy mwiDAm rwhIN ividAwrQI glpI vwqwvrx nUM smJ ky s`c Aqy JUT dw inKyVw krdw hoieAw nYiqk jIvn jwc nUM Apnwaux dy Xog ho jWdw

2. purwqn prMprwvW, rIqI-irvwj, iq`Q-iqauhwr, irSqw-nwqw pRxwlI dI jwxkwrI hwisl krky AwDuink kwl rwhIN bdl rhy lokDwrweI pirpyKW nwl qulnw krn dy smr`Q ho jWdw hY[

BC 502 & 602 MANAGEMENT ACCOUNTING-I & II

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

- Apply management accounting and its objectives in facilitating decision making;
- Give proper idea on financial statement analysis from practical point of view;
- Prepare Cash Flow and Funds Flow statements this helps them in planning for intermediate and long-term finances;
- Calculate various accounting ratios and analyse and interpret the liquidity, solvency, turnover and profitability by these ratios;
- Develop the know-how and concept of marginal costing with practical problems and applications of Marginal costing; and
- Acquaint the meaning and types of Budgets and the concept of budgetary control.

BC 503 & 603 COST ACCOUNTING-I & II

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

- Acquire in depth indulgent of cost accounting principles for identification, analysis and interpretation of cost components and ascertainment using various costing methods and procedures;
- Understand the basic structure of cost accounting and cost related concepts, preparation of cost sheet along with elements of cost, analyse and evaluate information related to material, labour and overhead costs;
- Develop ability to understand and calculate the cost through FIFO, LIFO and Average Method, cost determination through apportionment and absorption of overheads, over valuation and under valuation of overheads;
- Learn reconciliation of cost and financial account that help them to find out any discrepancies and error arising from cost accounts and to understand the basic fundaments of unit costing, identification of difference between job and contract costing;
- Enlarge capability to comprehend and calculate equivalent production, structure of process costing; and
- Identify the disparity between traditional costing and activity base costing.

BC 504 INDIRECT TAXES

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

- Understand the comprehensive structure of GST along with basic principles underlying the indirect system of taxation in India;
- Determine taxable event, taxable person, time, place and value of supply for implementation of SGST, CGST and IGST;
- Get a better understanding of the registration process for claiming input tax credit and requirement of filing various forms and documents like tax invoice, debit note, credit note and bill of supply etc.;
- Describe the powers and functions of GST Council and its role in the administration of GST;
- Compare the previous tax system and the present GST regime to critically examine the strengths and weaknesses of both systems; and
- Familiarize with types of custom duty, the modes of valuation, exemptions and procedures applicable for exports and imports under Indian customs act.

BC 505 AUDITING

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

- Know the basic principles governing an Audit and importance of an error-free financial statement;
- Get deeper insight in the role of Institute of Chartered Accountants of India for issuing auditing standards to conduct audit and other assurance engagements;
- Understand auditors' qualifications, disqualification, rights, duties and liabilities and acquire knowledge of audit evidence and documentation;
- Describe the procedure of vouching of cash and trading transactions, assets and liabilities in financial statements along with understanding of inherent risk involved in assessing and evaluating the financial statements; and
- Discuss the process of formulating the audit report and communicating the same to the client and the recent changes rising in the field of Auditing with special reference to Tax Audit and management Audit.

BC 506 CORPORATE FINANCE

After completing this course the students will be able to:

- Study the different techniques and methods while calculating time value of money and the applicability of the concept of corporate finance to understand the managerial Decisions and Corporate Capital Structure;
- Understand the objectives and process of investment decisions, its evaluation criteria using different techniques and models;
- Enlighten alternative sources of finance and investment opportunities and their suitability in particular conditions;
- Measure the criteria of proportionate investment in different securities under the capital structure decision;
- Apply different dividend theories while taking decisions concerning dividend pay-out ratio; and
- Analyse different issues which evaluate the requirements of working capital for the company's efficient performance.

BC 601 PUNJABI

1. ividAwrQI ies rwhIN jIvn- jwc, nYiqk kdrW kImqW, AwDuink Xu`g ivc bzurgW dw siqkwr Aqy irSiqAW dI t`ut-B`j nUM smJx Aqy hW p`KI rv`eIey nUM Apnwaux dy Xog ho jWdw hY[

2. ividAwrQI AwDuink kQw khwxIAW rwhIN smkwlI, smwijk, AwriQk, rwjnIiqk, Dwrimk pRsiQqIAW nUM smJx dy smr`Q ho jWdw hY[

3. ividAwrQIAW nUM pMjwbI BwSw Aqy sMswr dIAW hor BwSwvW nUM Su`D rUp ivc bolx, is`Kx Aqy ilKx dw igAwn pRwpq ho jWdw hY[

4. ividAwrQI v`Ko–v`Kry iK`qy iv`c bolIAW jwx vwlIAW pMjwbI dIAW aup-BwSwvW rwhIN v`Ko-v`Kry ik`iqAW nwl sMbMiDq SbdwvlI nUM jwxn Aqy smJx dy kwibl ho jWdy hn[

BC 604 BUSINESS ENVIRONMENT

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

- Understand relationship between environment and business, significance and changing dimensions of business environment;
- Analyse changing trends in micro and macro variables in India including the conceptual framework of BOP, employment, income, money supply, price level, saving and investment trends in the economy;
- Grasp the importance of planning undertaken by the government of India and familiarize with Economic System & its types, growth and performance of public and private sector in India;
- Understand importance of Fiscal, Monetary and New economic policy and their impact on Indian economy; and
- Interpret the current trends in India's foreign trade and the functioning of international economic groupings.

BC 605 ENTREPRENUERSHIP AND GOVERNANACE

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

- Understand the needs and beginning of entrepreneurial class and communicate the applicability of different entrepreneurial theories.
- Evaluate the different factors who affect the growth of entrepreneurs and developments of women entrepreneurship.
- Analyse the role of EDP's and different financial or non-financial authorities for sustainability and encouraging entrepreneurship.
- Understand the role of business ethics for sound business,
- Apply different theories and principles of business ethics in a business organisation.
- Understand the conceptual framework of corporate governance by following the recommendations of clause 49 and Kumar Mangalam Birla committee.
- Understand the concept of 'corporate social responsibility (CSR)' and its different aspects related with business ethics & corporate governance.

BC 606 FINANCIAL PLANNING

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

- Understand and demonstrate the basics of financial planning like nature, advantages, process and legal aspects involved in developing financial plan;
- Discuss various investment options available in capital and money market and will have clear understanding of objectives, rewards and constraints while investing funds.
- Familiarize with the concept of risk, return, time value of money, portfolio and diversification needed to evaluate the performance of financial planning;
- Synthesize information to develop a successful financial plan and evaluate tax saving instruments; and
- Analyse the need of life and health insurance and the role of investor's grievances and redressal system in India.

Session 2020-21

Programme and Course Outcomes

Programme: B.Com (Honours)

Overall Programme Outcome (PO)

PO-1: After completing three years Bachelors in Commerce with honours, students would gain a thorough grounding in the fundamentals of Commerce and finance.

PO-2: The commerce and finance focussed curriculum offers a number of specializations and practical exposures which would equip the student to face the modern day challenges in Commerce and Business.

PO-3: The all inclusive outlook of the course offers a number of value based and joboriented courses ensures that students are trained up to date and the student will be able to do higher education and advanced research in the field of Commerce and Finance.

PO-4: The knowledge of accounting beyond fundamentals results in affective development of the students, hence will make them progress to valuing and organization levels.

PO-5: Students will gain through systematic and subject skills within various disciplines of commerce, business, accounting, economics, statistics, and finance, auditing and direct and indirect taxes

B. Com (Honours) - I Semester-1st

Code Course

BCH 101 Punjabi
BCH 102 Communication Skills
BCH 103 Fundamentals of Financial Accounting-I
BCH 104 Business Organization
BCH 105 Micro Economics
BCH 106 Business Law-I

BCH 201 Punjabi
BCH 202 Computer Application In Business
BCH 203 Fundamentals of Financial Accounting-II
BCH 204 Functional Management
BCH 205 Macro Economics
BCH 206 Business Law-II

BCH 101: PUNJABI

ਪੰਜਾਬੀ ਵਿਸ਼ੇਦੀ ਪੜ੍ਹਾਈ ਉਪਰੰਤ ਵਿਦਆਰਥੀਆਂ ਦੀ ਯੋਗਤਾ ਅਤੇਸਮਰਥਾ ਵਿਚ ਸਾਰਥਕ ਿਾਧਾ ਹਿੰਗਾ

1. ividAwrQI ies rwhIN jIvn- jwc, nYiqk kdrW kImqW, AwDuink Xu`g ivc bzurgW dw siqkwr Aqy irSiqAW dI t`ut-B`j nUM smJx Aqy hW p`KI rv`eIey nUM Apnwaux dy Xog ho jWdw hY[

2. ividAwrQI AwDuink kQw khwxIAW rwhIN smkwlI, smwijk, AwriQk, rwjnIiqk, Dwrimk pRsiQqIAW nUM smJx dy smr`Q ho jWdw hY[

3. ividAwrQIAW nUM pMjwbI BwSw Aqy sMswr dIAW hor BwSwvW nUM Su`D rUp ivc bolx, is`Kx Aqy ilKx dw igAwn pRwpq ho jWdw hY[

4. ividAwrQI v`Ko–v`Kry iK`qy iv`c bolIAW jwx vwlIAW pMjwbI dIAW aup-BwSwvW rwhIN v`Ko-v`Kry ik`iqAW nwl sMbMiDq SbdwvlI nUM jwxn Aqy smJx dy kwibl ho jWdy hn[

BCH 102: COMMUNICATION SKILLS

After completion of this course student will be able to:

- Develop clear and lucid writing skills;
- Approach ideas with a creative bent of mind;
- Draft business correspondence effectively with great brevity and clarity;
- Develop overall linguistic competence and communication skills; and
- Show proficiency in soft skills required for national and global placements.

BCH 103: FUNDAMENTALS OF FINANCIAL ACCOUNTING-I

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

- Acquire conceptual knowledge of basics of accounting, prepare ledger accounts and do journal entries accordingly.
- Equip themselves with the knowledge of accounting process and preparing financial statements in accordance with appropriate standards.
- Prepare Bank Reconciliation Statement from incomplete statements of Cash book and Pass Book.
- Understand Partnership accounts for admission, retirement, and death of partner and dissolution of Partnership Firm.
- Understand the meaning of Hire- Purchase, Branch and Department and also the preparation of the related accounts.
- Able to apply previously acquired accounting and computer skills by using software Tally.ERP.9.0

BCH 104: BUSINESS ORGANIZATION

At the end of this course students will able to:

- Have an insight of nature and scope of Business organization;
- Understand various forms of business Organization;
- Acknowledge various factors while selecting suitable location of business;
- Evaluate various sources for attracting and retaining Human resources;
- Acquire knowledge about the concept of Entrepreneurship and identify various opportunities in contemporary business environment; and
- Familiarize with the basic concepts of Marketing Management.

BCH 105: MICRO ECONOMICS

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

- Understand theories and principles in microeconomics including demand theory,

elasticity of demand and consumer equilibrium with utility and indifference curve analysis;

- Analyze the relationship between inputs used in production and the resulting output and cost, integrate the concepts of price and output decisions of firms and Industry under various market structure;
- Understand theories and principles in macroeconomics including national income, models of employment and output determination, Consumption function and investment multiplier;
- Assess business fluctuations, expansions and recessions, long term macroeconomic growth trends and concept of Inflation;
- Apply these principles to analyze economic issues; and
- Communicate effectively using written and oral arguments about specific economic issues.

BCH 106: BUSINESS LAW-I

After completing this course the students will be able to:

- Understand the basic aspects of contracts for making the agreements, contracts and subsequently enter valid business propositions;
- Learn legitimate rights and obligations under the Sale of Goods Act;
- Understand the fundamentals of the Patent Act, 1970;
- Acquire skills to initiate entrepreneurial ventures as LLP;
- Understand the fundamentals of internet based activities under the information and Technology Act; and
- Understand the working of negotiable instruments under the Negotiable and Instrument Act 1881.

BCH 201: PUNJABI

ਪੰਜਾਬੀ ਲਾਜ਼ਮੀ ਵਿਸ਼ੇਦੀ ਪੜ੍ਹਾਈ ਉਪਰੰਤ ਵਿਵਦਆਰਥੀਆਂ ਦੀ ਯੋਗਤਾ ਅਤੇਸਮਰਥਾ ਵਿਚ ਸਾਰਥਕ ਿਾਧਾ ਹਿੰਗਾ

1. ividAwrQI smkwlI lyKkW duAwrw smwijk, AwriQk, rwjnIiqk, Dwrimk pRsiQqIAW nUM smJdw hoieAw auhnW nUM auh nwtkI Aqy kwivk AMdwz iv`c pyS krn dy Xog bx jWdw hY[

2. ividAwrQI ies rwhIN pMjwbI BwSw dI ilKq dy hoNd iv`c Awaux dy pVwvW bwry jwxkwrI hwisl krdw hY ^ws krky pMjwbI BwSw dI ilpI gurmuKI bwry[

3. ies ivSy dy mwiDAm rwhIN ividAwrQI BwSw dy mu`Fly pRbMD nUM smJ ky iksy dUjI BwSw dy pRbMD nUM smJx dy smr`Q bxdw hY[

BCH 202: COMPUTER APPLICATION IN BUSINESS

After Completion of this Course the student will be able to:-

- Understand the Practical aspects of MS-Windows 7;
- Learn the MS-Office 2007 Including Ms-Word, Ms-PowerPoint, MsExcel;
- Acqaint himself with working of computer system & its parts; and
- Learn Number system. A technique to represent computer system architecture, every value that you are saving and getting into/from computer memory.

BCH 203: FUNDAMENTALS OF FINANCIAL ACCOUNTING-II

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

- Acquire conceptual knowledge of basics of accounting, prepare ledger accounts and do journal entries accordingly;
- Equip themselves with the knowledge of accounting process and preparing financial statements in accordance with appropriate standards;
- Prepare Bank Reconciliation Statement from incomplete statements of Cash book and Pass Book;
- Expound Partnership accounts for admission, retirement, death of partner and dissolution of Partnership Firm;
- Understand the meaning of Hire- Purchase, Branch and Department and also the preparation of the related accounts; and
- Apply previously acquired accounting and computer skills by using software Tally.ERP.9.0.

BCH 204: FUNCTIONAL MANAGEMENT

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

- Understand the meaning, scope, significance, functions and process of management;
- Enlist the characteristics, process and types of plans and understand the difference; between delegation and decentralisation of authority and types of organization structure;
- Become aware of the process of recruitment and selection and types of training provided to the employee on joining the organization;
- Interpret the concept of motivation, its types and various theories of motivation; and
- Have an insight of meaning of leadership and types of leadership styles along with importance of communication and Co-ordination.

BCH 205: MACRO ECONOMICS

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

- Understand theories and principles in microeconomics including demand theory,

elasticity of demand and consumer equilibrium with utility and indifference curve analysis;

- Analyze the relationship between inputs used in production and the resulting output and cost, integrate the concepts of price and output decisions of firms and Industry under various market structure;
- Understand theories and principles in macroeconomics including national income, models of employment and output determination, Consumption function and investment multiplier;
- Assess business fluctuations, expansions and recessions, long term macroeconomic growth trends and concept of Inflation;
- Apply these principles to analyze economic issues; and
- Communicate effectively using written and oral arguments about specific economic issues.

BCH 206: BUSINESS LAW-II

After completing this course the students will be able to

- Interpret the basic aspects of contracts for making the agreements, contracts and subsequently enter valid business propositions;
- Learn legitimate rights and obligations under the Sale of Goods Act;
- Equip himself with the fundamentals of the Patent Act, 1970;
- Acquire skills to initiate entrepreneurial ventures as LLP;
- Understand the fundamentals of internet based activities under the information and Technology Act; and
- Understand the working of negotiable instruments under the Negotiable and Instrument Act 1881.

B. Com (Honours) - II Semester-3rd and 4th

BCH 301 Banking Operations and Procedures

BCH 302 Corporate Accounting-I

BCH 303 Income Tax Law-I

BCH 304 Business Statistics

BCH 305 Company Law

BCH 306 Seminar

BCH 401 Fundamentals of Insurance

BCH 402 Corporate Accounting-II

BCH 403 Income Tax Law-II

BCH 404 Business Mathematics

BCH 405 Auditing Practices

BCH 406 Indian Economy

BCH 301: BANKING OPERATIONS AND PROCEDURES

At the end of the course the student will be able to:

- Outline various functions performed by Modern Banks;
- Understand the Liability occur in case of dishonor of cheque;
- List different type of accounts which customer can open with Banker;
- Demonstrate an awareness of law and practice in a Banking context;
- Outline various services rendered by commercial banks.

BCH 302: CORPORATE ACCOUNTING-I

At the end of the course, the students will be able to:

- Acquire the knowledge of corporate accounts, accounting standards and to describe various practices and procedures related to Company Act, 2013;
- Understand the basic structure and redemption of share capital and debentures, ability to grasp knowledge of right issue and bonus share;
- Develop ability to understand underwriting of shares, preparation of income statement, position statement and consolidate balance sheet for holding company;
- Accounting Standard-14 helps the students to know the process of Amalgamation and Internal reconstruction, interpretation and preparation of liquidation final accounts; and
- Enlarge capability to understand the concept and preparation of accounts related to banking and insurance company, valuation of shares and goodwill.

BCH 303: INCOME TAX LAW-I

After completing this course the students will be able to

- Understand the basic concepts in the law of income tax and determine the residential status of different persons;.
- Identify the five heads in which income is categorized and to compute income under the heads salary, income from house property, capital gains, profit and gain from business and profession and income from other sources;
- Understand clubbing provisions, aggregate income after set-off and carry forward of losses;
- Identify deductions out of gross total income and computation of total income in regard to different assesses; and
- Know the concept of advance payment of tax, tax deducted at source, appeals and refunds will enable the students to deal with the assessment procedure.

BCH 304: BUSINESS STATISTICS

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

Understand basic concepts of Statistics such as collection of data, tabular and graphical representation of data.

Calculate Measures of Central Tendency, Dispersion, Correlation and Regression analysis.

Analyze the time series, trends, moving average and computation of seasonal indices.

Solve the problems relating to Index number.

Understand the concept relating to forecasting, and they would forecast the demand and sales of companies or industries.

BCH 305: COMPANY LAW

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

- Understand the background of New Companies Act, 2013 and kinds of companies;
- Acknowledge and explicate the three important documents for incorporation and commencement of Business of Company: Memorandum of Association, Articles of Association and Prospectus;
- Specify the various types of shares and share capital and elucidate the alteration of MOA, AOA and consequences of misrepresentation in prospectus; and
- Recognize the powers and duties of directors and know various forms of winding up of company.

BCH 306: SEMINAR

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

Understand the practical aspect of financial accounting using Tally ERP 9.0.

Learn the procedure of e-return-filing for individuals.

Know about various deductions and calculation of rebate while assessing the income of individuals under the guidance of CA.

Use their theoretical knowledge of accounting and finance in practical training.

BCH 401: FUNDAMENTALS OF INSURANCE

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

- Have a basic understanding of the insurance mechanism. It explains the concept of insurance and how it is used to cover risk, the relationship between insurers and their customers and the importance of insurance contracts;
- Acquire knowledge about the Concept and nature of Insurance;
- Understand the fundamentals of contract of insurance;
- Enlist various types of Insurance provided by insurance sector in India CO-5: Analyze the Recent trends in Insurance sector in India; and
- Understand regulatory framework of Insurance under IRDA

BCH 402: CORPORATE ACCOUNTING-II

At the end of the course, the students will be able to:

- Acquire knowledge of corporate accounts, accounting standards and to describe various practices and procedures related to Company Act, 2013;
- Understand the basic structure and redemption of share capital and debentures, ability to grasp knowledge of right issue and bonus share;
- Develop ability to understand underwriting of shares, preparation of income statement, position statement and consolidate balance sheet for holding company;
- Accounting Standard-14 helps the students to know the process of Amalgamation and Internal reconstruction, interpretation and preparation of liquidation final accounts; and
- Enlarge capability to understand the concept and preparation of accounts related to banking and insurance company, valuation of shares and goodwill.

BCH 403: INCOME TAX LAW-II

After completing this course the students will get the knowledge of laws pertaining to levy of income tax in India and to enable students to apply the same practically.

- CO-1: Understand the basic concepts in the law oSf income tax and determine the residential status of different persons;
- CO-2: Identify the five heads in which income is categorized and to compute income under the heads salary, income from house property, capital gains, profit and gain from

business and profession and income from other sources;

- CO-3: Understand clubbing provisions, aggregate income after set-off and carry forward of losses;
- CO-4: Identify deductions out of gross total income and computation of total income in regard to different assesses; and
- CO-5: The concept of advance payment of tax, tax deducted at source, appeals and refunds will enable the students to deal with the assessment procedure.

BCH 404: BUSINESS MATHEMATICS

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

- Acquaint with the concepts and types of matrices and determinants and solve the system of linear equations in matrices;
- Appropriately formulate linear programming models and application of OR techniques to solve these Linear programming problems.
- Analyze real world scenarios to formulate and solve the problems using simple and compound interest;
- Know about annuities its,types, its amount and present value and then interpret and clearly communicate the results; and
- Understand and interpret variety of problems such as assignment, transportation and travelling salesman, etc.

BCH 405: AUDITING PRACTICES

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

- Understand the main objectives underlying Audit and importance of an errorfree financial statement;
- Successfully differentiate between internal control, internal check types of audit and internal audit and appreciate the importance of different types of audits for different types of business houses;
- Get deeper insight in the role of Institute of Chartered Accountants of India for issuing auditing standards to conduct audit and other assurance engagements;
- Understand auditors' qualifications, disqualification, rights, duties and liabilities and acquire knowledge of audit evidence and documentation;
- Familiarize with the role of professional ethics and computerized Auditing in present scenario of work culture; and
- This course will help students to prepare for CA, CS and auditing specific competitive exams.

BCH 406: INDIAN ECONOMY

After completing this course the students will be able to:

- Equip themselves with the knowledge about Indian economy, its developments, new opportunities & problems, and role of different government authorities;
- Acknowledge the different development agenda of the economy during each five-year plan, like increasing national income, improving per capita income and quality of life & standard of living of the Indian people;
- Explain the problems and new opportunities in agriculture and industrial sector of Indian economy, new developments & government initiativesto face problems;.
- Evaluate the international relations through foreign policy, export and imports of India also tell about the balance of payment position (surplus or deficit); and
- Acknowledge about the targets and achievements of five year economic plans, new targets and opportunities of NITI Aayog for new India.

B. Com (Honours) - III Semester- 5th

BCH 501 Management Accounting-I

BCH 502 Cost Accounting-I

BCH 503 Indirect Taxes

BCH 504 Fundamentals 0f Entrepreneurship

BCH 505 E-Commerce

BCH 506 Money And Banking

BCH 601 Management Accounting-II

BCH 602 Cost Accounting-II

BCH 603 Financial Management

BCH 604 Corporate Governance & Social Responsibility of Business

BCH 605 Production and Operations Management

BCH 608 Financial Institutions and Markets.

BCH 501 MANAGEMENT ACCOUNTING-I

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

Apply management accounting and its objectives in facilitating decision making.

Give proper idea on financial statement analysis from practical point of view.

Prepare Cash Flow and Funds Flow statements this helps them in planning for intermediate and long-term finances.

Calculate various accounting ratios and analyse and interpret the liquidity, solvency, turnover and profitability by these ratios.

Develop the know-how and concept of marginal costing with practical problems and applications of Marginal costing.

Acquaint the meaning and types of Budgets and the concept of budgetary control.

BCH 502: COST ACCOUNTING-I

At the end of the course, the students will be able to:

- Acquire in depth indulgent of cost accounting principles for identification, analysis and interpretation of cost components and ascertainment using various costing methods and procedures;
- Understand the basic structure of cost accounting and cost related concepts, preparation of cost sheet along with elements of cost, analyse and evaluate information related to material, labour and overhead costs;

- Develop ability to understand and calculate the cost through FIFO, LIFO and Average Method, cost determination through apportionment and absorption of overheads, over valuation and under valuation of overheads;
- Reconciliation of cost and financial account help the students to find out any discrepancies and error arising from cost accounts and to understand the basic fundaments of unit costing, identification of difference between job and contract costing; and
- Enlarge capability to comprehend and calculate equivalent production, structure of process costing; identify the disparity between traditional costing and activity base costing.

BCH 503: INDIRECT TAXES

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

- Understand the comprehensive system of indirect taxes in India along with features and scope of GST;
- Compare the previous tax system and the present GST regime to critically examine the strengths and weaknesses of both systems;
- Explain the value of time and place for levy of tax, registration procedure for claiming input tax credit and Kelkar shah model of GST in comparison to Australian and Canadian model;
- Describe the powers and functions of GST Council and its role in the administration of GST;
- Familiarize with the concept of reverse charge mechanism, tax invoices, debit/credit note, returns and payments, appeals and returns under GST; and
- CKnow various types of custom duty, the modes of valuation, exemptions and procedures applicable for exports and imports under Indian Customs Act.

BCH 504: FUNDAMENTALS OF ENTREPRENEURSHIP

At the end of this course students will able to:

- Understand the meaning, scope and role of Entrepreneur in economic development.
- Identify the Psychological needs, Qualities for Entrepreneurship.
- Create awareness on various Entrepreneurship Development Programme.
- Learn about various Incentives provided by government for new Entrepreneur
- Understand legal requirement for establishing new unit by an Entrepreneur
- Acquire the Concept of Business Incubators in Promoting Entrepreneurship.

BCH-505 E-COMMERCE

After Completion of this Course the student will be able to:

- Understand the Meaning, Concepts, Importance, Functions of E-commerce, Difference

between E-commerce and E-Business;

- Have an insight of Internet and its relation of E-commerce, Problems and opportunity of e-commerce in India;
- Understand the framework of E-commerce, Supply chain Management, online business brick v/s pure online and click business;
- Learn various operations of E-commerce. Type of E-payment system, These strategies will help the learners to make safe use of digital payment system ,Concepts of E-marketing will helps the learners make effective use of electronic marketing channels; and
- Learn about E-governance applications. There utility in E-Government Websites

BCH-508 MONEY AND BANKING COURSE OUTCOMES

After completing this course the students will be able to:

- Learn about the Indian financial system by studying the concept money its evolutions & its usages, and banking, its role and performances in the India financial market;
- Understand the theories of money which evaluates the different determinants affecting the demand of money in the market;
- Highlight the different factors like interest rate structure which affect the money and credit creation in financial market;
- Understand the Indian banking system and explain the role of regulatory bodies in regulating the functions of the banks regards to their capital, borrowings etc.; and
- Acknowledge the role of commercial banking in developing the economy by facilitating the Indian public, providing facilities like borrowings, public deposits, internet banking, E-banking, mobile banking, retail banking etc. and maintain the monetary policy for the stability

BCH 601 MANAGEMENT ACCOUNTING-II

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

- Apply management accounting and its objectives in facilitating decision making;
- Give proper idea on financial statement analysis in practical point of view;
- Prepare Cash Flow and Funds Flow statements this helps them in planning for intermediate and long-term finances;
- Calculate various accounting ratios and analyse and interpret the liquidity, solvency, turnover and profitability by these ratios;
- Develop the know-how and concept of marginal costing with practical problems and applications of Marginal costing; and
- Acquaint himself with the meaning and types of Budgets and the concept of budgetary control.

BCH 602: COST ACCOUNTING-II

At the end of the course, the students will be able to:

- Acquire in depth indulgent of cost accounting principles for identification, analysis and interpretation of cost components and ascertainment using various costing methods and procedures;
- Understand the basic structure of cost accounting and cost related concepts, preparation of cost sheet along with elements of cost, analyse and evaluate information related to material, labour and overhead costs;
- Develop ability to understand and calculate the cost through FIFO, LIFO and Average Method, cost determination through apportionment and absorption of overheads, over valuation and under valuation of overheads;
- Reconciliation of cost and financial account help the students to find out any discrepancies and error arising from cost accounts and to understand the basic fundaments of unit costing, identification of difference between job and contract costing; and
- Enlarge capability to comprehend and calculate equivalent production, structure of process costing; identify the disparity between traditional costing and activity base costing.

BCH 603: FINANCIAL MANAGEMENT

After completion of this course students will be able to:

- Have good and in-depth understanding of the finance and importance of financial management in business concern;
- Understand the major objectives of financial management and their relationship with other functional areas;
- Gain information about various investment opportunities and their suitability in particular situations;
- Explain the sources & applications of finance and their effect on profit; and
- Examine company's performance by considering important determinants for effective decision making.

BCH-604 CORPORATE GOVERNANCE & SOCIAL RESPONSIBILITY OF BUSINESS

After completing this course the students will be able to

- Understand the concept of corporate governance in organization and its essence for management;
- Comprehend the governance framework for an organization provided by different regulatory bodies in India and Abroad;
- Identify the models of corporate social responsibility in India;
- Recognize the essence of ethics in business; and

- Differentiate between aspects of auditing especially for internal check, internal control and for overall corporate governance

BCH 605 PRODUCTION AND OPERATIONS MANAGEMENT

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

- Describe the objectives and functions of production management and the role of plant layout location in enhancing productivity and competitiveness;
- Analyze and evaluate various types of production and controlling systems and discuss the factors that affect production control;
- Expand knowledge regarding product quality control and set of techniques and tools for process improvements like TQM, ISO, QFD, SPC, KAIZEN, SIXSIGMA;
- Gain knowledge about material handling with various tools and techniques to enhance productivity of product, labour and material; and
- Get deep insight into the work, method and time study required for production and operation management which will help them to build career in manufacturing, product planning and development.

BCH 608 FINANCIAL INSTITUTIONS AND MARKETS

After completing this course the students will be able to:

- Acquaint himself with the working, performance and regulations of commercial banking, development finance, and investment finance and about the various risks faced by financial institutions.
- Develop the skills to identify the difference between Financial Institutions and Banking system in India
- Understand the concept of Non-Banking Finance Companies.
- Understand the financial problems and learn about markets are inter-linked, structured and regulated.
- Create an awareness of the current structure and regulation of the Indian financial markets and financial services.

Session 2020-21

Programme and Course Outcomes

Programme: B.C.A.

Overall Programme Outcome (PO)

PO-1: Identify, formulate, review and analyze complex problems using various techniques.

PO-2: Communicate effectively on complex activities and with the society at large and write effective documentation, make effective presentation and give and receive clear instructions.

PO-3: Function effectively as an individual, and as a member or leader or project manager in project team.

PO-4: Recognize the needs for, and have the preparation and ability to engage in independent and lifelong learning.

PO-5: Development of analytical, programming and logical skills.

BCA – I, Semester-1st and Second
Programme Outcomes

Code Course

BCA-111 General English – I

BCA-112 Punjabi (Compulsory) or Punjabi Compulsory (Mudla Gyan) **

BCA-113 Fundamentals of Information Technology

BCA-114 Programming Fundamentals using C

BCA-115 Software Lab –I (Windows and Office Automation)

BCA-116 Software Lab – II (Based on paper

BCA-114: Programming Fundamentals using C)

BCA-121 General English – II

BCA-122 Punjabi (Compulsory) or Punjabi Compulsory (Mudla Gyan) **

BCA-123 Digital Electronics

BCA-124 Data Structures

BCA-125 Basic Mathematics

BCA-126 Software Lab – III (based on BCA-124: Data Structures)

BCA-127 Drug Abuse : Problem, Management and Prevention***

BCA-111: General English – I

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

- Generate their competence of both active and passive elements of the English language i.e, writing and speaking and listening and reading;
- Deepen their understanding of accurate usage of English grammar in writing and speaking;
- Enlarge their vocabulary by keeping a vocabulary lexicon;
- Learn to transform their native language into the target language;
- Learn to write accurate English essays and letters; and
- Enhance their confidence by having translation drills and through speaking English practice sections

BCA-112: Punjabi (Compulsory)

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

1. ividAwrQI ies rwhIN jIvn- jwc, nYiqk kdrW kImqW, AwDuink Xu`g ivc bzurgW dw siqkwr Aqy irSiqAW dI t`ut-B`j nUM smJx Aqy hW p`KI rv`eIey nUM Apnwaux dy Xog ho jWdw hY[

2. ividAwrQI AwDuink kQw khwxIAW rwhIN smkwlI, smwijk, AwriQk, rwjnIiqk, Dwrimk pRsiQqIAW nUM smJx dy smr`Q ho jWdw hY[

3. ividAwrQIAW nUM pMjwbI BwSw Aqy sMswr dIAW hor BwSwvW nUM Su`D rUp ivc bolx, is`Kx Aqy ilKx dw igAwn pRwpq ho jWdw hY[

4. ividAwrQI v`Ko–v`Kry iK`qy iv`c bolIAW jwx vwlIAW pMjwbI dIAW aup-BwSwvW rwhIN v`Ko-v`Kry ik`iqAW nwl sMbMiDq SbdwvlI nUM jwxn Aqy smJx dy kwibl ho jWdy hn[

BCA-113: Fundamentals of Information Technology

After the completion of the course the learner will be able to:

- Familiarization with the types of computer, peripheral devices, memory management, multimedia and number system;
- Learn about working of various input and output devices;
- Learnt about binary number representation along with its operations;
- Understand theoretical framework of internet and associated application of theinternet;
- Acquire the knowledge about the binary number representation along with its operations; and
- Understand of the role of computers in business, education and society.

BCA-114: Programming Fundamentals Using C

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

- Understand of various concepts of programming language;
- Develop logics and analytical ability solve problem;
- Learn about procedural programming using functions;
- Acquired various flow control statements;
- Learn about various storage classes along with user defined data types;

- Acquire knowledge of file handling;
- Work with arrays of complex structure data types; and
- Understanding a concept of functional hierarchical code organization.

BCA-115: Software Lab-I

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

- Have basic knowledge of computer Hardware and Software;
- Understand business areas to which computers may be applied;
- Installation of Operating System (Windows), application software and to use Windows OS;
- Provide practical knowledge to Office tools (MS Word, Excel and Power Point);
- Use of MS-Word to type documents with various formatting;
- CO-6: Creating and manipulating Datasheets for different applications; and
- CO-7: Designing effective presentations using Power Point software.

BCA-116: Software Lab-II

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

- Design algorithms and flowchart to solve programming problems;
- Write, compile and debug programs in C language. Use different data types, operators and console I/O function in a computer program;
- Design programs involving decision control statements, loop control statements and case control structures;
- Understand the implementation of arrays, pointers and functions and apply the dynamics of memory by the use of pointers;
- Comprehend the concepts of structures and union: declaration, initialization and implementation; and
- Use the file operations, character I/O, string I/O, file pointers, and create/update basic data files.

BCA-121: General English – II

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

- Enhance their competence in writing and speaking skills to the next level;
- Make use of new lexical terms after going through verbs, adjectives and idioms;
- Learn to write with the accurate use of Active and Passive voices after completing the taught exercises by the teacher;
- Start writing in the reported speech that usually confuses the learner. The conversion of Direct Speech to Indirect Speech will create a crystal clarity to the learners;

- Learn different type of sentences e.g. Affirmative, Negative, Interrogative, Assertive, Exclamatory and so on; and
- The next level drills of the translation will help the students to create new complex sentences from their mother tongue to the target language.

BCA-122: Punjabi (Compulsory)

COURSE OUTCOMES

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

1. ividAwrQI smkwlI lyKkW duAwrw smwijk, AwriQk, rwjnIiqk, Dwrimk pRsiQqIAW nUM smJdw hoieAw auhnW nUM auh nwtkI Aqy kwivk AMdwz iv`c pyS krn dy Xog bx jWdw hY[

2. ividAwrQI ies rwhIN pMjwbI BwSw dI ilKq dy hoNd iv`c Awaux dy pVwvW bwry jwxkwrI hwisl krdw hY ^ws krky pMjwbI BwSw dI ilpI gurmuKI bwry[

3. ies ivSy dy mwiDAm rwhIN ividAwrQI BwSw dy mu`Fly pRbMD nUM smJ ky iksy dUjI BwSw dy pRbMD nUM smJx dy smr`Q bxdw hY[

BCA-123: Digital Electronics

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

- Acquire knowledge about Analog and Digital Systems and various digital logic gates;
- Distinguish between various number systems and their conversions and computer arithmetic;
- Develop K-Maps representation and simplification logic functions up to 4 variables;
- Understand, analyze and design various combinational and sequential circuits such as encoders, decoders and counters using multiplexers, and flip – flops; and
- Describe analog to digital and digital to analog conversion circuits.

BCA -124- BASIC MATHEMATICS

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

- Understand the concept and solve complex numbers and quadratic equations;
- Understand and use of co-ordinate geometry in modern scientific computing;
- Apply Matrices and Determinants for solving problems appropriate problems;

- Familiar with representation of floating point number system, arithmetic operation and errors in normalized floating point numbers; and
- Solve transcendental and simultaneous algebraic equations using different methods under different parameters.

BCA-124: Data and File Structures & BCA-126: Software Lab-III (based on BCA- 124)

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

- Be familiar with basic data structure and algorithms.
- Design and analyze programming problem statements
- Choose appropriate data structures and algorithms and use it to design algorithms for a specific problem;
- Handle operations like searching, insertion, deletion and traversing mechanism; and
- CO-5: Come up with analysis of efficiency and proofs of correctness.

BCA-127: Drug Abuse: Problem, Management andPrevention***

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

- Understand the extent of the problem of Drug Abuse and its prevalence;
- Differentiate Drug Abuse from Drug Dependence and Drug Addiction;
- Gain conceptual understanding about Drug tolerance and examine the difference between Physical and Psychological dependence on drugs;
- Identify short and long term effects and withdrawal symptoms of drugs like stimulants, depressants: Alcohol, Barbiturates, Narcotics, hallucinogens, steroids and Inhalants;
- Analyze the nature of the problem of Drug abuse by learning about vulnerable age groups, Physical, academic, behavioral and Psychological indicators;
- Evaluate the Physiological, Psychological and Sociological causes of drug abuse along with its consequences for individuals, families, society and the nation; and
- Understand the overview of Management and Prevention of Drug Abuse by visiting a Drug De-addiction Centre.

BCA - II Semester-3rd and 4th
Programme Outcomes

Semester-3rd

Code	Course
BCA-211	English Communication Skills – I
BCA-212	Punjabi (Compulsory) or Punjabi Compulsory (Mudla Gyan)**
BCA-213	Discrete Mathematics
BCA-214	Computer System Organization and Architecture
BCA-215	Object Oriented Programming using C++
BCA-216	Fundamentals of Database Management System
BCA-217	Software Lab – IV (Object Oriented Programming using C++ Lab)
BCA-218	Software Lab – V (DBMS using MS Access Lab)

Semester-4th

Code	Course
BCA-221	English Communication Skills – II
BCA-222	Punjabi (Compulsory) or Punjabi Compulsory (Mudla Gyan) **
BCA-223	Computer Networks
BCA-224	Management Information Systems
BCA-225	Computer Oriented Numerical and Statistical Methods
BCA-226	Relational Database Management Systems with Oracle
BCA-227	Software Lab – VI (Computer Oriented Numerical and Statistical Methods Lab)
BCA-228	Software Lab – VII (Oracle Lab)
BCA-229	Environmental and Road Safety Awareness (Qualifying Exam)

BCA-211: English Communications Skills - I

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

- Write with competency with a critical and creative insight.
- Understanding social and moral philosophy.
- Start forming new dialogues with the given paragraphs that will give them new dimensions to their foresight and creativity.
- Write and speak with accuracy and precision after going through the exercises of error in the sentences.
- The topic 'Curriculum Vitae' taught by the teacher will make the learner conscious about their earned credentials and the potentials to be generated.

BCA-212: Punjabi (Compulsory)

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

1. ividAwrQI smkwlI lyKkW duAwrw smwijk, AwriQk, rwjnIiqk, Dwrimk pRsiQqIAW nUM smJdw hoieAw auhnW nUM auh nwtkI Aqy kwivk AMdwz iv`c pyS krn dy Xog bx jWdw hY[

2. ividAwrQI ies rwhIN pMjwbI BwSw dI ilKq dy hoNd iv`c Awaux dy pVwvW bwry jwxkwrI hwisl krdw hY ^ws krky pMjwbI BwSw dI ilpI gurmuKI bwry[

3. ies ivSy dy mwiDAm rwhIN ividAwrQI BwSw dy mu`Fly pRbMD nUM smJ ky iksy dUjI BwSw dy pRbMD nUM smJx dy smr`Q bxdw hY[

BCA-213: Discrete Mathematics COURSE OUTCOMES

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

- Learn the mathematical reasoning and important problem solving skills;
- Understand the basic concepts of Set theory and foundation for imbedding logical reasoning in computer science;
- Understand and create mathematical arguments; and
- Apply the concept of Graph and tree in practical applications.

BCA-214: Computer System Organization and Architecture

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

- Understand computer organization and its working, processing of an instruction by the CPU.
- Understand the various other important component of a computer system like Memory, Registers, Arithmetic Logic unit, Control unit, Peripheral devices.
- Learn the concepts related with execution of instructions, working of addressing modes, interface and its use in the working of peripheral devices, interrupt signals, direct memory access.
- Learn the concepts related with digital electronics to understand the working of components like logic gates, flip flops, counters, and multiplexers etc., which are used to build components in a computer.

BCA-215: Object Oriented Programming using C++

After the completion of the course the learner will be able to

- Understand the benefits of Object-Oriented Programming (OOP) as compare to Traditional Programming approach and resolve problem in domain of object-oriented programming;
- Familiarize with a widely range of features of object-oriented programming using C++;
- Understand Object oriented approach for finding solutions to various problems with the help of C++ language;
- Understand the concept of polymorphism with the help function overloading and virtual functions;
- Acquire various types of various types and forms of inheritance; and
- Understand basic of generic functions and classes.

BCA-216: Fundamentals of Database Management System

Upon the completion of the course the learner will be able to

- Familiarization with various features and applications of Database Management system;
- Acquire knowledge about database languages (DDL, DML, DCL);
- Learn how to design a database by using different data models;
- Understand the database handling during execution of the transactions along with concurrent access;
- Perform various types of SQL queries; and
- Design a good database using normalization, decomposition and functional dependency.

BCA-217: Software Lab – IV (Object Oriented Programming using C++ Lab)

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

- Understand the intricacies of Object Oriented Programming including the features and peculiarities of the C++ programming language.
- Illustrate the concept of Inheritance, operator overloading, and polymorphism.
- Implement various objects oriented concepts to solve practical problems.
- Apply the concepts of OOPs using C++ in programming.

BCA-218: Software Lab – V (DBMS using MS-Access Lab)

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

- Understand database concepts and importance of database design;

- Understanding the concepts of DMBS architecture;
- Understand the objectives of normalization and what role it plays in the database design process; and
- Become proficient in creating and using tables, queries, reports and forms in MS-Access.

BCA-221: English Communications Skills - II

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

- Increase their reading rate and cognition of fiction via the novel The Old Man and The Sea;
- Improve their reading fluency skills through extensive reading;
- Enlarge their vocabulary by keeping a vocabulary lexicon while dealing with literature;
- Enhance their level of understanding of sentences after having the revisions of Narration & Active and Passive voices; and
- Generate accuracy in writing and speaking skills.

BCA-223: Computer Networks

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

- Understand the functions of different layers of TCP/IP and OSI reference models;
- Classify of networks-LAN, MAN and WAN;
- Identify and understand various techniques and modes of transmission media with real time applications; and
- Understand the fundamentals of network security.

BCA-224: Management Information System

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

- Understand the concept of information, system, value of information, elements of a system and role of information system.
- Understand the classification of MIS.
- Experience various stages in the development of MIS and applications of Information Systems in functional areas of MIS.
- Have a clear idea about DSS and its difference from MIS.

BCA-225: Computer Oriented Numerical and Statistical Methods and

BCA-227: Software Lab – VI (Computer Oriented Numerical and Statistical Methods)

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

- Solve algebraic equations using different methods under different parameters;
- Be familiar with numerical integration and differentiation;
- Analyze statistical data using measures of central tendency and dispersion;
- Calculate and interpret the methods of correlation and regression analysis; and
- Implement numerical and statistical methods in C/C++.

BCA-226: Relational Database Management System with Oracle &

BCA-228: Software Lab – VII (Oracle Lab)

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

- Understand the core terminology of Relational Database Management System;
- Understand and apply the concept of Transaction Processing, Concurrency Control Mechanism, and Recovery system in database;
- Comprehend Relational Query Languages; and
- Use SQL syntax for Data Administration, Manipulation and to query a database to retrieve information.

BCA-229: Environmental and Road Safety Awareness

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

- Understand the structure and function of an ecosystem and ecosystem links between environmental components and their role;
- Recognize the importance of environment and the sustainable of natural resources;
- Use scientific reasoning to recognize and comprehend environment issues and evaluate potential solutions;
- Well versed with environmental protection laws in India; and
- Understand the concept and significance of Road safety.

B.C.A – III Semester- 5th and 6th Semester
Programme Outcomes

Semester 5th

Code	Course
BCA-311	English Literary Skills – I
BCA-312	System Analysis and Design
BCA-313	System Software
BCA-314	Java Programming
BCA-315	Web Designing using HTML and DHTML
BCA-316	Software Lab – IX (based on paper BCA-314: Java Programming)
BCA-317	Software Lab – X (based on paper BCA-315: Web Designing using HTML and DHTML)
BCA-318	Punjabi (Compulsory) or Punjabi Compulsory (Mudla Gyan) **

Semester- 6th

Code	Course
BCA-321	English Literary Skills – II
BCA-322	E-Commerce
BCA-323	Operating Systems
BCA-324	Software Engineering
BCA-325	Web Designing using ASP.NET
BCA-326	Software Lab – XI (More on Java based on BCA-314: Java Programming)
BCA-327	Software Lab – XII (based on BCA-325: Web Designing using ASP.NET)
BCA-328	Punjabi (Compulsory) or Punjabi Compulsory (Mudla Gyan) **

BCA -311: English Literary Skills – I

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

- Attain the intrinsic knowledge of human behaviour by reading Popular Short Stories book;
- By learning new words pertaining to places, trades, church, marriage, arts and science, the learners will have more knowledge of physical and social entities;
- The grammar book will create accuracy and precision in students' writings and conversation;
- Bring the students to a new advanced level of learning the English language; and
- The prescribed lists of synonyms and antonyms will make the students more refined in selecting appropriate words for usage;

BCA-312: System Analysis and Design

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

- Understand the term System in the real world;
- Understand all terms and concepts related with the various systems existing;
- Learn Computer functioning as a System; and
- Understand all steps related with the creation of a System, starting from its analysis to its design to its implementation including the hardware software selection for the same.

BCA-313: System Software

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

- Learn and understand the System at the level of the operating system that is System software;
- Understand System in terms of the processors, loaders and linkers;
- Learn the working of Compilers as well as their construction and use; and
- Knowledge of various software tools like program developers, editors, debuggers and user interfaces.

BCA-314: Java Programming & BCA-316: Software Lab-IX

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

- Design programs involving decision control statements, loop control statements and case control structures;
- Understand the implementation of arrays, and functions and apply the dynamics of memory by the use of memory management schemes;
- Comprehend the concepts of classes and objects: declaration, initialization and implementation;

- Apply basics of object oriented programming, polymorphism and inheritance, Exception Handling, Multithreading;
- Use the file operations, character I/O, string I/O, and create/update basic data files; and
- Understand and learn the concepts of Applets.

BCA-315: Web Designing using HTML and DHTML &

BCA – 317: Software Lab- X

- Write and debug webpage using HTML and DHTML languages;
- Knowledge and Use of web publishing and phases related with the website development;
- Make use of knowledge related to links, addresses, images, and tables;
- Knowledge of various formatting options on HTML page and web site; and
- Knowledge of Server Side programming.

BCA-318: Punjabi Compulsory or Punjabi Compulsory

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

1. ies ivSy dy mwiDAm rwhIN ividAwrQI glpI vwqwvrx nUM smJ ky s`c Aqy JUT dw inKyVw krdw hoieAw nYiqk jIvn jwc nUM Apnwaux dy Xog ho jWdw

2. purwqn prMprwvW, rIqI-irvwj, iq`Q-iqauhwr, irSqw-nwqw pRxwlI dI jwxkwrI hwisl krky AwDuink kwl rwhIN bdl rhy lokDwrweI pirpyKW nwl qulnw krn dy smr`Q ho jWdw hY[

BCA-321: English Literary Skills-II

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

- Gain not only innate insight of human behavior but also the terms of drama by reading Short Plays book;
- Learnnew words referring to death, war, science and nature, the students will have supplementary knowledge of material and nature elements;
- Create accuracy and precision in students' writings and conversation;
- Bring the students to a new advanced level of learning the English language; and
- Make the students more polished in determining proper words for usage.

BCA-322: E-Commerce

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

- Understand E-commerce as a process;
- Learn the difference that exists between traditional and latest e-commerce procedures and outcomes;
- Understand the concepts and technologies like internet for implementation of e-commerce;
- Learn various consumer oriented e-commerce concepts in the form of models et cetera; and
- Get knowledge of advertisement and marketing using internet technology.

BCA-323: Operating SysteM

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

- Learn the mechanisms of OS to handle processes and threads and their communication;
- Use different data types, operators and console I/O function in a computer program;
- Learn the mechanisms involved in memory management in contemporary OS;
- Gain knowledge on distributed operating system concepts that includes architecture, deadlock detection algorithms and agreement protocols;
- Understand different approaches to memory management; and
- Understand the structure and organization of the file system.

BCA-324: Software Engineering

On completion of this course, the students will be able to:

- Understand the basic concepts, models, life cycle of software development.
- Learn higher level concepts like Re-engineering, Reverse Engineering, Forward Engineering, and CASE tools.
- Knowledge of all the steps of software engineering and their use and implementation in real problems
- Understanding of programming language and using it to develop software using all stages of software development.

BCA-326: Software Lab-XI

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

- Understand the basic concepts related with the development of software;
- Able to develop software both at simple level as well as complex level;
- Understand various models for software development;

- Understand the life cycle of a software;
- Learn higher level concepts like Re-engineering, Reverse Engineering, Forward Engineering, CASE tools;
- Knowledge of all the steps of software engineering and their use and implementation in real problems; and
- Understanding of programming language and using it to develop software using all stages of software development.

BCA-325: Web Designing using ASP.NET & BCA-327: Software Lab-XII

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

- Write, compile and debug programs using ASP.NET language;
- Know and use of different data types, operators, loops and other control structures in web programming;
- Design programs accepting user inputs and various other standard controls;
- Understand the implementation of arrays, and events;
- Comprehend the concepts of classes and objects: declaration, initialization and implementation;
- Apply the various rich web features like file uploads, debugging, caching and deploying ASP.NET pages et cetera;
- Understand and learn the concepts related with ASP.NET security, localizing ASP.NET applications; and
- Ability to develop programs to implement and use all the above specified concepts and features in programming.

BCA-328: Punjabi (Compulsory) or Punjabi

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

1. ies ivSy dy mwiDAm rwhIN ividAwrQI glpI vwqwvrx nUM smJ ky s`c Aqy JUT dw inKyVw krdw hoieAw nYiqk jIvn jwc nUM Apnwaux dy Xog ho jWdw

2. purwqn prMprwvW, rIqI-irvwj, iq`Q-iqauhwr, irSqw-nwqw pRxwlI dI jwxkwrI hwisl krky AwDuink kwl rwhIN bdl rhy lokDwrweI pirpyKW nwl qulnw krn dy smr`Q ho jWdw hY[

Session 2020-21

Programme and Course Outcomes

Programme: B.B.A.

Overall Programme Outcome (PO)

At the end of the **BBA** Programme, Graduates will be able to

PO-1: Acquire knowledge and skills in the field of management, accounting, marketing and human relations;

PO-2: Apply the entrepreneurial and managerial skills for effective business management;

PO-3: Acquire employability skills through the practical knowledge through two industrial training and industrial projects during the course;

PO-4: To comprehend applicability of management principles to situation in global business world; and

PO-5: Develop legal and ethical value for the continuous development of business venture.

B.B.A. 1st Year, Semester 1st and 2nd
Programme Outcomes

BBA -FIRST SEMESTER	
BBA-101	Communication Skills in Punjabi/ Elementary Punjabi
BBA-102	Business Economics-I
BBA-103	Business Mathematics
BBA-104	Business Organization and Management Principles-I
BBA-105	Workshop on Computer Applications
BBA-106	Seminar

BBA -SECOND SEMESTER	
BBA-201	Communication Skills in Punjabi/ Elementary Punjabi
BBA-202	Communication Skills in English
BBA-203	Business Economics-II
BBA-204	Business Statistics
BBA-205	Business Organization and Management Principles-II
BBA-206	Workshop on Internet & E-Commerce
BBA-207	Seminar
BBA-208	Viva-Voce

BBA-101 Communication Skills in Punjabi

COURSE OUTCOME

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

1. ividAwrQI ies rwhIN jIvn- jwc, nYiqk kdrW kImqW, AwDuink Xu`g ivc bzurgW dw siqkwr Aqy irSiqAW dI t`ut-B`j nUM smJx Aqy hW p`KI rv`eIey nUM Apnwaux dy Xog ho jWdw hY[

2. ividAwrQI AwDuink kQw khwxIAW rwhIN smkwlI, smwijk, AwriQk, rwjnIiqk, Dwrimk pRsiQqIAW nUM smJx dy smr`Q ho jWdw hY[

3. ividAwrQIAW nUM pMjwbI BwSw Aqy sMswr dIAW hor BwSwvW nUM Su`D rUp ivc bolx, is`Kx Aqy ilKx dw igAwn pRwpq ho jWdw hY[

4. ividAwrQI v`Ko–v`Kry iK`qy iv`c bolIAW jwx vwlIAW pMjwbI dIAW aup-BwSwvW rwhIN v`Ko-v`Kry ik`iqAW nwl sMbMiDq SbdwvlI nUM jwxn Aqy smJx dy kwibl ho jWdy hn[

BBA-102 Business Economics-I

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

- Explain the basic concepts of microeconomics and issues in business economics;
- Discuss the consumer equilibrium, utility analysis indifference curve and the demand and supply analysis;
- Examine the production and cost structure under different stages of production;
- Identify how and why equilibrium prices might change and their impact on resource allocation; and
- Recommend the pricing and output decisions under various market structure.

BBA-103 Business Mathematics

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

- State the mathematical skills which are required in business;
- Discuss various mathematical applications in Finance and Marketing etc.;
- Solve problems of Resource allocation by applying tools of Linear Programming, Transportation and Assignment problems;
- Examine various business solutions by applications of Game theory problems; and
- Students will be able to judge the reasonableness of obtained solutions.

BBA-104 Business Organization and Management Principles-I

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

- Describe the Nature and Scope of Business, Forms of Business Organizations and Formation of a Company ;
- Compare the Sole Trading Concerns, Partnership, Joint Stock Company, Co-operative Societies, Government and Business, Public Enterprise, Small Business;
- Examine the Functions of Management, Business Ethics, and Social Responsibility of Business;
- Interpret the interactions between the environment, technology, human resources, and organizations in order to achieve high performance;
- Examine the effectiveness of applications of management concepts; and
- Appraise different types, roles and styles of managers across organizations.

BBA-105: Workshop on Computer Applications in Business

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

- Describe the definition, features and classification of computers, concept of OS, Introduction to Windows;
- Explaine the difference between hardware and software. types of software system,

software and application software, interpreter;

- Assess the MS-Word, MS-Excel and MS-PowerPoint;
- Outline the steps for creating Creating, Saving, Opening, Importing, Exporting and Inserting Files. Formatting Pages, Paragraphs and Sections; and
- Use the various command for Auto Content Wizard. Creating Design Template on Blank Presentation. Slides Sorter View. Inserting Slides from Other Presentation. Inserting Pictures & Graphics. Slide Show, Printing Slides.

BBA 106- Seminar

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

- List the important events of the year in area of General, Social, Economic and Business Awareness
- Describe the business concepts and theories to real-world decision-making
- Illustrate business skills in communication, technology, quantitative reasoning, and teamwork.
- Compare and Contrast the different business operations.

BBA-201 Communication Skills in Punjabi

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

1. ividAwrQI ies rwhIN jIvn- jwc, nYiqk kdrW kImqW, AwDuink Xu`g ivc bzurgW dw siqkwr Aqy irSiqAW dI t`ut-B`j nUM smJx Aqy hW p`KI rv`eIey nUM Apnwaux dy Xog ho jWdw hY[

2. ividAwrQI AwDuink kQw khwxIAW rwhIN smkwlI, smwijk, AwriQk, rwjnIiqk, Dwrimk pRsiQqIAW nUM smJx dy smr`Q ho jWdw hY[

3. ividAwrQIAW nUM pMjwbI BwSw Aqy sMswr dIAW hor BwSwvW nUM Su`D rUp ivc bolx, is`Kx Aqy ilKx dw igAwn pRwpq ho jWdw hY[

4. ividAwrQI v`Ko–v`Kry iK`qy iv`c bolIAW jwx vwlIAW pMjwbI dIAW aup-BwSwvW rwhIN v`Ko-v`Kry ik`iqAW nwl sMbMiDq SbdwvlI nUM jwxn Aqy smJx dy kwibl ho jWdy hn[

BBA-202 Communication Skills in English

- Describing the Imaginative Use of Parts of Speech. How to Plan Paragraph Writing. How to Change Direct into Indirect Speech and Vice Versa.
- Cohesion. Substitution and Ellipsis. Sentence variation and Rewriting of Sentences.
- Uses of Imaginative Features. Idioms and Phrases. Letter writing Précis and Comprehension, Paraphrasing and Expansion
- Identifying the Fundamentals of Broadcasting. Radio as a Communication of Broadcasting. Radio as a Communication of Broadcasting TV Network in India and Education TV- Current Affairs and General Knowledge.

BBA-203 Business Economics-II

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

- Listing elements and characteristics define the business economics, distinguishing two basic types: macro and micro;
- Understand the process of calculating national income, identify its components, analyse the various income identities with government and international trade;
- DiscussSay's law of market, classical theory of employment and Keynes objection to the classical theory; demonstrate the principle of effective demand and income determination;
- Compare the National Income of various countries; and
- Know the relationship between investment and savings, demonstrate investment multiplier, and understand the meaning of MEC and MEI.

BBA-204 Business Statistics

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

- State the basic concepts of Statistics such as collection of data, presentation of data;
- Classify the various types of data based on its nature;
- Calculate Measures of Central Tendency, Dispersion, Correlation and Regression analysis;
- Analyze time series and its trend including seasonal indices;
- Judge the level of price changes using Index Numbers; and
- Plan and forecast the demand and sales of companies or industries using tools like Regression, Interpolation and Extrapolation.

BBA-205 Business Organization and Management Principles-II

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

- Define the role of individual employee in the organization;
- Understand fundamental concepts and principles of management, including the basic

roles, skills, and functions of management;

- Use the interactions between the environment, technology, human resources, and organizations in order to achieve high performance;
- Correlate realistic and practical applications of management concepts; and
- Appraise the roles and styles of managers across organizations

BBA- 206: Workshops on Internet and E-Commerce

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

- Write the Define Electronic Commerce, Brief History of Electronic Commerce, Forces Fuelling Electronic Commerce-Electronic Forces;
- Predict Marketing and Customer Interaction Forces. Technology and Digital Convergence, Implications of Various Forces, Types of Electronic Commerce;
- Examine the Inter-Organizational Electronic Commerce, Intra-organizational Electronic Commerce, Consumer to Business Electronic Commerce, Intermediaries and Electronic Commerce;
- Illustrate the Firewalls and Network Security – Types of Firewalls, Firewall Security Policies, emerging Firewall Management Issues;
- Assess Electronic Payment Technology, Online Shopping, Limitations of Traditional Payment Instruments, Electronic or Digital Cash- Properties of Electronic Cash, Digital Cash in Action; and
- Recommend the Emerging Financial Instruments-Debit Cards at Point of Sale. (POS), Debit Cards and Electronic Transfer Benefit , Smart Cards, Consumer's Legal and Business Issues.

BBA-207 SEMINAR

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

- Demonstrate confidence in their activities
- Develop effective communication skills
- Demonstrate strong abilities of working in teams
- Identify strategies to adapt to different situations
- Design and deliver effective presentations

B.B.A. 2nd Year, Semester 3rd and 4th
COURSE OUTCOMES

Third Semester

BBA-301	PRINCIPLES OF HUMAN RESOURCE MANAGEMENT
BBA-302	BUSINESS ACCOUNTING
BBA-303	PRINCIPLE OF MARKETING MANAGEMENT
BBA-304	BUSINESS LAWS
BBA-305	WORKSHOP ON CONTEMPORARY BUSINESS ISSUES
BBA-306	SEMINAR ON KNOWLEDGE MANAGEMENT
BBA-307	COMMUNICATION SKILLS IN PUNJABI/ELEMENTARY PUNJABI

Fourth Semester

BBA-401	FINANCIAL MANAGEMENT
BBA-402	WORKSHOP ON CREATIVITY &
BBA-403	SEMINAR ON ENTREPRENEURSHIP
BBA-404	VIVA-VOCE
	MARKETING MANAGEMENT
BBA-406	ADVERTISEMENT & SALES MANAGEMENT
	FINANCE
BBA-412	FINANCIAL INSTRUMENTS
BBA-423	COMMUNICATION SKILLS IN PUNJABI/ ELEMENTARY PUNJABI
BBA-424	ENVIRONMENTAL STUDIES AND ROAD SAFETY

I

BBA-301 Principles of Human Resource Management

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

- Describe the basic concepts, functions and processes of human resource management;
- Explain the role, functions and functioning of human resource department of the organizations;
- Solve various HR issues using necessary skill set studied in HRM;
- Identify and formulate various HRM processes such as Recruitment, Selection, Training, Development, Performance appraisals and Compensation Plans;
- Recommend the knowledge of HR concepts to take correct business decisions; and
- Construct various policies for effective use of human in the organisation.

BBA-302 Business Accounting

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

- List conceptual knowledge of recording the business information in books of accounts;
- Report the results of business using financial statements;
- Interpret the results of business for business decision making;
- Compare results of business using Inter-firm and Intra-firm analysis;
- Assess the result of various accounting policies on accounting profits; and
- Design accounting information system for a small business unit.

BBA-303 Principles of Marketing Management

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

- List the foundation terms, concepts and principles of marketing;
- Classify the marketing environment and learn how to cope with changes;
- Use the various essential tools and techniques for effective marketing practice;
- Examine relationship between marketing and other management functions;
- Illustrate various marketing decision related to product, price, place and promotions; and
- Recommend various marketing strategies for Service Marketing, Rural marketing, Marketing Research, Advertisement and Sales Management etc.

BBA 304:- Business Laws

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

- Describe the nature of Contract Act 1872, capacity of parties, performance, discharge and remedies for breach of contract;
- Compare the types of contract, rights and obligation of the parties to the contract, types of negotiable instruments and three forms of grievance redressed machinery;
- Identify the salient features of consumer protection Act 1986;
- Categorize the different types of cheque, holder and holder in due course; and
- Recommendation for dishonour and discharge of negotiable instruments

BBA-305 Workshop on Contemporary Business Issues

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

- Describe the domestic and international dimensions of the business environment;
- List the corporate social responsibility, performance, socialization and moral development;
- Classify the values, congruence and conflicts related to values;
- Identify the corporate ethics and ethical dimensions of public affairs; and

- Assess the crisis management, social performance of corporate.

BBA-306 Seminar on Knowledge Management

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

- Enhance the knowledge related to economy, leveraging economy;
- Outline the transformation of a enterprise through knowledge management;
- Illustrate of creating, sharing and momentum of knowledge; and
- Examine the organization culture for knowledge management, and challenges.

BBA-307 COMMUNICATION SKILLS IN PUNJABI

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

1. ividAwrQI smkwlI lyKkW duAwrw smwijk, AwriQk, rwjnIiqk, Dwrimk pRsiQqIAW nUM smJdw hoieAw auhnW nUM auh nwtkI Aqy kwivk AMdwz iv`c pyS krn dy Xog bx jWdw hY[

2. ividAwrQI ies rwhIN pMjwbI BwSw dI ilKq dy hoNd iv`c Awaux dy pVwvW bwry jwxkwrI hwisl krdw hY ^ws krky pMjwbI BwSw dI ilpI gurmuKI bwry[

3. ies ivSy dy mwiDAm rwhIN ividAwrQI BwSw dy mu`Fly pRbMD nUM smJ ky iksy dUjI BwSw dy pRbMD nUM smJx dy smr`Q bxdw hY[

BBA-401 Financial Management

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

- List the aim, scope and significance of finance function, sources of company finance.
- Discuss the theories and valuation of capital structure, cost of capital and capital budgeting
- Assess the SEBI guidelines for raising company finance.
- Recommend the working capital requirement, steps in responsibility accounting CO.5. Illustrating the planning of capital expenditure and its evaluation including risk and uncertainty.

BBA-402 Workshop on Creativity & Innovation

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

- Discussing the creativity in management, theories of creativity, role of computers in creativity.
- Illustrate the brainstorming, lateral thinking, synaptic idea generating methods
- Assessing the need of market research, sources of ideas, and financial sources.
- Examine the case-histories of renowned companies

BBA-403 Seminar on Entrepreneurship

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

- Describe the nature, characteristics, theories of entrepreneurship, role of government in setting of enterprises
- Compare the class of entrepreneurship including women entrepreneurship, along with the socio economic environment and entrepreneurial behaviour.
- Assess the contribution of commercial banks in promoting and servicing small business, government polices and formalities in setting up a unit.
- Indentify the basic requirements regarding registration, excise, sales tax and factory Act and SSI exemptions.

BBA-406 Advertisement & Sales Management

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

- List the nature and scope of advertising research, campaign planning strategic, sales management;
- Outline the knowledge about consumer behaviour, recruitment and selection process , training and development of sales personnel;
- Compare media planning of print, T.V, Radio, Cable and satellites, direct mail marketing CO.4. Discussing the creation of copy-testing, advertising budget;
- Understand the event management , advertising agencies and assessing the advertising effectiveness, performance of sales personnel;
- Plan a Carving territories, routing and scheduling, sales quotas; and
- Examine the selling theories and process sales ethics and distribution.

BBA-407: Marketing Of Services

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

- Describe the concept of goods and services, services marketing concept, features;
- List the need, significance of behavioural services aspiration;
- Outline the marketing segmentation, marketing information system for various services;
- Restate the meaning of service quality, its components and measurement;
- Investigate the Seven'P of service marketing and its management; and
- Assess the services marketing in Banking, hotel, tourism, transport, personal care,

hospital, education and consultancy marketing.

BBA-412: Financial Instruments & Services

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

- Describe the financial market environment in India along with the role of securities and exchange board of India;
- Outline the objectives and functioning of stock exchange
- Compare the variable and fixed interest bearing securities including equity and preference shares, debentures, bonds ADR and GDR.
- Examine the role of Merchant Banking, Venture capital, Leasing and hire purchase and mutual fund in financial market.
- Compare and contrast the debit card and credit card, housing finance and foreign direct investment in India.

B.B.A. 3rd Year, Semester 5th and 6th
COURSE OUTCOMES

FIFTH SEMESTER

BBA-500	COMMUNICATION SKILLS IN PUNJABI
BBA-500A	ELEMENTARY PUNJABI
BBA-501	BUSINESS RESEARCH METHODS
BBA-502	WORKSHOP ON TIME AND WORKLOAD MANAGEMENT
BBA-503	SEMINAR ON SUMMER INERNSHIP

CHOOSE ANY THREE SUBJECTS FROM NOT MORE THAN TWO FUNCTIONAL AREAS

MARKETING MANAGEMENT

BBA-505 MARKETING OF SERVICES

BBA INDUSRRIAL PSYCHOLOGY

BBA MANAGEMENT OF INDUSTRIAL RELATION

BBA- : Marketing Of Services

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

- Describe the concept of goods and services, services marketing concept, features;
- List the need, significance of behavioural services aspiration;
- Outline the marketing segmentation, marketing information system for various services;
- Restate the meaning of service quality, its components and measurement ;
- Investigate the Seven'P of service marketing and its management; and
- Assess the services marketing in Banking, hotel, tourism, transport, personal care, hospital, education and consultancy marketing.

SIXTH SEMESTER

BBA-601	INDUSTRIAL TRAINING PROJECT
BBA-602	PROJECT REPORT
BBA-603	SEMINAR ON THE PROJECT REPORT

BBA-604	VIVA-VOCE

BBA-500: Communication Skills in Punjabi

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

1. ies ivSy dy mwiDAm rwhIN ividAwrQI glpI vwqwvrx nUM smJ ky s`c Aqy JUT dw inKyVw krdw hoieAw nYiqk jIvn jwc nUM Apnwaux dy Xog ho jWdw

2. purwqn prMprwvW, rIqI-irvwj, iq`Q-iqauhwr, irSqw-nwqw pRxwlI dI jwxkwrI hwisl krky AwDuink kwl rwhIN bdl rhy lokDwrweI pirpyKW nwl qulnw krn dy smr`Q ho jWdw hY[

BBA-501: Business Research Methods

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

- Describe the Meaning, Objectives and Process of Research, Research Methods in Social Sciences, Exploratory, Descriptive and Experimental Research;
- Outline the Applications and Limitations of Research Methods and Sampling Design;
- Explain Techniques for Data Collection; Primary and Secondary Sources, Primary Sources-Consumers and Trade Survey, Including Consumer Panels and Retail Auditing;
- Recommend the Qualitative Techniques of Data-Collection and application including questionnaire Designing and protesting;
- Assess difficulties in Measurement and Concepts of Validity and Reliability; Attitude Measurement General Methods; Scaling Techniques: Thurston, Likert, and Semantic Differentials;and
- Construct Report Writing and Presentation.

BBA-502: Workshop on Time and Workload Management

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

- Relate with the Psychology of Time; Time as Finite Capital;
- Discuss the Developing the Right Attitude of Mind; Your Current Use of Mind; You and Your Tasks; You and Yourself;
- Identify Self Objectives and Their Methodologies for Completion; Your and Others Task Management; and
- Recommend Workload Management Systems; Managing Interruptions; Delegation; Managing Meetings; Working with a Secretary; Managing Stress; and Balancing Work and Home.

BBA -503 : Seminar on Summer Internship

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

- Demonstrate confidence in their activities;
- Develop effective communication skills ;
- Demonstrate strong abilities of working in teams;
- Identify strategies to adapt to different situations; and
- Design and deliver effective presentations.

BBA-505: Rural Marketing

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

- List the Nature and Scope of Rural Marketing with Special Reference to India;
- Compare Buying Behaviour in Rural Markets;
- Classify Rural Marketing Information system;
- Categorize the Rural Markets, Communication and Large Format Retail Stores;
- Prioritize the Study of Rural Markets Strategy in relation to Product, Pricing, Promotion and Distribution Strategy; and
- Design the information technology for Rural Markets and Rural Market Research.

BBA -503: Seminar on Summer Internship

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

- Demonstrate confidence in their activities;
- Develop effective communication skills;
- Demonstrate strong abilities of working in teams;
- Identify strategies to adapt to different situations; and
- Design and deliver effective presentations.

BBA-505: Rural Marketing

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

- List the Nature and Scope of Rural Marketing with Special Reference to India;
- Compare Buying Behaviour in Rural Markets;
- Classify Rural Marketing Information system ;
- Categorize the Rural Markets, Communication and Large Format Retail Stores;
- Prioritize the Study of Rural Markets Strategy in relation to Product, Pricing, Promotion

and Distribution Strategy; and

- Design the information technology for Rural Markets and Rural Market Research.

BBA-601: Industrial Training Project

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

- Exposure to current work practices as opposed to possibly theoretical knowledge being taught at college;
- Predict the professional skills in a hands-on environment;
- Evaluate the skills students have developed in them time with the company;
- Inspect a practical perspective on the world of work;
- Interact with the students; and
- Illustrate the skills interaction, working methods and employment practices.

BBA-602 Project Report

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

- Describe the practical exposure got during the training;
- List the learning during the industrial training;
- Describe the company in which students have attended the training; and
- Use the theatrical knowledge in solving the problems face by the traning organization.

BBA-603 Seminar on the Project Report

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

- Demonstrate confidence in their activities.
- Develop effective communication skills .
- Demonstrate strong abilities of working in teams.
- Identify strategies to adapt to different situations.
- Design and deliver effective presentation.

Session 2020-21

Programme and Course Outcomes

Programme: B.SC (NON MEDICAL WITH COMPUTER APPLICATIONS)

Overall Programme Outcome (PO)

The student graduating with the B.Sc Non-Medical degree would be able to acquire and demonstrate the following:

PO-1: Core competency: Students will attain core competency in the subjects of Chemistry, Physics and Mathematics.

- Demonstrate comprehensible understanding of the fundamental concepts of chemistry, physics and mathematics including their different subfields.

- Acquire technical knowledge that creates different types of professionals in the fields of chemistry, physics and mathematics and related fields such as pharmaceuticals, chemical industry, teaching, research and development, environmental monitoring, product quality, consumer goods industry, food products, cosmetics industry, material sciences and government/public service, in banking, insurance and investment sectors etc.

- Utilize suitable approaches to perform organic/inorganic syntheses, understand the characterization of materials; physics and mathematical based analyses; and apply relevant

knowledge and skills to find solutions to problems that arise from these fields of chemistry, physics and mathematics.

- Students will be able to apply the basic principles of working of equipment and instruments and undertake hands on lab work and practical activities which enhances their problem solving abilities required for successful career in various fields or for higher degrees.

PO-2: Analytical ability: Students will develop skills to pay attention to all elements and will be able to construct logical arguments related to their subjects. They will be able to design a hypothesis, collect data and analyze it critically to decipher if the data supports the hypothesis.

PO-3: Disciplinary knowledge and skill: Students will be able to demonstrate inclusive knowledge and understanding of all three subjects of chemistry, physics, and mathematics and utilize their lab and technical skills in interdisciplinary applications of these subjects.

PO-4: Communication skill: On completion of this course, students would be trained to carefully listen, read and analyze the experimental data/research papers and express it through technical writing as well as orally in a concise manner.

PO-5: Critical thinker and problem solver: The course is designed in such a manner that it enables the students to develop critical thinking ability required to solve inter-disciplinary problems/numerical using basic knowledge and concepts.

PO-6: Sense of inquiry: The students are able to develop inquisitive characteristics such as investigative skills and independent investigation of subject-related issues and problems through questioning, planning and reporting their investigation.

PO-7: Team player: The course is designed in such a way so as to train the students to work as a team player in a laboratory or industry and also to work independently for writing projects and carrying out research.

PO-8: Skilled project manager: A BSc non-medical graduate student will be capable of being a project manager by gaining knowledge about mathematics, chemistry and physics. Student will be efficient in planning, writing and studying the ethical standards and rules concerning to scientific project management.

PO-9: Digitally literate: The course enables the student to acquire digital skills and carry out data analysis using various apps and software, use library search engines and simulation software to carry out computational work.

PO-10: Ethical awareness and reasoning strengthening: A student after graduation in this course would be able to depict ethical awareness and reasoning. The student will be more objective and unbiased in all aspects of work and avoid unethical behavior such as fabricating or falsifying or misrepresenting any experimental data or commit any plagiarism; the student would be sensitized to appreciate intellectual property rights and other environmental and sustainability concerns.

PO-11: Lifelong learner: The syllabus is planned to instill a practice of continuous learning among the students through various tools and technique such as ICT, books and journals for individual academic growth and future jobs.

B.SC (NON MEDICAL WITH COMPUTER APPLICATION) 1st YEAR, SEMESTER 1st AND 2nd

Course Outcomes

Mathematics

FIRST SEMESTER

Paper-I	Calculus-I
Paper-II	Differential Equations
Paper-III	Co-ordinate Geometry

SECOND SEMESTER

Paper-IV	Algebra- I
Paper-V	Partial Differential Equation
Paper-VI	Analytic Geometry

Paper-I : Calculus-I

- Understand the concept of derivatives and use it to find curvature;
- Understand and apply the concept of limit, continuity of a function at a point to find Concavity and convexity, Asymptotes and Tracing of curves;
- Exhibit and recall previous learning integrals and use to study Improper integrals;
- Apply and deduce Area and volume of two dimensional surfaces; and
- Investigate convergence and divergence of Improper integrals, Dirichlet integrals and some special functions.

Paper-II: Differential Equations

- Recognize various definitions of linear homogeneous and nonhomogeneous

differential equations;

- Understand various methods to solve second order linear differential equation with constant and variable coefficients;
- Obtain power series solutions of several important classes of ordinary differential equations including Bessel's, Legendre differential equations. Also able to derive the generating functions and recurrence relations, orthogonality properties and interpret their qualitative behavior; and
- Discover the use of Bessel, Legendre's, Hermite's equations in real-life problems.

Paper-III: Coordinate Geometry

- Understand and recall the importance of general equation of second degree in co-ordinate geometry;
- Obtain tangent, normal, chord of contact, and other geometrical properties;
- Apply above geometrical properties in real-life problems;
- Investigate the nature of second degree equation of a curve; and
- Demonstrate their knowledge of geometry and its applications in the real world.

Paper-IV: Algebra- I

- Recognize consistent and inconsistent systems of linear equations by the row echelon form of the augmented matrix, using rank;
- Find eigenvalues and corresponding eigenvectors for a square matrix;
- Understand the importance of roots of polynomials and learn various methods of obtaining roots;
- Employ De Moivre's theorem in several applications to solve numerical problems; and
- Execute their good understanding of the deeper concepts of linear algebra and abstract algebra;

Paper-V: Partial Differential Equation

- Solve the first-order linear PDE's with the aid of Lagrange's method and non- linear PDEs of first order with Charpits' method;
- Derive solutions of linear PDEs of second and higher order with constant coefficients;
- Use the method of separation of variables and other techniques to solve some basic hyperbolic, parabolic and elliptic partial differential equations;
- Execute their learning in solving heat, wave, Laplace equations; and

- Solve PDE governing real life phenomenon arising in various fields of science and engineering.

Paper-VI: Analytic Geometry

- Understand and apply appropriate techniques, tools, and formulae to determine various geometrical parameters;
- Find Equation of a tangent plane, Condition of tangency, Angle of the intersection of two spheres, Length of a tangent, Radical plane, Coaxial system of spheres and other geometrical properties;
- Analyze characteristics and properties of two and three-dimensional geometric shapes and their geometric relationships; and
- Relate and integrate geometry into real life contexts as well as into other disciplines.

B.SC (NON MEDICAL WITH COMPUTER APPLICATION) 2nd YEAR, SEMESTER 3rd AND 4th

THIRD SEMESTER

Paper-I	Advanced Calculus
Paper-II	Analysis-I
Paper-III	Statics

FOURTH SEMESTER

Paper-IV	Numerical Methods
Paper-V	Analysis-II
Paper-VI	Dynamics

Paper-I: Advanced Calculus

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

- Understand the concept of Limit, Continuity of Functions of several variables. Differentiability of real-valued functions of two variables;
- Understand the use of partial derivatives in Taylor's theorem, error estimation, and to Find Maximum and Minimum values of real-life situations;
- Exhibit and recall previous learning in Calculus of one variable;
- Apply the concept of multiple Integrals to evaluate Areas, Volume, Centre of Gravity and Moments of Inertia and other physical quantities; and
- Develop and execute their understanding to solve differential equations.

Paper-II: Analysis-I

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

- Understand the concept of Function of Bounded Variations and Riemann Integration;
- Analyze and relate sequences and series of real values functions in terms of convergence in and divergence in R^2;
- Implement logical thinking to prove the basic results of real analysis;
- Relate the concept of infinite series and Improper Integrals; and
- Develop and execute these concepts to probability theory, Fourier series, and other branches of mathematics.

Paper-III: Statics

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

- Understand the necessary conditions for equilibrium of particles acted upon by the number of forces;
- Understand the reduction of force system to a resultant force and a resultant couple;
- Define and determine the center of gravity of some materialistic systems;
- Demonstrate the concept of friction and identify types of friction; and
- Formulate the knowledge of statics to higher courses like the theory of elasticity, fluid mechanics etc.

Paper-IV: Numerical Analysis

- Understand the errors, source of error and its effect on any computation;
- Obtain numerical solutions of algebraic and transcendental equations;
- Tabulate the functions and data set using interpolation and
- Apply course knowledge to solve complicated physical problems by approximating to the desired accuracy.

Paper-V: Analysis-II

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

- Understand the Concept of Point-wise and Uniform convergence of sequence and series of functions with special reference to power Series;
- Identify and discuss the convergence of sequence and series of functions;

- Evaluate Line, surface and volume integrals;
- Identify and apply Greens Theorem, Stokes Theorem, and the Divergence Theorem; and
- Investigate the Theory of Vector Calculus with relevant examples.

Paper-VI: Dynamics

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

- Understand the laws of motion and dynamics involved in projectile motion, Simple Harmonic function etc.
- Understand the concepts of work, power, energy, momentum and relative motion.
- Apply the laws of motion to solve physical problems.
- Investigate and formulate the concept of mathematical modeling in projectile motion.
- Use and derive some of the basic definitions and theorems related to dynamics.

B.SC (NON MEDICAL WITH COMPUTER APPLICATION) 3rd YEAR, SEMESTER 5th AND 6th

FIFTH SEMESTER

Paper-I Algebra-I

Paper-II Discrete Mathematics-I

Opt-I Mathematical Methods-I

Opt-II Number Theory-I

SIXTH SEMESTER

Paper-III Algebra-II

Paper-IV Discrete Mathematics-II

Opt-III Mathematical Methods-II

Opt-IV Number Theory-II

Paper-I: Algebra-I

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

- Determine whether a given set and binary operation form a group by checking group axioms;
- Understand and Differentiate between homomorphism and isomorphism for groups and

Rings;

- Differentiate between dihedral, symmetric and alternating groups, rings, derive the existence of groups of a specified small order;
- Develop new structures based on given structures and compare the structures; and
- Implement abstract and critical reasoning by studying logical proofs and the axiomatic method as applied to modern algebra.

Paper-II: Discrete Mathematics-1

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

- Understand and Define basic notations in graph theory & trees;
- Construct the Passwords by using the techniques of counting principles;
- Use the shortest path algorithm to determine the fastest driving routes;
- Construct Model problems in Computer Science using graphs and trees;
- Learn how to work with some of the discrete structures which include sets, relations, functions, graphs and trees;
- Solve real-life problems using finite-state machines; and
- Assimilate various graph theoretic concepts and familiarize them with their applications.

Opt-I: Mathematical Methods I

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

- Demonstrate their understanding of the Dirichlet conditions;
- Solve both real and complex forms of the Fourier series for standard periodic waveforms;
- Know about piecewise continuous functions, Dirac delta function, Laplace transformsand its properties; and
- Investigate the application of course in various engineering fields.

Paper-III: Algebra- II

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

- Understand real vector spaces, subspaces, basis, dimension, and their properties;
- Use the definition and properties of linear transformations and matrices of linear transformations;
- Obtain various variants of diagonalization of linear transformations;
- Apply the knowledge of linear algebra to solve the system of differential equations; and
- Explain the use of linear algebra in coding theory, linear programming, and cryptography.

Paper-IV: Discrete Mathematics-II

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

- Understand and solve Binary relations and recurrence relations, direct and indirect proofs;
- Construct mathematical arguments using logical connectives and quantifiers;
- Validate the correctness of an argument using statement and predicate calculus;
- Develop an inductive way of thinking; and
- Interpret and investigate applications of Boolean algebra and Boolean functions, logic gates, switching circuits in electronics.

Opt-III: Mathematical Methods-II

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

- Understand Fourier Transform and inverse Fourier transform;
- Determine the solution of differential equations with initial and boundary value problems by choosing the most suitable method;
- Apply Laplace transform techniques to solve Heat, Wave & Laplace equations; and
- Apply and formulate integral transform techniques applied to various situations in physics, engineering, and other mathematical contexts.

COURSE OUTCOMES

PHYSICS

COURSE TITLE: MECHANICS

The aim of the course is to acquaint students with the fundamentals of mechanics.

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

- Understand various co-ordinate systems, reference frames, conservation laws, motion of rigid body and special theory of relativity;
- Apply conservation laws to collisions in various frames and to kinematics of rigid bodies;
- Analyze the problems in mechanics on motion and characteristics of trajectory; and
- Fix the problems faced in experiment handling and modeling computations for physical

systems.

COURSE TITLE: WAVES & VIBRATIONS

This course aims to enhance the student's understanding regarding the theory of waves, vibrations and electromagnetism.

At the end of the course, the student will be able to:

- Understand different oscillators and their characteristic parameters, physical significance of Maxwell's equations, wave equations in different media and their solutions;
- Analyze differential equations, stiffness of coupled oscillators, inductance coupling of electrical oscillators; and
- Gain an appreciation of the wide applicability of the presented concepts and acquire practical skills with experiments and related numerical problems, which are applicable to daily life and higher studies.

COURSE TITLE: ELECTRICITY & MAGNETISM

In this course, students attain the necessary knowledge, skills and general competency in Electricity & Magnetism.

With the completion of the course the students will be able to:

- Understand fundamental basics of electrical circuits, properties of simple, time-dependent electric & magnetic fields, induction, Maxwell's equations, electromagnetic waves;
- Apply the basics to calculate forces and fields in various electricity & magnetism problems;
- Analyze problems in electromagnetism using mathematical methods and compute currents and voltage drops in circuits;
- Evaluate the importance of electricity & magnetism in society with regard to technological applications with concrete examples; and
- Have a basic grip on how experimental equipment can be used (this is achieved via lab-exercises). Students can familiarize with working of electrical circuits and storage devices. The theoretical and practical knowledge enables them to identify different communication techniques which will be useful in their daily life and higher studies.

COURSE TITLE: STATISTICAL PHYSICS AND THERMODYNAMICS

At the end of the course student will be competent to:

- Understand various laws of thermodynamics, basics of probability, macrostates, microstates & distribution of particles, importance of quantum effects besides classical systems, concept of phase space, Maxwell Boltzmann, Bose Einstein, Fermi Dirac statistics and particles involved in reference to their spin;
- Apply the laws to calculate the efficiency of idealized engines like Carnot Cycle;
- Analyze the advancements in heat engines, refrigeration etc. and their application in

daily life; and

- Evaluate the knowledge by performing lab experiments. Acquire a foundation for analyzing many body problems in advanced courses in physics.

Course Title: OPTICS & LASERS

The main objective of this course is to equip the students with deep understanding of various phenomena of wave optics and Laser technology.

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

- Understand the physics involved in the wave optics phenomena: Interference, diffraction and polarization and their role in working of optical instruments;
- Learn properties, construction and applications of different types of lasers. To equip with the basics of holography;
- Apply the basics to calculate resolving power of optical devices and beam profile in lasers;
- Analyze the problems of wave optics and progress in interferometry, laser technology and holography;
- Evaluate the role of interference, diffraction and polarization in daily life and in nature with real examples; and
- Have an acquaintance on handling and use of optical instruments (exercised through lab practice). The theoretical and practical knowledge will facilitate them to decide a course for them in higher education or optoelectronic applications.

COURSE TITLE: QUANTUM MECHANICS

On successful completion of this course the student will be able to:

- Understand the need and principles of quantum mechanics, duality of matter, Schrödinger's equations and Uncertainty principle;
- Apply Schrödinger equation for study of one to three dimensional systems and develop reasoning for mathematical results. Employ concepts of angular momentum and spin to account for the phenomena involved in the Zeeman effect and LS coupling;
- Analyze systems of identical particles based on quantum mechanics; and
- Use analytical and mathematical methods on quantum mechanical problems. Design and carry out experiments and compare results with theoretical predictions.

COURSE TITLE: CONDENSED MATTER PHYSICS

This course aims to enhance the student's basic knowledge in the discipline of Condensed Matter Physics.

At the end of the course, the student will be able to:

- Understand crystal structures, crystal planes, crystal diffraction, and experimental

methods for crystal structure studies, concepts and various theories related to lattice vibrations, phonons, metals and semiconductors;

- Apply theoretical knowledge in various problems of condensed matter physics; and
- Analyze the role of reciprocal lattices and Brillouin zones in crystallography.

COURSE TITLE: NUCLEAR AND PARTICLE PHYSICS

After the successful completion of this course the students will get well versed with the key concepts of nuclear and particle physics and will be able to

- Learn fundamental aspects of nucleus & nuclear models, Radioactive decay, Nuclear Reactions and the interaction of radiation with matter, classification of elementary particles, detectors & accelerators;
- Apply nuclear and particle physics concepts in kinematical computations, detectors; and
- Analyze various nuclear experiments to calculate nuclear parameters (lab exercise).

COURSE TITLE: ELECTRONICS (ELECTRONICS AND SOLID STATE DEVICES)

After the successful completion of this course the students will get well versed with the key concepts of nuclear and particle physics and will be able to:

- Learn fundamental aspects of nucleus & nuclear models, Radioactive decay, Nuclear Reactions and the interaction of radiation with matter, classification of elementary particles, detectors & accelerators;
- Apply nuclear and particle physics concepts in kinematical computations, detectors; and
- Analyze various nuclear experiments to calculate nuclear parameters (lab exercise).

COURSE TITLE: ELECTRONICS (ELECTRONICS AND SOLID STATE DEVICES)

At the end of the course student will be able to:

- Understand the concepts of semiconductor devices, biasing techniques and V-I characteristics, rectifiers, characteristics of different types of photoconductive devices;
- Analysis of efficiency and ripple factor in filter circuits, different configurations of a transistor;
- Evaluate the need of the circuitry, skills and technological tools and their advancements in relation to societal needs; and
- Design and operate electronics circuits.

COURSE OUTCOMES
CHEMISTRY

FIRST SEMESTER

Paper-I	INORGANIC CHEMISTRY
Paper-II	ORGANIC CHEMISTRY
Paper-III	PHYSICAL CHEMISTRY
Paper-I	PRACTICAL CHEMISTRY

SECOND SEMESTER

Paper-I	INORGANIC CHEMISTRY
Paper-II	ORGANIC CHEMISTRY
Paper-III	PHYSICAL CHEMISTRY
Paper-II	PRACTICAL CHEMISTRY

Paper-I: INORGANIC CHEMISTRY

Students will be able to:

- Understand the Atomic Models by visualizing the interior of atoms and molecules and predict the properties of matter;
- Find the allowed energy levels of a quantum mechanical system and describe the quantum aspects of a system;
- Predict the periodic properties of different elements in terms of ionization energy, electronegativity, atomic and ionic radius and electron affinity;
- Classify the elements using periodic table into three categories: metals, non- metals and inert gases;
- Understand the chemical properties and stability of noble gases;
- Explain the uses of different noble gases in different fields;
- Describe the importance and limitations of valence bond theory and use them for predicting the shapes and hybridization of inorganic molecules and ions; and
- Understand the importance of VSPER theory and MO theory and determine the geometries of homonuclear and heteronuclear molecules.

PAPER II: ORGANIC CHEMISTRY

Students will be able to:

- Understand the structure and types of hydrogen bonding in simple organic compounds;
- Predict the aromatic character of organic compounds and study hyperconjugation and resonance in aromatic compounds;
- Learn about how a chemical reaction takes place using reactive intermediates and understand the methods to determine the reaction mechanism;

- Assign formal charges on intermediates and ionic species;
- Explain the method of preparation and physical properties of alkanes;
- Describe the orientation, reactivity, selectivity and mechanism of free radical halogenation of alkanes;
- Understand and describe the importance and limitations of strain theories (especially Bayer's strain theory) and use them for predicting the stability of cycloalkanes;
- Understand the mechanism involved in hydrogenation, electrophilic and free radical additions of alkenes;
- Identify the favourable alkene product in different chemical reactions using Saytzeff rule and hoffmann bromide rule; and
- Recognize the role of Diels alder reaction in the formation of six membered rings with a good control over regio and stereochemical outcomes.

PAPER III: PHYSICAL CHEMISTRY

Students will be able to:

- Calculate slopes, maxima and minima and differentiate functions like kx, sin x, log x, ex, xn;
- Determine the accuracy of methods and analysis and calculate the numerical problems related to evaluation of analytical data;
- Understand the structure of liquids and structural differences between solids,liquids and gases;
- Classify liquid and solid crystals and understand the structure of nematic and eholestric phases;
- Understand the deviation of gases from ideal behaviour and study vanderwaals equation of state;
- Qualitatively discuss the Maxwell's distribution of molecular velocities, collision number, mean free path and collision diameter;
- Predict the dipole moments of complexes using different methods; and
- Recognize the difference between paramagnetism, diamagnetism and ferromagnetism in complexes.

PRACTICAL CHEMISTRY - I

Students will be able to:

Qualitatively analyze, separate and identify the different cations and anions from Groups I, II, III, IV, V and VI present in a salt.

Paper-I: INORGANIC CHEMISTRY

- Understand different Ionic structures such as NaCl, Zinc blende, Wurtzite, CaF2 and antiflourite and use their properties to corelate other inorganic molecules;

- Differentiate between ionic and covalent bond using Fajan's rule;
- Explain the diagonal relationship between alkali and alkaline earth metals;
- Describe the solvation and complexation tendencies of alkali and alkaline earth metals and their functions in biosystems;
- Recognize the boron family and understand the properties of their hydrides, oxides, oxyacids and halides;
- Identify the carbon, nitrogen, oxygen and flourine families;
- Determine the properties and preparation of halogens, interhalogens and polyhalides;

PAPER II: ORGANIC CHEMISTRY

Students will be able to:

- Determine the absolute configuration of Organic compounds using sequence rules and R-S system;
- Classify the geometric isomers using E-Z nomenclature;
- Understand the molecular chirality and optical activity of organic compounds and differentiate between enantiomers, diastereomers and meso compounds;
- Describe the different conformations of ethane, n-butane and cyclohexane;
- Explain the molecular formula, resonance structure and molecular picture of benzene and their stability;
- Recognize the role of activating and deactivating groups in electrophilic substitution reactions of benzene;
- Understand the mechanism involved in nitartion, halogenation, sulphonation, mercuration and friedel crafts reactions of benzene; and
- Differentiate between SN1 and SN2 reactions and explain their energy profile diagram.

PAPER III: PHYSICAL CHEMISTRY

Students will be able to:

- Determine the methods of expressing the concentration of solutions, activity and activity coefficients;
- Explain the colligative properties including vapour pressure lowering, freezing point depression, osmotic pressure and boiling point elevation;
- Recognize the difference between sols, gels and emulsions;
- Explain the kinetics of a chemical reactions including their rate and factors affecting their rate;
- Determine the order of reactions using different methods;
- Understand and describe the importance and limitations of collision theory and transition state theory; and
- Explain Homogenous catalysis, acid base and enzyme catalysis including their

mechanism.

PRACTICAL CHEMISTRY II

Students will be able to:

- Determine the melting point and boiling point of different compounds;
- Synthesize and crystallize different organic compounds as phthalic acid from hot water, acetanilide from boiling water, benzoic acid from water and naphthalene from ethanol;
- Determine the specific reaction rate of the hydrolysis of methyl acetate/ethyl acetate catalyzed by hydrogen ions at room temperature;
- Study the effect of acid strength on the hydrolysis of an ester. CO.5- Determine the Viscosity & Surface Tension of pure liquids; and
- Determine Molecular weight by Rast method.

THIRD SEMESTER

Paper-I	INORGANIC CHEMISTRY
Paper-II	ORGANIC CHEMISTRY
Paper-III	PHYSICAL CHEMISTRY
Paper-I	PRACTICAL CHEMISTRY

FOURTH SEMESTER

Paper-I	INORGANIC CHEMISTRY
Paper-II	ORGANIC CHEMISTRY
Paper-III	PHYSICAL CHEMISTRY
Paper-II	PRACTICAL CHEMISTRY

Paper-I INORGANIC CHEMISTRY

- The students would be familiar with general trends in the chemistry behind d and f-block elements;
- The students will be able to understand the chemistry of first and second transition series;
- The students will be able to understand the various uses of lanthanides elements in flash light powders and in dying cotton;
- The students will be able to understand about recently lanthanides have been used in lasers;
- The students will be able to know about actinides elements are used as nuclear fuels for various purposes; and
- The students will able to understand the chemistry of separation of actinides.

Paper-II ORGANIC CHEMISTRY

To enable the students,

- To study the chemistry of some selected functional groups;
- To develop proper aptitude towards the study of organic compounds and their reactions;
- To learn the chemistry of alcohols, phenols, aldehydes and ketones;
- To understand and study Organic reaction mechanism and different types of Name Reactions; and
- To understand the method of formation of alcohols, phenols, aldehydes and ketones.

Paper-III PHYSICAL CHEMISTRY

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

- Recognize the basic terms of thermodynamic;
- Able to predict the energy change in heat capacities at constant volume and pressure and their relationship;
- Able to drive Joule's law and its application;
- Able to derive relationship between modification of distribution law when solute undergoes dissociation;
- Able to understand various laws and concepts of thermodynamics thoroughly; and
- Recognise the concepts of chemical equilibrium in terms of equilibrium constant, various laws and concepts involved, reaction isotherm and Clausius-Claperyron equation.

Paper-I PRACTICAL CHEMISTRY

Paper-I INORGANIC CHEMISTRY

- The students will be able to explain the fundamental concepts in coordination chemistry of transition metals;
- Students will be able to understand the concept of oxidation reduction, redox potential data analysis, various redox stability diagrams and extraction of various elements from its ore extensively;
- Students will be able to understand various concepts of acids and bases;
- The Students would be familiar with the basic knowledge of the non-aqueous solutions and applications of non-aqueous solvents in analytical chemistry; and
- The students will develop the ability of effective solving practical problem of analytical chemistry of non-aqueous solutions.

Paper-II ORGANIC CHEMISTRY

- To enable the students
- To study the chemistry of some selected functional groups
- To develop proper aptitude towards the study of organic compounds and their reactions
- To learn the chemistry of carboxylic acids, derivatives of Carboxylic acids,ethers and epoxide, fats, oil and detergents.
- To do the method of formation of carboxylic acids, derivatives of Carboxylic acids,ethers and epoxide, fats, oil and detergents
- To understand and study Organic reaction mechanism
- To understand the method of formation of nitro compounds, amines and their chemical reactions.

Paper-III PHYSICAL CHEMISTRY

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

- Understand the basic principles electrochemistry.
- Mention and explain various methods for the determination of transport number.
- Explain the concepts of electrolytic conduction and dilution
- Understand the Phase equilibrium concept of one and two component systems.
- Understand the various terms involved in phase diagram and Gibb's phase rule.

Paper-I PRACTICAL CHEMISTRY

Upon successful completion the students would be well versed with the following:

- Detection of various elements and functional groupsin simple organic compounds qualitatively.
- Determination of the solubility of benzoic acid at different temperatures and to determine °H of the dissolution process.
- Determine the enthalpy of neutralisation of a weak acid/weak base versus strong base/strong acid
- Determination of the enthalpy of ionisation of the weak acid/weak base and the enthalpy of solution of solid calcium chloride.

Semester-V

Paper-I INORGANIC

CHEMISTRY Paper-II ORGANIC CHEMISTRY
Paper-III PHYSICAL CHEMISTRY
Paper-I PRACTICAL
CHEMISTRY

Semester-VI

Paper-I INORGANIC
CHEMISTRY Paper-II ORGANIC CHEMISTRY
Paper-III PHYSICAL CHEMISTRY
Paper-II PRACTICAL
CHEMISTRY

Semester-V

Paper-I INORGANIC CHEMISTRY

Students will be able to:

- CO.1- Understand and describe the limitations and importance of bonding theories (valence bond theory & Crystal Field Theory) and use them for predicting geometries and properties of coordination compounds.
- CO.2- Calculate the CFSE and predict the experimental behaviour of transition metal complexes.
- CO.3- Differentiate between kinetic and thermodynamic stability and recognize the factors affecting stability of complexes.
- CO.4- Identify the substitution reaction mechanism involved in square planar complexes and the role of trans effect in governing the rate of these reactions.
- CO.5- Predict the magnetic character of transition metal complexes and measure/calculate their magnetic moments by different methods
- CO.6. Recognize the difference between paramagnetism, ferromagnetism, anti-ferromagtnetism and diamagnetism in complexes.
- CO.7 Assign term symbols and determine the spectroscopic ground state.

- CO.8 Predict the spectra of transition metal complexes using Orgel Energy level diagrams.

Paper-II ORGANIC CHEMISTRY

Students will be able to:

- CO.1- Learn proton NMR spectroscopy and its applications to determine structure of simple organic molecules.
- CO.2- Understand IR spectroscopy technique and its applications to determine structure of simple organic molecules.
- CO.3- Learn UV-Visible spectroscopy and its application to identify common functional groups.
- CO. 4- Learn assigning structures from their molecular formula using spectroscopic methods.
- CO.5- Understand nature of organometallic compounds their methods of preparations and common reactions.
- CO.6. Learn different organo-sulphur compounds their methods of preparation and common reactions.

Paper-III PHYSICAL CHEMISTRY

Students will be able to:

- CO.1- Recognise the significance of quantum mechanics and quantization of energy.
- CO.2- Derive Schrodinger wave equations for particle in a box and H-atom and apply the concept of quantization of energy to different orbitals and calculate the energy levels.
- CO.3- Explain quantum numbers and derive radial wave functions and angular wave functions.
- CO.4- Recognize different regions of electromagnetic radiation and explain how the absorption of energy by the molecules produces spectra which helps in structure determination and molecular identification.
- CO.5- Calculate the energy levels of a diatomic molecule treated as a rigid rotor or a simple harmonic oscillator, explain their spectral intensity on the basis of selection rules and determine the bond length of molecules.
- CO.6- Determine the qualitative relation of force constant and bond energies. Explain the isotope effect and get an idea of vibrational frequencies of different functional groups for molecular identification.

Paper-I PRACTICAL CHEMISTR Y

Students will be able to:

- CO.1- Synthesize and recrystallize different types of inorganic complexes such as sodium trioxalatoferrate(III), Ni-DMG, copper tetra-ammine and cis-and trans-bis(oxalato)diaquachromate(III) ion.
- CO.2- Synthesize and recrystallize different organic compounds as applications of different types of reactions such as Iodoform preparation, aromatic electrophilic substitution reaction of benzene to prepare p-nitroacetanilide and 2,4,6- tribromophenol, diazotization/coupling for preparing methyl orange and methyl red, reduction reaction for preparation of m-nitroaniline.

Semester-VI

Paper-I INORGANIC CHEMISTRY

Students will be able to:

- CO.1- Understand and describe the limitations and importance of bonding theories (valence bond theory & Crystal Field Theory) and use them for predicting geometries and properties of coordination compounds.
- CO.2- Calculate the CFSE and predict the experimental behaviour of transition metal complexes.
- CO.3- Differentiate between kinetic and thermodynamic stability and recognize the factors affecting stability of complexes.
- CO.4- Identify the substitution reaction mechanism involved in square planar complexes and the role of trans effect in governing the rate of these reactions.
- CO.5- Predict the magnetic character of transition metal complexes and measure/calculate their magnetic moments by different methods
- CO.6. Recognize the difference between paramagnetism, ferromagnetism, anti-ferromagtnetism and diamagnetism in complexes.
- CO.7 Assign term symbols and determine the spectroscopic ground state.
- CO.8 Predict the spectra of transition metal complexes using Orgel Energy level diagrams.

Paper-II ORGANIC CHEMISTRY

- CO.1-Learn heterocyclic compounds such as pyrrole, furan, thiophene, pyridine, indole, quinoline, isoquinoline their methods of synthesis and reactions.
- CO.2- Understand synthesis of polymers and their applications in various fields of daily life.
- CO.3.- Learn about carbohydrates, their classification, structure, configuration and their reactions.
- CO.4- Study structure of lactose, maltose, sucrose, starch and cellulose.
- CO.5.- Learn amino acids their stereochemistry, methods of preparation, reactions and their importance in body.
- CO.6. Learn proteins, their structure determination by end terminal analysis, levels of their structure, and structure of nucleic acids and DNA.

Paper-III PHYSICAL CHEMISTRY

Sem-VI

Students will be able to:

- CO.1- Use the concept of polarizability to explain pure rotational and pure vibrational Raman spectra of diatomic molecules.
- CO.2- Recognize the basic rules of electronic spectroscopy and explain the concept of potential energy curves for bonding and anti-bonding molecular orbitals.
- CO.3- Describe σ, π and n molecular orbitals and their energy levels with possible electronic transitions.
- CO.4- Explain the three laws of crystallography, X-ray diffraction by crystals. Derive Bragg's equation and determine the crystal structure of NaCI, KCI and CsCI using Laue's method and powder method.
- CO.5- Differentiate between thermal and photochemical processes. Apply Grothus-Drapper and Stark-Einstein laws of photochemistry to calculate quantum yield,
- CO.6- Use Jablonski diagram to depict fluorescence and non- radiative processes (internal conversion, intersystem crossing).
- CO.7- Identify photosensitized reactions- energy transfer processes. Explain and apply the concepts of Laser and Maser.

Paper-II PRACTICAL CHEMISTRY

Students will be able to:

- CO.1- Apply column chromatography for separation of fluorescein and methylene blue and separation of leaf pigments from spinach leaves.
- CO.2- Use conductometer for determining the strength of the given acids, solubility and solubility product of a given sparingly soluble electrolyte, study the saponification of ethyl acetate and determine the ionisation constant of a weak acid.
- CO.3- Use pH- metre to determine the strength of the given acid solution, CO.4- Determine the molar refraction of methanol, ethanol and propanol.
- CO.5- Study the distribution of benzoic acid between benzene and water, and ether and water.

Course Outcomes: English SEMESTER -III

After completing this course the student will be able to:

- **CO-1:** to learn the skills for reading and writing fiction and plays.
- **CO-2:** to go with the field of screenplay and drama writing.
- **CO-3:** to create a fictional short stories after going through fictional studies and prose.
- **CO-4:** to learn the difference between real and reel world.
- **CO-5:** to learn new communication skills with dialogues of the plays.
- **CO-6:** to participate in theater programs and can also learn dialogue writing.

SEMESTER -IV

After completing this course the student will be able to:

- **CO-1:** Learners will think critically, while they read anything in future.
- **CO-2:** Learners will participate in essay writing and non-fiction writing competitions.
- **CO-3:** Learners will do official works easily and can work as an editor.

- **CO-4:** Learners will elaborate any passage or sentence into a long work with the help of précis writing.
- **CO-5:** Learner will communicate in more than one language with the help of translation portion.

Course Outcomes: Punjabi

Course Outcomes: Punjabi ਬੀ.ਐਸ.ਸੀ. (ਨਾਨ-ਮੈਡੀਕਲ) ਭਾਗ ਪਹਿਲਾ ਸਮੈਸਟਰ ਪਹਿਲਾ ਦੀ ਪੰਜਾਬੀ ਲਾਜ਼ਮੀ ਹਿਸ਼ੇਦੀ ਪੜ੍ਹਾਈ ਉਪਰੰਤ ਹਿਹਦਆਰਥੀਆਂ ਦੀ ਯੋਗਤਾ ਅਤੇਸਮਰਥਾ ਹਿਚ ਸਾਰਥਕ ਿਾਧਾ ਿਿੈਗਾ

1. ividAwrQI ies rwhIN jIvn- jwc, nYiqk kdrW kImqW, AwDuink Xu`g ivc bzurgW dw siqkwr Aqy irSiqAW dI t`ut-B`j nUM smJx Aqy hW p`KI rv`eIey nUM Apnwaux dy Xog ho jWdw hY[

2. ividAwrQI AwDuink kQw khwxIAW rwhIN smkwlI, smwijk, AwriQk, rwjnIiqk, Dwrimk pRsiQqIAW nUM smJx dy smr`Q ho jWdw hY[

3. ividAwrQIAW nUM pMjwbI BwSw Aqy sMswr dIAW hor BwSwvW nUM Su`D rUp ivc bolx, is`Kx Aqy ilKx dw igAwn pRwpq ho jWdw hY[

4. ividAwrQI v`Ko–v`Kry iK`qy iv`c bolIAW jwx vwlIAW pMjwbI dIAW aup-BwSwvW rwhIN v`Ko-v`Kry ik`iqAW nwl sMbMiDq SbdwvlI nUM jwxn Aqy smJx dy kwibl ho jWdy hn[

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1. ividAwrQI smkwlI lyKkW duAwrw smwijk, AwriQk, rwjnIiqk, Dwrimk pRsiQqIAW nUM smJdw hoieAw auhnW nUM auh nwtkI Aqy kwivk AMdwz iv`c pyS krn dy Xog bx jWdw hY[

2. ividAwrQI ies rwhIN pMjwbI BwSw dI ilKq dy hoNd iv`c Awaux dy pVwvW bwry jwxkwrI hwisl krdw hY ^ws krky pMjwbI BwSw dI ilpI gurmuKI bwry[

3. ies ivSy dy mwiDAm rwhIN ividAwrQI BwSw dy mu`Fly pRbMD nUM smJ ky iksy dUjI BwSw dy pRbMD nUM smJx dy smr`Q bxdw hY[

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2. purwqn prMprwvW, rIqI-irvwj, iq`Q-iqauhwr, irSqw-nwqw pRxwlI dI jwxkwrI hwisl krky AwDuink kwl rwhIN bdl rhy lokDwrweI pirpyKW nwl qulnw krn dy smr`Q ho jWdw hY[

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PROGRAM AND COURSE OUTCOMES OF M.COM

PROGRAM OUTCOMES

❖ **PO-1:** Equip the students with higher level knowledge and understanding of contemporary trends in commerce and business finance

❖ **PO-2:** Train the students to evaluate environmental factors that influence business operation with the conceptual requirements and skills on preparation and interpretation of financial statements

❖ **PO-3:** Prepare the students to apply Statistical methods and proficient use of tools for modelling and analysis of business data

❖ **PO-4:** Prepare the students for an in depth analysis of investment, portfolio management, investment banking and liquidation of investments

❖ **PO-5:** Develop competency in the students about the laws and regulations, and roles of commercial, government and central banks in controlling money market and inflation

❖ **PO-6:** Sensitise the students to plan and undertake independent research in a chosen discipline

❖ **PO-7:** Prepare the students for teamwork, lifelong learning and continuous professional development

COURSE OUTCOMES

M. Com - I Semester-1st

Code	Course
MC 101	Management Concept & Organizational Behavior
MC 102	Accounting for Managerial Decisions

MC 103	Business Economics
MC 104	Research Methodology & Statistical Technique
MC 105 (ii)	Financial Management

Semester-2nd

Code	Course
MC 201	Advanced Accounting
MC 202	Business Environment
MC 203	E-Commerce
MC 204	Seminar
MC 205 (ii)	Financial Institutions And Markets

MC 101: MANAGEMENT CONCEPT & ORGANIZATIONAL BEHAVIOR

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

- **CO1:** Acquire theoretical and practical acquaintance of management behaviour, procedures and practices; understand the process of planning, organising, controlling, staffing and decision making, behaviour of the individuals and members of the group.
- **CO2:** Develop ability to know the basic structure of management functions, policies and procedures, to know about how to manage individuals at place of work.
- **CO3:** Acknowledge leadership and motivational theories which help students to develop insights and to manage work relations.

- **CO4:** Understand different types of group dynamics, team development and to know the significance of organizational culture and how to deal with organisational change and work stress.
- **CO5:** Analyse and Interpret different types of organisation structures, understand two way communication process and enlarge capability to overcome or remove barriers to effective communication.

MC 102: ACCOUNTING FOR MANAGERIAL DECISIONS

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

- **CO1:** Acquire theoretical and practical knowledge of financial statements, their analysis techniques and recent trends of the corporate houses, analyse and interpret various accounting ratios to know the profitability position and financial position of the corporations.
- **CO2:** Enlarge capability to understand the basic structure of cash flow and funds flow statements, this will further help them in planning for intermediate and long- term finances.
- **CO3:** Understand the concept and applications of marginal costing and philosophy behind the strategic cost management, its key element and cost drivers.
- **CO4:** Develop ability to understand the role and limitations of budgets in organisations, interpret the difference between performance and zero based budgeting.
- **CO5:** Analyse and Interpret common business management decisions such as pricing and outsourcing from a financial perspective, grasp knowledge of responsibility accounting, group work and communication skills.
- **CO6:** Interpret financial statements of an enterprise and make appropriate suggestions.

MC 103: BUSINESS ECONOMICS

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

- **CO-1**: Understand the nature and scope of business economics, various objectives of firm and fundamental economic concepts.
- **CO-2**: Analyse demand functions, elasticity of demand and consumer equilibrium with utility and indifference curve analysis including revealed preference theory and theory of consumer choice under risk.
- **CO-3**: Use the techniques of demand forecasting, production function and cost analysis.
- **CO-4**: Comprehend the market forms and apply the pricing techniques to determine the prices of products.
- **CO-5:** Understand classical theory of employment and Keynesian objection to the classical theory, meaning of consumption function and investment.
- **CO-6:** Assess business fluctuations, expansions and recessions, theories of business cycle and concept of Inflation.

MC 104: RESEARCH METHODOLOGY & STATISTICAL TECHNIQUE

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

- **CO1:** Develop the understanding of research and its types, objectives of doing research, research process, sampling methods, data collection methods and computer assisted information acquisition.
- **CO2:** Understand the various probability distributions.
- **CO3:** Develop awareness of data analysis and hypothesis testing procedure.
- **CO4:** Use of various parametric and non-parametric test, chi square test, t test, f test and z test.

- **CO5:** Familiarize with mechanics of report writing.

MC 105(ii): FINANCIAL MANAGEMENT

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

- **CO1:** Acquire basic knowledge of finance function in a corporate enterprise.

CO2: Demonstrate the applicability of the concept of Financial Management to understand the managerial Decisions and Corporate Capital Structure

- **CO3:** This course also highlights the emerging issues of corporate restructuring, mergers and acquisition decisions.
- **CO4:** Explain alternative sources of finance and investment opportunities and their suitability in particular circumstances
- **CO5:** Analyse a company's performance and make appropriate recommendations.

MC 201: ADVANCED ACCOUNTING

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

- **CO-1**: Expound and interpret various contemporary issues in Accounting along with their usage in strategy formulation by business.
- **CO-2:** Enlist the steps involved in process of development of accounting standards and their convergence with IFRS and list Indian Accounting Standards (IND AS) 1,2,10,17,19,34 and IFRS-1,3,4,10 and understand their scope , significance and disclosure.
- **CO-3:** Have an insight of accounting for price level changes, Accounting for human resources and measurement corporate social performance and utilize this knowledge for practical exposure.

- **CO-4:** understand Corporate reporting practices in India and concept of creative and environment accounting in order to go for higher education or advanced research in the field of Commerce and management.

MC 202: BUSINESS ENVIRONMENT

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

- **CO1:** Chalk out business policies and understand the impact of environment on business, changing dimensions of business environment and use different demand forecasting techniques.
- **CO2**: Learn objectives and targets of five years plans and understand importance of economic policies including Fiscal, Monetary, Industrial and EXIM policy
- **CO3**: Analyze positive and negative impact of economic reforms on Indian economy.
- **CO4**: Familiarize with provisions of Consumer Protection Act, Right to Information Act, Environment Protection Act and Competition Act
- **CO5**: Understand the current trends in global economy and the functioning of international economic institutions including IMF, World Bank, IFC, IDA, and ADB. **CO6**: Analyse Indian Economy in light of changing government regulatory policies.

MC 203: E-COMMERCE

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

- **CO1:** To develop and understanding the foundations & importance of E-commerce
- **CO2:** To develop & understanding of retailing in E-commerce by:-Analyzing branding & pricing strategies, Using & determine the effectiveness of market research, the effect of disintermediation.

- **CO3:** Analyse the impact of e-commerce on business modes and strategy
- **CO4:** Describe internet trading relationship including B2B,B2C, intra-organizational
- **CO5:** Discuss legal issues & privacy of E-commerce
- **CO6:** Assess Electronic payment system
- **CO7:** Recognize & discuss global e-commerce issues
- **CO8:** To make aware the ethical, social & security issues of E-commerce

MC 204: SEMINAR

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

- **CO1:** think and scrutinize real world issue, explore creative avenues of expression, decipher problems, and make substantial decisions.
- **CO2:** learn ethical principles, develop presentation and discussion skills, integrate thoughts and bring out new ideas through creative work.
- **CO3:** Integrate collaborative learning and self-determining study, examine, explore, achieve, and develop knowledge in the field of commerce and social sciences.
- **CO4:** identify and utilize resources, develop critical thinking and time management strategies & skills.
- **CO5:** demonstrate their questioning skills which will spark further discussion, develop voice modulation and speak persuasively with or without notes.

MC 205(ii): FINANCIAL INSTITUTIONS AND MARKETS

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

- **CO1:** Have a good understanding of financial institutions and markets as applicable

in real life Business Management.

- **CO2:** Understand the banking system and describe the role of regulatory bodies in regulating how banks manage their capital.
- **CO3:** Develop a set of skills among the students to use the financial planning at the workplace to solve business finance related and general decision for financial problems.
- **CO4:** Analyze the financial problems and learn about markets are inter-linked, structured and regulated**.**
- **CO5:** The role of regulation and monetary policy to ensure the stability and longevity of any financial system and minimize the impact of possible adverse outcomes and contagion effects implicit in any financial crisis, particularly when the financial systems are globally interconnected.

M. Com - II Semester-3rd

Code	Course
MC 301	Contemporary Auditing
MC 302	Corporate Legal Framework
MC 303	Direct Tax Laws
MC 304	Marketing Management
MC 305 (ii)	Management of Financial Services

Semester-4th

Code	Course
MC 401	Human Resource Management

MC 402	Fundamentals of Investement
MC 404	Banking & Insurance Services
MC 404	Corporate Tax Planning
MC 405 (ii)	International Finance

MC 301: CONTEMPORARY AUDITING

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

- **CO1:** get deeper insights into basic principles governing an Audit and importance of an error-free financial statement.
- **CO2:** understand the role of Institute of Chartered Accountants of India for issuing auditing standards to conduct audit and other assurance engagements.
- **CO3:** understand auditors' qualifications, disqualification, rights, duties and liabilities and will acquire knowledge and understanding of audit evidence and documentation.
- **CO4:** demonstrate and critically examine various contemporary audit issues and challenges involved in the electronic data processing environment.
- **CO5:** understand the inherent risk involved in assessing and evaluating the financial statements, process of formulating the audit report and communicating the same to the client.
- **CO6:** This course will help students to prepare for CA, CS and auditing specific competitive exams like audit inspectors.

MC 302: CORPORATE LEGAL FRAMEWORK

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

- **CO-1**: Acknowledge the concept of incorporation of Company, its separate legal entity and documents required for registration of company: Memorandum of Association and Articles of Association and their alteration with a special reference to Doctrine of Ultra vires and Doctrine of indoor management.
- **CO-2:** Enlist the steps involved in framing of prospectus and explicate the significance of prospectus and consequences of misrepresentation in prospectus.
- **CO-3:** Analyse the powers and duties of directors considering meetings of directors and shareholders and learn various forms of winding up of company.
- **CO-4:** Interpret in detail the Negotiable Instruments Act, 1881 and Competition Act, 2002 and demonstrate the relevance of foundational and theoretical knowledge of their academic major in order to gain practical exposure.

MC 303: DIRECT TAX LAWS

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

- **CO1:** Develop knowledge of laws pertaining to levy of direct tax in India and to enable students to apply the same practically.
- **CO2:** Understand the basic concepts in the law of Income Tax and determine the residential status of different persons.
- **CO3:** Identify the five heads in which income can be categorised and to compute income under different heads.
- **CO4:** Analyse and Examine clubbing provisions, aggregate income after set-off and carry forward of losses.
- **CO5:** Identify deductions out of gross total income and computation of total income in regard to different assesses.

MC 304: MARKETING MANAGEMENT

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

- **CO1:** Develop ability to define and analyze the marketing problems through the formulation of marketing objectives, policies, programmes and strategies.
- **CO2:** Understand the Marketing Environment to capture the market share and size for their organization.
- **CO3:** Understanding the concept of marketing, marketing information system and consumer behavior
- **CO4:** Interpret complex marketing issues and problems using relevant theories, concepts and methods with regard to ethical conduct.
- **CO5:** Apply contemporary marketing theories to the demands of business and management practice.
- **CO6:** The concepts of Promotional Mix will help the learners to develop and deal with the different promotional strategies in corporate successfully.

MC 305(ii): MANAGEMENT OF FINANCIAL SERVICES

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

- **CO1:** Have in depth understanding of financial services and their application in business concerns.
- **CO2:** The identification of services of Merchant Banking system and role played by regulatory bodies in the smooth and profitable functioning of business activities.
- **CO3:** Develop a set of skills to use the hire purchase and leasing to solve the problems related to optimum utilisation of scarce resources.
- **CO4:** Identify role played by Venture Capital and the evaluation of various strategies so that the students can develop information based solutions.
- **CO5:** Develop appropriate information about Mutual Funds which will further helps students to create their own portfolio.
- **CO6:** Analyse factoring and forfeiting to ensure the smooth functioning of business

and minimization of adverse outcomes of plastic money.

MC 401: HUMAN RESOURCE MANAGEMENT

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

- **CO1:** Acquaint the students with the concept of HRM, its relevance, objectives, functions and role in organisation.
- **CO2:** Familiarize with planning, procurement and development of human resource and their retention plans.
- **CO3:** understand the various compensational and reward system of human resource.
- **CO4:** Implementation and Evaluation of welfare, safety and health policies and practices.
- **CO5:** Integrate the knowledge of HR concepts of job rotation, work redesigning, job enlargement etc to take correct business decisions.

MC 402: FUNDAMENTALS OF INVESTEMENT

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

- **CO1:** Develop ability to know the basic structure of investment and speculation, analyse the concept of risk and risk return framework.
- **CO2:** Critically analyse the various investment alternatives available to individuals, examine diverse innovations in derivative market.
- **CO3:** Construct, analyse, examine and evaluate portfolios along with a deep understanding of efficient market theory and associated models.
- **CO4:** Understand the structure of fundamental and technical analysis along with technical indicators; evaluate bonds in terms yield and risks.

- **CO5:** Acquire and develop knowledge of theoretical and practical aspects of portfolio management and investment analysis for security selection and manage portfolio.

MC 403: BANKING & INSURANCE SERVICES

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

- **CO1**: accumulate knowledge regarding functions, operations and instruments of a commercial bank.
- **CO2:** get deeper insight into the various schemes and services offered by banks along with changing trends and volume of deposits in the banking and insurance sector of India.
- **CO3:** understand and expertise in various matters relating to principles of lending, credit appraisal techniques, priority sector lending, credit monitoring and management of funds.
- **CO4:** acquire knowledge of rising trends and changing scenarios at national level in banking and financial services like e- banking, retail banking and recent banking technologies etc.
- **CO5**: discover about emerging trends in insurance sector, legislative framework and the major life and non-life players in India.
- **CO6:** know about risk management practices in banking and insurance sector.
- **CO7:** This course will help students to get wide range of employment opportunities in field of banking and financial sector

MC 404: CORPORATE TAX PLANNING

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

- **CO1:** examine the instances of tax evasion and tax avoidance, which should not be followed in tax planning.
- **CO2:** Consider tax implications while taking business decisions regards to its nature and location.
- **CO3:** assess the impact of taxation on trade off of financial decisions.
- **CO4:** Identify managerial decisions like tax planning in regards to make or buy decision, shut down or continue decision and own or lease.
- **CO5:** comprehend the tax issues relating to amalgamation, which influence the policy outcomes of amalgamating and amalgamated companies.

MC 406 (ii): INTERNATIONAL FINANCE

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

- **CO1:** Acquire and Develop theoretical and practical knowledge of international financial system.
- **CO2:** Develop ability to know the basic structure of international finance, policies and procedures, to know about the recent trends and globalisation of world economy.
- **CO3:** Understand the evolution of international monetary system and connotation of regional and global imbalances.
- **CO4:** Critically analyse the consequence of foreign exchange exposure and market on management practices and how to manage international receivable management, significance of global crisis in both developing and developed economies.
- **CO5:** Understand the concept of balance of payment which will further engage the students to know the deficit/surplus of trade of home country with the world economy.

- **CO6:** Analyse and Interpret regional economic integration along with multinational working capital management, understand the concept and role of FDI and FII and their implications in global market.

PROGRAM AND COURSE OUTCOMES OF M.SC CHEMISTRY

PROGRAM OUTCOMES

PO1: Student will gain complete knowledge about all fundamental aspects of chemistry.

PO2: Students will develop critical thinking, will be able to put forward new ideas, explain observations and draw logical inference form scientific studies in field of chemistry.

PO3: Student will learn basic analytical and technical skills to work effectively in the various fields of chemistry

PO4: Student will be able to solve complex chemical problems, e.g., analysis of data, synthetic logic, spectroscopy, structure and modeling, team-based problem solving, etc. which are essential skills to succeed in field of research or in industry.

PO5: Student will be able to handle standard laboratory equipment, modern scientific instruments, planning and performing in laboratory experiments.,

COURSE OUTCOMES

CLASS - M.Sc. CHEMISTRY 1st Year

COURSE NAME	COURSE OUTCOME
COURSE-101 INORGANIC CHEMISTRY	CO-1. Student will able to understand different types of chemical bonds present in inorganic compounds. CO-2. Understand the nature of pi acid ligands and their bonding in metal-ligand complexes. CO-3. Learn Structural aspects and Thermodynamic Consequences of Partly Filled-shells. CO-4. Learn about spectral properties of inorganic complexes such as selection rules and types of spectra. CO-5. Understand the the biochemistry of Iron and other metals such as zinc, copper, cobalt, molybdenum and tungsten.

COURSE-102 ORGANIC CHEMISTRY	CO-1. Learn everything about reaction intermediates involved in organic reactions. CO-2. Understand the nature of bonding involved in organic compounds. CO-3. Learn about aromatic, non-aromatic and anti-aromatic compounds. CO-4. Learn about different techniques used or determination of reaction mechanism. CO-5. Understand the types and mechanisms of elimination reactions in organic chemistry. CO-6. Learn in detail about molecular orbital symmetry and pericyclic reactions.
SUBJECT CODE: 103 PHYSICAL CHEMISTRY	CO-1. Understanding of laws of **thermodynamics** and the theoretical concepts of generalized forces and coordinates, work, and thermodynamic potentials. CO-2.Understanding of the meaning and the role of thermodynamic description of systems. CO-3.Command of methods of **statistical thermodynamics**, understanding of concepts of phase space and phase integral, temperature, and chemical potential.

	CO-4. Investigating various phenomenon involving Ion-solvent interactions, Ion - ion interactions: **Debye - Huckel theory of ion - ion interactions**. CO-5. Probing and grasping understanding regarding various phenomenon viz. **Electrokinetic** phenomenon, **Electrocatalysis**,

	Electrochemical Energy Conversion and Electricity storage
SUBJECT CODE–105 PRACTICAL INORGANIC CHEMISTRY	CO-1 Learn systematic analysis of cations and anions CO-2 Can eliminate the interfering anions from the given mixture. CO-3 Prepare alums and complexes Co-4 Preparation and estimations .
SUBJECT CODE: 106 ANALYTICAL CHEMISTRY PRACTICALS	CO-1. Develops analytical skills and problem solving skills requiring application of chemical principles CO-2. Apply appropriate techniques for the qualitative and quantitative analysis of chemicals in laboratories and in industries. CO-3. Prepare standard solutions CO-4. Conduct acid base titrations, complexometric titrations and redox titrations like permanganometry, dichrometry and iodometric-iodimetric titrations. CO-5. Different indicators used in titrations
COURSE-201 INORGANIC CHEMISTRY	CO-1. Understand the various kinds of organometallic compounds and their structural study by NMR. CO-2. Understand the types of bonding involved in Nitrogen, Oxygen, sulphur and halogens. CO-3 Learn the chemistry of xenon, krypton and radon. CO-4. Learn the concepts of group theory and its uses in octaheral, tetrahedral, sq. planar and trigonal bipyramidal symmetry. CO-5. Understand the applications of group theory in inorganic systems.
COURSE-202	CO-1. Learn basics of stereochemistry such as types of representation of 3-D

ORGANIC CHEMISTRY	structures, enantiomers, diastereoisomers, racemic mixtures, resolution and how to carry out asymmetric synthesis. CO-2. Understand conformational isomers and their effect on physical and chemical properties of various systems. CO-3. Learn the stereochemistry of six member rings and fused ring systems. CO-4. Understand geometrical isomerism and its effect on physical properties. CO-5. Learn about addition reactions to C-C and Carbon-hetero multiple bonds. CO-6. Learn about mechanism of reduction and condensation reactions.
SUBJECT CODE: 203 PHYSICAL CHEMISTRY	CO-1 Understanding Fundamental concepts of quantum mechanics. CO-2 Understanding operators and postulates of quantum mechanics CO-3 Application of Schrodinger equation to various model systems. CO-4 **Understanding Approximate Methods** The variation principle, perturbation theory. CO-5 Probing **Electronic Structure of Atom**: Electronic states of complex atoms CO-6 To understand the effect of temperature on reaction rates. CO-7 To understand the different theories of chemical kinetics. CO-8 Understand the concept of reaction rates and be able to use the coefficients of a balanced chemical equation to express the rate of reaction in terms of the change in concentration of a reactant or product over time.
COURSE–205 : ORGANIC CHEMISTRY PRACTICALS	CO-1. Learn essential laboratory skills required for organic synthesis by performing synthesis of important organic compounds. CO-2. Learn to characterize synthesized products using different spectral

	methods. CO-3. Learn to separate solid-solid/ solid-liquid/ liquid-liquid mixture of two organic compounds. CO.3- Learn identification of functional groups by using different qualitative lab techniques. CO.4. Learn identification of compounds by different conformation tests and by preparation of derivatives. CO.5. Learn separation of organic mixture by prep. TLC. CO.6. Learn IR and PMR studies to confirm identification of compounds.

PAPER–206 : PHYSICAL CHEMISTRY PRACTICALS	CO-1 Determine the viscosity of various liquids using Ostwald's viscometer CO-2 Determine cryoscopic constant (Kf) of solid solvent and molecular mass of the solute using cooling curve method . CO-3 Determine transition temperature CO-4 prepare the solution of the desired concentration and the desired volume CO-5 Know the principle and handling of pH meter, Potentiometer, conductivitymeter, colorimeter, viscometer,etc. CO-6 Plot accurate graphs of the desired scale for the calculations CO-7 Maintain laboratory ethics, safety and cleanliness CO-8 Understand waste management of the laboratory

M.Sc. (Chemistry) 3rd Semester

Analytical Chemistry **Subject Code– 301**

Learning Objectives

- Introduction to analytical chemistry
- Methods of quantitative analysis
- Sampling in analysis
- criterion of a good sampling plan
- Errors in chemical analysis
- Classification of errors
- Minimization of errors

- Accuracy and precision.
- Improving accuracy of analysis
- Correlation and Regression, linear regression and analysis of variance.
- Basic Principles of Polarography
- Chronoptentiometry
- Thermo Analytical Methods
- Spectrophotometry and Colorimetry
- Ion exchange chromatography.
- Applications in analytical chemistry

Learning Outcomes

After studying this paper, students will be able to:

➢ Understand the fundamentals of analytical chemistry and steps of a characteristic analysis.

➢ Compare qualitative and quantitative analysis methods.

➢ Express the quantitative analysis methods.

➢ Express the qualitative analysis methods.

➢ Evaluate the analytical data in terms of statistics.

➢ Estimate the types of errors in chemical analysis.

➢ Express the terms such as mean, median, precision, accuracy, absolute error and relative error.

➢ Express the systematical errors and the error sources.

➢ Interpret the statistical tests.

- To interpret the sources of random errors and effects of random errors on analytical results.
- Express the terms such as standard deviation, variance, relative standard deviation and coefficient of variance.

- Express the significant figures and rounding off the data.
- Employ the volumetric calculations.
- Define the confidence limit and confidence level.
- Compare of the experimental mean with a true value and two experimental means.
- Identify the detection limit.
- Express the titrimetric analysis methods.

Inorganic Chemistry

Reaction mechanism of transition metal complexes

Subject Code– 312

Learning Objectives

- To provide a broad learning about the different types of reaction mechanism involved in a variety of metal ligand complexes.
- To acquire the role of stability constants in reaction mechanism of metal complexes.
- To study the stereochemical aspects of various metal ligand complexes.

- To learn oxidative addition and migration reaction of different kinds of metal atom complexes.

Learning Outcomes

After studying this paper, students will be able to understand:

- Theories and types of mechanism of the substitution reactions in octahedral, square planar and metal carbonyl complexes.
- Factors effecting mechanism of nucleophilic substitution reaction and the reaction intermediates involve in the course of reaction.
- Oxidative addition and reductive elimination of some specific molecules and acid base behaviour of metal atom in complexes.
- Factors affecting the stability constants of metal complexes.
- Make the students able to work in the metallurgical industry.

Inorganic Chemistry

Inorganic spectroscopy-I

Subject Code– 313

Learning Objectives

- Aims to provide students a deep understanding of different kinds of spectroscopic techniques to carry out scientific experiments and interpretation of the data.
- To attain sufficient knowledge about the applications of a variety of spectroscopic techniques.
- To understands the spectra of transition metal complexes.
- Aims to determine the inorganic structures by using spectroscopic techniques.

Learning Outcomes

After studying this paper, students will be able to understand:

- Analyze the data obtained from sophisticated instruments (like FTIR, NMR, GCMS, UV-Vis, Fluorescence, and TGA) for the structure determination and chemical analysis.
- Have sound knowledge about the inorganic spectroscopy fundamentals and applications in different fields.
- Selection rules and intensities of transition in the spectra of transition metal complexes.
- Operate the variety of instruments and can interpret the data from the spectrum.

Organic Chemistry

Chemistry of Natural Products **Subject Code– 322**

Learning Objectives

- To understand the general methods and basic techniques used in structure determination.

- Structure elucidation and synthesis of some natural products based on chemical and spectroscopic studies.
- To understand the degradation of Carbon Skeleton.
- To understand the direct and indirect oxidation methods.
- To understand the biogenetic approach of the acetate pathways.

Learning Outcomes

To enable the students:

- To study the general methods and basic techniques used in structure determination of natural products
- To develop proper aptitude towards the spectroscopic studies of natural products in the structure determination.
- To learn the chemistry of terpenes, alkaloids and steroids.
- To understand and study mechanism and transformations in different natural products.
- To understand the structure elucidation of alkaloids, steroids and antibiotics.

Physical Chemistry

Subject Code: 331

Fundamentals of Spectroscopy

Learning Objectives

The course content has the following objectives:

- To learn some properties of a simple microwave reflection spectrometer.
- To measure the g factor, nuclear spin, and hyperfine coupling constant of

various ESR active nuclei.

- Know how nuclear spins are affected by a magnetic field, and be able to explain what happens when radiofrequency radiation is absorbed. .
- To predict the number of proton and carbon NMR signals expected from a compound given its structure.
- To predict the splitting pattern in the proton NMR spectrum of a compound given its structure.
- To assign peaks in an NMR spectrum to specific protons in a compound with the aid of a chart of chemical shifts from ^{1}H and ^{13}C NMR, to
- To interpret integration of NMR spectra.
- To calculate coupling constants from 1H NMR spectra, and utilize the coupling constants for determining compound structure.
- Students learn the principles of different molecular spectroscopic methods.

Learning Outcomes

After completing this unit the student will be able to:

- Describe the selection rule for infrared-active transitions.
- Determine the vibrations for a triatomic molecule and identify whether they are infrared-active.
- Draw the design of a non-dispersive infrared spectrophotometer and describe how it functions.
- Describe the difference between time and frequency domain spectra.
- Explain how a Michelson Interferometer can be used to obtain a time domain spectrum.
- Explain the advantages of Fourier Transform infrared spectroscopy over conventional infrared spectroscopy
- Determine whether the molecular vibrations of a triatomic

molecule are Raman active.

- Explain the difference between Stokes and anti-Stokes lines in a Raman spectrum.
- Justify the difference in intensity between Stokes and anti-Stokes lines.
- Draw the Stokes and anti-Stokes lines in a Raman spectrum of a compound when given the energies of the different transitions
- Magnetic properties of atomic nucleus and resonance.
- Nuclear relaxation mechanisms.
- NMR spectrometers.
- Spin-spin interactions and chemical shift.
- ^{1}H and ^{13}C NMR spectroscopy.
- 2D NMR techniques.
- Interpretation of NMR spectra.

Physical Chemistry

Subject Code: 332

Statistical Thermodynamics

Learning Objectives

The course content has the following objectives:

- Recapitulation of classical statistics and partition function
- Comparison between Maxwell-Boltzmann, Bose-Einstein and Fermi-Dirac statistics
- Understanding concept of thermodynamic probability
- Description of statistics of monatomic ideal gas

- Understanding Principle of equipartition of energy
- Application and interpretation of Barometric equation
- Application of statistical approach to Theory of paramagnetism
- Statistics of photon and electron gases
- Formulation of Velocity, speed and energy distribution functions
- Evaluation of Thermionic emission.
- Classical treatment of specific heat of solids
- Differentiation among Einstein and Debye theories of specific heats
- Debye's T^3 law, entropy of solids, equation of state of solids, order and disorder and the melting point.
- Description of Law of mass action, chemical equilibrium, dissociation
- Computation of equilibrium constants
- Means distribution, mean square deviation, fluctuations in energy in a canonical ensemble, density fluctuation in a gas.. Theory of Brownian motion and Brownian motion of galvanometer.
- Entropy production, coupled phenomena, transport parameters
- Thermoelectric phenomena, The Seebeck effect, Peltier effect and Thomson effect.

Learning Outcomes

After completing this course the student will be able to:

- Learn about Boltzmann equation relating bulk and microscopic behavior.

- Learn about most probable distribution.
- Learn about Microscopic and Macroscopic Systems
- Distinguish between Classical and Statistical Thermodynamics.
- Distinguish between Classical and Quantum Approaches
- Infer applications of Statistical Thermodynamics

Physical Chemistry

Subject Code: 333

Fundamental and Atmospheric Photochemistry

Learning Objectives

The course content has the following objectives:

- To study Photochemical Reactions
- To study Photochemistry of Atoms
- To study Photochemistry of Simple Molecules
- To study Photochemistry of Polyatomic Molecules
- To study Electronically Excited Singlet and Triplet States
- To study Photochemical Oxidation and Reductions
- To study Industrial Applications of Photochemistry
- To study structure of the atmosphere, structure in terms of temperature, diffusion and ionization, characteristics and chemical composition.
- To study Chemistry of the upper atmosphere, features of odd oxygen and singlet oxygen, NO_2 and HO_2 species and other species like N_2O, NH_3, HNO_3 etc., in the atmosphere.

- To understand meaning of Pollutant, different ways to express concentration of Pollutants
- Description of concept regarding Photochemical smog and production of smog.

Learning Outcomes

After completing this course the student will be able to:

- Explain the structure of the atmosphere.
- Define important chemical processes in the stratosphere and troposphere.
- Discuss the role of greenhouse gases on global warming.
- Demonstrate an increased knowledge and understanding of chemical science
- Use investigative skills, critical thought and the ability to evaluate information and to analyze experimental data.

Learning Objectives & Outcomes

M.Sc. (Chemistry) 4th Semester

Organic Chemistry

Modern Synthetic Reactions & Rearrangements

Subject Code– 423

Learning Objectives

- To understand the various organic reactions and reagents used in them as tools applied in the art of organic synthesis.
- To understand the behavior of non -activated carbon in organic synthesis.
- To understand the rearrangements in three membered and four membered systems.

Course Outcomes

To enable the
students:

To study the use of various reagents in organic synthesis

- To develop aptitude towards the study of reaction mechanism at the un-activated C-H bonds and their applications to steroid nucleus.
- To learn the chemistry of C-C bond formation by using Organ metallic reagents.
- To understand acid catalyzed and base catalyzed rearrangements in small ring compounds.
- To study the use of phase transfer reagents and use of compounds of Thallium (III), Palladium and Ruthenium oxide in organicsynthesis.
- Carbocation Rearrangement in Bridged Bicyclic Systems and steroid systems.

Physical Chemistry

Subject Code: 431

Ray Diffractions and other Techniques

Learning Objectives

- Structures of Ionic Solids (crystal chemistry), Metals and Alloys,
- Band Theory in Solids (Metals, Semiconductors, Inorganic Solids)
- Crystal defects, non-stoichiometric compounds, solid solutions, dislocations and stacking faults.

- Unit Cell, Crystal Systems, Asymmetric Unit, Crystal lattices (2D)
- Bravais Lattices (3D), Miller planes (crystallographic directions and multiplicities) d-spacing formula
- Scattering by an Atom and Crystal, Bragg's Law, Reciprocal Lattice, Reflecting and Limiting sphere of reflection, systematically absent reflections
- Mossbauer spectroscopy: Physical concepts, spectral line shape, isomer shift, quadrupole splitting, magnetic hyperfine interaction.
- Interpretation of Mossbauer parameters of ^{57}Fe and ^{119}Sn.
- Applications to Solid-state reactions, thermal decomposition, ligand exchange, electron transfer and isomerism
- Theory of polarized light, optical activity and optically active molecules
- Cotton effects, CD and ORD, Octant Rule
- Experimental Techniques, applications: quantitative analysis, determination of absolute configuration, conformational studies and equilibrium studies.

Learning Outcomes

After completing this unit the student will be able to:

- Basics of Crystallography
- Basic theoretical and experimental aspects of the discussed X-ray diffraction methods
- basic data analysis on materials
- The student will acquire qualitative and quantitative knowledge of the fundamental concepts of various spectroscopic methods of Mossbauer spectroscopy
- Apply applications of MB to characterize different molecules and crystals.
- The learners should be able to distinguish between various spectroscopic transitions and interpret data for molecular characterization

Physical Chemistry

Polymers and Surface Chemistry

Subject Code: 432

Learning Objectives

- Introduction: Classification and nomenclature of polymers
- Composition and polymerization mechanism.
- Radical chain polymerization
- Co-polymerization and emulsion polymerization
- Molecular weight average and viscosity average molecular weight, molecular weight determination by osmotic method, light scattering method, sedimentation method, diffusion constant, sedimentation equilibrium, viscosity method.
- Adsorption and Kinetics of heterogeneous reaction at solid surfaces
- Catalysis : Catalysts and Criteria of catalysis and initiation of a reaction
- Spectroscopic methods like PES, AES, LEED applicable to Polymers

Learning Outcomes

After completing this unit the student will be able to:

- Classify the different Polymers
- Assign nomenclature to different class of polymers
- To apply various statistical techniques to polymers for determination of its

properties.

- To apply isotherms to the various phenomenon involving adsorption
- To apply kinetics to various reactions occurring on solid surfaces
- Apply various spectroscopic techniques to determine surface properties.

PROGRAM AND COURSE OUTCOMES OF M.SC MATHEMATICS

PROGRAM OUTCOMES

- PO 1: Ability to communicate various concepts of mathematics effectively using examples and their geometrical visualizations.

- PO2: Capability of demonstrating comprehensive knowledge of mathematics.

- PO3: Ability to employ critical thinking in understanding the concepts in every area of mathematics.

- PO4: Ability to analyze the results and apply them in various problems appearing in different branches of mathematics.

- PO5: Ability to provide new solutions using the domain knowledge of mathematics

- PO6: Capability for inquiring about appropriate questions relating to the concepts in various fields of mathematics.

- PO7: Ability to think, acquire knowledge and skills through logical reasoning and to inculcate the habit of self-learning.

COURSE OUTCOMES

Semester-I

MM-401: Algebra-I

MM-402: Mathematical Analysis

MM-403: Topology-I

MM-404: Differential Geometry

CS -405A: Introduction to Computer and Programming using

C CS -405B: Software Laboratory –I (C-Programming)

Semester-II

MM-501: Algebra- II (Rings and Modules)

MM-502: Topology-II

MM-503: Differential Equations-I

MM-504: Functional Analysis

MM-505:Complex Analysis

Course Outcomes: After completion of the course the student will be able to:

Algebra-I

- **CO1**:Exhibit and recall the previous learning of algebraic structures groups and rings.
- **CO2:**Understand the concepts of Composition series, Solvable and Nilpotent groups, and permutation groups.
- **CO3:**Understand the concepts of structure theory of groups, Field of quotients and Ring of Endomorphism of abelian groups.
- **CO4:**Apply group action theory to derive class equation.
- **CO5:**Use and apply concepts of group theory to other algebraic structures.
- **CO6:**Recognize and use Sylow's theorems to characterize certain finite groups

- **CO7:**Use and apply the concepts of group theory in Galois theory, Algebraic geometry, Combinatorics.

Mathematical Analysis

CO1: Solve problems based on Functional of several variables including Inverse function theorem, Implicit function theorem.

CO2: Understand Measure spaces and Lebesgue measure

CO3: Identify Measurable function ,Riemann and lebesgue integrals.

CO4: Understand Differentiation ,Functions of bounded variation, Differentiation of an Integral, Absolute Continuity, Convex Functions and Jensen's inequality.

CO5: Describe the applications in probability theory, real analysis, and many other fields in mathematics as Functional Analysis, Approximation Theory and PDE.

Topology-I

- **CO1:** Differentiate between finite, countable, and uncountable sets.

- **CO2:** Understand the concept open-sets; Closed Set; Nhd of a point; Interior & Exterior points.

- **CO3:** Determine and construct Topology by the collection of open-Closed sets or on the basis of nhd at each point.

- **CO4:** Understand the basic properties of connected spaces.

- **CO5:** Understand basic properties of compact spaces, and locally compact spaces

- **CO6:** Apply the results to describe the space-time structure of universe.

- **CO7:**Apply the results in physics to study the string theory.

Differential Geometry

- **CO1**: Recoganise and recall the basic concepts of Curve.

- **CO2:** Understand the role of Serret-Frenet formulae on curves.

- **CO3:** Know the Interpretation of the curvature tensor, Geodesic curvature, Gauss and Weingarten formulae.

- **CO4:** Understand the role of Gauss's Theorema Egregium and its consequences.

- **CO5:** Apply problem-solving with differential geometry to diverse situations in physics, engineering and in other mathematical contexts.

CS -405A: Introduction to Computer and Programming using C & Software Laboratory –I (C-Programming)

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

- **CO-1:** Design algorithms and flowchart to solve programming problems.

- **CO-2:** Write, compile and debug programs in C language. Use different data types, operators and console I/O function in a computer program.

- **CO-3:** Design programs involving decision control statements,

loop control statements and case control structures.

- **CO-4:** Understand the implementation of arrays, pointers and functions and apply the dynamics of memory by the use of pointers.
- **CO-5:** Comprehend the concepts of structures and union: declaration, initialization and implementation.
- **CO-6:** Use the file operations, character I/O, string I/O, file pointers, and create/update basic data files.

Algebra-II (Rings and Modules)

- **CO1:** Exhibit and recall the previous learning of algebraic structures like Groups,Rings and Vector spaces.
- **CO2:** Define and construct algebraic structures like Unique Factorization Domains, Principal Ideal Domains, Euclidean Domains, Polynomial rings over UFD.
- **CO3:** Develop new structures based on a given structure and compare them.
- **CO4:** Apply theory of modules over PID to Jordan and rational canonical forms.
- **CO5:** Classify different types of Modules and Radicals.
- **CO6:** Apply the concepts of modules to Commutative Algebra and Homology Algebra.

Topology-II

- **CO1:** Define and construct the subspace topology, filter and filter base.
- **CO2:** Understand Urysohn lemma and the Tietze extension theorem.
- **CO3:** Understand and construct the Identification topology.

- **CO4:** Differentiate between T-1,T-2,T-3 and T-4 separation axioms and apply them to prove other properties.
- **CO5:** Apply in biology to study the effects of certain enzymes on DNA.
- **CO6:** Apply the fundamental group of a topological space to homotopy theory.

Differential Equations-I

- **CO1**: Know the concepts of existence, uniqueness and continuity of the solutions of first order ordinary differential equations.
- **CO2**: Identify the properties of the zeros of solutions of linear nth order ordinary differential equations.
- **CO3**: Analyze the dependence of solutions on initial conditions and parameters.
- **CO4**: Demonstrate the knowledge of eigen values and eigen functions of Sturm-Liouville systems.

Functional Analysis

- **CO1:** Understand and apply fundamental theorems Hahn-Banach theorem in Normed Linear Spaces and its applications,Uniformboundedness principle, Open mapping theorem, Closed graph theorem.
- **CO2:** Understand Hilbert spaces including Orthogonality, Orthonormal sets, Bessel's inequality, Parseval's theorem.
- **CO3:** Use and derive Basic definitions and theorems of functional analysis
- **CO4:** Differentiate between Banach Space and Hilbert Space
- **CO5:** Apply contraction and approximation theory in differential equations and integral equations.

Complex Analysis

- **CO1:** Evaluate complex integrals using Cauchy residue and Cauchy integral theorems.
- **CO2:** Learn and apply the concept of analyticity , analytic continuation, Cauchy-Riemann equations, Taylor and Laurent series expansions of analytic functions,
- **CO3:** Classify the nature of singularity, poles and residues and application of Cauchy Residue theorem.
- **CO4:** Solve the problems using complex analysis techniques applied to different situations in engineering and other mathematical contexts.
- **CO5:** Establish the capacity for mathematical reasoning through analysing, proving and explaining concepts from complex analysis
- **CO6:** Extend their knowledge to pursue research in this field.

Semester-III

MM 601 :Differentiable Manifolds MM 602 : Field Theory

MM 603 : Differential Equations-II MM 607:Classical Mechanics

MM 609:Optimization Techniques-I

Semester-IV

MM 702:Theory of Linear Operators

MM 709: Algebraic Coding Theory

MM 710: Commutative Algebra

MM 711: Operations Research

MM 716:Mathematical Methods

Course Outcomes: After completion of the course the student will be able to:

Differentiable Manifolds

- **CO1:** Understand about differentiation of functions of several variables, tangent vector, vector field, differential forms and Connections.
- **CO2:** DIscuss notion of Riemannian manifolds and the submanifolds of Riemannian manifolds. Also, they will be aware of the complex structure and the submanifolds of complex manifolds.
- **CO3:** Define the various manifold concepts that are introduced during the course and know how to apply and interpret them.
- **CO4:** Use the theory, methods and techniques of the course to solve problems in higher dimensions .
- **CO5:** Extend their knowledge to pursue research in this field.

Field Theory

- **CO1:** Exhibit and recall the previos learning of Polynomial rings.
- **CO2:**Understand the concepts of Algebraic Extensions, Algebraically closed field and normal extensions.
- **CO3:** Apply the knowledge of field theory to solve problems related to algebraic and geometric construction.
- **CO4:** Construct Galois groups and Connect Group theory and Field theory using Fundamental theorem of Galois theory.
- **CO5:** Apply Galois theory to solve problems in Compass and Straightedge construction.
- **CO6:**Use the results of Finite Field theory in Algebraic Coding Theory and Cryptography.

Differential Equations-II

- **CO1:** Analyse the existence of solutions of first order differential equations for complex system.
- **CO2:** Understand the uniqueness and continuation of solutions of first order differential equations for complex system.
- **CO3:** Understand the Maximum and minimum solution of first order differential equations for complex system.
- **CO4:** Formulate and solve initial and boundary value problems for the Laplace equations in polar, spherical and cylindrical coordinates
- **CO5:** Derive Dirichlet's problem for semi-infinite space and for a sphere.
- **CO6:** Derive the family of Equipotential surface and prove Kelvin inversion theorem.

Classical Mechanics-I

- **CO1**: Have a deep understanding of Newton's laws and Keplar's laws.
- **CO2**: Understand the concept of Lagrangian formulation and Apply Lagrangian methods to complex motion problems.
- **CO3:** Know about Hamilton's Principle and deduce Lagrange's Equations from Hamilton's Principle.
- **CO4:** Demonstrate the knowledge of central-force motion problem.
- **CO5:** Interpret an idea about the Kinematics of rigid body motion.

Optimization Techniques-I

- **CO1:** Understanding deeply the theoretical background of operation research
- **CO2:** Describe the applications of Operation research in real-world

problems.

- **CO3:** Apply Linear Programming models to analyze real world systems.
- **CO4:** Solve multi-level decision problems using Linear programming method.
- **CO5:** Set up and solve Linear optimization problems both analytically and numerically and demonstrate their working by hand.

The Theory of Linear operators

- **CO1:** Understand Spectral theory in Normed linear spacesbounded linear operator, Spectral mapping theorem for polynomials,Elementary theory of BanachAlgebras.
- **CO2:** UndersatandSpectral properties of compact linear operators on normed spacebounded self-adjoint linear operators on a complex Hilbert space. Positive operators, Fredholm type theorems.
- **CO3:** Differentiate between Banach Space and Hilbert Space
- **CO4:** Apply Spectral Techniques for the study of the Theory of Linear Operators.

Algebraic Coding Theory

- **CO1:** Understand the basic techniques of coding theory liked Error detecting and correcting codes, Matrix encoding ,Polynomial encoding, Maximum likelihood decoding,Nearest Neighbourhood decoding and syndrome decoding.
- **CO2:** Understand the usefulness of coding theory in real life problems
- **CO3:** Classify different types of codes and bounds on the parameters of codes.
- **CO4:** Identify role of Linear algebra and Field Theory in coding theory.
- **CO5:** Solve problems of encoding and decoding in real life using coding techniques.
- **CO6:** Apply the knowledge of Coding theory in Cryptography and Error control.

Commutative Algebra

- **CO1:** Classify and explain Nill Radicals, Jacobson radical, Tensor product of modules, Primary ideals and prime ideals.
- **CO2:** Interpret and use previous knowledge of algebra in Rings and Modules of Fractions.
- **CO3:** Apply Advanced Core Concepts of algebra in real-life situations.
- **CO4:** The students should be able to participate in scientific discussions and begin with own research in commutative algebra

Operations Research

- **CO1**: Describe the importance of stocks in an organization and the reasons for holding stock.
- **CO2**: Understand and compute quantitative metrics of performance for queueing systems.
- **CO3**: Apply inventory models and queueing models to analyze real world systems.
- **CO4**:Deal with replacement & maintenance problems.

CO5: Formulate and solve problems as networks using CPM and PERT techniques, to plan, schedule, and control project activities. Mathematical Methods

- **CO1:** Understand the relation between linear differential equation and Volterra's equation and convert one type into another.
- **CO2:** Understand the difference between Volterra and Fredholm Integral Equations, First

kind and Second kind.

- **CO3:** Apply to analyze the safety and stability of the dam during an earthquake.

- **CO4:** Give the Solution to the brachistochrone and isoperimetric problem

- **CO5:** Understand the fundamental concepts of the space of admissible variations for fixed points.

PROGRAM AND COURSE OUTCOME OF M.SC (INFORMATION TECHNOLOGY)

PROGRAM OUTCOMES(POs)

- **PO-1** : Apply knowledge of computer science and programming appropriate to the discipline and to provide effective solution in the area of computing
- **PO-2**: Design, implement, and evaluate a computational system to meet desired needs of the industry
- **PO-3** :Function effectively in teams or as individual to accomplish shared computing design, evaluation, or implement goals.
- **PO-4** : Perform professionally with social, cultural and ethical responsibility as an individual as well as in multifaceted teams with positive attitude
- **PO-5** : Capable of adapting to new technologies and constantly upgrade their skills with an attitude towards independent and lifelong learning

COURSE OUTCOME

M.Sc (IT) - I

Semester-1st

Code No.	Title of Paper

MS-111	Introduction to Information Technology
MS-112	Computer Programming using C
MS-113	Computer Organization and Architecture
MS-114	Mathematical Foundation of Computer Science
MS-115	Operating Systems
MS-116	Programming Lab – I

Semester-2nd

Code No.	**Title of Paper**
MS-121	Object Oriented Programming Using C++
MS-122	Data and File Structures
MS-123	Visual Basic
MS-124	RDBMS and Oracle
MS-125	Programming Lab – II
MS-126	Programming Lab – III

MSc (Information Technology) Program Specific Outcomes (PSOs)

After completion of the course the student will

- **PSO-1:** Have fundamental and advance knowledge in Programming Languages, Data Structure, Operating Systems, Computer Networks, Software Engineering, and Research Methods.

- **PSO-2:** Have fundamental and advance level knowledge if Computer Science concepts to debug and develop professional solutions.
- **PSO-3:** Be able to apply experimental expertise to solve computational problems in computer science
- **PSO-4:** Be able to conduct research in the field of Information Technology ethically and professionally.
- **PSO-5:** Be able to acquire and adapt to new skills to grow professionally.

MS-111 : Introduction to Information Technology

On completion of this course, the students will be able to:

- **CO-1:** Have basic knowledge of computer hardware and software;
- **CO-2:** Understand business areas to which computers may be applied;
- **CO-3:** Provide an introduction to business organisation and information systems;
- **CO-4:** Develop the skills in communication, verbal and written, which play an important part in business computing and information processing;

MS-112 : Computer Programming using C & MS-116 : Programming Lab-I On completion of this course, the students will be able to:

- **CO-1:** Write, compile and debug programs in C language. Use different data types, operators and console I/O function in a computer program.

- **CO-2:** Design programs involving decision control statements, loop control statements and case control structures.
- **CO-3:** Understand the implementation of arrays, pointers and functions and apply the dynamics of memory by the use of pointers.
- **CO-4:** Comprehend the concepts of structures and classes: declaration, initialization and implementation.
- **CO-5:** Apply basics of object oriented programming, polymorphism and inheritance.
- **CO-6:** Use the file operations, character I/O, string I/O, file pointers, pre-processor directives and create/update basic data files.

MS-113 :Computer Organization and Architecture

On completion of this course, the students will be able to:

- **CO-1:** Understand the basics of number system, computer arithmetic, computer hardware, how software interacts with computer hardware, how computers represent and manipulate data.
- **CO-2:** Analyze and evaluate computer performance
- **CO-3:** Assemble a simple computer with hardware design including data format, instruction format, instruction set, addressing modes, bus structure, input/output, memory, Arithmetic/Logic unit, control unit, and data, instruction and address flow
- **CO-4:** Use Boolean algebra as related to designing computer logic, through simple combinational and sequential logic circuits

MS-114 :Mathematical Foundation of Computer Science On completion of this course, the students will be able to:

- **CO-1:** Be familiar with the basic terminology of functions, relations, and sets and demonstrate knowledge of their associated operations.
- **CO-2:** Master to solve advanced mathematical problems, apply various methods of mathematical proof, and communicate solutions in writing
- **CO-3:** Master to comprehend advanced mathematics, and present the material orally and in writing
- **CO-4:** Utilize the knowledge of computing and mathematics appropriate to the discipline.
- **CO-5:** Evaluate mathematical principles and logic design

MS-115 :Operating Systems

On completion of this course, the students will be able to:

- CO-1: Learn and understand the mechanisms of OS to handle processes and threads and their communication, the mechanisms involved in memory management in contemporary OS.
- CO-2: Gain knowledge on distributed operating system concepts that includes architecture, deadlock detection algorithms and agreement protocols.
- CO-3: Understand and explain different approaches to memory management, structure and organization of the file system
- CO-4: Understand the various security threats and their probable solutions.

MS-121 : Object Oriented Programming Using C++ & MS-125 : Programming Lab-II (based on MS-121)

On completion of this course, the students will be able to:

- **CO-1:** Write, compile and debug programs in C++language. Use different data types, operators and console I/O function in a computer program.
- **CO-2:** Design programs involving decision control statements, loop control statements and case control structures.
- **CO-3:** Understand the implementation of arrays, pointers and functions and apply the dynamics of memory by the use of pointers.
- **CO-4:** Comprehend the concepts of structures and classes: declaration, initialization and implementation.
- **CO-5:** Apply basics of object oriented programming, polymorphism and inheritance.

MS-122 :Data and File Structures & MS-125 : Programming Lab-II (based on MS-122)

On completion of this course, the students will be able to:

- **CO-1:** Be familiar with basic data structure and algorithms.
- **CO-2:** Design and analyze programming problem statements
- **CO-3:** Choose appropriate data structures and algorithms and use it to design algorithms for a specific problem.
- **CO-4:** Handle operations like searching, insertion, deletion and traversing mechanism
- **CO-5:** Come up with analysis of efficiency and proofs of correctness

MS-123 : Visual Basic & MS-126 Programming Lab-III(based on MS-123) On completion of this course, the students will be able to:

- **CO-1:** Design, create, build, and debug Visual Basic applications.
- **CO-2:** Explore Visual Basic's Integrated Development Environment (IDE).
- **CO-3:** Write and apply decision structures for determining different operations.

➢ **CO-4:**Understand and identify the fundamental concepts of object-oriented programming.

➢ **CO-5:** Perform tests, resolve defects and revise existing code.

MS-124 : RDBMS and Oracle & MS-126 Programming Lab-III(based on MS-124)

On completion of this course, the students will be able to:

➢ **CO-1:** Gain the knowledge and understanding of Database analysis and design.

➢ **CO-2:** Understand the use of Structured Query Language(SQL) and learn SQL syntax.

➢ **CO-3:** Gain the knowledge of the processes of Database Development and Administration using SQL and PL/SQL.

➢ **CO-4:** Understand and apply the concept of functional dependencies to design the database

➢ **CO-5:** Understand and apply the concept of Transaction and Query processing

M.Sc (IT) – II

Semester-3rd

Code No.	Title of the Paper
MS-211	Web Technology
MS-212	Java Programming

MS-213	Software Engineering
MS-214	Computer Networks
MS-215	Programming Lab-IV (Web Technology)
MS-216	Programming Lab-V (Java Programming)

Semester-4th

Code No.	Semester System-IV
MS-221	Computer Graphics
MS-222	Linux Administration
MS-223	Research Methodology
MS-224	Artificial Intelligence
MS-225	Programming Lab-VI (Computer Graphics)
MS-226	Programming Lab-VII (LINUX Administration)

MS-211 : Web Technology & MS-215 : Programming Lab-IV (Web Technology)

On completion of this course, the students will be able to:

- **CO-1:** Learn and use the knowledge of web publishing and technologies related with the website development.
- **CO-2:** Learn client side and server side programming using Java Script and PHP

- **CO-3:** Apply the knowledge of website development to design and publish website individually and as a team member.
- CO-4: Upgrade the knowledge by learning new technologies and languages used for website development.

MS-212 : Java Programming & MS-216 : Programming Lab-V (Java Programming)

On completion of this course, the students will be able to:

- **CO-1:** Learn the Object Oriented Programming concepts to write, compile and debug programs using Java language.
- **CO-2**: Apply the concepts of object oriented programming like polymorphism,inheritance, Exception Handling, and Multithreading.
- **CO-3:** Design and develop console and GUI applications using Java Programming Language.
- **CO-4:** Work on programming project as individual or as team member is design, development and implementation phase.

MS-213 : Software Engineering

On completion of this course, the students will be able to:

- **CO-1:** Understand the basic concepts, models, life cycle of software development.
- **CO-2:** Learn higher level concepts like Re-engineering, Reverse Engineering, Forward Engineering, and CASE tools.
- **CO-3:** Knowledge of all the steps of software engineering and their use and

implementation in real problems

- **CO-4:** Understanding of programming language and using it to develop software using all stages of software development.

MS-214 : Computer Networks

On completion of this course, the students will be able to:

➢ **CO-1:** On completion of this course, the students will be able to:

➢ **CO-2:** Understand the basic concepts, types of networks, OSI, ans TCP/IP models with working of all the layers in detail

➢ **CO-3:** Learn and understand the working of different hardware components used in networking and various communication protocols

➢ **CO-4:** Learn and understand various issues involved in network security, and methods used to implement network security.

MS 221 : Computer Graphics & MS-225 : Programming Lab-VI (Computer Graphics)

On completion of this course, the students will be able to:

➢ **CO-1:** Understand and explain various concepts related to Computer Graphics

➢ **CO-2:** Implement various algorithms to scan, convert the basic geometrical primitives, transformations, Area filling, clipping.

➢ **CO-3:** Describe the importance of viewing and projections.

➢ **CO-4:** Explain various Illumination illumination models and surface rendering methods.

MS-222:LINUX Administration & MS-226 : Programming Lab-VII (LINUX Administration)

On completion of this course, the students will be able to:

➢ **CO-1:** Install and configure Linux operating system and understand the basic set of commands and working of editors in Linux.

➢ **CO-2:** Understand and work with Linux file system through terminal and GUI interface

➢ **CO-3:** Discuss various types of commands and variable used in shell programming and write simple shell programs in Linux operating system

➢ **CO-4:** Demonstrate the role and responsibilities of a Linux system administrator and make use of server commands

MS-223: Research Methodology

On completion of this course, the students will be able to:

➢ **CO-1:** Understand the basic concepts of research and its methodologies

➢ **CO-2:** Identify and formulate appropriate research problem topics and parameters

➢ **CO-3:** Prepare a research proposal to undertake a research project

- **CO-4:** Organize and conduct research in a more appropriate manner

- **CO-5:** Write a research paper, research report and thesis and present the research work to audience

MS- 224 : Artificial Intelligence

On completion of this course, the students will be able to:

- **CO-1:** Understand and explain the definition, components, and application areas of Artificial Intelligence
- **CO-2:** Understand the concepts of Logical Reasoning and their use in knowledge representation and knowledge processing
- **CO-3:** Describe the architecture and working of knowledge based systems (Expert systems)

- **CO-4:** Use PROLOG language to write and execute simple program for AI

- **CO-5:** Explain various applications and limitations of Artificial Intelligence systems.

PROGRAM AND COURSE OUTCOMES OF PGDCA

PROGRAM OUTCOMES(POs)

After the completion of the program the learner will be able to

❖ **PO-1**: Make use of internet for searching and downloading information on web, sending or receive e-mails.

❖ **PO-2**: Prepare presentation and perform computation on excel sheet.

❖ **PO-3**: Handle windows and Linux operating system for general purpose applications and networking.

❖ **PO-4**: Develop general purpose application based on C/C++ and HTML based languages.

❖ **PO-5**: Perform various office activities on computer system such as installation of software, handling of printer and scanner, internet connection along with troubleshooting of system.

COURSE OUTCOMES

PGDCA

Semester-1st

Code	**Course**
PGDCA-101	Fundamentals of Information Technology
PGDCA-102	Operating Systems
PGDCA- 103	Problem Solving using C
PGDCA-104	Software Lab – I (Office Automation and Productivity Tools)

PGDCA-105	Software Lab – II (Programming Fundamentals through C Language)

Semester-2nd

Code	Course
PGDCA-201	Database Management System
PGDCA-202	Introduction to Computer Network, Internet and E-Commerce
PGDCA-203	Object-oriented Programming using C++
PGDCA-204	Software Lab – III (Web Designing, HTML and RDBMS)
PGDCA-205	Software Lab – IV (C++ Programming)

PGDCA-101 Fundamentals of Information Technology & Software Lab – I (Office Automation and Productivity Tools)

Upon the completion of the course the learner will be able to

- **CO-1**: Familiarization with the types of computer, peripheral devices, memory management, multimedia and number system.
- **CO -2**: Learn about working of various input and output devices.
- **CO -3**: Learnt about binary number representation along with its operations.

- **CO -4**: Understand theoretical framework of internet and associated application of theinternet.
- **CO -5**: Acquire the knowledge about the binary number representation along with its operations.
- **CO -6**: Understand of the role of computers in business, education and society.

PGDCA-102 Operating Systems

After the completion of the course the learner will be able to

- CO-1: Understand various terminologies related to Operating system.
- CO-2: Learn the basic structure and organization of the file system.
- CO-3: Acquire knowledge about various process management and CPU scheduling.
- CO-4: Understand various features and application of windows operating system.
- CO-5: Learn about fundamentals of Linux operating system.
- CO-6: Acquire knowledge about various Linux commands.

PGDCA-103 Problem Solving using C & Software Lab – II (Programming Fundamentals through C Language)

Upon the completion of the course the learner will be able to

- CO-1: Understand of various concepts of programming language.
- CO-2: Develop logics and analytical ability solve problem.
- CO-3: Learn about procedural programming using functions.

- CO-4: Acquired various flow control statements.
- CO-5: Learn about various storage classes along with user defined data types.
- CO-6: Acquire knowledge of file handling
- CO-7: Work with arrays of complex structure data types.
- CO-8: Understanding a concept of functional hierarchical code organization.

PGDCA-201 Database Management System

Upon the completion of the course the learner will be able to

- CO-1: Familiarization with various features and applications of Database Management system.
- CO-2: Acquire knowledge about database languages (DDL, DML, DCL)
- CO-3: Learn how to design a database by using different data models.
- CO-4: Understand the database handling during execution of the transactions along with concurrent access.
- CO-5: Ability to perform various types of SQL queries.
- CO-6: Able to design a good database using normalization, decomposition and functional dependency

PGDCA-202 : Introduction to Computer Network, Internet and E-Commerce After completion of this course, students will be able to:

- CO-1: Understand the functions of different layers of TCP/IP and OSI reference models.
- CO-2: Classify of networks-LAN, MAN and WAN.
- CO-3: Identify and understand various techniques and modes of transmission media

with real time applications.

- CO-4: Understand the fundamentals of Network security.

PGDCA-203 Object-oriented Programming using C++ & Software Lab – IV (C++ Programming)

After the completion of the course the learner will be able to

- **CO-1**: Understand the benefits of Object-Oriented Programming (OOP) as compare to Traditional Programming approach and resolve problem in domain of object-oriented programming.
- **CO-2**: Familiarization with a widely range of features of object-oriented programming using C++
- **CO-3**: Understand Object oriented approach for finding solutions to various problems with the help of C++ language.
- **CO-4**: Understand the concept of polymorphism with the help function overloading and virtual functions.
- **CO-5**: Acquire various types of various types and forms of inheritance.
- **CO-6**: Understand basic of generic functions and classes.

PGDCA-204 Software Lab – III (Web Designing, HTML and RDBMS)

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

- **CO-1**: Write and debug webpage using HTML and DHTML languages.
- **CO-2**: Knowledge and Use of web publishing and phases related with the website development.
- **CO-3**: Make use of knowledge related to links, addresses, images, and tables.

- **CO-4**: Knowledge of various formatting options on HTML page and web site.
- **CO-5**: Knowledge of Server Side programming.

PROGRAM AND COURSE OUTCOME OF MBA (INTERNATIONAL BUSINESS)

PROGRAM OUTCOMES

MBA in International Business concentration is designed for students pursuing a career in global business management in a variety of settings including for profit and not-for-profit organizations, industry and government.

International Business focuses on the overview of the unique problems faced by firms engaging in international activities; the importance of understanding the foreign economic, social, political, cultural, and legal environment; the mechanics of importing and exporting; joint venture, franchising, and subsidiaries, international dimensions of management, marketing and accounting, and international financial management. The concentration will also explore the special problems of multi-national corporations; recent problems of the international economic system, as well as country-risk analysis.

Students graduating with an International Business concentration should be able to:

- PO1: Explain business expansion abroad and key issues related to their operations in other countries.
- PO2: Compare and contrast cultures and societies globally using socioeconomic and cultural frameworks.
- PO3: Develop an entry strategy into other markets recognizing the nature of institutions and forces governing the process of globalization.
- PO4: Apply Management fundamentals in practical world.
- PO5: Dentify, formulate, and solve Managerial problems.
- PO6: Demonstrate abilities such as initiative taking and innovative thinking in their acts.
- PO7: Function in multi-disciplinary teams.
- PO8: To inculcate zeal of self-learning.
- PO9: Enhancing Entrepreneurship abilities so that the students are induced to undertake independent ventures.
- PO10: Understand professional and ethical responsibility.
- PO11: Communicate effectively.
- PO12: Enhancing knowledge of contemporary issues.
- PO13: Recognition of the need for, and an ability to engage in life-long learning.
- PO14: Understand the impact of Managerial solutions in a global, economic, environmental, and societal context.

COURSE OUTCOMES (Cos)

MBA (INTERNATIONAL BUSINESS) SEMESTER 1ST

1. ACCOUNTING AND FINANCE.
2. PRINCIPLES OF MANAGEMENT.
3. ECONOMICS AND INTERNATIONAL BUSINESS.
4. OPERATION MANAGEMENT.
5. ORGANISATIONAL BEHAVIOUR.
6. BUSINESS INTELLIGENCE FOR MANAGERS.
7. SEMINAR ON INTERNATIONAL BUSINESS AND LAW .

MBA (INTERNATIONAL BUSINESS) SEMESTER 2ND

1. BUSINESS STATISTICS AND RESEARCH METHODOLOGY
2. INTERNATIONAL MARKETING
3. FINANCIAL MANAGEMENT
4. ADVANCE TOPICS IN INTERNATIONAL BUSINESS
5. INTERNATIONAL HUMAN RESOURCE MANAGEMENT
6. GLOBAL SUPPLY CHAIN MANAGEMENT
7. SEMINAR ON EXPORT DOCUMENTATION AND LOGISTICS

1. ACCOUNTING AND FINANCE.

COURSE OUTCOME

At the end of the course the students are able to:

- **CO 1:** Know the process of accounting from the primary entry to the final statement.
- **CO 2:** Gain the knowledge on different accounting standards which were given by the different bodies
- **CO 3:** Differentiate the tax planning, tax avoidance and the tax evasion
- . Understand the application of different analytical tools like ratio analysis, cash flow statement, funds flow statement, etc,.On final statements for further judgment of the business financial performance

- **CO 4:**.Understand the importance of the Balance score card in today's business environment.
- **CO 5:** Know the application of managerial decision tools in different situations in the business like make or buy decision, key factor analysis, sales mix etc.

2.PRINCIPLES OF MANAGEMENT

COURSE OUTCOME

At the end of the course the students are able to:

- Understand various managerial skills, roles, functions and levels
- understand what is meant by management and managerial effectiveness
- identify the roles which are fulfilled while working as a manager
- identify managerial activities that contribute to managerial effectiveness
- identify a cause of stress in managerial life from a range covering mismatches between capabilites and role, player-manager tension and everyday stressors
- understand time pressures and the need for time management.

3. ECONOMICS AND INTERNATIONAL BUSINESS.

COURSE OUTCOME

At the end of the course the students are able to:

- **CO1:** Students are expected to know the nature of managerial economics and how it would it enable a decision maker to take optimal decisions.
- **CO2:** Besides knowing basic concepts of managerial economics and how they are applied in different decisional situations.
- **CO3:** Students are expected to know the different demand situations and critical variables determining the demand and how to estimate the demand and finally how elasticity of demand can be applied in taking the pricing decisions.
- **CO4:** Students are expected to understand different cost concepts and behavior of the production in relation to inputs and its implications on costs

- **CO5:** Students should be able to know how production efficiency can be optimized
- **CO6**: Students should be able to understand how output and price decisions are taken by a firm in different market structure in order to maximize the profits beside different price tactics adopted by firm.
- **CO7:** Identify the stages in International Business. •
- **CO8**: Understanding cultural and political environment in the light of International trade theories.
- **CO9:** What is the rationale for government intervention in the forms of trade regulation?
- **CO10:** Understanding major trading blocks: EU, NAFTA, ASEAN, SAARC.
- **CO11**: To gain knowledge of structure and functions of TRIPS,TRIMS ,WTO. •
- **CO12**: Differentiate the various global market entry strategies- Exporting, Licensing, Franchising etc.
- **CO13:** Electronic processing of International trade documents.
- **CO14:** International human resources management in global context.

4.OPERATION MANAGEMENT

COURSE OUTCOME

At the end of the course the students are able to:

- **CO1:** Understand the difference between production and operations management
- **CO2:** Understand the different process technologies
- **CO3:** Gain knowledge of different types of sequencing
- **CO4:** Identify similarities and differences between products and services and basic manufacturing process. Understand the importance and role of maintenance management

- **CO5:** Acquire the knowledge of work study and techniques of method analysis and work measurement
- **CO6:** Understand the need and importance of materials management
- **CO7:** Understand the importance of stores management and different techniques of inventory control.

5. ORGANISATIONAL BEHAVIOUR

COURSE OUTCOME

At the end of the course the students are able to:

- Realise that individuals are different and the various factors that shape personality
- Understand the characteristics of perciever and percieved that influence perception
- Identify and overcome perceptual errors
- Gain knowledge of traditional and contemporay structural designs
- Understand how various elements help in shape organisational culture
- Identifying various motivators through the knowledge of theories of motivation
- Identifying various leadership styles and their suitability to the situatio

6.BUSINESS INTELLIGENCE FOR MANAGERS.

COURSE OUTCOME

At the end of the course the students are able to:

- Define e-Business as a significant business segment of the future
- Develop capacity to initiate/lead an e-business venture/ business segment.
- Identify principles of BI and Analytics at conceptual level

- Develop skills to design BI and Analytics projects.
- Learn emerging trends in Computing.
- Understand the need for Computer Security & Security Mechanisms.

7. SEMINAR ON INTERNATIONAL BUSINESS AND LAW .

COURSE OUTCOME

At the end of the course the students are able to:

- To explore the students the relevance of various trade theories/models
- To explore the students to understand deep current issues in International Trade
- Acquaint with the general business law issues to become more informed, sensitive and effective business leaders.
- Understand fundamental legal issues pertaining to the business world to enhance their ability to manage businesses effectively.

MBA (INTERNATIONAL BUSINESS) SEMESTER 2ND

1.**BUSINESS STATISTICS AND RESEARCH METHODOLOGY**

COURSE OUTCOME

At the end of the course the students are able to:

- To explore the students the relevance of various trade theories/models
- To explore the students to understand deep current issues in International Trade
- Acquaint with the general business law issues to become more informed, sensitive and effective business leaders.
- Understand fundamental legal issues pertaining to the business world to enhance their ability to manage businesses effectively.
- Relate the concept and process of business research in business environment.
- Familiar to the use of tools and techniques for exploratory, conclusive and causal

research

- Apply concept of measurement in empirical systems.
- Interpret the result of statistical techniques for analysis of research data
- To know the use of tools and techniques for exploratory, conclusive and causal research.
- To understand the concept of measurement in empirical systems.

2.INTERNATIONAL MARKETING

COURSE OUTCOME

At the end of the course the students are able to:

- Relate Marketing Mix as a framework for Marketing Decision making.
- Understand the need, importance and process of Marketing Planning and Control.
- Learn and examine the students to the dynamic nature of Marketing Function.
- Acquire an understanding of fundamental concepts of Marketing
- To emphasize the need, importance and process of Marketing Planning and Control.
- To sensitize the students to the dynamic nature of Marketing Function.

3.FINANCIAL MANAGEMENT

COURSE OUTCOME

At the end of the course the students are able to:

- Understand various concepts related to financial management.
- Able to use various tools and techniques in the area of finance Develop analytical skills this which facilitate the decision making in Business situations.
- To study in detail, various tools and techniques in the area of finance.
- To develop the analytical skills this would facilitate the decision making in Business

situations.

4.ADVANCE TOPICS IN INTERNATIONAL BUSINESS

COURSE OUTCOME

At the end of the course the students are able to:

- Explore the students the relevance of various trade theories/models
- Explore the students to understand deep current issues in International Trade
- Use economic tools to analyze diversity of issues in the international economy.
- To explore the students to understand deep current issues in International Trade
- To enable students to use economic tools to analyze diversity of issues in the international economy.

5.INTERNATIONAL HUMAN RESOURCE MANAGEMENT

COURSE OUTCOME

At the end of the course the students are able to:

- Demonstrate the role of HRM in an organization
- Utilize the knowledge to gain competitive advantage through people 3
- Develop and Design HRM system
- Give exposure to understnd international HR
- Understand various initiatives in global HR

- Understand various issues in global HR
- Understand various initiatives in global HR
- Understand various issues in global HR

6. .GLOBAL SUPPLY CHAIN MANAGEMENT

COURSE OUTCOME

At the end of the course the students are able to:

- Get acquainted with global dimensions of logistics management
- Introduce basic operational aspects i.e. procedure, documentations & related legal aspects of global logistics
- Sensitize students to basics of shipping line industry To introduce basic operational aspects i.e. procedure, documentations & related legal aspects of global logistics
- To sensitize students to basics of shipping line industry

7.SEMINAR ON EXPORT DOCUMENTATION AND LOGISTICS

COURSE OUTCOME

At the end of the course the students are able to:

- Familiarize with policy, procedures and documentation relating to foreign trade operations.
- Get acquainted with global dimensions of logistics management
- Introduce basic operational aspects i.e. procedure, documentations & related legal aspects of global logistics
- Sensitize students to basics of shipping line industry

MBA (INTERNATIONAL BUSINESS) -II

MBA(IB) SEMESTER 3RD

1. Quantitative Applications in Management
2. International Financial Management
3. Integrated Marketing Communication
4. Human resource planning and development
5. International Marketing Research
6. Foreign Language - I
7. 7 Seminar on Summer Training Report

MBA(IB) SEMESTER 4th

1. Global Strategic Management
2. Project Management
3. Organizational Psychology in Global Context
4. Marketing of Services
5. Management Control Systems
6. Foreign Language - II
7. Dissertation

1.Quantitative Applications in Management

COURSE OUTCOMES

After completion of this course, students should be able to:

- Collect, analyse and interpret empirical data.
- Have an introductory idea about statistical methods and tools that are essential for the empirical and analytical study of economics at the undergraduate level.
- It also lies as an aid for carrying out their project study.
- Have a better understanding about the quantitative aspects regarding research and economic analysis

2.International Financial Management

COURSE OUTCOMES

After completion of this course, students should be able to:

- Analyse operations in foreign exchange markets
- Invent improved solution in complexities of managing finance of multinational firm.
- List out importance of regulatory framework within which international financial transactions can take place, with special reference to India.
- To sensitize students with complexities of managing finance of multinational firm.
- To highlight the importance of the regulatory framework within which international financial transactions can take place, with special reference to India.

3. Integrated Marketing Communication

COURSE OUTCOMES

After completion of this course, students should be able to:

- Relate the role of marketing strategy in achieving a firm's goals.
- Understand the concept and sources of competitive advantage.
- Define and apply commonly used Promotion and IMC terms, concepts and tools.

- Explain the role, scope, and importance of an integrated marketing communications (IMC) strategy for organizational and business success.
- Understand a managerial perspective and an informed decision-making ability for effective and efficient tackling of promotional situations.

4. Human resource planning and development

COURSE OUTCOMES

After completion of this course, students should be able to:

- CO1: To develop the understanding of the concept of human resource management and to understand its relevance in organizations.
- CO2: To develop necessary skill set for application of various HR issues.
- CO3: To analyse the strategic issues and strategies required to select and develop manpower resources.
- CO4: To integrate the knowledge of HR concepts to take correct business decisions.

5.International Marketing Research

COURSE OUTCOMES

After completion of this course, students should be able to:

- Know the significance of International Marketing Research and to understanding the research process
- Develop an in-depth knowledge of the challenges associated in conducting market research internationally
- Understand the simple and advanced data analysis for International Marketing Research
- Make sound marketing decisions on the basis of collected and analyzed data

6. Foreign Language - I

COURSE OUTCOMES

After completion of this course, students should be able to:

- Communicate effectively in the foreign language in a variety of speaking situations.
- Communicate effectively in the foreign language via proficient, articulate, and well-organized writing.
- Demonstrate comprehension of the spoken foreign language in a variety of listening situations.
- Demonstrate comprehension of a wide range of foreign language written materials.
- Demonstrate a clear understanding of the culture(s) of the foreign language studied.

7.Seminar on Summer Training Report

COURSE OUTCOMES

After completion of this course, students should be able to:

- Understand on job the skills, knowledge, attitudes, and perceptions along with the experience needed to constitute a professional identity.
- Learn actual supervised professional experiences.
- Get insight in working of the real organizations
- Understand the specific functional areas.
- Match linkages among different functions and departments.
- Understand perspective about business organizations in their totality.
- Discover career opportunities to students in exploring in their areas of interest.

COURSE OUTCOME OF

MBA(IB) SEMESTER 4TH

1.Global Strategic Management

COURSE OUTCOMES

After completion of this course, students should be able to:

- Explore participants to various perspectives and concepts in the field of Strategic Management
- Develop skills for applying these concepts to the solution of business problems
- Create mastery in analytical tools of strategic management

2.Project Management

COURSE OUTCOMES

After completion of this course, students should be able to:

- Provide with a holistic, integrative view of Project Management.
- Highlight the role of projects in modern day business organizations.
- Sensitize the complexities of project management.

3.Organizational Psychology in Global Context

COURSE OUTCOMES

After completion of this course, students should be able to:

- Demonstrate competencies consistent with best practices in their discipline.
- Demonstrate the ability to think critically, to analyze complex and diverse concepts, and to use reason and judgment.
- Communicate effectively, both orally and in writing, in academic and professional settings.
- Interact effectively and respectfully with people from diverse backgrounds and cultures and work through differences with civility.

- Exhibit ethical leadership skills in professional practice and community service.
- Utilize knowledge and skills related to their discipline to engage in activities that directly benefit the University or the civic community.
- Demonstrate readiness to pursue life-long learning through continuing education, scholarship, service, and participation in professional organizations.

4.Marketing of Services

COURSE OUTCOMES

After completion of this course, students should be able to:

- Explain the significance of services marketing in the global economy and the deeper aspects of successful services marketing. also found challenges and opportunities in services marketing
- Understand and explain the nature and scope of services marketing and present about this in a professional and engaging manner.
- Understand the expectations of customers and know how to translate this knowledge into genuine value for customers
- Understand current research trends in services marketing and management

5.Management Control Systems

COURSE OUTCOMES

After completion of this course, students should be able to:

- Students will understand the Concepts & Practical dynamics of the Indian Financial System, Markets, Institution and Financial Services
- Understand advanced treatment of various concepts and tools and techniques used in

Financial Management

- Understand the importance of various decision making areas of financial management

6.Foreign Language - II

COURSE OUTCOMES

After completion of this course, students should be able to:

- Communicate effectively in the foreign language in a variety of speaking situations.
- Communicate effectively in the foreign language via proficient, articulate, and well-organized writing.
- Demonstrate comprehension of the spoken foreign language in a variety of listening situations.
- Demonstrate comprehension of a wide range of foreign language written materials.Demonstrate a clear understanding of the culture(s) of the foreign language studied

7.Dissertation

COURSE OUTCOMES

After completion of this course, students should be able to:

- Plan, and engage in, an independent and sustained critical investigation and evaluation of a chosen research topic relevant to environment and society
- Systematically identify relevant theory and concepts, relate these to appropriate methodologies and evidence, apply appropriate techniques and draw appropriate conclusions
- Engage in systematic discovery and critical review of appropriate and relevant information sources
- Appropriately apply qualitative and/or quantitative evaluation processes to original data\

- Understand and apply ethical standards of conduct in the collection and evaluation of data and other resources
- Communicate research concepts and contexts clearly and effectively both in writing and orally

MA (PUNJABI)

COURSE OUTCOME

Name of Program: Master of Arts (Punjabi) Program Outcomes

- Students become eligible to appear for state and national level examinations for government jobs.
- Students can choose this subject as full-fledged paper for prestigious competitive exams conducted by UPSC or PPSC.
- They can also go for other competitive examinations like Banking, F.C.I. etc. 4. Students are eligible for the job of translator in various departments of government and in press media.

Program Specific Outcomes

- Students become eligible to pursue M. Phil and Ph.D in the subject.
- They can also appear for UGC-NET examination to pursue their career in teaching.
- Students can pursue B.Ed. which will make them eligible to get teaching jobs in schools.

Course Outcomes

- Students learn the history of Punjabi Literature and various genres like poetry, fiction

and drama. It develops an analytical and critical point of view among students.

- Students come to know about emergence of different genres in different time periods and it helps in understanding our culture and folklor