BANGALORE CITY COLLEGE
DEPARTMENT OF ENGLISH
FIRST SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: BRITISH LITERATUE PART-1
COURSE CODE: AEL101

CO 1	To view English history in its socio-cultural and political contexts.
CO 2	To create an awareness of the problem of canon-formation and literary representation.
CO 3	It is expected that the historical and cultural contexts provided with each period will help the students prepare for UGC-NET
CO 4	To introduce the students to the growth of British literature from 13th century.
CO 5	The students have to study about Medieval England (Chaucer prologue) to The age of Pros.

FIRST SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: LITERARY CRITICISM AND CRITICAL READING PART-1
COURSE CODE: AEL102

CO 1	To span the history of western literary criticism, and introduce students to vital moments in its history.
CO 2	To equip students with terms and concepts towards the critical reading of textual material.
CO 3	To introduce the world of media studies through concepts related to media and communication, and help students analyse a pervasive media-text.
CO 4	Students have to study the basics of literary criticism and critical reading
CO 5	Enable the students to get an glimpse of literary criticism.

FIRST SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: GENDER STUDIES PART-1
COURSE CODE: AEL103

CO 1	To introduce students to the multi-accented inter-disciplinary frames of gender.
CO 2	To show how gender operates in the lives of individual, and how it functions as a social practice via institutional and cultural technologies.
CO 3	It examines the issues of gender in terms of the normative male-female binary.
CO 4	The recent studies is about gender issues in society.
CO 5	It focuses on the major gender debates in India and gives the subject a local siting.

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FIRST SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: INDIAN LITERATURE IN ENGLISH PART-1
COURSE CODE: AEL104

CO 1	To understand both Indian Writing in English and Regional literature in India translated into English as part of Indian literature
CO 2	To equip students with terms and concepts towards Indian writing in English
CO 3	To show students a cultural world they are familiar with.
CO 4	To show the prevalence of several cultural worlds within any apparently uniform culture.
CO 5	Trace the development of Indian writers writing in English.

FIRST SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: COMMUNICATIVE ENGLISH PART-1
COURSE CODE: AEL105

CO 1	To teach students all the four language skills- listening, speaking, reading and writing.
CO 2	To teach students Phonetics and Modern English Grammar
CO 3	To train students in language functions.
CO 4	To train students in communicative skills and also give a firm foundation in Grammar.
CO 5	To enale the students about the various facts of communication.

FIRST SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: EUROPEAN CLASSICS REVISITRD PART-1
COURSE CODE: AEL106

CO 1	To help students read texts in the wider contexts of European history.
CO 2	To encourage students to develop new and original methods on interpretation even while surveying 'traditional' texts.
CO 3	It is designed to bring in a fresh perspective to the prescribed texts through the critical method of New Historicism.
CO 4	To enable the students to understand various European classics and their importance.
CO 5	Enable the students to get an glimpse of European classics

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FIRST SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: AMERICAN LITERATURE PART-I
COURSE CODE: AEL107

CO 1	To familiarise the students with the major literary movements of American literature
CO 2	Developing the analytical skills necessary for critical engagement with texts and the skill needed for argumentative writing.
CO 3	Attending to the ways in which political, society and the arts illuminate and interrogate the literature
CO 4	Introduce the students to the development of American literature.
CO 5	It intends to examine texts by major literary figures from multiple genres such as prose, poetry and short fiction.

THIRD SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: CRITICAL THEORY PART-I
COURSE CODE: AEL301

CO 1	To make a distinction between literary criticism and literary theory.
CO 2	To update the students on the major theoretical turns in the 20th century
CO 3	To instil in students thinking practice which would help them align theory with textual and social practice
CO 4	Keys terms and concepts in critical theory.
CO 5	It covers formalism, linguistic criticism, structuralism, post-structuralism, psycho-analysis and neo-marxism through single essays that can serve as representative pieces of the respective movement.

THIRD SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: POSTCOLONIAL STUDIES PART-I
COURSE CODE: AEL302

CO 1	Key terms and concepts in postcolonial studies.
CO 2	In order to help the students relate to the theoretical aspects prescribed in the syllabus.
CO 3	To acquaint students with the basic terminologies of Postcolonial studies as a major current discipline
CO 4	To familiarise them with the history of the development of Postcolonial theory and its present relevance.
CO 5	To enable them to critique literary texts within the theoretical frames pf Postcolonial studies.

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THIRD SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: MEDIA AND SOCIETY
COURSE CODE: OPE3AG

CO 1	To make students aware of contemporary media development and challenges in India.
CO 2	To help students develop the capability to assese, criticizer and appreciate the role of media in fulfilling the aspirations of people.
CO 3	It gives abroad commercial and cultural awareness of the media and creative industries.
CO 4	The development of creative work in writing, audio visual or other electronic media
CO 5	To equip students with both literary and linguistic competence.

SECOND SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: BRITISH LITERATUE PART-II
COURSE CODE: AEL201

CO 1	To view English history in its socio-cultural and political contexts.
CO 2	To create an awareness of the problem of canon-formation and literary representation.
CO 3	It is expected that the historical and cultural contexts provided with each period will help the students prepare for UGC-NET
CO 4	To introduce the students to the growth of British literature from 13th century.
CO 5	The students have to study about Medieval England (Chaucer prologue) to The age of Pros.

SECOND SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: LITERARY CRITICISM AND CRITICAL READING PART-II
COURSE CODE: AEL202

CO 1	To span the history of western literary criticism, and introduce students to vital moments in its history.
CO 2	To equip students with terms and concepts towards the critical reading of textual material.
CO 3	To introduce the world of media studies through concepts related to media and communication, and help students analyse a pervasive media-text.
CO 4	Students have to study the basics of literary criticism and critical reading
CO 5	Enable the students to get an glimpse of literary criticism.

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THIRD SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: LITERARY & CULTURAL STUDIES PART-I
COURSE CODE: AEL303

CO 1	Introducing students to the idea of Popular literature and popular culture.
CO 2	Training students to see non-canonical text too as part of a complex web of Historical condition and cultural patterns.
CO 3	To help students study sub- culture and fringe identities.
CO 4	Popular genres in literature : texts, histories, cultures. The study of a sub-culture.
CO 5	A cross- section of popular journals in literature and cinema is systematically introduced.

THIRD SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: MODERN LINGUISTIC PART-I
COURSE CODE: AEL304

CO 1	To introduce the studyof Language and Linguistics, language variation and the contribution of Ferdinand De Saussure.
CO 2	To teach phonology, morphology, syntax, semantics and pragmatics.
CO 3	To teach Chomsky's Transformational Generative Grammar and Halliday's Scale Category Grammar.
CO 4	Defining linguistics and language.
CO 5	Macrolinguistics , semantics, functions of language and systematic Grammar.

THIRD SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: TEACHING ENGLISH LANGUAGE AND LITERATURE PART-I
COURSE CODE: AEL305

CO 1	Teaching literature in English. Testing and Evaluation.
CO 2	To analyse the students practices in relation to the prevalent teaching atmosphere.
CO 3	Techniques of teaching and learning.
CO 4	To describe the status of English and English teaching situation in India with an understanding of the factors that determine the status.
CO 5	To equip students with both literary and linguistic competence.

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SECOND SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: GENDER STUDIES PART-II
COURSE CODE: AEL203

CO 1	To introduce students to the multi-accented inter-disciplinary frames of gender.
CO 2	To show how gender operates in the lives of individual, and how it functions as a social practice via institutional and cultural technologies.
CO 3	It examines the issues of gender in terms of the normative male-female binary.
CO 4	The recent studies is about gender issues in society.
CO 5	It focuses on the major gender debates in India and gives the subject a local siting.

SECOND SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: INDIAN LITERATURE IN ENGLISH PART-II
COURSE CODE: AEL204

CO 1	To understand both Indian Writing in English and Regional literature in India translated into English as part of Indian literature
CO 2	To equip students with terms and concepts towards Indian writing in English
CO 3	To show students a cultural world they are familiar with.
CO 4	To show the prevalence of several cultural worlds within any apparently uniform culture.
CO 5	Trace the development of Indian writers writing in English.

SECOND SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: COMMUNICATIVE ENGLISH PART-II
COURSE CODE: AEL205

CO 1	To teach students all the four language skills- listening, speaking, reading and writing.
CO 2	To teach students Phonetics and Modern English Grammar
CO 3	To train students in language functions.
CO 4	To train students in communicative skills and also give a firm foundation in Granmar.
CO 5	To enale the students about the various facts of communication.

SECOND SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: EUROPEAN CLASSICS REVISITRD PART-II
COURSE CODE: AEL206

CO 1	To help students read texts in the wider contexts of European history.
CO 2	To encourage students to develop new and original methods on interpretation even while surveying 'traditional' texts.
CO 3	It is designed to bring in a fresh perspective to the prescribed texts through the critical method of New Historicism.
CO 4	To enable the students to understand various European classics and their importance.
CO 5	Enable the students to get an glimpse of European classics

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SECOND SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: AMERICAN LITERATURE PART-II
COURSE CODE: AEL207

CO 1	To familiarise the students with the major literary movements of American literature
CO 2	Developing the analytical skills necessary for critical engagement with texts and the skill needed for argumentative writing.
CO 3	Attending to the ways in which political, society and the arts illuminate and interrogate the literature
CO 4	Introduce the students to the development of American literature.
CO 5	It intends to examine texts by major literary figures from multiple genres such as prose, poetry and short fiction.

FOURTH SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: CRITICAL THEORY PART-II
COURSE CODE: AEL401

CO 1	To make a distinction between literary criticism and literary theory.
CO 2	To update the students on the major theoretical turns in the 20th century
CO 3	To instil in students thinking practice which would help them align theory with textual and social practice.
CO 4	Keys terms and concepts in critical theory.
CO 5	It covers formalism, linguistic criticism, structuralism, post-structuralism, psycho-analysis and neo-marxism through single essays that can serve as representative pieces of the respective movement.

FOURTHSEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: POSTCOLONIAL STUDIES PART-II
COURSE CODE: AEL402

CO 1	Key terms and concepts in postcolonial studies.
CO 2	In order to help the students relate to the theoretical aspects prescribed in the syllabus.
CO 3	To acquaint students withthe basic terminologies of Postcolonial studies as a major current discipline
CO 4	To familiarise them with the history of the development of Postcolonial theory and its present relevance.
CO 5	To enable them to critique literary texts within the theoretical frames pf Postcolonial studies.

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FOURTH SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: LITERARY & CULTURAL STUDIES PART-II
COURSE CODE: AEL403

CO 1	Introducing students to the idea of Popular literature and popular culture.
CO 2	Training students to see non-canonical text too as part of a complex web of Historical condition and cultural patterns.
CO 3	To help students study sub- culture and fringe identities.
CO 4	Popular genres in literature : texts, histories, cultures. The study of a sub-culture.
CO 5	A cross- section of popular journals in literature and cinema is systematically introduced.

FOURTH SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: MODERN LINGUISTIC PART-II
COURSE CODE: AEL404

CO 1	To introduce the studyof Language and Linguistics, language variation and the contribution of Ferdinand De Saussure.
CO 2	To teach phonology, morphology, syntax, semantics and pragmatics.
CO 3	To teach Chomsky's Transformational Generative Grammar and Halliday's Scale Category Grammar.
CO 4	Defining linguistics and language.
CO 5	Macrolinguistics , semantics, functions of language and systematic Grammar.

FOURTH SEMESTER M.A. ENGLISH
COURSE OUTCOME
COURSE TITLE: TEACHING ENGLISH LANGUAGE AND LITERATURE PART-II
COURSE CODE: AEL405

CO 1	Teaching literature in English. Testing and Evaluation.
CO 2	To analyse the students practices in relation to the prevalent teaching atmosphere.
CO 3	Techniques of teaching and learning.
CO 4	To describe the status of English and English teaching situation in India with an understanding of the factors that determine the status.
CO 5	To equip students with both literary and linguistic competence.

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BANGALORE CITY COLLEGE
FIRST SEMESTER B.Sc. BIOCHEMISTRY
COURSE OUTCOMES
COURSE TITLE: BIOCHEMISTRY-I

C0 1	Should study SI Units, Errors in quantitative analysis –types,sources minimization of errors, Precision and accuracy, Relationship between significant figures and precision.
C0 2	Should learn Graphical representation of data – Types of graphs, Advantages of Showing data in graphical forum.
C0 3	Should study about Atomic structures such as Electromagnetic radiation, Electronic configuration of elements, Oxidation numbers, Quantum numbers & their significance,
C0 4	Should learn Pauli Exclusion Principle, Aufbau Principle, Hund's rule of maximum multiplicity-cause of stability of half-filled and completely filled energy levels.
C0 5	Should learn about Liquids, Acids,Bases and Buffers, Electrochemistry, Solutions and Colligative properties, Nuclear chemistry and Radioactivity&Chemical bonding.

SECOND SEMESTER B.Sc. BIOCHEMISTRY
COURSE OUTCOMES
COURSE TITLE: BIOCHEMISTRY-II

C0 1	Must learn about Solids, Phase Rule&Chemical Equilibrium.
C0 2	Should know about Reaction Kinetics, Characteristics of catalysts, Types of catalysis, Introduction to organic chemistry.
C0 3	Should learn about Hydrocarbons, Cycloalkanes&Arenes.
C0 4	Should learn Alkylhalides and organometallic reactions, such as SN1 and SN2 reaction mechanisms taking 1o, 2o & 3o alkylhalides s examples. Mechanistic concepts of elimination reactions involving tertiarybutylchlorideetc.
C0 5	Should learn about classifications of Alcohols, Phenols& few things about Carbonyl compounds.

THIRD SEMESTER B.Sc. BIOCHEMISTRY
COURSE OUTCOMES
COURSE TITLE: BIOCHEMISTRY-III

C0 1	Should learn about Bio-inorganic and Environmental Chemistry such as Metal ions in biological systems: Transition metal ions and oxidation states, Types of ligands,Role of iron in Myoglobin, Haemoglobin and cytochromes, Copper in Hemocyanin, Magnesiumin chlorophyll, Cobalt in vitamin B-12 and Molybdenum in nitrogenase, Metaloenzymes and Environmental Toxicology such asBiochemical toxicology- toxicity and detoxification of Pb, Hg, Cd. LD and ED values of major Toxicants, Pesticides hazards, Brief Introduction to Bioremediation and Phytoremediation with applications.
C0 2	Should learn about Carboxylic Acids, Amines, Alkaloids and Terpenes.
C0 3	Should learn about Structural and nomenclature of Heterocyclic Compounds&Classification of drugs: synthesis and its uses.
C0 4	Should learn about Types of colloidal systems, Laws of Photochemistry&Stereoisomerism.
C0 5	Should know about Aim and scope, historical account of development of biochemistry &Identification and Separation Techniques.

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Sonali Ayesh
HEAD OF DEPT. OF BIO-CHEMISTRY
BANGALORE CITY COLLEGE

FOURTH SEMESTER B.Sc. BIOCHEMISTRY
COURSE OUTCOMES
COURSE TITLE: BIOCHEMISTRY-IV

C0 1	Should know about Classification of Tissues,Composition of body fluids&Properties, composition and functions of blood.
C0 2	Should learn aboutAnatomy of Respiratory system, composition and functions of major digestive secretions and Structure and functions of nephron.
C0 3	Should learn aboutCardiovascular system such as Blood vessels- anatomy and physiology; ECG, Blood pressure. Regulation of heart rate, hemorrhages&Endocrinology.
C0 4	Should learn about Structure and classification of neurons&Muscle types; ultra structure of skeletal and cardiac muscle fibers. Muscle proteins – contractile and non contractile.
C0 5	Should learn aboutNutrition, Macronutrients&Micronutrients.

FIFTH SEMESTER B.Sc. BIOCHEMISTRY
COURSE OUTCOMES
COURSE TITLE: BIOCHEMISTRY-V

C0 1	Should Study about Biological importance of Carbohydrates & Lectins-characteristics and biological importance.
C0 2	Should study about Biological importance & Classification of Fatty acids & Biological membranes - fluid mosaic model, functions and composition of Steroids, definition and functions of cholic acid.
C0 3	Should study about Structure and classification of M-amino acids based on the polarity of R group, structure and conformation, biological importance of peptides .
C0 4	Should study about Denaturation- Denaturating agents and mechanism of operation, renaturation of ribonuclease-Anfinsen's experiment
C0 5	Should study about Laws of thermodynamics; Definition of bioenergetics, stages of energy transformation photosynthesis, respiration and utilization of energy; free energy concepts.

FIFTH SEMESTER B.Sc. BIOCHEMISTRY
COURSE OUTCOMES
COURSE TITLE: BIOCHEMISTRY-VI

C0 1	Students should study Enzymology (classification, characteristics & specificity theories. pH and temperature effects)
C0 2	Students will aware of Basic concept of Nucleic acids & its physico-chemical properties.
C0 3	Students should study EK & PK DNA process from replication to Translation.
C0 4	Students should study the chemical & physical mutagens and molecular basis of mutations & its types.
C0 5	Students should study deeply about genetic material. Then only he/she can able to understand the concept of DNA & its process.

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SIXTH SEMESTER B.Sc. BIOCHEMISTRY
COURSE OUTCOMES
COURSE TITLE: BIOCHEMISTRY-VII

C0 1	Should learn about Introduction to metabolism and Carbohydrate metabolism.
C0 2	Should learn about Amino acid metabolism &Nucleic acid metabolism.
C0 3	Should learn about Photosynthetic pigments and Photosynthetic unit. Light reactions – photosystem- I and II and their interactions.
C0 4	Should learn about Nitrogen cycle, components of nitrogenase complex, stoichiometry of nitrogen fixation, nif genes.

SIXTH SEMESTER B.Sc. BIOCHEMISTRY
COURSE OUTCOMES
COURSE TITLE: BIOCHEMISTRY-VIII

C0 1	Should study Principles and methods of sterilization; physical chemical, filtration, UV- radiation, ultrasonic methods with example, Microbial growth kinetics &Use of microorganisms in fermentation, strain improvement strategies.
C0 2	Should learn about Molecular and Immunological techniques.
C0 3	Should study about History, Isotypes, structures and functions IgG, IgM, IgE Immunoglobulins, Organs and cells of Immune system &Mechanism of immune response.
C0 4	Should study about Tools of Recombinant Technology – Genetic engineering; definition, gene cloning- definition, use of DNA polymerase, restriction endonuclease, ligase and other DNA modifying enzymes in cloning. Cloning vectors- definition, characteristic features of plasmid vectors (pUC18,pBR322), features and advantages of cosmids, phage and yeast artificial chromosome
C0 5	Should study about Outline of the methods of producing recombinant DNA. Cloning hosts - features of an ideal host (*E.coli*). Transformation - types, selection of transformants by colony hybridization, insertional inactivation and blotting. Gene libraries and cDNA libraries- outline of their construction and uses.

Soma I. Hgrsh.

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Banashankari Outer Ring Road,
Uttarahalli Hobli, Behind BTL Office,
CHALGHATTA, BANGALORE - 61

Bangalore City College

FOURTH SEMESTER B.Sc. BIOCHEMISTRY
COURSE OUTCOMES
COURSE TITLE: BIOCHEMISTRY-IV

CO 1	Should know about Classification of Tissues,Composition of body fluids&Properties, composition and functions of blood.
CO 2	Should learn aboutAnatomy of Respiratory system, composition and functions of major digestive secretions and Structure and functions of nephron.
CO 3	Should learn aboutCardiovascular system such as Blood vessels- anatomy and physiology; ECG, Blood pressure. Regulation of heart rate, hemorrhages&Endocrinology
CO 4	Should learn about Structure and classification of neurons&Muscle types; ultra structure of skeletal and cardiac muscle fibers. Muscle proteins – contractile and non contractile.
CO 5	Should learn aboutNutrition, Macronutrients&Micronutrients.

FIFTH SEMESTER B.Sc. BIOCHEMISTRY
COURSE OUTCOMES
COURSE TITLE: BIOCHEMISTRY-V

CO 1	Should Study about Biological importance of Carbohydrates & Lectins-characteristics and biological importance
CO 2	Should study about Biological importance & Classification of Fatty acids & Biological membranes - fluid mosaic model, functions and composition of Steroids, definition and functions of cholic acid.
CO 3	Should study about Structure and classification of M-amino acids based on the polarity of R group, structure and conformation, biological importance of peptides .
CO 4	Should study about Denaturation- Denaturating agents and mechanism of operation, renaturation of ribonuclease-Anfinsen's experiment
CO 5	Should study about Laws of thermodynamics; Definition of bioenergetics, stages of energy transformation photosynthesis, respiration and utilization of energy , free energy concepts.

FIFTH SEMESTER B.Sc. BIOCHEMISTRY
COURSE OUTCOMES
COURSE TITLE: BIOCHEMISTRY-VI

CO 1	Students should study Enzymology (classification, characteristics & specificity theories pH and temperature effects)
CO 2	Students will aware of Basic concept of Nucleic acids & its physico-chemical properties.
CO 3	Students should study EK & PK DNA process from replication to Translation.
CO 4	Students should study the chemical & physical mutagens and molecular basis of mutations & its types.
CO 5	Students should study deeply about genetic material. Then only he/she can able to understand the concept of DNA & its process.

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BANGALORE CITY COLLEGE

COURSE OUTCOMES
COURSE TITLE: Analytical Biochemistry – I
COURSE CODE: BCT- 103

C0 1	Students should study the history of Biochemistry.
C0 2	Students should aware of Basic equipment's and methods, and safety considerations in animal cell culture& its impact.
C0 3	Students should use current Analytical &biochemical techniques (Microscopic techniques, Centrifugation, calorimetric &Radio isotopic methods of analysis) to plan and carry out experiments. They will generate and test hypotheses, analyze data using statistical methods where appropriate, and appreciate the limitations of conclusions drawn from experimental data. Trouble-shooting will be stressed in classes.
C0 4	Students shouldstudy the Quantitative biochemical measurements (Analytical Method validation, uncertainty, Correlation and regression analyses & Identification of systemic errors)
C0 5	Students shouldstudyExtraction process (Preparation of extracts for biochemical investigations, physicochemical properties of metabolites and drugs extracts from biological materials. Physico-chemical properties of solvents, solubility and miscibility, ionic bonds, and salting out. Partition, ionization, buffering and their effects on extraction.

COURSE OUTCOMES
COURSE TITLE: General Physiology
COURSE CODE: BCT – 104

C0 1	Understand the concept of Tissues & Formation of different kinds of tissues from primary germ layers.
C0 2	Students will aware of Human general physiological process & its modifications.
C0 3	Students should study each individual human system (Nervous System, Muscular System, Digestive System, Cardio – vascular System, Respiratory System, Excretory System & Endocrine system)
C0 4	Students should study the Cytoskeleton and Cellular dynamics.
C0 5	Students shouldread different authors books and publications regarding particular course.

COURSE OUTCOMES
COURSE TITLE: Nutritional Biochemistry
COURSE CODE: BCT – 105

C0 1	Understand the concept of Classification carbohydrates, glycemic index of sugars, and importance of dietary fibres.
C0 2	Students will aware of Classification of proteins and biological functions, nitrogen value and correlation of protein intake and nitrogen value & Classification lipids, significance or triglycerides and normal values of lipids.
C0 3	Students should study Source, WHO recommended value and deficiency disease of macro &micro minerals.
C0 4	Students should study the Nutrition requirements during gestation, lactation and for various age groups &Malnutrition, prevention and requirements of malnutrition. Obesity and leading factors leads to obesity.
C0 5	Students should read different authors books and publications regarding particular course.

Sonali Ghosh

FOURTHSEMESTER M ,A
JOURNALISAND MASS COMMUNICATION
COURSE OUTCOME
COURSE TITLE: FILM STUDIES PART-II
COURSE CODE: C, S 4, 3

CS 1	.To teach to students of history of cinma
CS 2	In order to help the students relate to the cinima and other media
C S 3	Introduce the students of state film
CS 4	Introduce he students of film script writing and shooting process
C S 5	To teach o students of film direction and camera operate

FOURTH SEMESTE M ,A ,
JOURNALISM AND MASS COMMUNICATION
COURSE OUTCOME
COURSE TITLE; WRITING FOR MEDIA PART-II
COURSE CODE: C, S 4 ,4

CS 1	Introducing students to media writing on report
CS 2	Training students to news writing feature writing
CS 3	To help students translation one language to another language
CS 4	To teach students of radio and tv writing copy writing
CS 5	To introduce the students to on line media writing

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Chelikere, BANGALORE - 560 043

SECOND SEMESTER M.A.
JOURNALISM AND MASS COMMUNICATION
COURSE OUTCOME
COURSE TITLE: ENVIRONMENTAL COMMUNICATION PART-II
COURSE CODE: C. S .2.5

CS 1	To introduce to students environmental communication
CS 2	To encourage students to write a environmental report .
CS 3	Role media on environmental issue and report
CS 4	To introduce security of enironmentthrough the media
CS 5	To encorage students of environment story

SECOND SEMESTER M.A.
JOURNALISM AND MASS COMMUNICATION
COURSE OUTCOME
COURSE TITLE: POLITICAL COMMUNICATION PART-II
COURSE CODE: C, S,4, 1

CS 1	To introduce to the students of political communication
CS 2	To teach students to political communication.
CS 3	To inform to the students collecting the political report
CS 4	Introduce the students to the forigin ethees on meda
CS 5	It intends to examine on line media

FOURTH SEMESTER M.A
. JOURNALISM AND MASS OMMUNICATION
COURSE OUTCOME
COURSE TITLE ; MARKETING COMMUNICATION PART-II
COURSE CODE: C, S , 4 .2

CS 1	To teach students to marketing communication
CS 2	Introduce the students of nature of advertisement
CS 3	To instil in students thinking practice advertisement writing
CS 4	To teach to students of copy writing and script writing .
CS 5	To introduce of advrtisement media on TV RADIO

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Chalkere, BANGALORE - 560 043

FIRST SEMESTER M.A.JOURNALISM AN MASS COMMUNICATION
COURSE OUTCOME
COURSE TITLE: MEDIA LAW AND ETHICS- PART-1
COURSE CODE: C, S, 1,4

CS 1	To understanding of concept of freedom of press
CS 2	To understanding freedom of speech and expression and right to information act
CS 3	To show the media law and ethics
CS 4	To show the string operation and understanding of obscenity act.
CS 5	Trace the development of new media act

FIRST SEMESTER M.A.
JOURNALISM AND MASS COMMUNICATION
COURSE OUTCOME
COURSE TITLE: MEDIA MANAGMENT PART-1
COURSE CODE: C ,S ,5

CS 1	To teach the media management and principle
CS 2	To teach students media organisation and structure
CS 3	To teach students economics and print media
CS 4	Historyof radio and tv in 21 century
CS 5	Introduce of committe joshi committi verghees committe

FIRST SEMESTER M.A.
JOURNALISM AND MASS COMMUNICATION
COURSE OUTCOME
COURSE TITLE: COMMUNICATION SKILLS
COURSE CODE: C, S ,01

CS 1	To help students to development of communication
CS 2	Teach the communication language sikIls
CS 3	To enable the students to understand various personal writing a letter .
CS 4	To enable the students to understand various technical writting
CS 5	Enable the students to get a new media

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THIRD SEMESTER M.A. IOURNALISM AND MASS COMMUNICATION
COURSE OUTCOME
COURSE TITLE: CORPORATE COMMUNICATION
COURSE CODE: C. S ,3,1

CS 1	To inform the students on the pr role and publicity
CS 2	To update the students on the major theoretical P R process planning
CS 3	To instil in students thinking practice which would help them house journal
CS 4	Keys terms and concepts in social media corporate advertsment
CS 5	It covers corporate culture profssional organasation in P R

THIRD SEMESTER M.A. JOURNALISM AND MSS COMMUNICATION
COURSE OUTCOME
COURSE TITLE: NEW MEDIA AND TECHNOLOGY
COURSE CODE: C, S 3 ,2

C,S 1	Key terms and concepts in technical writting
C.S 2	To introduce to new media in web journal writing
C,S 3	To acquaint students with the basic technical writing and soft and hard were model
CS 4	To familiarise them with the history of the development of fundamental of technical writing
C S 5	To enable them to graphics arts and page make up.

THIRD SEMESTE M A
,JOURNALISM AND MASS COMMUICATION
COURSE OUTCOME
COURSE TITLE: TELEVISION BROADCASTING
COURSE CODE: C, S, 3,4

C S 1	Introducing students to the television development in India
CS 2	Training students to see television program
CS 3	To help students study script writing
C S 4	The study of production technices of television
CS 5	To help the students on tv program

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BANGALORE CITY COLLEGE
DEPARTMENT OF JOURNALISM
FIRST SEMESTER M.A. JOURNALISM AND MASS COMMUNICATON
COURSE OUTCOME
COURSE TITLE: INTRODUCATION TO COMMUNICATION PART-1

CS 1	Communication is a very important part of the society
CS 2	Development of communication skill
CS 3	It is expected that the historical and cultural contexts provided with each period will help the students prepare for UGC-NET
CS 4	To introduce the students to the growth of media from 20th century.
CS 5	The students have to study about 1990 Indian meda

FIRST SEMESTER M.A.
JOURNALISM AND MASS COMMUNICATION
COURSE OUTCOME
COURSE TITLE: NEWS WRITING AND REPORTING ANALYSIS PART-1
COURSE CODE: C. S. 2

CO 1	Ar the five W5 –1H, and introduce students to vital moments in its news changes.
CO 2	To equip students with terms and concepts towards the reporting .
CO 3	To introduce the world of media studies through concepts related to media and communication, and help students analyse a pervasive media-text.
CO 4	Students have to study the basics of reporting analysis
CO 5	Enable the students to get an glimpse of literary criticism

FIRST SEMESTER M.A.
JOURNALISM AND MASS COMMUNICATION
COURSE OUTCOME
COURSE TITLE: NEWS PROCESSING AND EDITING- PART-1
COURSE CODE: C. S .3

CS 1	To introduce students to the news room organisation
CS 2	To introduce the editorial process and writing
CS 3	Development of writing skills in media .
CS 4	The recent studies is about media writing
CS 5	It focuses on the major graphic and arts news structure

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SECOND SEMESTER M A
JOURNALISM AND MASS COMMUNICATION
COURSE OUTCOME
COURSE TITLE: COMMUNICATION RESERCH METHODS - PART-II
COURSE CODE: C. S . 2.3

CS 1	To introduce students to the research methods .
CS 2	To show how the research process and data analysis
CS 3	It examines the issues of research subject hypothises and scientific methods
CS 4	To introduce the students of reserch tools.
CS 5	It focuses on the major research report

SECOND SEMESTER M.A.
JOURNALISM AND MASS COMMUNICATION
COURSE OUTCOME
COURSE TITLE: RADIO BROADCASTING PART-II
COURSE CODE: C.S .2.4

CS 1	To understanding of radio development in India
CS 2	To introduce the radio news writtong
CS 3	To show students a radio program and radio views
CS 4	To show the students communication ethic in india
CS 5	Trace the origin and development of radio india

SECOND SEMESTER M.A
JOURNALISM AND MASS COMMUNICATION
COURSE OUTCOME
COURSE TITLE: BUSINESS COMMUNICATION PART-II
COURSE CODE: C.S .2. 5

C.S 1	To teach students of economic theories and ethics
CS 2	To teach students of marketing communication and commercial report
CS 3	To train students in marketing report
CS 4	To train students in communicative skills on businss communication
CS 5	To enale the students about the various facts of business communication.

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THIRD SEMESTER M.A.
JOURNALISM AND MASS COMMUNICATION
COURSE OUTCOME
COURSE TITLE: MEDIA AND SOCIETY
COURSE CODE: C,S.3 ,5

CS 1	To introduce the study of mass media and society .
CS 2	To teach students to media and democracy
CS 3	To introduce the media owner ship of media
CS 4	To teach students of mass media and public intertst
CS 5	**To teach students to media role on society**

SECOND SEMESTER M.A.
JOURNALISM AND MASS COMMUNICATION
COURSE OUTCOME
COURSE TITLE: COMMUNICATION THEORIES PART-II
COURSE CODE: C. S .2.1

CO 1	To view of mass communication theories
CO 2	To introduce the students to the mass communication theories
CO 3	It is expected that the journalism and mass communcation contexts provided with each period will help the students prepare for UGC-NET
CO 4	To introduce the students to the media role on daijy life
CO 5	The students have to study about Media uses

SECOND SEMESTER ,M.A. JOURNALISM AND MASS COMMUNICATION
COURSE OUTCOME
COURSE TITLE: DEVALOPMENT COMMUNICATION PART-II
COURSE CODE; C .S 2.2

CO 1	To introduce the students to the concept of development communication
CO 2	To introduce the students to the impact of society on media
CO 3	To introduce the world of media studies through concepts related to media and communication, and help students analyse a pervasive media-text.
CO 4	To introduce the students to the Indian development communication ethics
CO 5	The students have to study about joshi report vergheesh report

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DEPARTMENT OF FASHION AND APPAREL DESIGN

I SEMESTER

Course Outcomes (COs)

Course Title: Fibre & Yarn Science

Course Code: FAD103A

CO 1	Understand Definition, Sources, Classification and properties of textile fibres.
CO 2	To understand Cellulose fibers such as Cotton, flax, kapok, hemp, ramie and its Properties, end uses, Protein fibers such as Silk, Wool and its Properties, end uses.
CO 3	To understand Regenerated cellulose fibers- Viscose Rayon, Acetate Rayon, Tencel, Modal, Bamboo, Lyocel – production source, properties and end uses.
CO 4	To understand Synthetic fibers-Nylon, polyester, acrylic and modacrylic- properties and end uses, Polyethylene, polypropylene, olefin, Elastomeric fibers (spandex and lycra)- End uses.
CO 5	To understand Yarn manufacturing process for short staple fibers, Spinning Process: - Ring and open end yarn spinning. Flowchart for manufacturing carded, combed yarn and folded yarn, Difference between Rotor, Ring spinning and Air jet spinning.
CO 6	To understand Polymerization, degree of Polymerization, different types of polymers- addition and condensation, orientation and crystallinity, characteristics of fiber forming polymers, general physical and chemical properties of fibers.
CO 7	To understand Texturisation - types (simplex and complex yarns) and uses, Blends- types, uses of blended yarns.
CO 8	To understand Sewing threads its types and properties, fancy yarns-types and uses.

Course Title: Elements of Fashion & Design

Course Code: FAD104A

CO 1	To understand Art Media and Application like pencils, colour pencils, oil pastels, water colour, poster colours, acrylic colours, fabric colours, markers, collage, frottage, montage.
CO 2	To understand Elements of Fashion process, Fashion origin, evolution- with examples from different eras till French revolution, Fashion cycles, Fashion theories and terminologies.
CO 3	To understand Basic sketching techniques and sketching from life, Perspective and its uses, Grid technique of rendering.
CO 4	To understand Anatomy, study of bone and muscular structure, proportions of males, females and children. Study of face, torso, legs and arms.
CO 5	To understand Elements of Design, Principles of Design, Colour Theory.
CO 6	To understand Elements of Fashion illustration History, importance, artists and illustrators of national and international repute.
CO 7	To understand Fashion Art, Proportion and the Fashion theory of fashion drawing

HEAD OF DEPARTMENT
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Course Title: Course Title: Elements of Fashion & Design
Course Code: FAD105A

CO 1	To understand pattern making & Garment construction, History of sewing machine. Domestic sewing machine, Industrial sewing machine, difference between Domestic & Industrial sewing machine, parts of a sewing machine, Varieties of industrial sewing machines- Single needle machine, double needle machine-lock stitch & chain stitch machines over-lock machine, sewing machine needles types, parts & functions, care and maintenance of sewing machine, sewing threads.
CO 2	To understand Tools for pattern making and Garment construction.
CO 3	To understand Basic hand Stitches. Stitches & Seams.
CO 4	To understand Pattern making terminologies & symbols.
CO 5	To understand Figure types & figure analysis. Body & garment relationship, Standardization, importance of body measurements.
CO 6	To understand basic pattern, commercial and custom made patterns.

II SEMESTER

Course Title: Fabric Science & Analysis
Course Code: FAD203A

CO 1	To understand different methods of fabric formation.
CO 2	To understand Woven Fabric formation, weaving preparatory, objectives and brief study of process winding, warping, sizing, Drawing and denting, Weft winding, Introduction to Khadi, Hand loom and power loom Fabrics.
CO 3	To understand General Characteristics of woven fabrics and their importance.
CO 4	To understand Elementary weaves, Classification of woven fabrics, glossary and characteristics, construction, salient features of various fabrics.
CO 5	To understand Knitting, Classification, difference between warp and weft knitting.
CO 6	To understand important fabric manufacturing clusters in India and their salient features.

Course Title: Fashion Illustration& Design
Course Code: FAD204A

CO 1	To understand fashion Illustration and brief history of fashion illustration.
CO 2	To understand Fashion Figure.
CO 3	To understand Fashion terminologies.
CO 4	To understand the Origin of fashion and clothing theories.
CO 5	To understand Garment Features.
CO 6	To understand Fashion Psychology, role of clothing in physical, social, psychological and cultural scenario.
CO 7	To understand Fashion designers, history and look into design concepts of famous designers, both Indian and International.

Course Title: Pattern Making & Garment Construction – II
Course Code: FAD205A

CO 1	To understand Fullness, Darts, pleats, tucks, gathers, Sleeves.
CO 2	To understand Dart Manipulation.
CO 3	To understand different types of Collars.
CO 4	To understand different types of Yokes.
CO 5	To understand different types of Pockets.
CO 6	To understand different types of Neck line Finishes.
CO 7	To understand different types of Plackets.
CO 8	To understand different types of Skirts.
CO 9	To understand different types of Dress categories.
CO 10	To understand different types of Sleeves.
CO 11	To understand different types of Fasteners.

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IV SEMESTER

Course Title: History of Textiles and Costumes

Course Code: FAD401A

CO 1	To understand world textiles and costumes, History, Types, Motifs & Symbols.
CO 2	To understand Pre historic textiles & costumes.
CO 3	To understand Ancient Indian textiles & costumes.
CO 4	To understand French revolution, French costumes.
CO 5	To understand Textiles & costumes of Colonial, Victorian, Edwardian Era, WW I & WW II, factors influencing Costume Change.
CO 6	To understand the overview of textiles textile design, symbolic motifs of various culture from ancient to modern day weave.
CO 7	To understand regional textiles & costumes of India.

Course Title: Textile and Apparel Testing

Course Code: FAD404A

CO 1	To understand textile testing, objectives of testing, Selection of samples for testing.
CO 2	To understand Yarn testing, yarn count, Yarn twist, twist direction, amount of twist, and effects of twist on fabric properties, measurement of twist.
CO 3	To understand Fabric testing, fabric dimensions.
CO 4	To understand Determination of colour fastness to laundering, rubbing, light and perspiration, Fabric shrinkage
CO 5	To understand Tensile testing of textiles.
CO 6	To understand Garment and garment accessories testing.

Course Title: Apparel Production

Course Code: FAD405A

CO 1	To understand Apparel production, Seams- types, end use, stitch dimension, performance as per ASTM standards.
CO 2	To understand Sourcing.
CO 3	To understand Sampling department.
CO 4	To understand Cutting department.
CO 5	To understand Production department.
CO 6	To understand Finishing & pressing department.
CO 7	To understand Apparel accessories & components.
CO 8	To understand possess quality inspection, objectives methods, advantages, inspection methodology, final inspection.
CO 9	To understand export documentation, objectives, terminologies, principle documents, auxiliary documents, risk cover, insurance, FCGC, quality control and pre-shipment 28 inspections, export credit, short, medium, long term credit, packing credit, negotiation of bills, payment procedures in export trade.

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III SEMESTER

Course Title: Textile Wet Processing

Course Code: FAD303A

CO 1	To understand wet processing, sequence of wet processing operations. Brief discussion on Equipments and machineries used for wet processing.
CO 2	To understand Preparatory processes, Different methods and process parameters used for singeing, Desizing, scouring, bleaching and mercerization, Degumming, Bleaching, Scouring, Carbonization and Bleaching.
CO 3	To understand Dyeing, classification, Methods of dyeing.
CO 4	To understand Printing methods, Block, screen, Transfer and Digital printing.
CO 5	To understand Finishes.
CO 6	To understand Garment processing and finishing, Special finishes used for denims.
CO 7	To understand Care of fabrics.

Course Title: Fashion Art and Design

Course Code: FAD304A

CO 1	To understand Design. Types of motifs from India, China, Japan, Persia traditional, stylized, geometric, abstract.
CO 2	To understand Fashion design, Fashion categories based on age and activity.
CO 3	To understand Flat sketch and spec.
CO 4	To understand Designing of dress based on figure types.
CO 5	To understand Clothing and personality.
CO 6	To understand a detail study on one Indian and International designer.
CO 7	To understand the Study of advanced illustrative Techniques and three dimensional views.

Course Title: Pattern Making & Garment Construction - III

Course Code: FAD305A

CO 1	To understand Definition layout, importance, principles, types of layout, importance of fabric estimation, advantages, and methods of estimating material.
CO 2	To understand manual and computerized pattern development, mini marker. Software's used for pattern development. Introduction to Digitizer plotter and scanner.
CO 3	To understand Handling special fabric.
CO 4	To understand Interlining, interfacing.
CO 5	To understand Bifurcated garments.
CO 6	To understand Foundation garments.
CO 7	To understand Fitting, principles of fitting.
CO 8	To understand Pattern alteration techniques.
CO 9	To understand Grading.

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V SEMESTER

Course Title: Fashion Retailing, Marketing and Merchandising

Course Code: FAD501

CO 1	To understand Retail, Marketing, Management and Merchandising.
CO 2	To understand Fashion retailing.
CO 3	To understand Marketing.
CO 4	To understand Types of merchandising.
CO 5	To understand Brand building.
CO 6	To understand Visual Merchandising.
CO 7	To understand customer relationship management.
CO 8	To understand Retail merchandiser.

Course Title: Apparel Computer Aided Design-I

Course Code: FAD502A

CO 1	To understand CAD, Fundamentals of CAD.
CO 2	To understand Hardware in CAD.
CO 3	To understand Computer Graphics Software and Data in Apparel Industry.
CO 4	To understand Basic maintenance of operations, preference, setting up a document.
CO 5	To understand DBMS features of a DBMS, Advantages of using DBMS.
CO 6	To understand Photoshop & Corel Draw.
CO 7	To understand Fashion trend forecasting websites.
CO 8	To understand CAD applications in fashion field.
CO 9	To understand Presentation & Graphics.

Course Title: Fashion Accessories

Course Code: FAD503A

CO 1	To understand Fashion accessories.
CO 2	To understand Accessory types.
CO 3	To understand Materials and processes, leather, straw, fur, wood.
CO 4	To understand Trends and Marketing.
CO 5	To understand Jewellery Design and production.
CO 6	To understand Gemology.

Course Title: Draping

Course Code: FAD504A

CO 1	To understand draping, Tools &equipments used in draping.
CO 2	To understand Draping Terminology.
CO 3	To understand Draping- Principles of Draping, Fitting methods.
CO 4	To understand Basic Draping Techniques.
CO 5	To understand Draping Techniques Dresses with Bias.

Course Title: Needle Craft

Course Code: FAD505A

CO 1	To understand Needle Craft, tools and materials used in needle craft.
CO 2	To understand Embroidery.
CO 3	To understand Basic hand stitches.
CO 4	To understand Crochet.
CO 5	To understand Knitting.
CO 6	To understand Patch work, Applique, Quilting.
CO 7	To understand Special techniques Methods of Braiding, Hooking, Smocking, Macrame Knotting, Bead & Sequins.
CO 8	To understand the Present trend embroideries.

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VI SEMESTER

Course Title: Entrepreneurship Development

Course Code: FAD601

CO 1	To understand entrepreneurship, role of entrepreneurs in development of apparel and fashion industry in India.
CO 2	To understand Entrepreneurial support by state, central financial institutions, organizations. Government policies with reference to textile and apparel industry.
CO 3	To understand Business planning.
CO 4	To understand Location & plant layout.
CO 5	To understand Industrial sickness and remedies, tax planning, VAT, Patent Rules, Factory Act, Minimum wages, knowledge of exemptions & deductions.
CO 6	To understand Environmental considerations and social responsibilities.

Course Title: Apparel Computer Aided Design - II

Course Code: FAD602A

CO 1	To understand CAD.
CO 2	To understand CAM.
CO 3	To understand Computer aided process planning.
CO 4	To understand CIM.
CO 5	To understand CAQ (Computer Aided Quality Control).
CO 6	To understand CAD. Future of CAD/CAM.

Course Title: Garment Surface Ornamentation

Course Code: FAD603A

CO 1	To understand Traditional embroideries.
CO 2	To understand Traditional Indian embroidery Symbolism of embroidery of different states of India, Kutch, Kathiawar, Sindh, Phulkari, Kantha, Kashida.
CO 3	To understand Traditional Indian embroidery, Kasuthi, Chambarumal, Zardozi, Chikankari.
CO 4	To understand Tribal Embroidery.
CO 5	To understand Western Embroidery.

Course Title: Apparel Quality Management

Course Code: FAD604A

CO 1	To understand Definition of Quality, Dimensions of quality, quality planning, and importance of quality.
CO 2	To understand TQM principles.
CO 3	To understand Managing quality.
CO 4	To understand the Importance of Quality control in Garment industry.
CO 5	To understand Major inspection points to be verified in a final inspection for Men's Shirt & Trouser, Ladies Top, Trouser, Skirt and Kids Garment.
CO 6	To understand Care labels, International care labeling system.
CO 7	To understand Quality system.
CO 8	To understand Zero defects, JIT, Poka-yoke, and quality circle.

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Course Title: Clothing Culture and Communication

Course Code: FAD605A

CO 1	Understanding clothing and Clothing culture.
CO 2	To understand Individual & dress, personal communication, personal expression, image building, psychological and sociological influence on clothing.
CO 3	To understand Clothing culture and communication, men and women clothing groups, role and status of clothing.
CO 4	To understand Clothing culture and communication based on conservative, labor, liberal, social, democrat, customs and marital status.
CO 5	To understand Fashion, fashion concepts, differences of fashion and non- fashion, recurring cycles of fashion, styles and fashion.
CO 6	To understand Corset culture, fashion in 20th century.
CO 7	To understand Minis, maxis, unisex, fit woman, glamorous woman, casual and formal clothing. Fashion for all ready to wear fashion, mass marketing of fashion.
CO 8	To understand Youth style and fashion, teddy boy, skins, mods, hippies, punks, taste of youth and their life style.

Course Title: Fashion Portfolio & Design Collection

Course Code: FAD606A

CO 1	To understand Portfolio preparation.
CO 2	To understand Fashion Forecasting and colour Forecasting, Use of online service for forecasting.
CO 3	To understand Clothing categories
CO 4	To understand Technical Details, Working Drawings, development of spec, flat sketch and costing.
CO 5	To understand Choosing forecast, Mood Board, client board and Colour board, Swatch Board, Illustrations and Flat sketches Production of Spec sheet and costing, Development of Logo, Hang tags, concept board.
CO 6	To understand Fashion Photography.
CO 7	To understand Fashion dressing.

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BANGALORE CITY COLLEGE

BANGALORE CITY COLLEGE
DEPARTMENT OF COMPUTER SCIENCE
COURSE OUTCOME
I SEMESTER MSC (CS)

Course Title: File Structure Lab

Co1	In-depth understanding of various concepts of file
Co2	Ability to read, understand and trace the execution ofprograms.
Co3	Skill to debug aprogram.
Co4	Skill to write program code in C ++ to solve File operations.
Co5	Ability to perform operations on files

Course Title: File Structure

Co1	In-depth understanding of various concepts of file
Co2	Familiarization with the various file operations
Co3	In-depth knowledge to understanding of multi-level

Course Title: Theory of Computation

Co1	Understanding concepts of finite automata and its applications.
Co2	Learn how to translate between different models of Computation (e.g., Deterministic and Non-deterministic and Software models).
Co3	Design Grammars and Automata (recognizers) for different language classes and become knowledgeable about restricted models of Computation (Regular, Context Free) and their relative powers.
Co4	Develop skills in formal reasoning and reduction of a problem to a formal model, with an emphasis on semantic precision and conciseness.
Co5	Design Turing Machines for various applications like enumerator, function computer and universal turing machine. Study Post correspondence problem, decidability of membership, emptiness and equivalence problems of natural languages.

Course Title: Advanced Database Management System

Co1	Students will know, what is a database?, DBMS, People related to DBMS. Database Architecture, Different levels of information in DBMS
Co2	Knowledge of different database models for better database design
Co3	Understands concept of functional dependencies and normalization for relational database. Guidelines for better database design. Relational Algebra which is basic of database operations
	Explore ideas about centralized and client server architecture of DBMS. Differentiate and handle parallel and distributed databases
Co4	Realize object oriented databases and XML databases for Dynamic website development
Co5	Be familiar with mobile and multimedia databases.

Course Title: Advanced Database Management System Lab

Mini Project

Co1	Deal with real world data
Co2	Familiar about real time IT industry enviornment
Co3	Experimenting about applying the knowledge of sql
Co4	a whole real time working system which will satisfy all custmor's needs.

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II SEMESTER MSC

Course Title: Advanced JAVA Programming

Co1	Skill to write Java application programs using OOP principles and properprogram structuring.
Co2	Ability to create packages andinterfaces.
Co3	Ability to implement error handling techniques using exceptionhandling.
Co4	Ability to create Windows applications using Applets
Co5	Ability to use multiple threads in single process

Course Title: Artificial Intelligence

Co1	Compare AI with human intelligence and traditional information processing and discuss its strengths and limitations as well as its application to complex and human-centred problems.
Co2	Analyze the structures and algorithms of a selection of techniques related to searching, reasoning, machine learning, and language processing
Co3	design AI functions and components involved in intelligent systems such as computer games, expert systems, semantic web
Co4	pply the basic principles, models, and algorithms of AI to recognize, model, and solve problems in the analysis and design of information systems.

Course Title: Object orientated analysis and design (OOAD)

Co1	Design GUI prototypes for software applications.
Co2	Design databases to support the software applications and document them using UML class diagrams.
Co3	Design UML robustness diagrams from the GUI prototypes.
Co4	Develop UML sequence diagrams from robustness diagrams.
CO5	Develop UML implementation class diagrams from the sequence diagrams.

Course Title: Object orientated analysis and design LAB

Co1	Demonstrate the Conceptual model of UML and SDLC.
Co2	Define classes modeling techniques and instances modeling techniques
Co3	Describe interaction diagrams and their modeling techniques.
Co4	Demonstrate activity diagram and their modeling techniques
CO5	Demonstrate component and deployment diagram.

III SEMESTER MSC

Course Title: Advanced Web Programming

Co1	Ability to develop web pages using HTML , XHTML ,PHP, Perl and ruby.
Co2	Skill to create XML documents andSchemas.
Co3	Knowledge of client-side (JavaScript) scripting languages and server side to build dynamic webpages.
Co4	Familiarization with Web Application Terminologies, Internet Tools, webservices.
Co5	Ability to develop web pages using cascading style sheets PHP .

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Kalyan Nagar, Bangalore-43

Course Title: Advanced Web Programming Lab

Co1	Ability to develop web pages using HTML , XHTML ,PHP, Perl and ruby.
Co2	Skill to create XML documents andSchemas.
Co3	Knowledge of client-side (JavaScript) scripting languages and server side to build dynamic webpages.
Co4	Familiarization with Web Application Terminologies, Internet Tools, webservices.
Co5	Ability to develop web pages using cascading style sheets PHP .

Course Title: Cryptography and Network Security

Co1	Knowledge of Security goals , cryptographic attacks and mathematics of cryptography
Co2	Ability to learn different Data encryption standards and analyzing it
Co3	Use of different Key ciphers, theorems regarding cryptography
Co4	Applying different hash functions and knowledge of key management
Co5	Providing security at the application layer, transport layer and network layer

IV SEMESTER MSC

Course Title: Research methodology

Co1	understand some basic concepts of research and its methodologies
Co2	identify appropriate research topics
Co3	organize and conduct research (advanced project) in a more appropriate manner
Co4	identify and discuss the issues and concepts salient to the research process.
CO5	identify and discuss the complex issues inherent in selecting a research problem, selecting an appropriate research design, and implementing a research project.

Course Title: Data Warehousing and Data Mining

Co1	Understand data warehousing for business analysis using OLAP, OLTP, MOLAP and ROLAP.
Co2	Explore the concepts of data mining and data preprocessing
Co3	Understand concept of association rule mining.
Co4	Grasp classification and prediction and analyse different issues related to them
Co5	Identify different cluster analysis techniques.

Course Title: Cloud Computing

Co 1	Having an in-depth understand of cloud computing.
Co 2	Adequate knowledge of cloud computing infrastructure, service oriented architecture, etc.
Co 3	Dynamic understanding of the new and current trends, experiments and products.
Co 4	Having an insight to the cloud virtualization technology, its architecture and [illegible]
Co 5	

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Msc., Mathematics

I semester

Course outcomes

Course title: Algebra -I

Course code: M101T

CO 1	Solving Problems using the powerful concept of group action
CO 2	Ability to understand large class of commutative rings by using polynomial rings
CO 3	Enable to work with situations involving commutative rings, working with matrices , a concept that finds lots of applications in real life including graphs and networks.
CO 4	Ability to solve real life problems by thinking logically and out of the box.
CO 5	Applying the concept of group action to real life situations like counting.

Course title: Real analysis

Course code: M102T

CO 1	Understand the concept of metric space, continuous functions on [0,1] as a metric space and ability to handle convergence of series and sequence of functions.
CO 2	Understanding the concept of inverse and implicit functions, apply the concept of inverse and implicit function theorems moving towards calculus on manifolds.
CO 3	Realizing the differentials in terms of geometric properties.
CO 4	The notion of convergence in [0,1] and related theorems.
CO 5	Understand the differentiability of functions in several variables and their relation to partial derivatives and apply to differentiate functions in R_n.

Course title: Topology

Course code: M103T

C01	Able to analyse complex networks like social networks, biological networks etc.
C02	Application of topology in the world of chemistry where one can discuss the shape of molecules by an analysis of topology of related graph.
C03	Application for medical imaging software and technology.
C04	Differential topology to probability to identify multivariate interactions which is used in neuroscience.

Course title: Ordinary Differential Equations

Course code: M104T

C01	Apply the theory of differential equation in formulating many fundamental laws of Physics and Chemistry.
C02	To model the behavior of complex systems.
C03	Describing exponential growth and decay population growth of species or change in investment return over time.
C04	Modeling virtually every physical technique or biological process from celestial motion to bridge design to interactions between neurons.

Course title: Discrete Mathematics
Course code: M105T

C01	Apply counting principle to determine probabilities.
C02	Ability to deal with notions of mapping by using notion ability to tackle various versions of infinity like countable, uncountable etc.
C03	Demonstrate different traversal methods for trees and graphs.
C04	Ability to use graphs as unifying theme for various combinatorial problems.
C05	Efficiency in solving concrete combinatorial problems whose presence is ubiquitous in science and engineering.
C06	Application of real ife problems such as network theory, data structures and optimization etc.

Course title: Mathematical analysis
Course code: M107SC

C01	Understand the basic concepts of differentiability of functions.
C02	Ability to find the derivatives of higher order.
C03	Apply the concept of convergence of power series in complex analysis.
C04	Applying Taylor's theorem in solving ordinary differential equations.

Msc., Mathematics

II semester

Course outcomes

Course title: Algebra -II
Course code: M201T

C01	Demonstrate capacity for Mathematical reasoning through analyzing.
C02	Demonstrate accurate and efficient use of advanced algebraic techniques.
C03	Apply problem solving using advanced algebraic techniques applied to diverse situations in physics, engineering and other mathematics subjects.

Course title: Complex analysis
Course code: M202T

C01	Understand the topological and geometric properties of complex plane.
C02	Evaluating indefinite real integrals using complex analysis.
C03	Differentiation and integration of functions on C with applications to problems from real analysis.
C04	Constructing Mobius transformations mapping from given circles to other given circles.

Course title: Topology II
Course code: M203T

C01	Understanding knots and links, surgery on links.
C02	Knowledge of hyperbolic geometric groups.
C03	Solve complex problems in topological quantum field theory.

Course title: Partial Differential equations
Course code: M204T

C01	Apply the fundamental concepts of ordinary differential equations and partial differential equations and the basic umerical methods for their resolution.
C02	Understand the difficulty of solving problems analytically and the need to use numerical approximations for their resolution.
C03	Formulate and solve differential equation problems in the field of industrial organizational engineering.
C04	Use an adequate scientific language to formulate the basic concepts of the course.

Bangalore
H O D Maths

Course title: Numerical analysis I

Course code: M205T

CO 1	Ability to solve complex mathematical problems using only simple arithmetic operations.
CO 2	Familiar with numerical integration and differentiation.
CO 3	Numerical solution of ordinary differential equations.
C0 4	Applying numerical analysis which has enormous applications in the field of science and some field of engineering.

Course title: Elementary number theory

Course code: M207SC

C01	Able to solve systems of linear concurrence.
C02	Apply Euler. Fermat's theorem to prove relations involving prime numbers.
C03	Ability to prove results involving divisibility and greatest common divisors.
C04	Finding integral solutions to specified linear Diophantine equations.

Msc., Mathematics

III semester

Course outcomes

Course title: Differential geometry

Course code: M301T

C01	Analyze vectors in R^n both geometrically and algebraically.
C02	Knowledge of Riemannian manifolds and sub manifolds.
C03	Tackle problems on general relativity control of non-linear systems shape analysis.
C04	Knowledge of operators on forms and integrations.

Course title: Fluid mechanics

Course code: M302T

C01	Apply concepts of mass, momentum and energy conservation of flows.
C02	Understand the dynamics of fluid flows and the governing non-dimensional parameters.
C03	Study analytical solutions to variety of simplified problems.
C04	Develop an appreciation for the properties of Newtonian fluids.

Course title: Functional analysis

Course code: M303T

C01	Demonstrate accurate and efficient use of functional analysis techniques.
C02	Working with a complete orthogonal set i.e. Schauder basis in a Hilbert space.
C03	Investigating the best approximation of a given vector by vectors in a given subspace.
C04	Working with weak and weak* topologies on normed linear spaces.
C05	Computing the dual space of certain Banach spaces.

Course title: Linear algebra

Course code: M304T

C01	Ability to go abstract from concrete notion of solution spaces to vector spaces.
C02	Use mathematical software to solve problems on linear systems.
C03	Solving systems of linear equations.
C04	Vector space, linear independence and foundations of abstract algebraic thinking.

Course title: Numerical analysis II

Course code: M305T

.01	Derive numerical methods for various mathematical operations such as interpolation, differentiation and integration, the solutions of linear and non-linear equations.
C02	Analyze and evaluate the accuracy of common numerical methods.
C03	Implement numerical methods in Matlab.
C04	Write efficient, well documented matlab code and present numerical results in an informative way.

Course title: Cyber Space

Course code:

C01	To identify and analyze statutory regularity constitutional and organizational loss that affect the information technology professionally.
C02	Apply case law and common law to current legal dilemmas in technology field.
C03	To distinguish enforceable contracts from non-enforceable contracts.
C04	Demonstrate leadership and team work.

Msc., Mathematics

IV semester

Course outcomes

Course title: Measure and integration

Course code: M401T

C01	Establishing measurability or non-measurability of sets and functions.
C02	Computation of Lebesgue integrals, applications to volume calculatins and fourier analysis.
C03	Deciding under which conditions the fundamental theorem of calculus is applicable in the context of Lebesgue integration.
C04	Approximating measurable functions by simple and step functions.
C05	Understand the concept of connection between differentiation and integration in the context of Lebesgue theory.

Course title: Mathematical methods

Course code: M402T

C01	Demonstrate an ability to select and apply numerical methods appropriate for the solution of financial problems.
C02	Understand the principle of mathematical reasoning and their use in analyzing and developing formal arguments.
C03	The connections between mathematical series and other scientific and humoristic disciplines.
C04	Demonstrate familiarity with emerging mathematical techniques appropriate in banks and other financial institutions.

Course title: Special functions

Course code: M403T(B)

C01	Analyze properties of special functions by their integral representations and symmetries.
C02	Understand the purpose and functions of the gamma and beta functions, fourier series and transformations.
C03	Apply gamma beta functions to evaluate different type of integral calculus problems and fourier series to solve differential equations.

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Course title: Magneto hydro dynamics
Course code: M403T(E)

C01	Understand the basic concepts and the equations of flow of viscous fluids.
C02	Ability to translate magnetic hydrodynamic problem in an appropriate mathematical form.
C03	Ability to interpret the solutions of equations established in physical terms.
C04	Apply the knowledge of electromagnetic induction mechanism in the movement of fluids that are good electrical conductors.

Course title: Graph theory
Course code: M403T(I)

C01	Apply the algorithms that are treated in the course for solving graph theoretical problems.
C02	Apply theorems that are treated in the course for problem solving and proof.
C03	Apply the knowledge of Eulerian graphs, Hamiltonian graphs in electronics and physics subjects.
C04	Apply the knowledge of Dijkstra's , Prim's, Kruskal's algorithms in computer science.

H.O.D Maths

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BANGALORE CITY COLLEGE

DEPARTMENT OF CHEMISTRY

B. Sc.(CHEMISTRY) – I SemesterPaper- I

CO1	The students will learn definitions of Logarithmic relations and its applications, Curve sketching, Partial differenciation and its application and equations, meaning of Integration and Probability and its examples.
CO2	The students will learn Introduction of Gaseous states and Maxwell Boltzmann distribution law, Collision Frequency, Mean free path, collision frequency and collision number.,
CO3	The students will learn Laws of photochemistry. Grotthus-Draper law, Stark-Einstein law, differences between photophysical and photochemical processes Laws of photochemistry. Grotthus-Draper law, Stark-Einstein law,
CO4	The students will learn Viscosity, Surface tension and Parachor-Definition, mathematical expression, Coefficient of viscosity, effect of temperature, size, weight, shape of molecules and intermolecular forces on it
CO5	The students will learn Immiscible liquids-Steam distillation and its applications. Periodic properties: Atomic and ionic radii, ionisation energy, electron affinity and electronegativity.
CO6	The students will learn Errors: Classification, minimization of determinate errors, accuracy and precision. Significant figures and their computations.
CO7	The students will learn addition, substitution and elimination. Concept of isomerism – structural isomerism, stereo isomerism - geometrical and optical isomerism, chiral center.
CO8	The students will learn Cycloalkanes Nomenclature, Method of formation. Explanation for stability based on heat ofhydrogenation data, Baeyer's strain theory and its limitation.

B. Sc., – II Semester ,Paper- II

CO1	The students will learn Bohr's atomic model, Derivation of expressions of for radius, energy and ionisation energies of hydrogen like atoms. Wave particle duality, Uncertainty principle. Sinusoidal wave equation, Schrodinger wave equation
CO2	The students will learn Ionic bond, Lattice energy, Born-Haber cycle, Born-Lande equation ,Calculation of lattice energies of NaCl and MgO, effect of lattice energy on solubility of ionic compounds.
CO3	The students will learn Covalent bond, Valence bond approach, hybridization and directional characteristics of sp, sp^2, sp^3, sp^2d, sp^3d^2. Shapes of $BeCl_2$, BF_3, $SiCl_4$, PCl_5, SF_6.VSEPR theory: shapes of CH_4, NH_3, NH_4^+, H_2O, BrF_3, ICl_2^-.
CO4	The students will learn Nomenclature and Structure of benzene - using molecular orbital theory. Criteria for aromaticity. Antiaromaticity.
CO5	The students will learn Structure of SiO_4^{4-}, Classification of silicates based on the structure. Zeolites and their structure and Applications.
CO6	The students will learn isolation of Helium from Natural gas, applications of Noble gases. Preparation and properties and structures of fluorides and oxides of Xenon (XeF2, XeF4, XeF6, XeO3, XeO4)
CO7	The students will learn Oxidation of naphthalene, anthracene and phenanthrene. Diels-Alder reaction of anthracene with 1, 2-dichloroethene.*cis*- and *trans*-stilbenes and their preparations. Preparation of Ullmann reaction.
CO8	The students will learn Hydrogen bond: Intra molecular and Intermolecular types, anomalous properties of HF, H_2O, NH_3, alcohols, carboxylic acids, nitro phenols and bio molecules.

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B. Sc., –III Semester, Paper III

CO1	The students will learn Derivation of expression for the rate constant of a second order reaction with $a = b$ and $a \neq b$. Expression for half-life of a second order reaction. Mean life for first order reaction to be mentioned.
CO2	The students will learn Exact and inexact differentials. Review of terms, I law of Thermodynamics. Work done in isothermal and adiabatic expansion and compression of an ideal gas. Derivation of Kirchoff's equation.
CO3	The students will learn Gibb's free energy Work function, chemical potential. Definition and relationship between free energy and work function. Gibb's-Helmholtz equation.
CO4	The students will learn Theories of adsorption. Adsorption isotherms and BET equation (derivation included), Adsorption indicators. Surface film on liquids. Catalysis and its types and theories.
CO5	The students will learn Preparation and applications of thermosetting plastics, thermo softening plastics, Fibers, Acrylic, polyamide, polyester
CO6	The students will learn Boron and its compounds synthesis, structure and applications of Diborane, Borazine and Boron trifluride.
CO7	The students will learn Ellingham's diagrams Salient features, Extraction of the following metals. Nickel from sulphide ore, Thorium from Monazite sand
CO8	The students will learn Alcohols Methods of preparation From carbonyl compounds

B.Sc., IV –Semester Paper –IV

CO1	The students will learn Crystalline state, Laws of crystallography. Symmetry elements in crystals, crystal systems.Weiss andMiller indices. X-ray diffraction of crystals-derivation of Bragg's equation, liquid crystals-Types with examples.
CO2	The students will learn Types of impurities present in water. Causes for the hardness of water. Permissible levels of ions present in water. Treatment of water for domestic and Industrial purposes. Demineralisation of water by Ion exchange method.
CO3	The students will learn Nucleus Structure and stability, binding energy calculations. Instability of the nuclei, radioactive decay law. Radioactive equilibrium, radioactive series. Artificial radioactivity.
CO4	The students will learn Advantages of powder metallurgy and its applications. Production of Tungsten powder from Wulframite.
CO5	The students will learn Iron Carbon Phase diagram, Austenite, Ferrite, Cementite and Pearlite phases. Alloy steels and Influence of Si, Mn, Cr, Ni, Ti and W in the properties of Steel. Ferro alloys Production of ferro chrome, ferro manganese, and ferro silicon and their applications.
CO6	The students will learn Mechanisms of Aldol condensation, Perkin condensation, Knoevenagel condensation, Benzoin condensation and Acetal formation. General mechanism of condensation with ammonia and its derivatives.
CO7	The students will learn Depletion of ozone in the stratosphere. The green-house effect and its consequences. Acid rain, photochemical smog. Treatment of sewage and industrial effluents. Disposal of radioactive wastes.

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B. Sc., –III Semester, Paper III

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CO4	The students will learn Advantages of powder metallurgy and its applications. Production of Tungsten powder from Wulframite.
CO5	The students will learn Iron Carbon Phase diagram, Austenite, Ferrite, Cementite and Pearlite phases. Alloy steels and Influence of Si, Mn, Cr, Ni, Ti and W in the properties of Steel. Ferro alloys Production of ferro chrome, ferro manganese, and ferro silicon and their applications.
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B. Sc., v Semester, Paper v

CO1	The students will learn Enantiomers: Optical activity; use of +/–, d/l and D/L notations. Properties of enantiomers, chiral and achiral molecules with two stereogenic centers. Meso compounds. Cahn-Ingold-Prelog Racemisation and resolution.
CO2	The students will learn Preparation of alkyl and aryl amines-reductive amination of carbonyl compounds, Gabriel phthalimde synthesis. Basicity of amines in aqueous solution: Inductive, resonance, steric and solvation effects on the basicity of amines.
CO3	The students will learn Introduction, classification, structures, resonance and aromatic character and preparation and reactions of furan, pyrrole, thiophene and pyridine.
CO4	The students will learn Monosaccharides Aldoses, structures of all the D-aldohexoses. Elucidation of open chain structure of D-glucose. Mechanism of mutarotation and anomeric effect.
CO5	The students will learn UV-Visible spectroscopy. Chromophores and auxochormes, blue shift and red shift.IR spectroscopy.
CO6	The students will learn Synthetic dyes Introduction and classification, Colour and constitution. Synthesis of congo red, malachite green, alizarin and indigo, Paracetamol, diclofenac, ranitidine, sulphanilamide and chloramphenicol.
CO7	The students will learn Nuclear shielding and deshielding effects. Equivalent and non-equivalent protons. Effect of electronegativity of adjacent atoms on chemical shift values. Spin-spin splitting and spin-spin coupling.
CO8	The students will learn Geometric isomerism, Determination of configuration of geometric isomers. Cis & trans, E, Zsystem of nomenclature. Geometric isomerism in oximes.

B. Sc., –V Semester, Paper VI

CO1	The students will learn Kohlrausch's law and Debye-Huckel theory, Debye-Huckel Onsagar equation, Limitations of Arrhenius theory and qualitative account of for aqueous solutions of 1:1 electrolytes.
CO2	The students will learn Metals and gas electrodes, metal/metal insoluble salt electrodes, redox electrodes. Reference electrodes, standard hydrogen electrode, calomel electrode, quinhydrone electrode and glass electrode.
CO3	The students will learn Hydrolysis of salts of weak acids and weak bases.Ionic product of water.
CO4	The students will learn Magnetic properties-paramagnetic, diamagnetic and ferromagnetic systems. Electrical properties of solids types of solids-metals, insulators and semiconductors. Pyroelectricity, piezoelectricity, ferroelectricity, inverse piezoelectricity. Thomson effect, Seebeck effect, Peltier effect.
CO5	The students will learn The interaction of radiation with matter. Regions of electromagnetic spectrum and associated spectroscopic techniques. Born-Oppenheimer approximation. Rotational spectra of diatomic molecules
CO6	The students will learn Hooke's law and Expression for the frequency of SHO, vibrational energy levels of SHO. Zero point energy.
CO7	The students will learn Concept of polarisability. Pure rotation, vibration, qualitative study. Stokes and anti-Stoke's. Advantages of Raman spectroscopy over IR spectroscopy.
CO8	The students will learn Voltametry at dropping mercury electrodes, current obtained at DME, potential relation for a cathodic process, half wave potential. Cyclic Voltammetry-

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B. Sc., –VI Semester, Paper VII

CO1	The students will learn Coordination compounds, ligands and ambidentate ligands, coordination number, coordination compounds. EAN rule, Valence bond theory. Crystal field theory.
CO2	The students will learn Metal carbonyls – Cr $(CO)_6$, $Co_2(CO)_8$, $Mn_2(CO)_{10}$; eighteen electron rule and its deviations. Coordination/organometallic compounds: *cis*-platin in cancer therapy, Wilkinson's Catalyst, Monsanto acetic acid process.
CO3	The students will learn PCE values. Glass, Ceramics Abrasives definition and classification with examples, applications, hardness, manufacture and importance.
CO4	The students will learn Paints and Varnishes and Constituents of oil and emulsion paints, Fuels Characteristics, Calorific value and its determination using bomb calorimeter, Coal and LPG, Octane number. Dynamite and TNT. Propellants.
CO5	The students will learn Conducting polymers, polyaniline, polyacetylene. Conduction, doping, Engineering and biological applications.
CO6	The students will learn Fullerenes C_{60}, Carbon nanotubes.
CO7	The students will learn Nanomaterials, Sol gel synthesis, inert gas condensation, mechanical alloying, plasma synthesis, electrodeposition, and general applications.
CO8	The students will learn Super conductors, High temperature super conductor, BCS theory and high temperature super conductors.

B. Sc., –VI Semester, Paper VIII

CO1	The students will learn Amino sugars β-D-glucosamine, galactosamine, Nacetylmuramic acid, N-acetylneuraminic acid, D-gluconic acid, D-glucuronic acid and D-glucaric acid.
CO2	The students will learn Glucose-6-P, Fructose-6-P, Fructose- 1, 6-di-P, β-D-ribose-5-P and β-D-deoxyribose-5-P, isomaltose, cellobiose, trehalose, Starch, glycogen, cellulose, chitin and insulin.
CO3	The students will learn Fatty acid saturated and unsaturated. Essential fatty acids, Triglycerides saponification, iodine number, rancidity.
CO4	The students will learn Phosphoglycerides Lipid bilayer, micelles, liposomes, lecithin,cephalin,phosphatidylserine,phosphatidylinositol.Cholesterol,Sphingolipids
CO5	The students will learn α-helix, triple helix, Collagen and β-pleated sheet. Denaturation and renaturation, Thermal renaturation.
CO6	The students will learn Nucleic acids, bases, nucleosides polynucleotide. DNA and RNAs. Protein-nucleic acid interaction- chromatin and viral nuclear capsid.
CO7	The students will learn Epinephrine and thyroxine peptide oxytocin and vasopressin and polypeptide hormones insulin, progesterone, testosterone, insulin and glucagon in glucose homeostasis.
CO8	The students will learn Holo enzyme, Active site, Enzyme substrate interaction- Fischer and Koshland models. Enzyme kinetics, enzyme concentration, substrate Allosteric enzymes, Enzyme inhibitions

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BANGALORE CITY COLLEGE
DEPARTMENT OF COMPUTER SCIENCE
I SEMESTER BCA
COURSE OUTCOMES(Cos)

Course Title: Problem Solving Techniques Using 'C'

Co1	In-depth understanding of various concepts of C language.
Co2	Ability to read, understand and trace the execution of programs.
Co3	Skill to debug a program.
Co4	Skill to write program code in C to solve real world problems.
Co5	Ability to perform operations on files

Course Title: Digital Electronics

Co1	Familiarization with the terms Semiconductors, Diodes, Registers, Rectifiers, sequential and combinational circuits, etc
Co2	In-depth understanding of Number system and logic gates
Co3	Skill to use the methods of systematic reduction of Boolean expression using K- Map.
Co4	Skill to build and troubleshoot digital logic circuits.

Course Title: Discrete Mathematics

Co1	Develops formal reasoning.
Co2	Knowledge regarding the use of Discrete Mathematics in Computer Science.
Co3	Helpful in formulating questions.
Co4	Ability to communicate knowledge, capabilities and skills related to the computer engineer profession.

II SEMESTER BCA

Course Title: Data Structures

Co1	Skill to analyze algorithms and to determine algorithm correctness and their time efficiency.
Co2	Knowledge of advanced abstract data type (ADT) and data structures and their implementations.
Co3	Knowledge about different data structures like Arrays, stacks Queue, Linked lists
Co4	Information about Graph theory and Tree Structures
Co5	Ability to implement algorithms to perform various operations on data structures.

Course Title: Database Management System

Co1	Students will know, what is a database?, DBMS, People related to DBMS. Database Architecture, Different levels of information in DBMS
Co2	Knowledge of different database models for better database design
Co3	Understands concept of functional dependencies and normalization for relational database. Guidelines for better database design. Relational-Algebra which is basic of database operations
Co4	Exposes students to a structured query language, which gives an ability to code database transactions using SQL
Co5	Skills to write PL/SQL programs

Course Title: Numerical and Statistical Methods

Co1	Skill to choose and apply appropriate numerical methods to obtain approximate solutions to difficult mathematical problems.
Co2	Ability to apply various statistical techniques such as Measures of Central Tendency and Dispersion.
Co3	Skill to execute programs of various Numerical Methods and Statistical Techniques for solving mathematical problems.

III SEMESTER BCA

Course Title: Object Oriented Programming Using C++

Co1	Introduction of object oriented programming, Basic concepts of OOP. Introduction of C++ and basics like data types, variables, functions and its types.
Co2	Develop Logical thinking of students
Co3	Skill to write codes in C++ by applying concept of OOP, such as Objects, Classes, Constructors, Inheritance etc., to solve mathematical or real world problems .
Co4	Ability to isolate and fix common errors in C++ programs.
Co5	Understands about I/O using files , concepts of streams and different operations on files

Course Title: Operating System

Co1	Introduction of operating system , different types of operating system. How processes are handled by an operating system and process scheduling
Co2	Understand about process synchronization and deadlocks, Knowledge of methods of prevention and recovery from a system deadlock.
Co3	Initiation into the process of applying memory management methods and allocation policies.
Co4	Ability to apply CPU scheduling algorithms to manage tasks.
Co5	Understand how to provide protection and security to operating system using Authentication techniques

Course Title: Accounting and Financial Management

Co1	Introduction to Accounting, History, objectives of Accounting, what is difference between Accounting and book-keeping and accounting standards
Co2	Exposes students to an accounting process , learn the rules of debit and credit, Journals and Ledgers
Co3	Learns an accounting for bill of exchange, Accounts procedure and Preparation of trial balance.
Co4	Understands how to prepare Final accounts, Preparation of profit and loss account, balance sheet
Co5	Learns an Accounting Package tally, so that they can create accounts , ledgers, Journals and Balance sheets.

IV SEMESTER BCA

Course Title: Visual Programming

Co1	Introduction to Visual Programming. Student can understand an IDE of VB language, Event driven programming, different controls used in VB to create an user understandable GUI
Co2	Learns programming concepts in VB, control structures, functions , Arrays and Menus which helps to provide some tasks to GUI
Co3	Understand different modules which gives common functionality to application, Dynamic libraries and using files in application
Co4	Introduction of Visual C++ , which provides GUIs with the help of Object oriented concepts, different controls used for design windows.
Co5	Student can learn how to interface other applications with current application. Object linking and embeding

Course Title: UNIX Programming

Co1	Introduction of UNIX operating system, different commands used in unix, process management and commands required for process management
Co2	Learns secondary storage management, file systems, unix system calls and library functions, signals and interrupts.
Co3	Understands shell programming, shell scripts , how to execute shell scripts and use of Vi editor for shell programming
Co4	Student will learn to use control structures like selection statements, looping statements and jumping statements required for shell programming
Co5	Students learns about unix system communication,Role of system administrator, maintenance of file system, Backup and restore, and distributed file system.

Course Title: Operation Research

Co1	Introduction of operation research , its origin and development, linear programming problem and its solutions
Co2	Learns Transportation problem – mathematical formulation , Basic feasible solution and different methods to find optimal solution.
Co3	Understands Assignment problem- algorithm and mathematical formulation of it and Hungarian method to solve it
Co4	Analysis of Network, Basic components of network, rules to draw network diagram and different techniques regarding it.
Co5	Learns the theory of games: two-person, Zero-sum game and some principles of game theory.

V SEMESTER BCA

Course Title: JAVA Programming

Co1	Skill to write Java application programs using OOP principles and proper program structuring.
Co2	Ability to create packages and interfaces.
Co3	Ability to implement error handling techniques using exception handling.
Co4	Ability to create Windows applications using Applets
Co5	Ability to use multiple threads in single process

Course Title: Computer Networks

Co1	Knowledge of uses and services of Computer Network.
Co2	Ability to identify types and topologies of network.
Co3	Understanding of analog and digital transmission of data
Co4	Ability to identify different protocols used in network
Co5	Understanding working of different types of networks.

Course Title: Software Engineering

Co1	Familiarization with the concept of software engineering and its relevance.
Co2	Understanding of various methods or models for developing a software product.
Co3	Ability to analyze existing system to gather requirements for proposed system.
Co4	Skill to design and code a software.
Co5	Understanding different software testing methods

Course Title: Computer Architecture

Co1	Ability to understand the functionality, organization and implementation of computer system.
Co2	Skill to recognize the instruction codes and formats.
Co3	Knowledge of the internal working of main memory, cache memory, associative memory and various modes of data transfer
Co4	Familiarization with the working of parallel processing and vector processing.
Co5	Knowledge of central processor organization, I/O organization and memory organization

Course Title: Microprocessor

Co1	Ability to understand Microprocessor architecture and its operations, its interfacing concepts
Co2	Skill to recognize instruction codes and formats, different addressing modes
Co3	Ability to write programs using instruction sets and use different programming techniques
Co4	Understanding Memory and I/O mapping , Interrupts
Co5	Understanding Interfacing of peripherals and applications.

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VI SEMESTER BCA

Course Title: Web Programming

Co1	Ability to develop web pages using HTML and XHTML.
Co2	Skill to create XML documents and Schemas.
Co3	Knowledge of client-side (JavaScript) scripting languages to build dynamic web pages.
Co4	Familiarization with Web Application Terminologies, Internet Tools, web services.
Co5	Ability to develop web pages using cascading style sheets.

Course Title: Theory of computation

Co1	Understanding concepts of finite automata and its applications.
Co2	Learn how to translate between different models of Computation (e.g., Deterministic and Non-deterministic and Software models).
Co3	Design Grammars and Automata (recognizers) for different language classes and become knowledgeable about restricted models of Computation (Regular, Context Free) and their relative powers.
Co4	Develop skills in formal reasoning and reduction of a problem to a formal model, with an emphasis on semantic precision and conciseness.
Co5	Classify a problem with respect to different models of Computation.

Course Title: System Programming

Co1	Understanding concepts like machine structure, Assemblers, loaders , compilers
Co2	Ability to understand design of assembler, different searching and sorting techniques
Co3	Design and develop compiler,Assembler,loader and Macro processor
Co4	Enable the students to use the different system software

Course Title: Cryptography and Network Security

Co1	Knowledge of Security goals , cryptographic attacks and mathematics of cryptography
Co2	Ability to learn different Data encryption standards and analyzing it
Co3	Use of different Key ciphers, theorems regarding cryptography
Co4	Applying different hash functions and knowledge of key management
Co5	Providing security at the application layer, transport layer and network layer

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COURCE OUT COME
SUBJECT; PHYSICS
M.Sc.1ST SEMESTER

Co1	System of particles; center of mass ,total angular momentum and total kinetic energies of a system of particles, conservation of linear momentum, energy and angular momentum,lagrangian formulation, symmetries of space time; cyclic coordinates, conservation of linear momentum, angular momentum and energy
CO2	Central force ;Reduction Of Two Particles Equations Of Motion To The Equivalent One Body Problem, Reduced Mass Of System, Conservation Theorems. The Kepler Problems, Scattering In A Central Force Field, Motion In Non Central Reference Frame.
CO3	Rigid body dynamics; degrees of freedom of a free rigid body, angular momentum and kinetic energy of a rigid body, moment of inertia tensor, principal moments of inertia, classification of rigid bodies as spherical symmetrical, small oscillations
CO4	Hamiltonian formulations; generalized momenta,canonical variables,legendre transformation and the Hamilton's equation of motion, canonical transformation; generating functions, the harmonic oscillator in one dimensions ,poisons brackets ,equations of canonical poisons bracket.

COURCE TITLE- MATHEMATICAL METHODS OF PHYSICS AND C- PROGRAMMING
COURCE CODE; P104

CO1	Ordinary differential equations and spherical functions; linear ordinary differential equations, poisons and Helmholtz equations in spherical polar and cylindrical polar co-ordinates, series solution of the differential equations of Bessel,legendres,laguerre and hermit polynomials, generating functions,
CO2	Complex analysis; functions of complex variable, analytic functions,cauchys-riemann relations-Cartesian and polar coordinates, conjugate and harmonic nature of the real and imaginary parts of an analytic functions
CO3	Linear vector spaces and operators; linear dependence and independence, inner prtoduct,orthogonality,gramm-schimdth orthogonalisation procedure, basis and dimensions, linear operators, matrix representation, similarity transformation
CO4	Cprogramming-01;compiler and interpreter ,constants and variables, arithmetic expressions, data types, inputs and output statements, control statements, switch statements, loop statements, format specifications,arrays,algorithms,flowcharts,functions,simple c -programs.

COURCE TITLE- QUANTAM MECHANICS-01
COURCE CODE:P103

CO1	Wave particle duality, interpretation of the wave function,wave function for particles having a definite momentum,schrodinger equation,gaussian wave packets and their evolutions,fourier transform and momentum space wave function
CO2	One-dimensional problems,free-particle,box normlisation,eigen values and eigen functions of particle in a finite square well potential barrier, simple harmonic oscillator, potential barrier
CO3	General formalism of quantum theory; operator methods;hilbertv space linear operator, observables ,Dirac notation, eigen functions of hermitical operators,degeneracy,commutation
CO4	Angularmomentum;orbital angular momentum,commutation relations,eigen values and eigen functions ,central potential,separation of variables in the schrodinger equations,the radial equations,the hydrogen atom

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COURCE TITLE- ELECTRONIC CIRCUITS AND DEVICES
COURCE ODE; P102

CO1	PHYSICS OF DEVICES; calculations of carrier concentration in intrinsic semiconductor, calculations of carrier concentrations in extrinsic semiconductors; Fermi energy level; electrical conuctivity;p-n junction; abrupt junction; band structure, calculations of junction voltage; depletion and enhance mode of MOSFET
C02	OPERATIONAL AMPLIFIER; operational amplifier as open loop amplifier-limitations of open loop configurations. operational amplifier as a feedback amplifier, closed loop gain, input impedance, output impedance inverting and non inverting amplifiers
C03	Digital circuits 01:simplification using karnaugh map technique(6 variables),conversion of binary to grey code- flip-flops; latch using nand gate and nor gate-rs flip-flops
C04	Digital circuits-02,digital to analog converts,ladder and weighted resistor type,analog to digital convertyers,counter method

COURCE TITLE: Atmospheric and Astrophysics
Course code: P105

CO1	Atmospheric physics; origin and composition of the atmosphere, distribution of atmospheric mass and gaseous constituents,temperature distribution Winds,clouds,precipitations
CO2	Concepts of astronomy,coordinate system ,time-system and sidereal times, apparent and absolute magnitudes, trigonometric parallax
CO3	Stellar physics; stellar spectral features, classification of stars-harward classification scheme, luminosity classes and H-R diagram.

2ND SEMESTER
COURSE TITLE; statistical mechanics
COURCE CODE; P201

CO1	Classical statistical description of system of particles; specifications of the state of classical system, phase space, statistical ensemble, basic postulates,probability calculations
CO2	Applications of statistical mechanics; system in contact with a heat reservoir(Maxwell Boltzmann distribution),simple applications of canonical distributions-paramagnetism,molecule of an ideal gas in the presence of gravity
CO3	Quantum statistical mechanics; basic concepts-quantum ideal gas, identical particles and symmetry requirements, quantam mechanics, bose Einstein statistics.
CO4	Irreversible process and fluctuations; random walk in one dimension, Brownian motion,langevin equation, fluctuation dissipation.

COURSE TITLE; electrodynamics
COURSE CODE; P202

CO1	Electrostatics; coulombs law, electric field, gauss law, applications of gauss law, electric potential, poisons equation and Laplace equation, work and energy
CO2	Electrodynamics;faradays law, energy in magnetic fields,maxwells equation,maxwells displacement current,maxwells equations and magnetic charge,maxwells equation inside matter,boundary conditioned.
CO3	Electromagnetic radiation; retard potential, electric dipole radiation, magnetic dipole radiation, radiation from a point charge electrodynamics and relativity; review of special theory of relativity.
CO4	Electromagnetic waves; electromagnetic waves in non conducting material,monochromatics,plane waves in vaccum,propogatio through a linear media

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COURSE TITLE: QUANTAM MECHANICS-2
COURSE CODE: P203

CO1	Approximation method for stationary problems: time independent perturbation theory: time independent perturbation theory for 1)non –degenerate 2) degenerate energy level
CO2	Approximation method for time dependent method: time dependent perturbation theory; approximation solution of the schrodinger equations with time dependent Hamiltonian, constant perturbation
CO3	Symmetry principles and conservation laws; continuous symmetries, spatial translational symmetry and conservation of linear momentum, time translational symmetry, conservation in energy, rotations in space; conservation in angular momentum
CO4	Relativistic quantum mechanics,klein-gordon equation for a free relativistic particle, plane wave solutions, probability density and probability current density

COURSE TITLE; mathematical methods of physics and numerical techniques
COURSE CODE;P204

CO1	Vector analysis and curvilinear co-ordinates; vector integration, derivation of gauss and stokes theorems, curvilinear co-ordinates, tangent and normal vectors,contravarient and co variant components.
CO2	Properties of Fourier series,fouriee integral,fourier transform, inverse transform,fourier transform of the derivative, convolution theorm,parsvells thermo.
CO3	Greens function and integral equation ;boundary value problrms,the sturm liouville differential equation operator, greens function of one dimensional problems, discontinuity in derivative greens function
CO4	C-programmin-2;c-programm for 1)finding roots using,2)newton-raphson method and 3) bisection method, solving of a system linear equation, solving ordinary differential equation

COURCE TITLE; EXPERIMENTAL TECHNIQUES IN PHYSICS
COURSE CODE;P205

CO1	Safety measures in experimental physics, chemical substance, radiation safety, general electrical testing standards, general laboratory and workshop practice
CO2	Vacuum techniques; units of pressure measurment,charecterstic of vaccum,applications of vaccum,vaccum pumps;rotary,oil diffusion,turbo molecular pumps,ion pumps,vaccum gauges
CO3	Familiarization of certain landmark experiments in physics through original papers; Mosbauer effect Parity violation experiment of w.u et al Cosmic microwave background radiation josephson tunneling Laser cooling of atoms

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COURSE TITLE: CONDENSED MATTER PHYSICS

COURSE CODE: P303

CO1	Crystalline stat- periodic arrangement of atoms- lattice translation vectors. The basis and crystal structure, primitive lattice cell-fundamental types of lattice,2d and 3d Bravais lattice directions and crystal planes-miller indices. X-ray diffraction: Scattering of x-rays, Laue conditions and Bragg's law, atomic scattering factor, geometrical structure factor, Reciprocal lattice and its properties.
CO2	Free electron model, electrons moving in one dimensional potential well, three dimensional potential well, quantum state and degeneracy, the density of states, Fermi-Dirac statistics, effect of temperature on Fermi distribution function, the electronic specific heat. Electrical conductivity of metals, relaxation time and mean free path, electrical conductivity and Ohm's law, thermal conductivity, Wiedemann-emission from metals, changes of work function due to absorbed atoms, the contact potential between two metals, hall effect.
CO3	Introduction to semiconductors, band structure of semiconductors, intrinsic and extrinsic semiconductors , expression for carrier concentration (only for intrinsic), ionization energies, charge neutrality equation, conductivity-mobility and their temperature dependence, hall effect in semiconductors. Superconductors: critical temperature-persis and current- occurrence of super conductivity- ideal and – ideal superconductors-destruction of super conductivity by magnetic field-Meissner effect- heat capacity-energy gap-isotope effect-BCS theory (qualitative)-Josephson tunnelling- exotic superconductors- high Tc super conductors.
CO4	Introduction, Review of basic formulae, Dielectric constant and displacement vectors- different kinds of polarization-local electric field –Lorentz field- Clausius Mossotti equation- expressions for electronic, ionic and dipolar polarizability, Ferroelectricity and piezo electicity. Magnetism: Review of basic formulae- classification of magnetic materials-Langevin theory of diamagnetism, para-Magnetism and ferromagnetism, domains – Weiss molecular field theory (classical)-Heisenberg exchange interaction theory- Antiferro-magnetism and ferrimagnetism .

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IV SEMESTER

COURSE OUTCOMES (COs)

COURSE TITLE: COMPUTATIONAL PHYSICS

COURSE CODE: P401

CO 1	Random variables, basic probability laws, permutations and combinations, discrete and continuous probability distributions, mean and standard deviations, binomial distribution, Poisson distribution, normal distribution, statistics of counting. Errors in computation: Types of errors: random errors, approximation errors, round off errors, model for round off error accumulation, minimizing the error.
CO2	Types and sources of experimental errors, significant digits in measurements evaluation of errors in derived quantities with more than one variable, propagation of errors, mean and standard deviation, estimation of error, reporting experimental result with error bars. Data fitting: Lagrange interpolation and least square fit methods, specific example of fitting experimental data on exponential decay, goodness of fit. Error analysis: Estimation of errors in the numerical integration and differentiation in the specific example of exponential decay.
CO3	From analytical methods to numerical approach, numerical differentiation: Euler's method, Runge-Kutta second and fourth order methods, solution of a linear algebraic equations using Gauss Elimination method without pivoting, numerical integration: Trapezoidal and Simpson's rules, finding roots, Bisection method, Newton-Raphson method.
CO4	Application of numerical differentiation, Newton's law of cooling and Euler and Runge-Kutta methods, numerical solution of freely falling body, effect of air-resistance. Approximation an integral: Gauss-Legendre method; computing Legendre polynomials of order n using recursion relations. Quantum states in a square-well: finding energy Eigen values based on trial and error search for roots bisection and Newton-Raphson methods.

COURSE TITLE: CONTINUUM MECHANICS AND SPECIAL THEORY OF RELATIVITY

COURSE CODE: P402

CO1	Review of Cartesian tensors and derivatives of tensors, Small deformations of an elastic solid; the strain tensor and the strain tensor and the stress tensor, principal strain, Equations of equilibrium and the symmetry of the stress tensor, the generalized Hooke law for a homogeneous elastic medium; the elastic modulus tensor, Navier equations of motion for a homogeneous isotropic medium.
CO2	Newtonian Fluids, Viscous Compressible Flow, Equation of continuity, Flow of a viscous fluid- Navier-Stokes equation and its solution for the case of a flow through a cylindrical pipe, The Poiseuille formula, Ideal and Rotational Flows, Fundamentals of Non- Newtonian Fluids.
CO3	Minkowski space time, Real coordinates in Minkowski scalar product and the Minkowski metric Gij=diaag (1-1-1-1), Orthogonality of 4-vecorrs, space-like and light-like four vectors, Lorentz group, Orthochronous subgroup SO (3,1), Lorentz boost and rotations.
CO4	Proper-time interval, components of 4-velocity, 4-acceleration and the 4- momentum vector, covariant formulation of Newton's second law, Determination of the fourth component of the four-force, Rest energy and the relativistic kinetic energy of a particle. Electromagnetic interactions of a relativistic charged particle: Lagrangian description of relativistic charged particles in an external electric and magnetic field and the corresponding Lorentz force equation, solutions of equations of motion for a relativistic charged particle moving in orthogonal electric and magnetic fields when (i)magnitude of electric field is larger than that of the magnetic field (ii) magnitude of electric field is equal to that of the magnetic field (iii) magnitude of electric field is smaller than that of the magnetic field.

COURSE TITLE: Laser and Optics (Elective)

COURSE CODE: P403

CO1	Review of fundamentals of laser action in a medium. Einstein coefficients, population inversion and stimulated light amplification, pumping techniques and types. Characteristics of laser beams –Gaussian beam and its properties. Expression for cavity modes. Threshold conditions for laser action. Laser rate equations for 2, 3 and 4 level laser systems. Mode selection, mode locking and Q-switching in lasers. Some laser systems: Nd: YAG, Dye laser, Semiconductor laser.
CO2	Dispersion in dilute and dense gases, Group velocity and signal velocities. Anisotropic media: Fresnels' equation, uniaxial and biaxial crystals, double refraction, polarizing prisms. Jone vectors and Jone matrices, linear, circular, elliptic states of polarization, Malus' law and linear optical devices, phase retarders, quarter and half wave plates.
CO3	Two beam interference, Michelson interferometer. Multi-beam interference: Fabry-Perot interferometer, distribution of intensity in Fabry-Perot fringes. Diffraction: Classification of diffraction, The Fresnel diffraction at straight edge and circular aperture, Fraunhofer diffraction at a single slit and circular aperture
CO4	Interaction of radiation with a dielectric medium, dielectric susceptibility, Harmonic generation, second harmonic generation, phase matching criterion, coherence length for second harmonic radiation, optical mixing, third harmonic generation, self-focusing of light, parametric generation of light

COURSE TITLE: Atomic and Molecular Spectroscopy –II(Elective)

COURSE CODE: P404

CO1	Basic principles, Beer -Lambert law, Molar extinction coefficient, Intensity of electronic transitions. Types of electronic transitions. Franck -Condon principle, Ground and excited electronic states of diatomic molecules. Electronic spectra of polyatomic molecules, Electronic spectra of conjugated molecules -dissociation and pre-dissociation spectra, UV-Visible spectrophotometer -Principles and Instrumentation, Applications.
CO2	Jablonski diagram; characteristics of fluorescence emission -Stokes shift, mirror image rule; solvent and environmental effects on fluorescence; lifetimes and quantum yields; Fluorescence quenching: mechanism and dynamics; Fluorescence anisotropy; Spectrofluorimeter -Principles and Instrumentation, Applications
CO3	Review of Raman scattering and Raman spectrum of diatomic and linear polyatomic molecules, molecular polarizability, Polarization of Raman lines, Depolarization ratio and its determination, Resonance Raman scattering. Application of Raman spectroscopy to study phase transitions and proton conduction in solids. Non-linear effects of Raman scattering: General principles. Hyper Raman effect, Inverse Raman effect, stimulated Raman scattering, Principle and experimental technique.
CO4	Mossbauer effect, recoilless absorption and emission of gamma rays, basic principles of gamma ray fluorescence spectroscopy, hyperfine interaction, chemical isomer shift, magnetic hyperfine and quadruple interaction and interpretation of spectra. Mossbauer isotopes, applications to study magnetic materials.

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Kalyan Nagar (Post) Behind BTS B[illegible]apo
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BANGALORE CITY COLLEGE

DEPARTMENT FO CHEMISTRY

Course Title: M.Sc. (CHEMISTRY)

First Semester

CO1	To get the knowledge of synthesis, various reactions, structures, properties, bonding patterns of compounds and the atomic model.
CO2	To get deep insight of bonding patterns of organic molecules, their reaction mechanisms, structure determination, nomenclature of compounds and biological importance.
CO3	It provides information about various equations given by several scientist, their postulates, function and theories.
CO4	Knowledge about various thermodynamics terms, properties, interaction and relationship. It also provides knowledge about various molecular receptors and important drugs studies for biological system.
CO5	Here we get knowledge about the various laws of photochemistry, their relationship, electronic transition and the processes.

Course Title: MSc Second Semester

CO1	This paper describes about the compound colour, bonding, transition states and properties.
CO2	In this unit knowledge about various reaction mechanism and get information about several name reactions developed by several researchers throughout the world.
CO3	In this unit, advanced concept of thermodynamic and electrochemistry studies using various relations and theories gathered.
CO4	Knowledge about various molecules with their symmetry, molecular orbitals, rotations, vibrations of bonds and structural elucidation will be gained.

Course Title: MSc Third Semester

CO1	From this unit knowledge about various instruments, computers usage and how to solve problems will be gained.
CO2	The concept of various instruments, their working principle and their application will be acquired.
CO3	The information about various spectroscopy and their applications in various field of science is studied here.
CO4	The study of various biomolecules and their importance to living organisms is also studied in this unit.

Sanat V. Ghosh.

HEAD OF THE DEPT OF CHEMISTRY
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Course Title: MSc Fourth Semester

CO	It provides the knowledge of how the molecules, atoms or ions in solid are packed and help to determine the age of the materials.
CO2 AC	The utility of this unit is to provides information about how to protect our environment from various affecting sources.
CO1 OC	The use of this unit is to get knowledge about organic and inorganic compounds or both, their reaction mechanisms, complexity, bonding and synthesis.
CO2 OC	It provides information about the configuration of molecules, total synthesis, protecting and deprotecting groups for the synthesis of target molecules.
CO3 OC	The use of this unit is to get knowledge about the synthesis of various compounds using various approaches.

Soma V. Ghosh.

HEAD OF THE DEPT OF CHEMISTRY
BANGALORE CITY COLLEGE
BENGALURU - 560 043.

BANGALORE CITY COLLEGE
DEPARTMENT OF BIOCHEMISTRY
FIRST SEMESTER M. Sc. BIOCHEMISTRY
COURSE OUTCOMES
COURSE TITLE: Basic Biophysical and general chemistry
COURSE CODE: BCT- 101

C0 1	Structure and biological significance of carbohydrates & Classification of amino acids, structure and biological significance.
C0 2	Classification, structural organization of proteins, tests for proteins etc&Lipids, properties, classification and related disease.
C0 3	Nomenclature of enzymes,properties,action and significances of michaleismenten equation & Types of hormones ,functions etc .
C0 4	Source, chemical structure of vitamins and related deficiency disease, Structure and biological importance of nucleic acids & Types of chemical bonding.
C0 5	Buffer and calculation of pka values, Principles and applications of centrifugation & chromatography & NMR, ESR spectroscopy, working principle and applications.

COURSE OUTCOMES
COURSE TITLE: Biomolecules
COURSE CODE: BCT- 102

C0 1	Understand in detail the configurational and conformation of monosaccharide. Learn the significance of structural and storage polysaccharides in nature .Study the structures and function of PG, GAG and other complex Polysaccharides and importance of Glycoproteins, blood group antigens, lectins and cardioglycosides
C0 2	Learn chemical properties and structure of lipids , biological role of the fatty acids, acyl glycerols, phospholipids, plasmalogens, sphingolipids, glycolipids, steroids, & eicosanoids
C0 3	Understand in detail about amino acid structures, types of amino acids, classifications, Recognize the structural levels of organization of proteins structure .Learn the process and concept of sequencing,3D structure of proteins, its functions, denaturation
C0 4	Understand protein dynamics and mechanism of protein folding. Get familiar with few disease related to protein folding
C0 5	Will have though knowledge of structure and properties of Nucleotides, DNA and RNA; Isolation, fractionation and characterization of nucleic acids. Chemical synthesis of oligonucleotides and Nucleic acid sequencing.

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Soma N. Ghosh.

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Banaswadi Outer Ring R
Kalyan Nagar (Post) Behind H
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COURSE OUTCOMES
COURSE TITLE: Analytical Biochemistry – I
COURSE CODE: BCT- 103

C0 1	Students should study the history of Biochemistry.
C0 2	Students should aware of Basic equipment's and methods, and safety considerations in animal cell culture& its impact.
C0 3	Students should use current Analytical &biochemical techniques (Microscopic techniques, Centrifugation, calorimetric &Radio isotopic methods of analysis) to plan and carry out experiments. They will generate and test hypotheses. analyze data using statistical methods where appropriate, and appreciate the limitations of conclusions drawn from experimental data. Trouble-shooting will be stressed in classes.
C0 4	Students shouldstudy the Quantitative biochemical measurements (Analytical Method validation, uncertainty, Correlation and regression analyses & Identification of systemic errors)
C0 5	Students shouldstudyExtraction process (Preparation of extracts for biochemical investigations, physicochemical properties of metabolites and drugs extracts from biological materials. Physico-chemical properties of solvents, solubility and miscibility, ionic bonds, and salting out. Partition, ionization, buffering and their effects on extraction.

COURSE OUTCOMES
COURSE TITLE: General Physiology
COURSE CODE: BCT – 104

C0 1	Understand the concept of Tissues & Formation of different kinds of tissues from primary germ layers.
C0 2	Students will aware of Human general physiological process & its modifications.
C0 3	Students should study each individual human system (Nervous System, Muscular System, Digestive System, Cardio – vascular System, Respiratory System, Excretory System & Endocrine system)
C0 4	Students should study the Cytoskeleton and Cellular dynamics.
C0 5	Students shouldread different authors books and publications regarding particular course.

COURSE OUTCOMES
COURSE TITLE: Nutritional Biochemistry
COURSE CODE: BCT – 105

C0 1	Understand the concept of Classification carbohydrates, glycemic index of sugars, and importance of dietary fibres.
C0 2	Students will aware of Classification of proteins and biological functions, nitrogen value and correlation of protein intake and nitrogen value & Classification lipids, significance or triglycerides and normal values of lipids.
C0 3	Students should study Source, WHO recommended value and deficiency disease of macro &micro minerals.
C0 4	Students should study the Nutrition requirements during gestation, lactation and for various age groups &Malnutrition, prevention and requirements of malnutrition. Obesity and leading factors leads to obesity.
C0 5	Students should read different authors books and publications regarding particular course.

Soma I. Gpta.

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BANGALORE CITY COLLEGE
No. 160, Chelikere Main Road,
Hosahalli Outer Ring Road,
Vijaya Nagar (Post) Behind BMS Post
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SECOND SEMESTER M. SC. BIOCHEMISTRY
COURSE OUTCOMES
COURSE TITLE: Enzymology
COURSE CODE: BCT-201

C0 1	Will have a deeper insight in to the fundamentals of enzyme structure, functions and the mechanism of Enzyme catalysis action enzymes
C0 2	Will learn the methods of assay, purification and kinetics of enzyme catalysed reactions and enzyme inhibitions and regulatory process.
C0 3	Mechanism of coenzymes, Structure function and mechanism of Specific monomeric and ologomeric enzyme Effect of PH and temp
C0 4	Will have an detailed discussion on Investigations of reaction mechanisms and investigation of Active site structure
C0 5	Will get familiar with Sigmoidal kinetics and regulation of enzymes

COURSE OUTCOMES
COURSE TITLE: Metabolism-1
COURSE CODE: BCT-202

C0 1	Understand the fundamental energetics of biochemical processes, chemical logic of metabolic pathways. Knowing in detail about concepts to illustrate how enzymes and redox carriers and the oxidative phosphorylation machinery work.
C0 2	Understand the utilization of proton gradient to drive the formation of high energy compounds with a detail description of coupled reactions and their role in Chemiosmosis hypothesis of ATP synthesis.
C0 3	Will know the detailed pathways of nitrogen cycle, assimilation of ammonia by animal and plant world, how amino acids are metabolized, disorders of amino acid metabolisms and the role of enzymes in the regulation of the pathways
C0 4	Detailed account of nucleotide metabolism and its regulation will be helpful for students to understand the biosynthesis and degradation of nucleic acids
C0 5	Understand the concept of lipid metabolism (VLDl, LDL, HDL)

COURSE OUTCOMES
COURSE TITLE: Analytical Biochemistry-11
COURSE CODE: BCT-203

C0 1	Should learn chromography concept such as Introduction, partition coefficient phase systems, liquid and solid phases, principle procedure and application of paper chromatography, column chromatography; retention, resolution, physical basis of peak broadening, plate height equation, capacity factors, peak symmetry.
C0 2	Should learn various types of chromatography techniques & its applications.
C0 3	Should understand the concept of Electrophoresis: Historical developments, principle, non-denaturing PAGE, activity staining for enzymes, zymogram, denaturing electrophoresis (PAGE), SDS-PAGE, SDS-PAGE in reducing conditions, chemical cross linking of proteins urea electrophoresis, isoelectrofocusing. Electrophoresis in DNA sequencing, Sanger- deoxynucleotide sequencing. DNA Foot printing.
C0 4	Should learn Spectroscopic techniques such as uv visible, IR, NMR, ESR & CD & its applications.
C0 5	Should study Metabolomics & Proteomics.

Somali Ghosh

OF DEPT. OF BIO-CHEMISTRY
BANGALORE CITY COLLEGE
No. 160, Chelikere Main Road,
Kalyan Nagar (Post) Behind RTO
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COURSE OUTCOMES
COURSE TITLE: Membrane Biochemistry
COURSE CODE: BCT-204

CO 1	Should know about structure, nomenclature and properties of glycerolipids, sphingolipids, glycolipids and sterols. Properties of lipids in solution, hydrophobic and hydrophilic interactions. Polar lipids and their ability to form mono, bi-layers and micelles
CO 2	Should learn Isolation and characterization of cell membranes. Detergent solubilization of membrane proteins. Purification and reconstitution of membrane proteins. Erythrocyte ghosts; proteins of RBC membrane and their interaction with cytoskeleton
CO 3	Should study about mechanisms & pathways of Membrane transport
CO 4	Should learn protein topology
CO 5	Should study Biogenesis of lipid bilayers

COURSE OUTCOMES
COURSE TITLE: Microbiology
COURSE CODE: BCSCT-205

CO 1	Conventional and molecular methods; Identification and classification of microorganisms
CO 2	Brief study of important groups of bacteria: Coliform, spore formers, photosynthetic bacteria, lactic acid producing bacteria, actinomycetes, ricketisiae, mycoplasms.
CO 3	Application of microiology in Food, Dairy and medical field
CO 4	Study of virus and fungi
CO 5	Will master Growth techniques for pure culture and Staining techniques for identification

THIRD SEMESTER M. SC. BIOCHEMISTRY
COURSE OUTCOMES
COURSE TITLE: Molecular Biology– I
COURSE CODE: BCT – 301

CO 1	Historical account of DNA discovery. Relationship between genes and proteins, overview of flow of genetic information; central dogma of molecular biology. Nature of genetic material, experiments confirming DNA as genetic material
CO 2	gene duplication and gene evolution, biases in mutations, gene conversion and codon usage.
CO 3	Prokaryotic DNA Replication: Replicon, single and multi copy replicons, linear and circular replicons, unidirectional and bidirectional replication, experimental methods, mapping origin of replication, semi-conservative and semi-discontinuous replication; experimental demonstrations. Topological problems in DNA replication
CO 4	Replication of organelle genomes, maintenance of ends of linear DNAs; telomeric DNA and telomerase. Regulation of eukaryotic DNA replication and inhibitors of DNA replication.
CO 5	Replication of RNA viruses
CO 6	DNA repair: experimental demonstration of repair in prokaryotes, damaging agents and damage recognition, direct repair, Miss-match repair assay for mismatch repair, Base excision repair (BER), Nucleotide excision repair (NER) systems ;components and mechanism of repair
CO 7	Transcription in prokaryotes: The transcriptome, prokaryotic RNA polymerase; molecular composition, and mechanism of transcription. Initiation of prokaryotic transcription; Structure of bacterial promoters. Effect of sigma factor on binding of RNA pol.
CO 8	RNA processing

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COURSE OUTCOMES
COURSE TITLE: Biochemistry of cell signaling
COURSE CODE: BCT – 302

C0 1	Should learn the concept of Signal transduction such as , basic model of signal transduction pathways Extracellular signals acting locally or at a distance, major types of signaling mechanisms, cell-cell contact Cell surface receptors, major class of cell surface receptors, evolutionary origin
C0 2	Understand about G-protein coupled receptor system
C0 3	Should study Classification, Structure, and Characteristics Ser/Thr-Specific Protein Kinases and Protein Phosphatases
C0 4	Should know about Cell Cycle, Apoptosis, Intracellular signaling proteins, Cytokines—Interferon family
C0 5	Should study Basic Characteristics of Tumor Cells, Mutations in Cancer Cell, genetic and epigenetic changes in cancer

COURSE OUTCOMES
COURSE TITLE: Metabolism – II
COURSE CODE: BCOET – 303.1

C0 1	Students should study Nucleotide Metabolism & Amino acid Metabolism.
C0 2	Students will aware of Basic concepts of metabolic energy capture and transfer.
C0 3	Students should study Biological oxidation & Oxidative phosphorylation.
C0 4	Students should study the Heme Metabolism (Biosynthesis and degradation of porphyrin and their regulation, porphyrias, jaundice and Hemoglobinopathies).
C0 5	Students should read different authors books and publications regarding particular course to gain the knowledge.

FOURTH SEMESTER M. SC. BIOCHEMISTRY
COURSE OUTCOMES
COURSE TITLE: Molecular Biology– II
COURSE CODE: BCT – 401

C0 1	will learn Gene Expression in Prokaryotes: Bacterial trascription control; the lac operon, induction and diauxy. Discovery and structure and regulation of operons. Riboswitches; and life cycle and regulation of Phage
C0 2	Will learn various Gene Expression in Eukaryotes: Quantification & regulation of gene expression; Chromatin structure and its effect on transcription.
C0 3	understand the concept of Chromatin remodelling
C0 4	will learn about Transcriptional activators
C0 5	study the mechanism of Translation process in both EK & PK

COURSE OUTCOMES
COURSE TITLE: Molecular Genetics
COURSE CODE: BCT – 402

C0 1	Learn and appreciate the history of the genetics through the study on various experimental approaches.
C0 2	Understand the Mendelian inheritance and the deviations from the pattern. Have a complete knowledge of the causes and consequences of types of mutations and methods of isolation. Construct the linkage maps for genes and make their own family pedigree and report which pattern of the inheritance it follows
C0 3	Study the population genetics based on Hardy Weinberg law and will study about Horizontal gene transfer Mechanisms
C0 4	Chromosome mapping based on recombination frequency data. Transposons. Overview of human genome project, mapping of human genes; techniques used, assignment of important genes. Transposition in human chromosomes. Chromosomal abnormalities
C0 5	Deep understanding of cell genetics and Quantitative Genetics

COURSE OUTCOMES
COURSE TITLE: Genetic Engineering
COURSE CODE: BCT – 403

C0 1	Gain knowledge about Recombinant DNA technology by studying about various Vectors and Restriction Enzymes and other enzymes involved.
C0 2	Study basics of Expression Systems and Molecular Markers
C0 3	Application of R-DNA technology and use of Restriction enzymes in construction of various vectors and libraries such as cDNA& Genomic libraries & Screening of the libraries
C0 4	Get familiar with various case studies in plant genomes and genetically modified foods. Understand the architecture of protein designing, fusion proteins, reporter genes,
C0 5	study discovery, principle procedure and application of PCR
	learn the methods of Gene transfer to animals cells and plant cells along with the transformation methods , vectors and selectable markers used

COURSE OUTCOMES
COURSE TITLE: Immunology &Toxicology
COURSE CODE: BCT – 404

C0 1	Infection: Types of infection and nature of infective agents. Nonspecific host defense mechanisms. Anatomical barriers; lysozyme and other antimicrobial agents. Phagocytosis and phagocytic cells, neutrophils, monocytes and macrophages.
C0 2	Structure and functions of immnoglobulins Types; isotypes and idiotypes, isoantibodies. Methods of raising antibodies. Monoclonal antibodies, production and purification.
C0 3	Recognition of self and non self, the major histocompatibility antigens, H-2 and HLA antigens, Antigenecity; humoral and cell mediated immunity.
C0 4	T and B lymphocytes; origin, differentiation, characteristics and functions, nature of surface receptors, antigen processing and presentation. T cell and B cell interaction. Cytokines, monokines, lymphokiness and their functions.
C0 5	Theories of antibody formation; clonal selection and network, Genetics of antibody diversity, germ line and somatic mutation theories, immunoglobulin, MHC a TCR gene organization and their recombination, class switch of Ig genes.
CO 6	Principle, procedure and applications of Immunoprecipitation, neutralization, agglutination, compliment fixation, immunodiffusion, immunofluorescence, RIA, ELISA, micro ELISA Techniques.
CO 7	Toxicological chemistry, factors influencing toxicity; Dose response relationship – LD50, ED50, NOEL. Reversibility and sensivity. Xenobiotics and endogeneous substances. Detoxification enzymes. Mutations-genotoxicity, Ames test.
CO 8	Methods to test toxicogens. Diagnosis of toxic effects in liver and kidney. Metal toxicity–Arsenic and lead. Non metal–oxygen and ozone.

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Banaswadi Outer Ring Road,
Kalyan Nagar (Post) Behind BTS Bus
CHELIKERE, BANGALORE

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BANGALORE CITY COLLEGE
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Banaswadi Outer Ring Road,
Kalyan Nagar (Post) Behind BTS Bus
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BANGALAORE CITY COLLEGE
DEPARTMENT OF COMMERCE AND MANAGEMENT
I SEMESTER B.COM
Course Outcomes (Cos)
Course Title: Financial Accounting
Course Code: 1.3

CO1	Get depth knowledge on the theoretical aspect of financial Accounting.
CO2	Understands about the importance of double entry system and its need in the business.
CO3	Understands about the hire purchase system and how it is benefited for the business.
CO4	Get knowledge on concept of royalty, importance of royalty in the business.
CO5	Understands about the importance or need for conversion of partnership into limited company and mode of purchase consideration.

I SEMESTER B.COM
Course Outcomes (Cos)
Indian Financial System
Course Code: 1.4

CO 1	Understanding the Indian Financial System. Familiarizing with the capital and money market.
CO 2	Enabling students to know various banking and non banking financial institutions with their functions
CO 3	Understanding the role and functions of Commercial banks
CO 4	Exposing the students to various regulatory institutions with their objectives, Role and Functions.
CO 5	Enabling students to know various financial services available with their importance

I SEMESTER B.COM
Course Outcomes (Cos)
Course Title: Marketing And Services Management
Course Code: 1.5

CO1	Understands about concepts of marketing, various forms of marketing.
CO2	Get knowledge on marketing environments, factors affecting marketing and also about consumer behavior.
CO3	Analyze the different marketing mix; get the depth knowledge on four P's of marketing.
CO4	Understands the concept of service and service management, get a clear picture about the process of service.
CO5	Get a knowledge on different types of services like tourism and travel, health care services and educational services.

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I SEMESTER B.COM
Course Outcomes (Cos)
Corporate Administration
Course Code: 1.6

CO 1	Understanding the concept of steps in formation of company and its types.
CO 2	Enabling students to know the steps for formation of a company.
CO 3	Understanding the concept of company management and duties, responsibilities of director.
CO 4	Exposing the students to understand corporate meeting and its types.
CO 5	Enabling students to know the types of global company and legal formalities.

I SEMESTER B.COM
Course Outcomes (Cos)
Course Title: Indian Constitution And Human Rights

CO1	Merely understand fundamental rights and duties and the policies of state
CO2	Recognize the power and function of state legislature and the powers of high court and supreme court
CO3	Expose the scope of understanding human rights and its developments to students
CO4	To know the difference between first, second, and third generation of human rights

II SEMESTER B.COM
Course Outcomes (Cos)
Course Title: 2.3 Advanced Financial Accounting
Course Code: 2.3

CO1	To enable the students to acquire the knowledge of fire insurance and the treatment of fire insurance claim.
CO2	To facilitate students to understand the meaning of Consignor, Consignee and the treatment of valuation of stock and preparing the journal entries.
CO3	To familiarize the students with general concepts of joint venture and partnership ,the ways in maintaining separate books for joint venture and enabling in the preparation of memorandum joint venture
CO4	To acquaint the students with the knowledge of various types of branches , its features and enabling the students in preparation of Branch Account in the books of Head Office
CO5	To facilitate students to understand the Meaning, Objectives, the different basis of allocation of expenses and enabling to prepare the Trading and Profit and Loss Account.

II SEMESTER B.COM
Course Outcomes (Cos)
Course Title: Retail Management.
Course Code: 2.4

CO1	Analyze the evolution of retail industry.
CO2	Understanding the retail sector and range of occupations.
CO3	Familiarize students with the decisions involved in running a retail firm and the concepts and principles for making those decisions.
CO4	Recognize and understand the operation oriented policies, methods and procedures used by the successfi retailers in global economy.
CO5	Know the responsibilities of retail personnel in the numerous career positions available in the retail field

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II SEMESTER B.COM
Course Outcomes (Cos)
Course Title: Banking Law And Operations
Course Code: 2.5

CO 1	Student will be able to analyze the basic terms in banking and its features.
CO 2	Understanding the general and special relationship between the banker and customer.
CO 3	Understanding the duties and responsibilities of collecting banker, paying banker and lending operations.
CO 4	Students learn how to open bank account and different companies account.
CO 5	Enabling students to learn banking innovations in banking sector.

II SEMESTER (B.COM)
Course Outcomes (Cos)
Course Title: Quantitative Analysis for Business Decisions – I
Course Code: 2.6

CO1	To acquaint the students with the basic statistics concepts
CO2	To Explain basic statistical concepts such as statistical collection, tabulation and graphical representation.
CO3	To Independently calculate basic statistical parameters measures of central tendency and measures of dispersion by Prepare the students to acquire the knowledge of frequency polygon.
CO4	To enable the students to understand the methods of analyzing Karl Pearson's' Co-efficient of skewness.
CO5	To prepare the students to acquire Knowledge of index number ,uses of index number and various methods of analyzing index numbers

II SEMESTER (B.COM)
Course Outcomes (Cos)
Course Title: Environmental Studies

CO1	Understand the importance of environment and its use to peoples
CO2	Analyze of various ecosystem and its structure
CO3	Cause and impacts of mining is realized and steps taken to avoid those issues
CO4	Evaluate the threats to biodiversity, biogeography zones and global biodiversity hot spots
CO5	Cause of pollution and how to avoid those effects and causes are recognized and analyzed
CO6	To understand the environmental act and to know how to protect environment
CO7	To know the impacts of environment due to population growth and various environmental movements to protect environment
CO8	Merely taking steps or to visit some areas which is affected by pollution and giving suggestions to overcome their problems

III SEMESTER B.COM
Course Outcomes (Cos)
Course Title: Corporate Accounting
Course Code: 3.3

CO1	Understand the treatment of tax, provisions, depreciation, dividends and transfer to reserve in final accounts
CO2	Analysis of comparative income statement, comparative balance sheet, common size statement and trend percentage
CO3	Evaluation of goodwill and understands various methods in valuation of goodwill
CO4	Get to know the need for valuation of shares and its methods
CO5	Understands the purpose of expansion or diversification of business through preparation of consolidated balance sheet

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III SEMESTER B.COM
Course Outcomes (Cos)
Course Title: Financial Management
Course Code: 3.4

CO 1	Understanding the basic concepts of Financial Management and the role of Financial Management in decision making
CO 2	Understanding the concept of time value of money and Concept of Valuation of Bonds, Debentures and Shares
CO 3	Identifying the various factors influencing Capital Structure. Computation and Analysis of EBIT,EBT,EPS
CO 4	Analyzing investment decision and dividend decision to know the profitability in investment.
CO 5	Understanding the working capital management which includes determinants of working capital and sources of working capital.

III SEMESTER B.COM
Course Outcomes (Cos)
Course Title : Business Ethics
Course Code: 3.5

CO1	Understand the scope and importance of Business ethics.
CO2	Enable the students to know the personal ethics such as emotional honesty , virtue of humility and to promote happiness.
CO3	Expose the students to the World of ethics in management.
CO4	Analysis of Role of corporate culture in business.
CO5	Gain an understanding of how Corporate governance works with living examples.

III SEMESTER B.COM
Course Outcomes (Cos)
Course Title: Quantitative Analysis for Business Decisions –II
Course Code3.6

CO1	To enable the students to understand various statistical tools, of correlation and Regression.
CO2	Enabling the students to prepare the trend analysis by using least square method.
CO3	Preparing the students with technical tools in handling various Advancing methods
CO4	Enabling the students to understand the basic concepts of sampling and analyze the probability and non-probability aspects of sampling
CO5	To familiarize the students with general concepts of probability with experiment.

III SEMESTER B.COM
Course Outcomes (Cos)
Course Outcomes Course Title: Public Relation and Corporate Communication
Course Code: 3.7

CO1	Understands the meaning of attitude, positive thinking, negative thinking.
CO2	Know the meaning of vision, goal setting, steps to achieve goals, stress management.
CO3	Understands the concept of creativity, importance, brainstorming, attribute listing.
CO4	Know the importance of communication, types , how to develop speech.
CO5	Understands the importance of career planning, sources of information

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III SEMESTER B.COM

Course Outcomes (Cos)

Course Title: Science and Society

CO1	Get to know about the history of science in 20th century , industrial revolution and the technologies in pre-modern era
CO2	Recognize impact of society due to modern science and its technology
CO3	Analyze the green and white revolution impacts on agricultural productivity and dairy developments

IV SEMESTER B.COM

Course Outcomes (Cos)

Course Title: Advanced Corporate Accounting

Course Code: 4.3

CO 1	Students will understand the redemption of shares by issuing fresh shares to redeem the old shares.
CO 2	The students will come to know about mergers and acquisition as per Ind AS 14 various methods are used for calculation.
CO 3	Understands the procedure for reduction in closing the old company and how to reconstruct the new company.
CO 4	Students will study in depth the liquidation of companies and calculation of liquidators company and preparation of liquidators final statement of accounts
CO 5	Students will come to know the recent developments in human resources accounting, social Indian accounting standards etc.

IV SEMESTER B.COM

Course Outcomes (Cos)

Course Title: Cost Accounting

Course Code: 4.4.

CO1	Understands about the concept of cost accounting and importance of cost accounting.
CO2	Get to know the types direct materials and techniques used to control inventory and also methods of pricing material issues.
CO3	Understands importance labor cost and methods of labor remuneration and methods of calculating the labor cost.
CO4	Get knowledge on different types of overheads and techniques for controlling the overhead cost and also know the methods of absorption.
CO5	Understands the concept of reconciliation and need for reconciliation. And know the differences between cost accounts and profit & loss accounts.

IV SEMESTER B.COM

Course Outcomes (Cos)

Course Title: E-Business and Accounting.

Course Code: 4.5

CO1	To understand the concept of E-Business.
CO2	Gain a comprehensive understanding of E-Business and Accounting, current and emerging business models, the technology and the infrastructure of the business.
CO3	Gain an understanding on the importance of security, privacy and ethical issues as they relate to E-Business.
CO4	Importance of ethical practices in accounting and implications of unethical behavior.
CO5	Understanding the technical knowledge of accounting in E-Business.

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No. 100, Chelleare Main Road,
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IV SEMESTER B.COM
Course Outcomes (Cos)
Course Title: Stock And Commodity Market
Course Code: 4.6

CO 1	Student gets practical knowledge how stock market and commodity markets works.
CO 2	Student gets conceptual knowledge on on-line-trading and derivatives
CO 3	Understanding patterns of trading and settlement, who is a broker, clearing house, depositories.
CO 4	Understanding practically how commodity market works. Types of transactions in commodity market.
CO 5	Understanding conceptually how trading is done in commodity market. Size of commodity market in India. Benefits of commodity market.

IV SEMESTER (B.COM)
Course Outcomes (Cos)
Course Title: Principles Of Event Management
Course Code: 4.7

CO1	To familiarize the students with the knowledge of event, importance of event, various policy and procedure involved in the event.
CO2	To enable the students to understand the principles of holding an event, and various facilities involved.
CO3	To practically train the students in understanding the Roles & Responsibilities of Event Managers along with the schedule.
CO4	To prepare the students to acquire the knowledge of public relations, various techniques and types of media.
CO5	Enabling the students to understand the Job Responsibility of Corporate Events Organizer and the Need for Entertainment in Corporate Events And Reporting.

IV SEMESTER B.COM
Course Outcomes (Cos)
Course Title: Personality Development

CO1	To enable them the importance of self awareness and how it is helpful to an individual is known
CO2	To understand interpersonal skill and to know how to develop interpersonal skills
CO3	To analyze traits of leaders and objectives of leaders. To understand why time management is crucial and how to tackle the issues of time management

V SEMESTER B.COM
Course Outcomes (Cos)
Course Title : Entrepreneurship Development
Course Code: 5.1

CO1	Understand the concept, qualities and role of Entrepreneurs and Women Entrepreneurs.
CO2	Enable the students to know the Ownership Patterns, importance, problems faced by SSI's and how to overcome it.
CO3	Critically scan and analyze the environment for business opportunities as well as the steps and aspects involved in formation of a small business.
CO4	Analysis of preparation aspects of business plan.
CO5	Gain an understanding of how project gets assistance through financial and non financial Institutions.

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Dept. of Commerce & Management
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Near Outer Ring Road, Kalyan Nagar P.O.
Behind BMTC Bus Depot, Bangalore-43

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V SEMESTER B.COM
Course Outcomes (Cos)
Corse Title: International Financial Reporting Standards
Course Code: 5.2

CO 1	Student will be able to know concept of IFRS, relevance of IFRS in India
CO 2	Students will understands in depth the recognition and measurement criteria a various assets and liabilities.
CO 3	Outline for the preparation of financial statements.
CO 4	Understands the procedures for calculating non controlling interest.
CO 5	The students will be able to disclose all the IFRS standards in a normal format.

V SEMESTER B.COM
Course Outcomes (Cos)
Course Title: Income Tax-I
Course Code: 5.3

CO1	Understands about the concept basic terms in income tax, committee members, capital and revenue receipt.
CO2	Get to know the list of exempted incomes .
CO3	Understands how to classify residential status of individual, and practical concepts inter incidences of tax.
CO4	Get knowledge how to find out income from salary.
CO5	Understands the concept of income from house property,

V SEMESTER B.COM
Course Outcomes (Cos)
Course Title: Costing Methods
Course Code: 5.4

CO 1	Understanding the basic concepts of costing methods and categories.
CO 2	Understands Job costing and batch costing and determination of economic batch quantity,
CO 3	Students will study about Process costing, treatment of normal loss , abnormal loss & gain joint and by-product costing.
CO 4	Enables students to know about contract costing , profits on incomplete contract.
CO 5	Understanding the concept Operating costing.

V SEMESTER B.COM
Course Outcomes (Cos)
Course Title: International Financial Management.
Course Code: F.N 5.5

CO1	Understand the international capital and foreign exchange market.
CO2	Identify investment opportunities in the international environment.
CO3	Familiarize students with the functions of financial markets with a particular emphasis on foreign exchange markets.
CO4	Demonstrate an integration, understanding the foreign exchange market and the relationships between interest rates, spot, forward rates and expected inflation rates.
CO5	Analyze and evaluate both quantitative and qualitative financial information.

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Dept. of Commerce & Management
Govt. Girls College Main Road
Education Road, Kalyan Nagar P.O.

V SEMESTER B.COM
Course Outcomes (Cos)
Course Title : Goods And Services Tax
Course Code: AC 5.6

CO1	Understand the beneficial concepts of goods and services tax.
CO2	Analysis of salient features of GST Acts such as CGST, SGST, IGST.
CO3	Understand the procedure and levy Goods and services tax
CO4	Enable the students to understand the assessment and returns under goods and services tax.
CO5	Enable the students to enter into the world of goods and services tax network and technology.

V SEMESTER B.COM

Course Outcomes (Cos)

Course Title: Culture, Diversity and Society

CO1	Understand the diversity of Indian society in ways of geographic, religious and culture
CO2	To know how to avoid disparities, caste system and evil so that it will help people to be unite
CO3	Get to know about the problems regarding cause of child labor, migrant labor and bonded labor to know how to avoid it

VI SEMESTER B.COM

Course Outcomes (Cos)

Course Title: Business Regulation

Course Code: 6.1

CO 1	Understanding the basic concepts of business law
CO 2	Understanding the concept of Indian contract act 1872 and Indian sale of goods act 1930.
CO 3	Identifying the various concepts of RTE Act 2005 and RTI.
CO 4	Analyzing the concept of competition and consumer law.
CO 5	Understanding the concept of FEMA and environment protection act

VI SEMESTER B.COM

Course Outcomes (Cos)

Course Title: Principles and Practices of Auditing

Course Code: 6.2

CO1	Understands the meaning of auditing. Difference between accounting and auditing, types of auditing and audit programs
CO2	Know the meaning of internal control and its importance. Fundamentals for internal control.
CO3	Understands the concept of vouching and types of vouchers..
CO4	Know the importance of verification and valuation of assets and liabilities. And also the get the depth knowledge on various assets and liabilities.
CO5	Understands the importance of auditor and there powers. Audit of different sectors.

VI SEMESTER B.COM

Course Outcomes (Cos)

Course Title: Income Tax-II

Course Code: 6.3

CO1	Understands about the profit and gain from business in practically
CO2	Know the concept of capital gain, and deductions U/s 54, 54D, 54EC, 54F.
CO3	Understands problems under income from other sources
CO4	Know about implementation of strategy and various types of implementation.
CO5	Understands the set-off and carry forward of losses and computation of total income.

VI SEMESTER B.COM

Course Outcomes (Cos)

Course Title: Management Accounting

Course Code: 6.4

CO 1	Understanding the concept of management accounting, difference between cost accounting , financial accounting & Management account
CO 2	Students will study in depth with various types of ratios
CO 3	Understanding the concept of fund , difference between the cash flow statement and fund flow statements and various procedures for preparation of funds flow statement.
CO 4	Students will study in depth about the cash position of the company by preparing the cash flow statement as per AS-3
CO 5	Enables the students to draft good reporting system and different kinds of reports.

Head of the Department
Dept. of Commerce & Management
No. 108, Chamundi Main Road,
Opp: Outer Ring Road, Kalyan Nagar P.O.
Near: BMTC Bus Depot, Bangalore-43

BANGALORE CITY COLLEGE
COURSE OUTCOMES (Cos)
COMMERCE AND MANAGEMENT

I SEMISTER BBA
Course Outcomes (Cos)
Course Title: Fundamentals Of Accounting
Course Code: 1.3

CO1	Understands the basic concepts of accounting in detail and also gets to know the list of accounting standards
CO2	Know about types of accounting and they learn journal entries and ledgers.
CO3	Understand meaning of subsidiary books and get a knowledge on different types of subsidiary books importance of subsidiary book.
CO4	Get the idea about importance of preparation of final accounts for the business.
CO5	Understands the importance of double entry system and they learn how to convert single entry into double entry.

I SEMESTER B.B.A
Course Outcomes (Cos)
Course Title: Business Organization Environment
Course Code: 1.4

CO1	Understanding the functioning and competitiveness of different business environments.
CO2	Expose students to the environment in which business operate and its operational framework.
CO3	Analyze the operations of different entities in different business environments.
CO4	Familiarize students to ethical, legal and social obligations and responsibilities of business.
CO5	Apply the knowledge of business concepts and functions in an integrated manner.

I SEMESTER B.B.A
Course Outcomes (Cos)
Course Title: Quantitative Methods For Business-I
Course Code : 1.5

CO1	To provide the basic knowledge of quantitative methods and their application to commercial situation and for decision making in business
CO2	To analyze the nature and algebraic solution of given equation and to apply the application of simultaneous equations in day to day life.
CO3	To understand matrices and determinants and their application problems to commerce
CO4	To solve problems on AP & GP also arithmetic and geometric mean
CO5	To calculate simple interest, compound interest, ratio and proportion.

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I SEMESTER B.B.A
Course Outcomes (Cos)
Course Title: Management Process
Course Code: 1.6

CO 1	Understanding the basic concepts of management and ethics
CO 2	Understanding the concept of planning process in business organization.
CO 3	Identifying principles of organization and staffing system
CO 4	Understanding the concept of directing, leadership and coordinating system in organization
CO 5	Students will be able to the concept of steps in controlling.

I SEMESTER B.B.A
Course Outcomes (Cos)
Course Title: Indian constitution and Human rights

CO1	Merely understand fundamental rights and duties and the policies of state
CO2	Recognize the power and function of state legislature and the powers of high court and supreme court
CO3	Expose the scope of understanding human rights and its developments to students
CO4	To know the difference between first, second, and third generation of human rights

II SEMESTER BBA
Course Outcomes (Cos)
Course Title: Financial Accounting
Course Code: 2.3

CO1	Get in depth knowledge on the Insurance claims, steps in ascertaining in fire insurance claim.
CO2	Understands about the hire purchase system and how it is benefited for the business.
CO3	Get in depth knowledge on concept of royalty, treatment of royalty and the importance of royalty in the business
CO4	Understands about the importance or need for conversion of partnership into limited company and mode of purchase consideration.
CO5	To familiarize the students with general concepts of Shares, types of shares and enabling the students in preparation of balance sheet.

II SEMESTER BBA
Course Outcomes (Cos)
Course Title: Quantitative Methods For Business-II
Course Code : 2.4

CO1	To familiarize the students with various statistical techniques for application in business Decision
CO2	To explain basic statistical concepts such as statistical collection, tabulation and graphical representation
CO3	To gain practical knowledge how to calculate correlation and regression to take business decision
CO4	To Independently calculate basic statistical parameters measures of central tendency and measures of dispersion
CO5	To interpret the meaning of the calculated statistical indicators and to know the significance of index number.

II SEMESTER BBA
Course Outcomes (Cos)
Course Title: Organizational Behavior
Course Code: 2.5

CO 1	Student are able to learn organizational disciplined activities
CO 2	Student gets conceptual knowledge in personality, perception and attitude
CO 3	Understanding the concept of learning and behavior modifications
CO 4	Understanding the concept of group activities, behaviors
CO 5	Understanding the organizational changes and developments and interventions

Head of the Department
Dept. of Commerce & Management
No. 160, Cricket ore Main Road,
Opp. Ring Road, Kalyan Nagar P.O
H.B.R. Post Office, Bangalore-43

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II SEMESTER BBA
Course Outcomes (Cos)
Course Title: Production and Operations Management
Course Code: 2.6

CO1	Expose the students to the World of production and operations management by explaining its concepts.

CO2	Analyze the plant location and layout principles and factors.
CO3	To empower the students to effective principles and practices of handling of material and its criteria for selection
CO4	Know the technical aspects and various Statistical tools involved in the production planning and quality control
CO5	Make Recommendations to maintenance of waste management.

II SEMESTER BBA

Course Outcomes (Cos)

Course Title: Environmental Studies

CO1	Understand the importance of environment and its use to peoples
CO2	Analyze of various ecosystem and its structure
CO3	Cause and impacts of mining is realized and steps taken to avoid those issues
CO4	Evaluate the threats to biodiversity, biogeography zones and global biodiversity hot spots
CO5	Cause of pollution and how to avoid those effects and causes are recognized and analyzed
CO6	To understand the environmental act and to know how to protect environment
CO7	To know the impacts of environment due to population growth and various environmental movements to protect environment
CO8	Merely taking steps or to visit some areas which is affected by pollution and giving suggestions to overcome their problems

III SEMESTER BBA

Course Outcomes (Cos)

Course Title: Soft skills for business

Course Code: 3.2

CO1	Understands importance of communication and different forms of communication.
CO2	Get to know the importance of public speaking and different types of public speaking.
CO3	Get the idea about the interview and its importance. And different types of interview.
CO4	Understands about the importance of meeting and different types of meetings.
CO5	Understands the importance of communication in the business and ways of communication in the business.

III SEMESTER BBA

Course Outcomes (Cos)

Course Title: Corporate Accounting

Course Code: 3.3

CO1	To know why the company enters to an agreement with two or more people called underwriters
CO2	Different ratios are analyzed and to understand difference between profit prior to incorporation and post incorporation profits
CO3	Circumstances under which goodwill is valued and various methods of valuation of goodwill is examined
CO4	Need and use of valuation of shares to be analyzed
CO5	Classification of assets and liabilities are evaluated and various expenses in details are determined

III SEMESTER BBA

Course Outcomes (Cos)

Course Title: Human Resource Management

Course Code: 3.4

CO1	To orient the students on fundamental HR functions, duties and responsibilities.
CO2	To practically train the students in performing the recruitment process, and how to overcome the problems involved in placement
CO3	To prepare students to acquire the need for training and to analyze the benefits of training
CO4	Enabling the students to possess critical thinking and decision making in the concepts of performance appraisal and various compensation schemes.
CO5	To develop students managerial skill by giving broader perspective through enhancing the knowledge of promotion and transfer.
CO6	Enabling the students to understand the Problems in relation to Transnational and Multinationals.

III SEMESTER BBA
Course Outcomes (Cos)
Business Regulations
Course Code: 3.5

CO 1	Understanding the basic concepts of business law.
CO 2	Understanding the concept of Indian contract act 1872 and Indian sale of goods act 1930.
CO 3	Identifying the various concepts of RTE Act 2005 and RTI.
CO 4	Analyzing the concept of competition and consumer law.
CO 5	Understanding the concept of FEMA and environment protection act

III SEMESTER BBA
Course Outcomes (Cos)
Course Title : Corporate Environment
Course Code: 3.6

CO1	To acquaint students with Articles of Association, Memorandum of Association and Prospectus in formation of a Company
CO2	Analyze and Visualize capital funds of a company such as shares and debentures.
CO3	Enable the students to acquire knowledge on different kinds of meetings and resolutions.
CO4	Know the detailed activities, position, appointment, right, duties, qualification and removal of a company secretary.
CO5	Get ready for the future winding up of companies.

III SEMESTER BBA
Course Outcomes (Cos)
Course Title : Business Ethics
Course Code: 3.7

CO1	Understand the scope and importance of Business ethics.
CO2	Enable the students to know the personal ethics such as emotional honesty , virtue of humility and to promote happiness.
CO3	Expose the students to the World of ethics in management.
CO4	Analysis of Role of corporate culture in business.
CO5	Gain an understanding of how Corporate governance works with living examples.

III SEMESTER BBA
Course Outcomes (Cos)
Course Title: Science And Society

CO1	Get to know about the history of science in 20th century , industrial revolution and the technologies in pre-modern era
CO2	Recognize impact of society due to modern science and its technology
CO3	Analyze the green and white revolution impacts on agricultural productivity and dairy developments

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IV SEMESTER BBA
Course Outcomes (Cos)
Course Title: Business Research Methods
Course Code: 4.2

CO1	To enable the students to understand the basic concepts of research.
CO2	Enabling the students to know the methods of data collection.
CO3	Preparing the students to get familiarize with the tools for collection of data.
CO4	Enabling the students to understand the concepts of Statistical methods.
CO5	To familiarize the students to understand the concept of Report writing.

IV SEMESTER BBA
Course Outcomes (Cos)
Course Title: Marketing Management
Course Code: 4.3

CO1	Understand the basic concepts and approaches of marketing.
CO2	Enable the students to get the knowledge about marketing environment.
CO3	Analyze and visualize the product mix and marketing channels.
CO4	To know the various market segmentation and behaviors of the consumer
CO5	Enables the students to understand the Role of customer relationship management.

IV SEMESTER BBA
Course Outcomes (Cos)
Course Title: Financial Management
Course Code 4.4

CO 1	Understanding the basic concepts of Financial Management and the role of Financial Management in decision making
CO 2	Understanding the concept of time value of money and Concept of Valuation of Bonds, Debentures and Shares
CO 3	Identifying the various factors influencing Capital Structure. Computation and Analysis of EBIT,EBT,EPS
CO 4	Analyzing investment decision and dividend decision to know the profitability in investment.
CO 5	Understanding the working capital management which includes determinants of working capital and sources of working capital.

IV SEMESTER BBA
Course Outcomes (Cos)
Course Title: Service Management
Course Code 4.5

CO 1	Understanding the basic concepts of service sector
CO 2	Understanding the concept of marketing mix, role of customers in service, issues etc.
CO 3	Identifying the tourism and hospitality service.
CO 4	Analyzing the banking and insurance services.
CO 5	Understanding the health care service and information technology in service.

IV SEMESTER BBA
Course Outcomes (Cos)
Course Title: Banking Regulations And Operations
Course Code: 4.6

CO1	Knowledge about credit creation of commercial banks and how the commercial banks functions
CO2	Understands the relationship between banker and customer in holding the different accounts in banks
CO3	Get to know the kinds of negotiable instruments and endorsements
CO4	To know the difference between paying banker and collecting banker
CO5	Kinds of borrowings and non-performing assets are known

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IV SEMESTER BBA
Course Outcomes (Cos)
Course Title: Cost Accounting
Course Code: 4.7

CO1	Understands about the concept of cost accounting and importance of cost accounting.
CO2	Get to know the types direct materials and techniques used to control inventory and also methods of pricing material issues.
CO3	Understands importance labor cost and methods of labor remuneration and methods of calculating the labor cost.
CO4	Get knowledge on different types of overheads and techniques for controlling the overhead cost and also

	know the methods of absorption.
CO5	Understands the concept of reconciliation and need for reconciliation. And know the differences between cost accounts and profit & loss accounts.

IV SEMESTER BBA
Course Outcomes (Cos)
Course Title: Personality Development

CO1	To enable them the importance of self awareness and how it is helpful to an individual is known
CO2	To understand interpersonal skill and to know how to develop interpersonal skills
CO3	To analyze traits of leaders and objectives of leaders. To understand why time management is crucial and how to tackle the issues of time management

V SEMISTER
Course Outcomes (Cos)
Course Title: Entrepreneurial Management
Course Code: 5.1

CO1	Get to know the concept of entrepreneur, role and importance of entrepreneur in the economic development.
CO2	Understands the importance of entrepreneurship development program.
CO3	Understands the meaning of SSI's, problems faced by SSI's, importance of SSI's in the economic development of the country.
CO4	Get to know about the formalities and procedures of starting a SSI's.
CO5	Get to know the importance of business plan and how it is important for the newly startups.
CO6	Get to know the various financial institutions which will provide financial assistance to SSI's.

V SEMISTER
Course Outcomes (Cos)
Course Title : Computer Applications in Business
Course Code : 5.2

CO1	Get depth knowledge on the theoretical aspect of information System.
CO2	Understands about the importance and types of information systems.
CO3	Enables the students to understand about the Microsoft Office.
CO4	Get knowledge on concept of database management systems
CO5	Understands about the exposures on accounting software.

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V SEMISTER
Course Outcomes (Cos)
Course Title: Investment Management.
Course Code : 5.3

Co1	Understanding the investment management process.
Co2	Describe the general structure of various financial markets.
Co3	Familiarize students to money market instruments, bonds and stocks, and understanding the buying and selling of these instruments.
Co4	To define the performance of investment funds.
Co5	Familiarize students to the investment environment in the role of private & professional investor.

V SEMISTER

Course Outcomes (Cos)
Management Accounting
Course Code 5.4

CO 1	Understanding the concept of management accounting, difference between cost accounting , financial accounting & Management account
CO 2	Students will study in depth with various types of ratios
CO 3	Understanding the concept of fund , difference between the cash flow statement and fund flow statements and various procedures for preparation of funds flow statement.
CO 4	Students will study in depth about the cash position of the company by preparing the cash flow statement as per AS-3
CO 5	Students will study in depth on marginal costing, break even points, and budgetary control

V SEMESTER (BBA)
Course Outcomes (Cos)
Course Title: Advanced Financial Management
Course Code : F.N.5.5

CO1	To acquaint the students with the basic knowledge of investment decision risk analysis .
CO2	To facilitate students to understand Cost of capital and capital structure
CO3	To enable students to conceptualize dividend theories and planning and forecasting of working capital.
CO4	To enable the students to understand the basic concepts of corporate valuation
CO5	To familiarize students with Advanced Financial Analysis and Decisions.

V SEMESTER BBA
Course Outcomes (Cos)
Course Title : Financial Markets and Services
Course Code: F.N.5.6

CO1	Understand the significance and knowledge about financial markets such as primary market, secondary markets, stock markets, OTCEI, NSE, BSE etc..
CO2	Identify and describe various non banking financial intermediaries.
CO3	Understand the functioning, Role and powers of SEBI
CO4	Enable the students to understand the concepts of Mutual Funds.
CO5	Enable the students to enter into the world of Recent trends in the financial services such as ATM, Tele banking and E-banking

V SEMESTER BBA
Course Outcomes (Cos)
Course Title: Strategic Human Resource Management
Course Code: HR.5.6

CO1	To understand the strategies and policies used by HR people
CO2	Evaluate the effectiveness of training and it help them to retain in job
CO3	Know the importance of team work and to know about total quality management programs
CO4	Get to know about the issues of double taxations and to know the pay plans
CO5	Current trends and to know about business which is conducted at national level

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V SEMESTER BBA
Course Outcomes (Cos)
Course Title: Employee welfare and social security
Course Code: 5.6

CO1	Understands about the various social welfare policies and measures.
CO2	Get to know the importance of labor organization for labour welfare in India and labor welfare programmers'.
CO3	Get the knowledge on importance and concept of social security measures in India.
CO4	Understands the labour administration in India.
CO5	Get the knowledge about employment training, provident fund organization and ESI schemes.

V SEMESTER BBA
Course Outcomes (Cos)
Course Title: Culture, Diversity And Society

CO1	Understand the diversity of Indian society in ways of geographic, religious and culture
CO2	To know how to avoid disparities, caste system and evil so that it will help people to be unite
CO3	Get to know about the problems regarding cause of child labor, migrant labor and bonded labor to know how to avoid it

VI SEMESTER BBA
Course Outcomes (Cos)
Course Title: International business
Course Code: 6.1

CO1	Understands about meaning of international business and theories of international business.
CO2	Gets to know about the different modes of entry to the international business.
CO3	Get a depth knowledge on globalization and stages of globalization. Importance of MNC's.
CO4	Understands about the importance of information system for globalization.
CO5	Understands concept of trade and exports. And gets the knowledge on balance of payment and policies available of exports and imports.

VI SEMESTER BBA
Course Outcomes (Cos)
Course Title : E-Business
Course Code: 6.2

CO1	Understand the evaluation and concept of E-Business
CO2	Enable the students to know the security needed to protect E-Business.
CO3	Analyze and visualize the E-Payments system
CO4	To know the various marketing technologies used in E-Business such as DBMS, SQL, Data Mining, CRM etc.
CO5	Indentify and visualize the legal aspects of E-Business in cyber law and frauds taken place on internet.

VI SEMISTER BBA
Course Outcomes (Cos)
Course Title: Income Tax
Course Code: 6.3

CO1	Get a knowledge on history of tax and legal framework of tax in India.
CO2	Understands about income from salary concepts and so many allowances available for salary.
CO3	Get a idea about income from house property and computation of income from house property.
CO4	Gets to know how to compute income from business and profession.
CO5	Get to know different types income and learn how compute the total income.

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VI SEMESTER BBA
Course Outcomes (Cos)
Course Title: Strategic Management
Course Code: 6.4

CO1	Understands about the meaning of strategic management need and process of strategic management.
CO2	Know the concept of environment and various factors affecting the environment of the business.
CO3	Understands strategic planning process, planning under various stages or conditions of economy. And also about levels of strategy.
CO4	Know about implementation of strategy and various types of implementation.
CO5	Understands the strategy evaluation and control and the overview of management control.

VI SEMESTER BBA
Course Outcomes (Cos)
Course Title: International Finance.
Course Code: FN.6.5

CO1	Identify the reason for international trade.
CO2	Understand the role of international financial institutions in the global area.
CO3	Describe the balance of trade and balance of payment.
CO4	Analyze relevant economic development and policy issues in the global market.
CO5	Understanding of the theories of international finance and monetary issues and how to apply them to real world situations.

VI SEMESTER BBA
Course Outcomes (Cos)
Stock And Commodity Market
Course Code: FN. 6.6

CO 1	Student gets practical knowledge how stock market and commodity markets works.
CO 2	Student gets conceptual knowledge on on-line-trading and derivatives
CO 3	Understanding patterns of trading and settlement, who is a broker, clearing house, depositories.
CO 4	Understanding practically how commodity market works. Types of transactions in commodity market.
CO 5	Understanding conceptually how trading is done in commodity market. Size of commodity market in India. Benefits of commodity market.

VI BBA
COURSE OUTCOME
ORGANIZATIONAL CHANGE AND DEVELOPMENT
COURSE CODE:HR.6.5

CO 1	Students will study the change, human response change and their effectiveness.
CO 2	Students will study the organizational effectiveness, concepts and problems in measurement of effectiveness.
CO 3	Understands concept of nature of organizational development, assumptions and values, action research and organizational interventions.
CO 4	The students will study in depth organizational development interventions, comprehensive job enrichment and Management by objectives (MBO).
CO 5	The students will come to know about creativity and innovations meaning, need components, organizational constraints, organizational environment for creativity and innovations

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VI BBA
COURSE OUTCOME
COMPENSATION MANAGEMENT
COURSE CODE: 6.6 H.R

CO1	Understands job evaluations and performance and appraisal ,meaning ,definition, traditional and new techniques used.
CO2	Students will know about compensation management related to compensation meaning, definition, classification, types, incentives fringe benefit.
CO3	Students will study in detail about the wages and salaries, wages-structure, administration, compensation fixation, components of wages, basic and overtime wages, dearness allowances, incentives, individual and group bonus scheme, and various laws of wages.
CO4	Students will analyze about rewards and incentives for sales personnel, pay commission, performance based on pay system, compensation plan and pay communication.
CO5	The students will study in detail about regulatory bodies and compensation management-wage boards, pay commission, compensation management in multinational organization.

VI SEMESTER BBA
Course Outcomes (Cos)
Course Title: Creativity And Innovations

CO1	To improve met cognitive understanding of creativity and to raise creative consciousness and attitude among students
CO2	To enhance innovative capacity and innovation climate and to enable students to use basic theoretical tools that help analyze and manage real-world processes of innovation
CO3	To give insights on cave paintings, performing arts, contemporary art forms, Indian sculpture, folk arts, temple architecture to students

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I SEMESTER B.B.A (Aviation Management)
Course Outcome
Course Title: Management Process
Course Code: 1.3

CO1	To understand the requirements of business and forms of business organization
CO2	Examine the process of management and the evolution of theory
CO3	The importance of planning is understood and analyze the types of planning
CO4	To know about the line and staff relationship and the sources of recruitment
CO5	Identify the purpose of directing and control process

I SEMESTER B.B.A (Aviation Management)
Course Outcome
Course Title: Financial Accounting
Course Code: 1.4

CO 1	Students able to learn in the basic concept in accounting
CO 2	Understanding the trail balance and rectification of errors.
CO 3	Understanding how to prepare financial statements
CO 4	Students will be able to learn accounts for nonprofit organization
CO 5	Students will be able to prepare accounts from incomplete record.

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DEPARTMENT OF COMMERCE AND MANAGEMENT
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Course Code: 1.3

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CO2	Examine the process of management and the evolution of theory
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CO4	To know about the line and staff relationship and the sources of recruitment
CO5	Identify the purpose of directing and control process

I SEMESTER B.B.A (Aviation Management)
Course Outcome
Course Title: Financial Accounting
Course Code: 1.4

CO 1	Students able to learn in the basic concept in accounting
CO 2	Understanding the trail balance and rectification of errors.
CO 3	Understanding how to prepare financial statements
CO 4	Students will be able to learn accounts for nonprofit organization
CO 5	Students will be able to prepare accounts from incomplete record.

I SEMESTER B.B.A (Aviation Management)

Course Outcome

Course Title : Entrepreneurship And Project Management

Course Code: 1.6

CO1	To acquire the knowledge on entrepreneurial role in economic growth .
CO2	Analysis of factors influencing and institutional support to entrepreneurs.
CO3	Enable the students to know project life cycle and roles and responsibility of project manager.
CO4	Enable the students to know the contents and planning commission guidelines for formulating a project.
CO5	Identify and analyze the source of finance and institutional finance supporting projects evaluation.

I SEMESTER B.B.A (Aviation Management)

Course Outcome

Course Title: Indian constitution and Human rights

CO1	Merely understand fundamental rights and duties and the policies of state
CO2	Recognize the power and function of state legislature and the powers of high court and supreme court
CO3	Expose the scope of understanding human rights and its developments to students
CO4	To know the difference between first, second, and third generation of human rights

II BBA (Aviation Management)

COURSE OUTCOME

Course Title: Organizational Behavior

Course Code: 2.3

CO1	Understands about the organizational behavior and contributions of other disciplines to organizational behavior.
CO2	Students will know about the personality attributes influencing organizational behavior, interactive behavior and interpersonal conflict.
CO3	Get to know about cognitive learning, modification process and organizational reward system.
CO4	The students will get to know about group dynamics and managerial implications of group behavior.
CO5	Students will study about the organizational development and its types of interventions.

II SEMESTER BBA (Aviation Management)

Course Outcomes (Cos)

Course Title : Economics for Executives

Course Code: 2.4

CO1	Make the students to understand the concept of demand and social responsibility
CO2	Enable the students to understand the objective of business firm factors of production and BEP analysis.
CO3	Visualize the price structure of market and competition.
CO4	Analysis of pricing under factors of production and its various theories.
CO5	To enable the students to visualize and analyze the government acts in the business world.

II SEMESTER B.B.A (AVIATION MANAGEMENT)

Course Outcomes (Cos)

Course Title: Cost And Management Accounting

Course Code : 2.6

CO1	To acquaint the students with cost and management concepts
CO2	Enabling the students Independently to calculate the cost sheet
CO3	To practically train the students in preparing comparative and common size statement.
CO4	To familiarize the students in preparation of cash flow and fund flow analysis
CO5	To orient the students on standard costing, variance analysis and preparation of budgets.

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I SEMESTER M.COM
Course Outcomes (Cos)
Course Title: Monetary System
Course Code 1.1

CO 1	Understands the basic concepts of money and various theories related to money.
CO 2	Understands the concept of monetary system the gold standards, paper currency, principle of note issue.
CO 3	The students will study about international monetary system – by metallion, interwar period Bretton woods system
CO 4	Understands the international financial system their role of financial markets , elements of forex markets, euro currency and euro bond market
CO 5	Students will study in depth of balance of payment- balance of trade equilibrium in BOP.

I SEMESTER M.COM
Course Outcomes (Cos)
Course Title: International Business
Course Code:1.2

CO1	To know the difference of international business, international trade and international marketing and global view of business is also analyzed
CO2	To know about global environment, global product, global area design and to know how to implement strategies
CO3	Knowledge about human resource, international financial accounting and financing company trades
CO4	Analyze integration between various countries, commodity agreement between various countries and about the international strategic alliances

I SEMESTER M.COM
Course Outcomes (Cos)
Course Title: Macro Economics For Business Decisions
Course Code: 1.3

CO 1	Student are able to learn basics of economics system
CO 2	Student gets conceptual knowledge in consumption savings, investments etc
CO 3	Understanding the concept of monetary system and physical policy
CO 4	Students are able to understand economic growth, business cycle.

I SEMESTER M.COM
Course Outcomes (Cos)
Course Title: Information Systems In Computer
Course Code : 1.4

CO1	To give an insight into meaning of Information system and Human Resource Information System .
CO2	To make the students aware about IT governance and its models.
CO3	To describe the overview of specific IT Act 2008 , Cyber fraud and its offence.
CO4	To orient the students on Data base Management System and the quires in DBMS.
CO5	Enabling the students to understand and prepare various types of charts ,statistical functions and financial functions .

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DEPARTMENT OF COMMERCE AND MANAGEMENT
I SEMESTER M.COM
Course Outcomes (Cos)
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Course Code 1.1

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CO 4	Understands the international financial system their role of financial markets , elements of forex markets, euro currency and euro bond market
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I SEMESTER M.COM
Course Outcomes (Cos)
Course Title : Advanced Financial Management
Course Code: 1.5

CO1	Analysis and various approaches used in financing decisions capital structure theories.
CO2	Understand the concept of investment and capital budgeting decisions.
CO3	To empower the students to effective formulate and implement the statistical techniques used for Risk analysis for capital budgeting.
CO4	Evaluation of deep understanding among the students about corporate restructuring.
CO5	Enabling the students to enter into a world of derivatives for managing the financial risk and software packages for financial decision making.

I SEMESTER M.COM
Course Outcomes (Cos)
Course Title: Human Resource Management
Course Code: 1.6

CO1	Understands about concepts of human resource management, importance, scope.
CO2	Get knowledge on human resource planning, steps in selection process.
CO3	Analyze the how to avoid accidents, safety needs, and resolve disputes.
CO4	Understands the concept of audit procedures in different departments.

I SEMESTER M.COM
Course Outcomes (Cos)
Course Title: Communication Skills
Course Code: 1.7

CO1	Effective ways of communication and forms of communication are understood
CO2	Use of power point presentation and barriers of communication is accessed
CO3	To know the effectiveness of written communication and resume writing
CO4	Recognized the process of listening skills and how to avoid the cause of poor listening
CO5	Inculcating the activities of team work and its importance in the minds of students

II M.COM
INDIAN BANKING
COURSE OUTCOME
Course Title: Indian Banking
COURSE CODE: 2.1

CO 1	Student evaluate banking institutions, its types and services
CO 2	Student gets conceptual knowledge about RBI and banking system.
CO 3	Understanding the concept of monitoring and follow IRCA norms and NPOs
CO 4	Understanding the concepts of BASEL committee and framework
CO 5	Understanding the concept of banking innovations.

II SEMESTER M.COM
Course Outcomes (Cos)
Course Title: Risk Management
Course Code: 2.2

CO1	Analysis of Risk and Insurance in order to avoid risk using various techniques
CO2	Evolution and steps involved in risk management and its RBI guidelines.
CO3	To empower the students to understand the concept of credit risk management models.
CO4	Evaluation of deep understanding among the students about market risk using yield curves.
CO5	Enabling the students to enter into a world of management of operational risk and reasons to invest in operation risk.

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II SEMESTER M.COM
Course Outcomes (Cos)
Course Title: Advanced E Commerce And Mobile Commerce
Course Code: 2.3

CO1	Understands about concepts of e commerce and digital commerce
CO2	Get knowledge on payment system and smart card and electronic banking.
CO3	student will studying in detailed about the concept of mobile commerce.
CO4	Understands the concept mobile communication network.
CO5	Get a knowledge about wireless applications and m-commerce business models.

II SEMESTER M.COM
Course Outcomes (Cos)
Course Title: Business Research Methods
Course Code: 2.4

CO1	Get depth knowledge on the concept of Research and Business Research.
CO2	Understands about the concept of Research design.
CO3	Understands about the data analysis and interpretation.
CO4	Get knowledge on concept of report writing.

II SEMESTER M.COM
Course Outcomes (Cos)
Course Title: Operation Research And Quantitative Techniques
Course Code: 2.5

CO1	Get depth knowledge on linear programming.
CO2	Understands about the importance of probability, variables, risk analysis.
CO3	Understands about the network analysis under PERT AND CPM along with problems.
CO4	Get knowledge on concept of decision making under uncertainty, decision tree.

II SEMESTER M.COM
Course Outcomes (Cos)
Course Title: Business Marketing
Course Code: 2.6

CO1	Get the depth knowledge on business marketing and also know about organizational buying behavior and buying decision process.
CO2	Understand about the relationship between the buyer and seller. And know the importance of relationship marketing. Know the concept of supply chain management.
CO3	Understands the importance of marketing research and marketing research process. And knows the concept of strategic planning and its importance in the business.
CO4	Gets the idea about changes in product strategy and new product development. Have the knowledge about various pricing strategies. Understands about distribution channel and intermediaries.
CO5	Understands about the importance of business communication and various promotional strategies.

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II SEMESTER M.COM
Course Outcomes (Cos)
Course Title: Micro Finance
Course Code: 2.7

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CO 1	Students will study the concepts of finance, types of financial or credit arrangement.
CO 2	Students will study in depth various types of financial institutions, their objectives and functions.
CO 3	Understands the basic concept of micro credit and micro finance. Brief history about MFI's
CO 4	Understands the concept of self-help group role, functions, objectives and dedication towards society.
CO 5	In detail various models of SHG's existing in India, role of the NGO's in rural development interface between NGO's and GO's

III SEMESTER M.COM
Course Outcomes (Cos)
ELECTIVE-I ACOUNTING AND TAXATION
Course Title: Business Ethics and Corporate Governance
Course Code: 3.1

CO 1	Understanding the basic concept of business ethics
CO 2	Enabling students to know the ethical theory's and corporate social responsibilities
CO 3	Understanding the concept of ethics in marketing, and finance
CO 4	Exposing the students to understanding the ethics in HRM and information technology.
CO 5	Enabling students to know the concept of corporate governance.

III SEMESTER M.COM
Course Outcomes (Cos)
Course Title: Corporate Financial Reporting
Course Code: 3.2

CO1	Get to know the concept of accounting standards, benefits, objectives, list of accounting standards
CO2	Understands the importance of IFRS committee, GAAP concept.
CO3	Understands the meaning of published financial statements, triple bottom line,
CO4	Get to know about the how to measure instruments, hedge, accounting, stock and commodity markets
CO5	Get to know valve added statements and inflation accounting

III SEMESTER M.COM
Course Outcomes (Cos)
Corse Title: Accounting For Managerial Decision
Course Code: 3.3

CO 1	Student will be able to analyze data base for decision making and cost based decision making with decision making process
CO 2	Understanding the short term decision models which can be applied in business for making decision to increase profit and decreasing the cost.
CO 3	Understanding the process in implementation of responsibility reporting. Methods of performing divisional performance
CO 4	Students learn how to prepare master budget, Zero based Budgeting.
CO 5	Enabling students to learn uniform costing and inter firm comparison with advantages and disadvantages.

III SEMESTER M.COM
Course Outcomes (Cos)
Course Title: Strategic Cost Management -I
Course Code: 3.4

CO 1	Students will study the elements on business enterprise importance of cost elements, cost control, cost reduction, meaning process methods and techniques of cost control and cost management
CO 2	Students will study strategic cost and performance evaluation, SCM issues in different elements of cost.
CO 3	Students will study in depth on activity based costing system in both traditional methods and ABC methods.
CO 4	Students will study the meaning factors affecting life cycle costing, product life cycle phases, experience curve in product life cycle.
CO 5	Students will study the methodology features in implementing just in time , kaizen concept costing procedure for implementing evaluation of benefits of costing

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III SEMESTER M.COM
Course Outcomes (Cos)
Course Title: Direct Tax & Planning
Course Code: 3.5

CO 1	Understanding Basic frame work of direct taxation. Student will be able to differentiate between Tax planning , Tax Avoidance, Tax Evasion and Tax Management
CO 2	Students will be able to analyze and calculate taxing business income of companies after considering various allowances and disallowances and depreciation
CO 3	Enabling students to compute taxable income of companies set off and carry forward of losses
CO 4	Understanding how tax planning done with respect to amalgamation and mergers, multinational companies , double taxation treaties, joint ventures and foreign collaborations and Transfer pricing
CO 5	Understanding procedure for assessment, deduction of tax at source, advance payment of tax, refunds and appeals.
CO 6	Enabling students to understand Wealth tax Planning.

III SEMESTER M.COM
Course Outcomes (Cos)
ELECTIVE-II FINANCE AND BANKING
Course Title: Business Ethics and Corporate Governance
Course Code: 3.1

CO 1	Understanding the basic concept of business ethics
CO 2	Enabling students to know the ethical theory's and corporate social responsibilities
CO 3	Understanding the concept of ethics in marketing, and finance
CO 4	Exposing the students to understanding the ethics in HRM and information technology.
CO 5	Enabling students to know the concept of corporate governance.

III SEMESTER M.COM
Course Outcomes (Cos)
Course Title: Financial Markets
Course Code: 3.2

CO1	Get to know the concept of primary and secondary data and methods of selling securities.
CO2	Understand the concept of public issues and management.
CO3	Understand the concept of stock exchange.
CO4	Get to know about the international financial elements.

III SEMISTER M.COM
Course Outcomes (Cos)
Course Title: Financial Services
Course Code: 3.3

CO1	Understands about the concept of modern activities in financial service.
CO2	Get to know the importance of leasing and cross border leasing.
CO3	Understand the concept of consumer finance.
CO4	Get knowledge on credit rating concept and mutual funds.
CO5	Understands the concept of securitization and depositary service.

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III SEMISTER M.COM
Course Outcomes (Cos)
Course Title: Securities Analysis
Course Code: 3.4

CO 1	Understands about the security return risk, systematic and unsystematic risk.
CO 2	Understands about risk and return analysis, different types of risk, and to know how to minimize risk explosive and Different risk measurement.
CO 3	Students to get to know about fixed income securities like bonds, preference shares, valuation, and duration of bonds and theory of interest rates.
CO 4	The students will analyze of variable income securities, fundamental analysis of the company, company analysis of financial and non-financial and about option, futures, forwards and warrants.
CO 5	Students will study about technical analysis of down theory, hypothesis, tax aspects of investment and mainly the critical survey of software packages for security analysis.

III SEMISTER M.COM
Course Outcomes (Cos)
Course Title: Portfolio Management
Course Code: 3.5

CO 1	Students will get to know about portfolio management process and why the portfolios are for.
CO 2	Students will analyze about Markowitz Model and Sharps index model and optimal portfolio capital asset pricing model.
CO 3	Students will study about bond portfolio management strategies, equity portfolio management strategies and other strategies using derivatives.
CO 4	Get to know about credit derivatives, random walk theory and forms of efficient market theories.
CO 5	Understands about investor life cycle, personal finance, portfolio management of funds in banks, insurance companies, and pension funds and more over about international investing, international funds management and emerging opportunities.

IV SEMESTER M.COM
COURSE OUTCOMES (COS)
ELECTIVE-I ACCOUNTING AND TAXATION
Course Title: Commodity Markets
Course Code: 4.1

CO1	Get the depth knowledge on global and domestic commodities markets, and various exchanges in India and there importance.
CO2	Know the concept of quality assurance and methods of quality assurance. Techniques used for quality assurance.
CO3	Understands meaning of commodity derivatives, evaluation of commodity and types of derivatives.
CO4	Know about warehousing and there importance in India. Risk involved in storage and types of warehouses. Commodity exchange boards in India and there importance. Clearing and settlement process on commodity exchange.
CO5	Understands about regulatory framework and essential commodity acts. Various boards for commodities.

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IV SEMESTER M.COM
Course Outcomes (Cos)
Course Title: Corporate Reporting Practices and IND AS
Course Code: 4.2.

CO1	Understands about the concept of GAAP, key issues in implementing, and list of accounting standards.
CO2	Get to know the merger, acquisition, re-structuring and de-merger,
CO3	Understands importance of group financial statements, and purpose of financial statements.
CO4	Get knowledge on cash and fund flow statements, joint venture
CO5	Understands the concept of agriculture insurance contract and regulatory deferral account

IV SEMESTER M.COM
Course Outcomes (Cos)
Course Title: Strategic Cost Management -II
Course Code: 4.3

CO 1	Students will study the concepts of pricing strategies, policies, process, rules and methods.
CO 2	Students will study in depth about transfer pricing, its objectives, applications methods, cost based, market price based and negotiated pricing.
CO 3	Understands concept of learning curve, phases, applications and factors affecting learning curve.
CO 4	The students will study in depth of quality cost, cost of conformance, prevention cost, appraisal cost, optimization of quality cost, TQM core concepts, stages, principles, control corrective action.
CO 5	The students will come to know about balanced scorecard and benchmarking, its drawback of traditional financial measures, attributes to good performance to measurement system

IV SEMESTER M.COM
Course Outcomes (Cos)
Course Title: Goods and Services Taxes
Course Code: 4.4

CO1	Understands about the GST features, objectives, GST council.
CO2	Get to know the importance of levy under GST, SGST, CGST, and IGST.
CO3	Get the knowledge on input tax credit
CO4	Get the knowledge on assessment and returns, GST eco-system

IV SEMESTER M.COM
COURSE OUTCOMES (COS)
ELECTIVE-II FINANCE AND BANKING
Course Title: Commodity Markets
Course Code: 4.1

CO1	Get the depth knowledge on global and domestic commodities markets, and various exchanges in India and there importance.
CO2	Know the concept of quality assurance and methods of quality assurance. Techniques used for quality assurance.
CO3	Understands meaning of commodity derivatives, evaluation of commodity and types of derivatives.
CO4	Know about warehousing and there importance in India. Risk involved in storage and types of warehouses. Commodity exchange boards in India and there importance. Clearing and settlement process on commodity exchange.
CO5	Understands about regulatory framework and essential commodity acts. Various boards for commodities.

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IV SEMESTER M.COM
COURSE OUTCOME
Course Title: Forex Management
Course Code: 4.2

CO1	Get depth knowledge on the theoretical aspect of foreign Exchange market.
CO2	Understands about the importance of currency and interest rate futures, contracts and trading markets.
CO3	Understanding about the Exchange rate determination and forecasting.
CO4	Get knowledge on concept of foreign exchange risk management.
CO5	Understands about the exposures on management of interest rates.

IV SEMESTER M.COM
COURSE OUTCOME
Course Title: International Financial Institutions and Markets
Course Code: 4.3

CO 1	Student will be able to analyze the basic terms Global financial markets.
CO 2	Understanding the general and special relationship between the international money markets and capital markets.
CO 3	Understanding the concepts of international equity markets and international banking and services.
CO 4	Enables the Students to learn financial intermediation and overview of typical transaction.

IV SEMESTER M.COM
COURSE OUTCOME
Course Title: Banking Operations and Management
Course Code: 4.4

CO1	To enable the students to understand the regulatory policies influencing bank operations
CO2	Enabling the students to know the resource mobilization and management of NRI funds
CO3	Preparing the students to get familiarize with the asset management and investment management.
CO4	Enabling the students to understand the concepts of monitoring and follow-up such and IRAC norms, Non-Performing assets and Securitization Act
CO5	To familiarize the students with general concepts of financing imports and exports, e-Banking, payment systems etc...

ELECTIVE

Course Title: Cyber Space

Co 1	Understanding cyber space and the basics of computer network and internet.
Co 2	Being aware of the good, bad and the ugly sides of social media in cyber space.
Co 3	Grasping knowledge of the e-commerce, its advantages.
Co 4	Having a brief knowledge of the current status e-governance in India and the challenges it faces.
Co 5	Understanding the IT amended ACT of India and its features.

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I SEMESTER MFA
Course Outcomes (Cos)
Course Title: Accounting Conventions And Standards
Course Code 1.1

CO 1	Enable the students to understand the basic concepts of Accounting standards.
CO 2	Understand the concept of standard setting process across different countries and its difficulties.
CO 3	The students will study about international accounting standards.
CO 4	Enables the students to understand the disclosure of accounting policies.

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I SEMESTER MFA
Course Outcomes (Cos)
Course Title: Managing People in Organizations
Course Code: 1.2

CO1	To know the basic concepts of management and its principles.
CO2	To know about human resource management and planning.
CO3	Enable the students to know about understanding people such as individual behavior, perception, attitude, values etc..
CO4	Analyze integration about group dynamics.
CO5	Enable the students to understand the Organizational designs, culture, change and development

I SEMESTER MFA
Course Outcomes (Cos)
Course Title: Micro And Macroeconomics For Business Decisions
Course Code: 1.3

A) MICRO ECONOMICS:

CO 1	Student will be able to learn basics of Demand
CO 2	Enable the Student to get conceptual knowledge about production function.
CO 3	Enable the students to know the Cost functions.
CO 4	Enable the students to gain knowledge about price discriminations.

A) MACRO ECONOMICS:

CO 1	To orient the students on Fiscal Policy.
CO 2	Enable the Students to get conceptual knowledge on Monetary Policy.

I SEMESTER MFA
Course Outcomes (Cos)
Course Title: Managerial Finance
Course Code : 1.4

CO1	To give an insight into concepts of finance function and SEBI guidelines.
CO2	To make the students to analyze about financing decisions and Dividend decision..
CO	To empower the students to effective formulate and implement the Investment Decision.
CO4	To orient the students on Working Capital Management.
CO5	Enabling the students to understand the Corporate financial policy, shareholder value creation, interface of financial policy and strategic management and final goal systems.

I SEMESTER MFA
Course Outcomes (Cos)
Course Title : QT For Accounting And Finance
Course Code: 1.5

CO1	Analysis and various approaches used in Geometric progression.
CO2	Enable the students to understand the concept of probability.
CO3	To empower the students to effective formulate and implement the network analysis, PERT, CPM and inventory models.
CO4	Enabling the students to enter into a world of decision making under uncertainty.

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I SEMESTER MFA

Course Outcomes (Cos)

Course Title: Financial Markets And Services

Course Code: 1.6

CO1	Enable the students to understand the concept of financial system.
CO2	Get knowledge on financial markets.
CO3	To empower the students to understand about financial services.
CO4	Understands the concepts of Regulatory framework for financial markets and institutions.
CO5	Enable the students to enter into a world to understand the Role of financial system.

I SEMESTER MFA

Course Outcomes (Cos)

Course Title: Business Legal Systems

Course Code: 1.7

C01	Understand the basic concepts of Law and Indian constitution.
C02	Enable the students to enter into a world of corporate Laws.
C03	To know the effectiveness of Law relating to finance.
C04	Enables the students to understand intangible aspects of property.
C05	Inculcating the activities of various environmental Laws.

II SEMESTER MFA

Course Outcome(Cos)

Course Title: Contemporary Issues In Accounting

COURSE CODE: 2.1

CO 1	Enable the students to understand the basic concepts of financial reporting.
CO 2	Understand the concept of corporate social responsibility accounting.
CO 3	Enable the students to know the human resource measurement.
CO 4	Enables the students to understand the accounting for changing prices.
CO5	To give an insight information about accounting for intangibles and Pension costs accounting.

II SEMESTER MFA

Course Outcomes (Cos)

Course Title: Information Technology For Accounting And Finance

Course Code: 2.2

CO1	To give an insight into meaning of Information system and their role in business.
CO2	To make the students aware about IT governance and its models.
CO3	To describe the overview of specific IT Act 2008 ,Cyber fraud and its offence.
CO4	To orient the students on Data base Management System and the quires in DBMS.
CO5	Enabling the students to understand and prepare various types of charts ,statistical functions and financial functions .

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II SEMESTER MFA

Course Outcomes (Cos)

Course Title: Direct Taxes Planning

Course Code: 2.3

CO 1	Understanding Basic frame work of direct taxation. Student will be able to learn the principles of direct taxation.
CO 2	Students will be able to analyze and calculate taxing business income of companies after considering various allowances and disallowances and depreciation
CO 3	Enabling students to compute taxable income of companies set off and carry forward of losses
CO 4	Understanding how tax planning done with respect to amalgamation and mergers, multinational companies , double taxation treaties, joint ventures and foreign collaborations and Transfer pricing
CO 5	Understanding procedure for assessment, deduction of tax at source, advance payment of tax, refunds and appeals.
CO 6	Enabling students to understand Wealth tax for companies.

II SEMESTER MFA
Course Outcomes (Cos)
Course Title: Security Analysis And Portfolio Management
Course Code: 2.4

CO 1	Understands about basic concepts of investment management.
CO 2	Understands about valuation of securities.
CO 3	The students will analyze of variable income securities, fundamental analysis of the company, company analysis and evaluation of industry life cycle theory.
CO 5	Students will study about various portfolio theory.
CO6	Enables to analyze the various alternative investments, hedging and arbitrage pricing theories, financial features, international portfolio management and emerging opportunities.

II SEMESTER MFA
Course Outcomes (Cos)
Course Title: Strategic Cost and Management Accounting
Course Code: 2.5

CO 1	Students will study the elements on business enterprise importance of cost elements, cost control, cost reduction, meaning process methods and techniques of cost control and cost management
CO 2	Students will study strategic cost and performance evaluation, SCM issues in different elements of cost.
CO 3	Students will study in depth on activity based costing system in both traditional methods and ABC methods.
CO 4	Students will study the pricing decisions, product profitability decisions and cost management.
CO 5	Students will study the meaning factors affecting life cycle costing, product life cycle phases, experience curve in product life cycle and methodology features in implementing just in time costing value chain analysis and TQM.

II SEMESTER MFA
Course Outcomes (Cos)
Course Title : Asset liability Management in banks
Course Code: 2.6

CO1	Get the in depth knowledge on Emerging scenario's in banking industry.
CO2	Understand about the types of risk or anatomy of risk in banks.
CO3	Understands the importance of measuring and monitoring risk.
CO4	Enables the student to understand the Relevance and ALM practicality in Indian banking scenario.
CO5	Understands about the importance of funds transfer pricing and performance measurement.

II SEMESTER MFA
Course Outcomes (Cos)
Course Title: Business Research Methods
Course Code: 2.7

CO1	Get in depth knowledge on the concept of Research and Business Research.
CO2	Understands about the concept of Research design and selection and formulation of research problems..
CO3	Understands about the data, sources of data and interpretation.
CO4	Get knowledge on concept of data analysis and report writing.

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III SEMESTER M.F.A
Course Outcomes (Cos)
Course Title: Business Ethics and Corporate Governance
Course Code: 3.1

CO 1	Exposing the students to understand the basic concept of ethics in business.
CO 2	Enabling students to know the ethical theories and corporate social responsibilities
CO 3	Understanding the concept of ethics in marketing and ethics in finance
CO 4	Exposing the students to understand the ethics in Human resource management and information technology.
CO 5	Enabling students to know the concept of corporate governance and its importance.

III SEMESTER M.F.A
Course Outcomes (Cos)
Course Title: Goods and Service Taxes
Course Code: 3.2

CO1	Enabling students to know the concept of special features of indirect tax levied and contribution to government revenues.
CO2	Get to know the central excise and salt act 1944,clearance and excisable goods, CENVAT, CENVAT on capital goods and tariff act 68.
CO3	Get the knowledge on Customs act 1962, Custom duties and its drawbacks
CO4	Exposing the students to understand central sales Tax Act 1956, person who is liable to pay CST and its exemptions also the basic concepts of VAT
CO5	Enabling students to know the concept of GST.

III SEMESTER M.F.A
COURSE OUTCOME
Course Title: Forex and Derivatives
Course Code: 3.3

CO1	Get depth knowledge on the theoretical aspect of foreign Exchange market.
CO2	Understands about the importance of currency and interest rate futures, contracts and trading markets
CO3	Get knowledge on concept of foreign exchange risk management.
CO4	Understanding about the interest rate exposure determination and forecasting.
CO5	Enabling students to know the concept of Derivatives and the evolution and the role of derivatives market.

III SEMESTER M.F.A
Course Outcomes (Cos)
Course Title: Risk Management
Course Code: 3.4

CO1	Analysis of Risk and Insurance in order to avoid risk using various techniques
CO2	Enabling students to know the concept of Life insurance products and non life insurance products.
CO3	Evaluation of deep understanding among the students about underwriting, insurance documents and servicing of policies.
CO4	Enabling the students to enter into a world of IRDA journal and Annual reports.

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III SEMESTER M.F.A
Course Outcomes (Cos)
Course Title: Advanced E -Business
Course Code: 3.5

CO1	Understands about concepts ad threats in e-business.
CO2	Get knowledge on overview of electronic payment system and secure electronic transactions (SET) protocol.
CO3	Enables the students to understand in detail about the concept of mobile commerce.
CO4	Enables the students to Understand the concept of mobile communication network and framework of M-Commerce.
CO5	Enables a student to enter into world of mobile banking as well as finance and accounting mobile apps.

III SEMESTER M.F.A
Course Outcomes (Cos)
OPEN ELECTIVE
Course Title: Income Tax
Course Code: 3.6 a.

CO1	Enables the students to understand in detail about the basic concepts and introduction to Income Tax and income tax authorities..
CO2	Get knowledge on overview analysis of income from salary.
CO3	Enables the students to get in depth knowledge on income from the house property.
CO4	Enables the students to enter into the world of knowledge about the analysis of computation of total income.

III SEMESTER M.F.A
Course Outcomes (Cos)
OPEN ELECTIVE
Course Title: Finance and Banking
Course Code: 3.6 b.

CO1	Enables the students to understand in detail about the basic concepts of financial markets.
CO2	Enables the students to get in depth knowledge on commodity markets.
CO3	Enables the students to get in depth knowledge on functions and types of banks and its procedure as well as role of Reserve bank of India.
CO4	Enables the students to enter into the world of knowledge about the negotiable instruments such as cheque.

IV SEMESTER M.F.A
Course Outcomes (Cos)
Course Title: Strategic Management
Course Code: 4.1

CO 1	Enables the students to understand the concept of strategic management and its process.
CO 2	Students will study the industry and competitive analysis.
CO 3	Students will study in depth on grand strategy and case work with current examples.
CO 4	Enables the students to learn strategies for competing domestic and global business as well as factors determining strategic choice.
CO 5	Enables the students to enter into the world of strategy implementation and evaluation.

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IV SEMESTER M.F.A
Course Outcomes (Cos)
Course Title: International Accounting
Course Code: 4.2

CO1	Get to know the concept of international accounting and its need in the context of increasing complexity and volume of transactions.
CO2	Enables the student to understand the financial reporting in US, UK, Australia, France, Germany, Netherlands and Japan.
CO3	Enables the student to understand the special issues in international accounting.
CO4	Get to know about the International financial statement analysis.
CO5	Enables the students to get into a world of knowing an overview of IFRS and GAAP.

IV SEMESTER M.F.A
Course Outcomes (Cos)
Course Title: International Financial Management.
Course Code: 4.3

CO1	Enables the students to know the finance function in global context.
CO2	Enables the students to understand the international financial markets and instruments.
CO3	Familiarize students with the cost of capital and capital structure of multinational firms and multinational capital budgeting.
CO4	Demonstrate an integration, understanding the international working capital management.
CO5	Analyze and evaluate international project finance.

SEMESTER M.F.A
Course Outcomes (Cos)
Course Title: Strategic Financial Management
Course Code: 4.4

CO1	Understands about the meaning of strategic financial management and framework of strategic decision making framework.
CO2	Know the concept of project management from financial perspective.
CO3	Enables the students to understand the concept of corporate valuation.
CO4	Enables the students to get an knowledge about the mergers and acquisition ad corporate restructuring.
CO5	Enables the students to get into the world of gaining knowledge about corporate governance and risk management.

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VI SEMESTER B.COM
Course Outcomes (Cos)
Course Title: Performance Management
Course Code : F.N. 6.5

CO1	To enable the students in understanding the various modern techniques of costing.
CO2	To be able to analyze and evaluate information for cost ascertainment, planning control and decision making
CO3	To develop knowledge and skills in application of management accounting techniques
CO4	It aims to help students to apply financial disciplines to the management of organizations as well as to set up and operate budgetary control system
CO5	Design an organization performance management process that is compliant with law and support organization mission and vision strategy

VI B.COM
COURSE OUTCOME
Course Title: International Auditing And Assurance
COURSE CODE: F.N.6.6

CO 1	Students will study about modified framework and regulations. External audit engagement element of assurance engagement, regulatory environment, statutory regulations-appointments, rights removal and resignation of auditors.
CO 2	Students will know about the objectives of the auditors, materiality level, analytical procedures of planning and audit documentation.
CO 3	Understands concept of internal control, control procedures, payroll system and inventory system.
CO 4	Gets the information about audit procedures to obtain audit evidence, quality and quantity of audit evidence and audit specific items like receivables, tangible assets, intangible assets, audit techniques.
CO 5	The students will study the responsibilities and procedure to be undertaken for reviewing the reports with procedures and sufficiency of evidence

VI SEMESTER (B.COM)
Course Outcomes (Cos)
Course Title: Creativity And Innovations

CO1	To improve meta cognitive understanding of creativity and to raise creative consciousness and attitude among students
CO2	To enhance innovative capacity and innovation climate and to enable students to use basic theoretical tools that help analyze and manage real-world processes of innovation
CO3	To give insights on cave paintings, performing arts, contemporary art forms. Indian sculpture, folk arts. temple architecture to students

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M.Sc. Biotechnology

Course Outcomes (Cos)

I SEMESTER

Course Title: Cell Biology

Course Code:BTH-101

CO1	Recapitulate the previous knowledge of cell biology and to establish thorough understanding of structure, composition and organization of the Prokaryotic and Eukaryotic cell at molecular level, plasma membrane, Blood components and extracellular matrix
CO 2	Understand Cytoskeleton in detail and the structure of the cilia and flagella
CO3	Enable the students to understand Membrane transport system along with Membrane vesicular traffic
CO4	Students understand, process of cell signalling via different receptors along with cell junction
CO5	Explored knowledge of the molecular events involved in cell division which includes mitosis, meiosis and its regulation events along with Apoptosis and Necrosis
CO6	Acquire knowledge about structure and function of muscles along with mechanism of nerve transmission
CO7	Understand the effect of Free radicals at Molecular level and senescence and aging

M.Sc. Biotechnology

Course Outcomes (Cos)

I SEMESTER

Course Title: Molecular Genetics

Course Code: BTH-102

CO1	Will enhance the knowledge base about functional and structural organization of nucleic acid, recall the concepts of Mendelian Genetics
CO 2	Enable the students to understand the structure and types of Chromosome in detail. Clear the idea about Genes.
CO3	Acquired knowledge about Genetic Recombination and Enzymes involved, processes of Bacterial Recombination
CO4	Students will be imparted complete knowledge about Mutation, it's types and Detection
CO5	Provide the knowledge about sex determination an d dosage compensation in Drosophila and mammals.
CO6	Added the knowledge about the structure of population, understand Genome evolution and population variation

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M.Sc Biotechnology
Course Outcomes(Cos)
I SEMESTER
Course Title: General Microbiology
Course Code: BTH-103

CO1	Will aid students to acquire knowledge about three domain system classification, skills and competency in microbiological laboratory practices applicable to microbiological research or clinical methods, including accurately reporting observations and analysis.
CO2	Students will gain awareness about the prokaryotic microbes present in the environment and their impact.
CO3	Will provide knowledge about different types of bacteria, virus and fungi found in environment, their structure and reproduction
CO4	Students will get the knowledge about Acellular entities like Virus, Virioids and Prions. Their isolation, culture and multiplication.
CO5	Students will become familiar with Microbial Growth parameters- Physical and chemical, Measurements and control methods
CO6	Provides the student the knowledge pertaining to basic methods of isolation and cultivation of Microorganisms from water, soil air etc.

M.Sc Biotechnology
Course Outcomes(Cos)
I SEMESTER
Course Title: Biochemistry
Course Code: BTH-104

CO1	The students gain knowledge about the thermodynamic aspects of energetic in living system, apply and analyse the knowledge related to bioenergetics in living system.
CO2	Extend comprehensive knowledge about Oxidative Phosphorylation, Regulation, and ATP synthesis.
CO3	Demonstrate an understanding of carbohydrate metabolism. Select particular metabolic pathway involved in carbohydrate like Glycolysis, Glycogenesis, Glycogenolysis
CO4	Provides an understanding of classification, structure and properties of Amino Acids and Protein, metabolic pathway involved
CO5	Students will be imparted complete knowledge about structure and metabolism of bio molecule lipid.
CO6	The students will recall and enhance the knowledge about Nucleic Acids in detail-the structure, properties and metabolism along with biosynthesis of Purines and Pyrimidines.

M.Sc Biotechnology
Course Outcomes(Cos)
I SEMESTER
Course Title: Biostatistics
Course Code: BTH-105

CO1	Students will be provided the basic concepts and data types in statistic. Will understand how to utilize various tools of biostatics in interpretation of biological data.
CO2	Candidate will be introduced and made familiar with learnt the theories of probability distribution and various applications in Bio statistical programme.

M.Sc Biotechnology
Course Outcomes(Cos)
II SEMESTER
Course Title: Biochemical Techniques and Enzymology
Course Code: BTH-201

CO1	Students will get introduced and familiar with various biochemical and physical techniques eg. X-ray crystallography, Flame Photometry etc.
CO2	Students got the knowledge about HPLC, TLC which will be helpful for practical
CO3	The students will get to know principle behind Zone, Gel electrophoresis, SDS, PAGE
CO4	Student will learn the major classes of enzyme and their functions in the cell, properties of enzymes and regulation of biochemical pathways.
CO5	Expanded knowledge of Enzyme kinetics and Mechanism involved in Enzyme catalysis
CO6	Provided the details about structure and action mechanism of Coenzymes

M.Sc Biotechnology
Course Outcomes(Cos)
II SEMESTER
Course Title: Immunology and Immunotechnology
Course Code: BTH-202

CO1	The students will be able to recapitulate the previous knowledge of immunology and to establish thorough understanding of various structures& function at cellular and molecular level.
CO2	Students will be analysing the different molecules involved in immunology and complement system
CO3	Students understood the MHC and HLA system, genetic control of immune response and transplantation
CO4	Students were applied the knowledge of Hypersensitive Reactions- types, symptoms, Lymphokines and cytokines
CO5	Provided wider and global perspective of Autoimmune diseases with an ability to discriminate, evaluate, analyse and synthesise existing and new knowledge, and integration of the same for enhancement of knowledge.
CO6	Students will be able to use the techniques, skills, and modern tools necessary for imbalances in various life processes, design a molecular cell biology research project, collect and analyze data, and interpret results
CO7	Students were able to understand the implementation of Immunization and importance and will become aware about concept, synthesis and action mechanism of vaccines.

M.Sc. Biotechnology
Course Outcomes (Cos)
II SEMESTER
Course Title: Molecular Biology
Course Code: BTH-203

CO1	Students will enhance the knowledge base about functional and structural organization of nucleic acid and understand synthesis and functions of nucleic acids.
CO2	Students will be imparted complete knowledge about Prokaryotic DNA replication and different models of Replication
CO3	Study in depth complete process of Transcription, TFs, mechanism of splicing
CO4	Students will gain the knowledge of Translation, Protein synthesis and processing, post translational modifications of protein
CO5	Detail explanation of Gene regulation and expression
CO6	Students got familiar with the export of secretary proteins, signal and transport
CO7	Students will get the knowledge of types of DNA Damage and repair system
CO8	Detailed synopsis about Gene silencing , si RNA and mi RNA

M.Sc. Biotechnology
Course Outcomes(Cos)
II SEMESTER
Course Title: Environmental Biotechnology
Course Code: BTH-204

CO1	Students will get details about Renewable and Non-renewable resources of energy, different pollutions and Bio monitoring.
CO2	Get the knowledge of importance of water, water management and select the appropriate method for the treatment of wastewater and solid waste management
CO3	The candidate would possess knowledge about Bio mining and Biodiesel
CO4	Students will be able to learn to select and apply Suitable bioremediation methods for the treatment
CO5	Students gained the information about solid waste and Bio waste treatment, Biogas, Methanol production etc.
CO6	Provide information about Global environmental problems, impact and management. Biodiversity and Red Data Book.

M.Sc. Biotechnology
Course Outcomes(Cos)
II SEMESTER
Course Title: Bioinformatics
Course Code: BTH-205

CO1	Students will be introduced to computer software operating systems, UNIX along with Application software.
CO2	Explain the theoretical knowledge of Computer Network and Programming Language, database system and algorithms.
CO3	They demonstrated the handling of data using the software tools like Oracle.
CO4	Demonstrate concept about Biological database, regarding to sequence alignment, Restriction mapping etc.
CO5	Collect the proficient knowledge about the secondary, tertiary structure of protein, Modelling and Docking.

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M.Sc. Biotechnology
Course Outcomes (Cos)
III SEMESTER
Course Title: Plant and Agricultural Biotechnology
Course Code: BTH-301

CO1	Candidates will gain brief knowledge about Scope and Importance of plant tissue culture- Media composition, types and applications of plant tissue culture
CO2	Students could be able to understand Mechanism of DNA transfer – *Agro bacterium* mediated gene transfer, Ti and Ri plasmids as vectors.
CO3	Students will be able to understand Metabolic engineering of plants, Plant cell culture for the production of useful chemicals and secondary metabolites
CO4	Candidates are briefed about Plant growth regulators.
CO5	Students could be able to understand GM Technology: Crop improvement, productivity.
CO6	Could be able to understand Post-harvest technology: RNAi and antisense RNA technology for extending shelf life of fruits and flowers

M.Sc. Biotechnology
Course Outcomes(Cos)
III SEMESTER
Course Title: Animal Biotechnology
Course Code: BTH-302

C01	Briefed about Animal Cell Culture: Introduction, cell culture laboratory-design , Culture and maintenance.
C02	Students could able to understand Stem cells and Tissue Engineering: Scope, embryonic and adult stem cells, properties, identification.
C03	Students able to understand Transgenic Animals and Animal cloning: Methods involved in the production of transgenic
C04	Candidates are briefed about Improvement of biomass, disease resistant, Recombinant vaccines for poultry, live stock-pharming products.
C05	Students could be able to understand Bioethics in Biodiversity, ethics of resource management, impact of patenting on biodiversity rich developing countries.
C06	Could be able to understand The Cartagena protocol on biosafety. Biosafety management.

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M.Sc. Biotechnology
Course Outcomes(Cos)
III SEMESTER
Course Title: Genetic Engineering
Course Code: BTH-303

C01	Briefed about Introduction to Genetic Engineering:Scope and importance.
C02	Students could able to understand Tools of Gentic Engineering: Enzymes; Non-specific endo &exo nucleases, DNase, RNase.
C03	Students able to understand Gene Cloning Strategies and Construction of Gene Libraries Selection, screening and analysis of recombinants
C04	Candidates are briefed about Transformation Techniques.
C05	Students could be able to understand Labelling and Detection Techniques
C06	Could be able to understand Chemical Synthesis of Genes and PCR.

M.Sc. Biotechnology
Course Outcomes(Cos)
III SEMESTER
Course Title: Open Elective: Applied Biotechnology
Course Code: BTH-304

C01	Briefed about Introduction: Scope and importance of bioprocess engineering technology
C02	Students could able to understand Plant tissue culture, micropropagation, transgenic plants, crop improvement
C03	Students able to understand Animal cell culture, stem cells and tissue engineering, transgenic animals, IVF technology
C04	Candidates are briefed about Microbial diseases of humans.
C05	Students could be able to Environmental Biotechnology Pollution : Air, water, soil , Bio-indicators, waste water management.
C06	Could be able to understand Nano biotechnology: Introduction, types, DNA, protein based applications.
C07	Candidates could be able to understand IPR, patenting of biotech products

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M.Sc. Biotechnology
Course Outcomes(Cos)
IV SEMESTER
Course Title: Bioprocess Engineering
Course Code: BTH-401

C01	Briefed about Introduction ,Scope and importance of bioprocess engineering technology, development
C02	Students could able to understand Typical structure of advanced Bioreactor and their working mechanism
C03	Fermentation media and Fermentation Process
C04	Students are able understand Cell disruption, precipitation methods, solid-liquid separation.
C05	Students could be able to understand Immobilization and Biotransformation
C06	Could be able to understand Production of Industrially important products.
C07	Students could be able to develop Intellectual Property Rights (IPRs) and Entrepreneurship

M.Sc. Biotechnology
Course Outcomes(Cos)
IV SEMESTER
Course Title: Medical Biotechnology
Course Code: BTH-402

C01	Briefed about Microbial Diseases of Humans
C02	Students could able to understand Cancer Biology: Tumors, types of tumors, pre-disposing factors, cellular changes involved in tumor formation,
C03	Students are able understand Symptoms and treatment of the Genetically inherited diseases
C04	Students could be able to understand Evaluation of organ functions
C05	Could be able to understand Molecular therapeutics: Drugs, drug receptors, Relationship between drug concentration
C06	Could be able to understand Introduction, conventional drug design approaches.
C07	Students could be able to do Clinical Research

M.Sc. Biotechnology
Course Outcomes(Cos)
IV SEMESTER
Course Title: Genomics and Proteomics
Course Code: BTH-403

C01	Briefed about Concept of genomics, structural genomics, Functional Genomics
C02	Students could able to understand Genome sequencing, Fluorescence method, automated sequencing
C03	Students are able understand Genome Analysis, Genome Organization and Structure
C04	Students could be able to understand Functional and Comparative Genomics
C05	Could be able to understand Expression analysis and characterization of proteins-separation of proteins
C06	Could be able to understand Concepts, Levels of metabolite analysis, metabolomics in humans, sample selection and handling.

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M.Sc Microbiology
Course out come
FIRST SEMESTER (2019)
SUBJECT-MICROBIOLOGY
Course title: MBH-101
Bacteriology and virology

CO1	It gave the brief insight about prokaryotes, their classification, nomenclature, serology, phylogenetic analysis
CO 2	Understood the ultra structure of the prokaryotes , with special emphasise on Cyanobacteria
CO3	Enable the students to understand morphological characteristics of different bacteria.
CO4	It help the students to know , what type of media to be used and how to cultivate the microorganisum
CO5	It gave the introduction about the virus, prions their ultra structure, classification and genetic makeup of these gave a
CO6	It brief idea, how to cultivate the virus and other microorganisms in cell culture.

Course title: MBH-102
EUKARYOTIC MICROBIOLOGY

CO1	It gave the brief introduction about various type of protozoa
CO 2	Enable the students to understand morphological characteristics, way of isolation, cultivation, media used for their growth and their symbiotic association with other micro organism and their reproduction.
CO3	They gained the knowledge about primary producers and their commercial application
CO4	Students gained the knowledge about structure of fungi, mechanism of growth , their nutritional requirement and phylogeny of fungi
CO5	Students got the idea , how to classify the fungi according to their class and order
CO6	It help to understand and gain knowledge about the diversity of fungi in the ecosystem

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M.Sc Microbiology

Course out come

FIRST SEMESTER (2019)

Course title: MBH-103

MICROBIAL PHYSIOLOGY AND BIOCHEMISTRY

CO1	Students posses the knowledge about metabolic transport, how the microbes react during stress and mechanism of bioluminescence
CO2	Students gain the diverse knowledge about enzymatic action and how to apply Km and Vmax in practical studies
CO3	The candidate would able to understand the concepts of carbohydrates and list of studies about its bioenergetics and energy production
CO4	They possessed knowledge about classification and structure of saturated and unsaturated fatty acids and they could able to demonstrate the biosynthesise of fatty acids
CO5	The students could able to differentiate between nucleoside and nucleotides structure and function
CO6	They could able to understand the general aspects about amino acids metabolism and what the structural changes takes place in primary , secondary and tertiary organisation of proteins

M.Sc Microbiology

Course out come

FIRST SEMESTER

Course title: MBH-104

MICROBIAL AND BIOCHEMICAL TECHNIQUES

CO1	The candidate could ale to demonstrate the different method of isolation of microorganism and their maintenance and preservation
CO2	Students could able to differentiate and understand different working principle involved in microscopy and interrelationship between them
CO3	The candidate would possess knowledge about measurement of microbial growth and the ability to apply the same in practical.
CO4	They understood the use of metagenomic analysis and application of bioinformatics tools to study the genetic material of microorganisms
CO5	Could able to explain the principles and application of different types of chromatographical techniques in separation and purification of organic compounds and types of electrophoresis to identify the compound
CO6	The student could able to understand the concept of isotopes and their application in biomedical research and diagnosis field.

M.Sc Microbiology
Course out come
FIRST SEMESTER
Course title: MBH-105
Biostatistics

CO1	Students could able to understand the basic concepts and data types in statistic. They understood the application of this in handling the large data ; like segregating it , compair the different data to find the significant outcome of it
CO2	**Candidate learnt the theories of probability distribution and application of it** numerous day- to-day including in weather forecasts, different Strategies, microbial analysies and disease management.,

M.Sc Microbiology
Course out come
Second SEMESTER
Course title: MBH-201
MICROBIAL GENETICS

CO1	They understood , what is folded fiber model of prokaryotic genome
CO2	A brief account of eukaryotic genome, their cot curve and they could able to understand the Law of DNA constancy
CO3	The candidate would possess knowledge how the evolution has played a role in gene and mutation
CO4	Could able to describe the genetic recombination like homologous duplex, breakage and reunion of RecA gene. The role transformation and transduction in bacterial genetic map
CO5	They became familiar with some of the gene transfer mechanism like conjugation, transfection, their mechanism and application in analysies of bacteria , virus and yeat chromosomes.
CO6	The student could able to differentiate between different plasmids and life cycle of bacteriophage

M.Sc Microbiology
Course out come
Second SEMESTER
Course title: MBH-202, MICROBIAL AND BIOCHEMICAL TECHNIQUES

CO1	The candidate could ale to understand the concept of molecular biology, DNA structure and their function. They posses the knowledge about DNA damage and repair and their pathway
CO2	A general occurance of DNA replication in prokaryotes and virus and different model of replication
CO3	Students understood the different steps involved in transcription
CO4	They could able to understand the difference between translation of prokaryotes and eukaryotes
CO5	They could able to demonstrate the regulation of gene expression like operon , catabolic repression
CO6	The student could able to understand the concept of control of gene .expression in transcription and translation level

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M.Sc Microbiology
Course out come
Second SEMESTER
Course title: MBH-203, ENVIRONMENTAL MICROBIOLOGY

CO1	They understood , different layers of earth's atmosphere and the technique for assessment of air quality
CO2	A understoood the brief account different types acquatic environment , role of methanotrophs, and waste water treatment
CO3	The candidate would possess knowledge of interaction between biotic and abiotic community and role of microorganism in solid water treatment
CO4	Could able to describe the diversity in anoxic ecosystem
CO5	They became familiar with extermofiles like archea
CO6	The student could able to explain the role of microbes in biodegradation plastic, bioremediation

M.Sc Microbiology
Course out come
Second SEMESTER
Course title: MBH-204 , FOOD MICROBIOLOGY

CO1	A brief introduction about food , factors effecting the food spoilage, economic important microbes
CO2	A understood , source of food contamination, and how different types of food get spoiled and method of dedecting the spoilage of food
CO3	The candidate would possess knowledge different food born pathogen and its significance
CO4	They became familiar with principal of food preservation and biopreservation and how packing ,material and method increase the shelf life of the food
CO5	They understood the concept of SCP, SCO and how to ferment the food and types of fermented food.
CO6	They could able to demonstrate the good hygiene practices to control the food born pathogen

M.Sc Microbiology
Course out come
Second SEMESTER
Course title: MBH-205 , BIOINFORMATICS

CO1	A brief introduction about computer, UNIX, binary code
CO2	They could able to perform different language of computer
CO3	They demonstrated the handling of data using the software tools like Oracle.
CO4	They became familiar how to use different bioinformatics tool in finding the restriction sites
CO5	They understood the chemical bond , covalent bond and how to do evalution and validation

M.Sc Microbiology
Course out come
Third SEMESTER
Course title: MBH-301 , MEDICAL MICROBIOLOGY

CO1	A brief introduction about human normal microflora its significance
CO2	A understood , how a pathogen invade the host, how it get transmitted and a final note on communicable diseases
CO3	Candidate got familiar with different type of bacterial and protozoan diseases, their pathogenecity and diagnosics of diseases
CO4	They could able to identify the fungal diseases, their symptoms, diagnosis and treatment
CO5	They became aware of viral diseases their symptoms and diagnosis of diseases
CO6	They understand the concept of mechanismss of drug action

M.Sc Microbiology
Course out come
Third SEMESTER
Course title: MBH-302 , Recombinant DNA Technology

CO1	Candidate could able to analysies the difference between the difference tool of restriction enzyme , their action and significance in the field of biology
CO2	Students were able to understand the concept of cloning in expression in both prokaryotic and eukaryotic cell and their application part
CO3	They could able to understand and perform molecular technique like PCR, SDS, northern blot
CO4	They became aware of how to do sequencing of DNA and how to analysis of it
CO5	Student could able to understand the basic concept of synthesis of gene and their application in molecular field
CO6	They could able to demonstrate the application of rDNA technology in growing genetically modified food

M.Sc Microbiology
Course out come
Third SEMESTER
Course title: MBH-303 , Immunology

CO1	Understand the basic concept of immunology like Tcell, Bcell and cells of immune system etc
CO2	Enable the students to understand the structure, function and properties of antibody and antigen .
CO3	Students could able to demonstrate the various method of interaction of antigen and antibody and how these technique is useful in diagnosis and research field
CO4	They became aware of the hypersensitive reaction how to identify it in daily to day life
CO5	It provide an opportunity for the pupil to understand the MHC function and its major role in graft rejection and in case of tumor development
CO6	They understood the various mode of practice in preparing the vaccine and their application

M.Sc Microbiology
Course out come
Third SEMESTER
Course title: MBH-304 , Applied Microbiology

CO1	Students could able to understand the diversity of microbes indoor and outdoor and their technique to trap them
CO2	Appreciated the diversity of microbes in soil their isolation technique.
CO3	Understood the beneficial role of microbes in food industry and their principle of preserving it
CO4	Effect of microbes in dairy industry, how to preserve the milk, what are the microbial standard to assess the quality of the milk
CO5	It gave a conceptual basic in understanding the microbial pathogen. Role of a microbiologist diagnosis of the diseases by using various tool
CO6	A brief explanation about the introduction, scope of medical microbiology and production of economical imported plant

M.Sc Microbiology
Course out come
Fourth SEMESTER
Course title: MBH-401 , AGRICULTURAL MICROBIOLOGY

CO1	Students could able to understand the role of microbes in soil fertility and the decomposition of organic matter like cellulose and hemicellulose
CO2	Enable the students to appreciate to know the mechanism of nitrogen fixation and the molecular mechanism behind it .
CO3	The candidate could able to appreciate the different types of interaction between the microbes and how their interaction have a influence on plant
CO4	Effect of different types of microbes in adding fertility to the soil and their role as biopesticides which can overcome the effect chemicals
CO5	It gave a conceptual basic in understanding between the plant and pathogen interaction their mechanism in development of diseases and the resistance
CO6	A brief note on plant disease , what are their symptoms, etiology and control it

M.Sc Microbiology
Course out come
Fourth SEMESTER
Course title: MBH-402 , INDUSTRIAL MICROBIOLOGY

CO1	A brief introduction about use of microbes in industry and their application
CO2	Enable the students to understand the fermentation process ; the criteria required for the growth of microbes . The concepts of Newtoian to produce the continues culture
CO3	Candidate could able to understand the basic components used in fermentors , their working principles. the formula of media used in fermentors.
CO4	They understood the concept of SSF
CO5	It enable the students understand the objectives and criteria behind the downstream processing .
CO6	A brief note IPR , Patent and its importance. About theories of entrepreneurship and rules and regulation behind it

M.Sc Microbiology
Course out come
Fourth SEMESTER
Course title: MBH-403 , MICROBIAL BIOTECHNOLOGY

CO1	A brief introduction about the principal and application of biotechnology
CO2	Students appreciated the what are the commercial products obtained from the microbes
CO3	They could able to understand the how different enzyme produced in industries. Merits and demerits of immobilizing enzymes .
CO4	Students gained the knowledge about how genetic engineering help in production of sterols, glutathione etc
CO5	Enable the students to gain knowledge about nanotechnology and biomedical application of nanotechnology.
CO6	A brief note on bioethics and biosafety of GMOs , labelling of GM products , testing of drugs etc.

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B.Sc. Microbiology
Course out come
FIRST SEMESTER (2019)
Course title: MBT-101
BASIC MICROBIOLOGY

CO1	Students were able to understand the history of microbiology.
CO2	Insight on different instruments used in microbiology.
CO3	Principles of various instruments used in microbiology.
CO4	Students understood about stains & staining techniques.
CO5	Brief insight on sterilization techniques.
CO6	Brief insight on various antibiotics & their effects & chemotherapeutic agents.

B.Sc. Microbiology
Course out comes
SECOND SEMESTER (2019)
Course title: MBT-201
MICROBIAL TAXONOMY & CULTURE TECHNIQUES

CO1	Study of viruses, 3 domain classification, detailed study of bacteria& other microorganisms, archaea, fungi, protozoa.
CO2	Culturing of microorganisms, aerobic & anaerobic method.
CO3	Nutritional requirements, factors, multiplication of bacteria, counting of bacteria.

B.Sc. Microbiology
Course out come
THIRD SEMESTER (2019)
Course title: MBT-301
MICROBIAL PHYSIOLOGY&MICROBIAL GENETICS

CO1	It gives a brief insight on bio molecules, enzymes.
CO2	Bioenergetics, energy yielding processes, fermentation pathways
CO3	Photosynthesis in prokaryotes
CO4	Genomic organization in pro & eukaryotes,
CO5	Different types of DNA, super coiling, DNA replication
CO6	Genetic recombination methods,
CO7	Mutations, transposable elements.

B.Sc. Microbiology
Course out comes
FOURTH SEMESTER (2019)
Course title: MBT-401
MOLECULAR BIOLOGY & RECOMBINANT DNA TECHNOLOGY

CO1	It gives a brief insight on different types of RNA, protein synthesis in prokaryotes, gene structure & expression, regulation of gene expression.
CO2	Tools for RDT, gene cloning, vectors, ligation, screening & selection of recombinants.
CO3	invitro construction of r-DNA& transformation into host.
CO4	Molecular techniques.
CO5	Application of RDT.
CO6	Hazards & safe guards of genetic engineering.

B.Sc. Microbiology
Course out comes
FIFTH SEMESTER (2019)
Course title: MBT-501
AGRICULTURAL & ENVIRONMENTAL MICROBIOLOGY

CO1	Soil types, characters, microorganisms.
CO2	Interactions of plants & animals, types.
CO3	Biogeochemical cycles, bioleaching, biodegradation, biofertilizers, biopesticides.
CO4	Agricultural microorganisms, plant pathogens.
CO5	Atmospheric layers, air microflora, toxins. Control & management of air borne pathogens.
CO6	Techniques of trapping air borne microorganisms, biohazards in environment, allergy testing.
CO7	Aquatic microorganisms, BOD, MPN index.
CO8	Water purification methods.

B.Sc. Microbiology
Course out comes
FIFTH SEMESTER (2019)
Course title: MBT-503
FOOD & DAIRY MICROBIOLOGY

CO1	Sources of contamination of food, food spoilage & poisoning, food preservation.
CO2	Microbial examination of food.
CO3	Microorganisms as food.
CO4	Microbial types in milk.
CO5	Microbiological analysis of milk.
CO6	Preservation of milk & milk products.
CO7	Fermented milk & milk products
CO8	Genetic engineering & dairy industry.

B.Sc. Microbiology
Course out comes
SIXTH SEMESTER (2019)
Course title: MBT-601

IMMUNOLOGY & MEDICAL MICROBIOLOGY

CO1	History & scope of immunology, immunity.
CO2	Antigens, antigen antibody reactions.
CO3	Complement system, cells, tissues & organs in immune system.
CO4	Immune response, hypersensitivity.
CO5	Tissue transplantation, cancer, blood grouping.
CO6	Vaccines.
CO7	Developments in medical microbiology, microbial flora, pathogenic microorganisms.
CO8	Bacterial, viral, protozoan, fungal diseases.

B.Sc. Microbiology
Course out comes
SIXTH SEMESTER (2019)
Course title: MBT-602

INDUSTRIAL MICROBIOLOGY& MICROBIAL TECHNOLOGY

CO1	History & scope of industrial microbiology, isolation of industrially important microorganisms.
CO2	Strain improvement methods, fermentation processes.
CO3	Sterilization of media & raw materials, inoculum preparation.
CO4	Fermenters, down-stream processing.
CO5	Immobilization of enzymes & cells.
CO6	Chemical production, biofuel production.
CO7	Production of vaccines, biofertilizers, biopesticides.
CO8	Biotransformation of steroids, mushroom cultivation.

BANGALORE CITY COLLEGE B.SC BIOTECHNOLOGY
COURSE OUT COME -FIRST SEMESTER (2019)

COURSE TITLE: BTT-101(CELL BIOLOGY & GENETICS)

PART-A CELL BIOLOGY

CO1	It gave the brief insight about Discovery of cell , cell Theory and Ultra structure of an eukaryotic cell-(Both plant and animal cells)
CO 2	Understood the Structural organization and functions of plasma membrane and cell wall of eukaryotes.
CO3	Enable the students to understand the Structure and functions of cell organelles like Endoplasmic reticulum, Golgi complex, Mitochondria, Chloroplast, Ribosomes, Lysosomes, Peroxisomes, Nucleus (Nuclear envelope with nuclear pore complex, Nucleolus, Nucleoplasm and Chromatin)etc.
CO4	It help the students to know the Discovery, Morphology and structural organization of chromosomes ,special type chromosome, nucleosome model of DNA and also provides deep insight of Single-stranded and multi-stranded hypothesis, folded- fibre
CO5	It gave the introduction about the Cell Cycle and regulation, mitosis and meiosis.
CO6	It briefs about Cell Senescence and programmed cell death

PART-2 GENETICS

CO1	It gave the brief account on Structure of DNA and RNA
CO 2	Understood the Mendel's work, Laws of heredity, Test cross, Incomplete dominance and simple Problems.
CO3	Enable the students to understand the Interaction of Genes Supplementary factors, Complementary genes(Flower colour in sweet peas) ,Multiple factors (Skin colour in human beings), Epistasis (Plumage colour in poultry) and Multiple allelism
CO4	It help the students to know the Concept of allosomes and autosomes, XX- XY, XX-XO, ZW-ZZ, ZO-ZZ types
CO5	It gave the introduction about the concept of Linkage and Crossing Over
CO6	It briefs about Chromosomal variations like structural and numerical aberrations, and chromosomal evolution of wheat and cotton
CO7	It gave the deep insight on Cytoplasmic Inheritance and Plastid inheritance concepts
CO8	It summarised on concepts of Mutations, their types, significance and causes of mutation concept
Co9	It detailed on Human Genetics and inherited disorders

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COURSE TITLE: BTP-102(CELL BIOLOGY & GENETICS)

CO1	Students posses the knowledge about Use of Micrometer and calibration, and to examine onion epidermal cells and yeast
CO2	Students gain the diverse knowledge about Cell division, Mitotic and meiotic studies using grasshopper testes, onion root tips and flowerBuds
CO3	The candidate would able to understand the concepts of Chromosomes and how to perform mounting of polytene chromosomes
CO4	They learnt how to prepare buccal smear and examine it.
CO5	The students could able to understand Karyotype analysis in Human and Onion With the help of slides
CO6	They could able to understand simple genetic problems (Problems on Interaction of genes) and solve it
C07	They learnt how to perform Isolation of Mitochondria

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Course title: BTT-201

BTT 201- GENERAL MICROBIOLOGY AND BIOSTATISTICS PART A- GENERAL MICROBIOLOGY

CO1	It gave the brief introduction about Scope of Microbiology and contributions of microbiologist
CO 2	Enable the students to understand the Constructions and working principles of different types of microscopes like Compound,Dark field, Phase contrast, Fluorescence and Electron (Scanning and Transmission)
CO3	They gained the knowledge about microbial techniques like physical, chemical methods of sterilization
CO4	Students gained the knowledge about Microbial Taxonomy i.e to classify microbes in terms of morphology staining,and nutrition.
CO5	Students got the idea , about General Account of Viruses and Bacteria
CO6	It help to understand and gain knowledge about classifying algae and fungi
CO7	It details on bacterial and viral diseases of humans
CO8	It provides insight of Microbial Metabolism in terms of TCA cycle HMP pathway etc

PART- BIOSTATISTICS

CO1	It gave the brief account on Importance and application of Biostatistic
CO 2	Understood the Measures of Central Tendencies,their properties and to calculate Mean, Median, Mode
CO3	Enable the students to understand the Measures of Dispersion and to calculate Mean deviation, Variance, Standard deviation and Coefficient of Variation
CO4	It help the students to know the Concept of Hypothesis Testing(Student t and Chi-square test)
CO5	It gave the introduction about the concept of Linkage and Crossing Over
CO6	It briefs about Chromosomal variations like structural and numerical aberrations, and chromosomal evolution of wheat and cotton
CO7	It gave the deep insight on Cytoplasmic Inheritance and Plastid inheritance concepts
CO8	It summarised on Concepts and problems on probability, Binomial, Poisson, Normal Distribution and their applications

B.SC BIOTECHNOLOGY
COURSE OUT COME –SECOND SEMESTER (2019)

COURSE TITLE: BTP-202(GENERAL MICROBIOLOGY

CO1	The candidate could able to learn Safety measures and Cleaning ,sterilization techniques in microbiology laboratory
CO2	Students could able to differentiate and understand different instruments like Compound microscope, Autoclave, Hot air oven, PH meter, Laminar airflow and centrifuge
CO3	The candidate would possess knowledge about different Staining Techniques and how to perform it
CO4	They understood Media preparation of Nutrient agar, MRBA and Nutrient broth
CO5	Could able to perform the Isolation of bacteria and fungi from soil, air, and water by serial dilution method.
CO6	The student could able to understand the concept of Biochemical tests – and perform starch hydrolysis, catalase & gelatin liquefaction..
CO7	Study of Rhizobium from root nodules of legumes helped students to know about symbiotic relationship of microbes and plants,.
CO8	They were able to enumerate micro-organism with help of haemocytometer

B.SC BIOTECHNOLOGY

COURSE OUT COME –THIRD SEMESTER (2019)

COURSE TITLE: BTT-301(BIOCHEMISTRY AND BIOPHYSICS)

PART-A BIOCHEMISTRY

CO1	They understood , Classification and properties of Amino acids
CO2	A brief account of Proteins, Classification ,structure , functions, and structural organization of proteins (Primary, secondary, tertiary and quaternary structure)
CO3	The candidate would possess knowledge about Enzymes classification, and enzyme kinetics
CO4	Could able to describe the Carbohydrates Structure, properties and classification with examples.
CO5	They became familiar with lipids Structure, properties ,classification and functions.
CO6	The student could able to differentiate between Water Soluble and fat-soluble vitamins.
CO7	Deep insight on Hormones and mechanism of steroid hormone action

PART B- BIOPHYSICS

CO1	A general account on introduction and scope of biophysics was given
CO2	The candidate could able to understand the concept of pH and buffer
CO3	Students understood the different types of Chemical bonding
CO4	They could able to understand the difference between different Analytical techniques like Chromatography (Paper, thin – layer, column, GLC and HPLC) and Centrifugation (RPM and G, Ultra centrifugation)
CO5	They could able to learn Spectroscopic techniques in detail
CO6	The student could able to understand the importance of isotopes in biological studies

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BANGALORE CITY COLLEGE B.SC
BIOTECHNOLOGY
COURSE OUT COME –THIRD SEMESTER (2019) SUBJECT-
BIOTECHNOLOGY

COURSE TITLE: BTP-302(Biochemistry and Biophysics)

CO1	Students posses the knowledge about Preparation of Buffers-Citrate and Phosphate
CO2	Students gain the diverse knowledge about how to estimate reducing sugars colorimetrically by DNS and somoji method
CO3	The candidate would able to understand the concepts of chromatography and perform Separation of Sugars by TLC.
CO4	They learnt how to estimate Protein by Biuret method and Lowry's method
CO5	The students could able to understand enzyme activity of Amylase
CO6	They could able to estimate Amino acids by ninhydrin method
C07	They learnt how to perform estimation of inorganic phosphate by Subba row method

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BIOTECHNOLOGY
COURSE OUT COME –FOURTH SEMESTER (2019) SUBJECT-
BIOTECHNOLOGY
COURSE TITLE: BTT-401(MOLECULAR BIOLOGY)

CO 1	A brief introduction about Molecular basis of life
CO 2	They understood ,Structure and functions and typs of DNA , RNA deep insight on Watson and Crick model of DNA.
CO 3	Candidate got familiar with different type of Enzymes and proteins involved in replication of Prokaryotes and Eukaryotes
CO 4	They could able to account on Causes and mechanism involved in DNA Repair.
CO 5	They became aware of Transformation, Conjugation and Transduction kind of Recombination in prokaryotes
CO 6	They understand the concept of wobble hypothesis and detailed study on structure of Prokaryotic and Eukaryotic gene
CO 7	Candidate could able to analysies the difference between Transcription in Prokaryotes and Eukaryotes and all Mechanisms involved,
CO 8	Students were able to understand the concept of translation in prokaryotes and Eukaryotes, Post translational modification of Proteins.
CO 9	They could able to understand Regulation of Gene expression in Prokaryotes – Operan concept (Lac and Tryp) and Regulation of Gene expression in Eukaryotes – transcriptional activation, galactose metabolism in yeast.
CO10	They became aware of Gene organization and how genes are expressed in Mitochondria and chloroplasts
CO11	Student could able to understand the basic concept of .Insertional elements and transposons.

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BANGALORE CITY COLLEGE B.SC BIOTECHNOLOGY

COURSE OUT COME –FOURTH SEMESTER (2019) SUBJECT- BIOTECHNOLOGY

COURSE TITLE: BTP-401(MOLECULAR BIOLOGY

CO1	Candidate could able to learn Preparation of DNA model
CO2	Students were able to Estimate DNA by DPA method
CO3	They could able to perform estimation of RNA by Orcinol method
CO4	They became aware of Column chromatography and demonstrate gel filtration technique
CO5	Student could able to Extract and partial purify protein from plant source by Ammonium sulphate precipitation. And from animal source by organic solvents
CO6	They could able to demonstrate on- Conjugation, Transformation and Transduction
CO7	They could able to perform Protein separation by Polyacrylamide Gel Electrophoresis (PAGE)

B.SC BIOTECHNOLOGY

COURSE OUT COME -FIFTH SEMESTER (2019)

COURSE TITLE: BTT-501(Genetic Engineering & Environ Biotechnology)

CO 1	Understand the basic concept of Genetic Engineering
CO 2	Enable the students to understand about DNA manipulative enzymes and Gene cloning vectors
CO 3	Students could able to understand the construction of recombinant DNA molecules with help of plasmid vectors
CO 4	Detailed account on Transformation of r-DNA and its various methods used.
CO 5	It provide an opportunity for the pupil to understand the Screening and selection of recombinant host cells – Immunological screening and colony hybridization.
CO 6	They understood the concept of Gene Libraries – Genomic DNA and c DNA Cloning techiniques
CO7	Provides insight on how cloned DNA is expressed in E.coli
CO 8	Students could able to understand the Molecular biology techniques like Electrophoretic techniques –Proteins and nucleic acids , Polymerase chain reaction (PCR) , Site directed mutagenesis (SDM) etc
CO 9	Provides an account on application of r-DNA technique in human health

PART B- Environ Biotechnology

CO1	A brief introduction about Renewable and Non-Renewable resources of energy
CO2	They understood , Conventional fuels and their environmental impact – Firewood, Plant, Animal, Water, Coal and Gas
CO3	Candidate got familiar with Modern fuels and their environmental impact
CO4	They could able to account on Bioremediation importance
CO5	They became aware of how municipal waste and Industrial effluents are treated
CO6	They understand the Role of symbiotic and asymbiotic nitrogen fixing bacteria in the enrichment of soil Algal and fungal biofertilixers (VAM)
CO7	Candidate could able to analysies the Bioleaching process i.e Enrichment of ores by microorganisms (gold, copper, and Uranium)
CO8	Students were able to understand the concept of Environmental significance of Genetically modified microbes, plants and animals

COURSE TITLE BTT-503(Immunology & Animal Biotechnology)

CO1	Students could able to understand the History and scope of Immunology
CO2	Appreciated the Types of Immunity
CO3	Understood the Cell and oragns of immune reponses and their functions
CO4	Students gained knowledge on Antigens Types, haptens, epitopes and Factors influencing antigenicity.
CO5	It gave a conceptual basic in understanding Antibodies Structure, types, properties and functions of immunoglobulins. Production of antibodies.
CO6	A brief explanation about the introduction, Complement system Structure, Components, Properties and Functions
CO7	Provides insight on Antigen Antibody reaction Invitro tests – Precipitation, Immunoelectro-phoresis, Haemagglutination, Labelled antibody (RIA ELISA and Immuno-fluroscent techniques).
CO8	Students were able to understand about Hypersensitivity and Allergic reactions.
CO9	Students gained knowledge on Blood cell components, ABO blood grouping RH typing
CO10	Provides a insight on Vaccines and Immunization Passive and Active immunization.

PART B: ANIMAL BIOTECNOLOGY

CO1	A brief introduction about Scope of Animal Tissue Cultutre
CO2	They understood , Culture Media Simulating natural conditions for growth of animal cells
CO3	Candidate got familiar with Natural media –Plasma Clot, biological fluids tissue extract, Importance of Serumin media 2. Chemical defined media
CO4	They could able to account on Primary Culture and Secondary Culture
CO5	They became aware of transfection of animal cell lines. HAT selection, Selectable Makers and Transplantaion of Cultural Cells.
CO6	They understand the concept of Expression of Cloned proteins in animal
CO7	Candidate could able to analysies Production of Vaccines in animal Cells
CO8	Students were able to understand the Production and Applications of monoclonal antibodies
CO9	They could able to understand Growth factors – Promting proliferation of animal cells EGF, FGF, PDGF, IL-1, IL-2, NGF and Erythropoietin
CO10	They became aware of Transgenic Animals

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COURSE TITLE: BTP-503(Genetic Engineering & Environ. Biotechnology)

CO1	Students could able to understand the role of microbes in soil fertility and the decomposition of organic matter like cellulose and hemicelluloses
CO2	Enable the students to appreciate to know the mechanism of nitrogen fixation and the molecular mechanism behind it .
CO3	The candidate could able to appreciate the different types of interaction between the microbes and how their interaction have a influence on plant
CO4	Effect of different types of microbes in adding fertility to the soil and their role as biopesticides which can overcome the effect chemicals
CO5	It gave a conceptual basic in understanding between the plant and pathogen interaction their mechanism in development of diseases and the resistance
CO6	A brief note on plant disease , what are their symptoms, etiology and control it

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B.SC BIOTECHNOLOGY
COURSE OUT COME –SIXTH SEMESTER (2019)
COURSE TITLE: BTT-601(Plant Biotechnology)

CO1	A brief introduction about In-vitro Methods in plant tissue culture, Aseptic Techniques, Nutrient media, and use of growth regulators (Auxins, Cytokininis and Gibberellins).
CO2	Students appreciated In-Vitro fertilization – Ovary and Ovule culture
CO3	They could able to understand Clonal Propogation of elite species (Micro Propogation).
CO4	Students gained the knowledge about Organ Culture – Anther, Embryo and Endospearm culture and their applications Organogenesis and Somantic Embryogenesis – Techniques and applications
CO5	Enable the students to gain knowledge about Protoplast Culture – Isolation, regeneration and viability test, somantic hybridization, methods of protoplast fusion –chemical and electro fusion, practical application of somantic hybridization and cybridization
CO6	A brief note on Somaclonal Variation and their significance
CO7	Deep insight on In-Vitro production of secondary metabolites – Techniques and significance
CO8	Students learnt role of tissue culture in agriculture, horticulture and forestry
CO9	Brief note on Transgenic plants Technique of transformation – Agrobacterium mediated and physical nethods (Microprojectile and electroporation) Applications of transgenic plants.
CO10	Students gained knowledge on Edible Vaccines from plants – Banana, Watermelon
CO11	A brief note on Biotechnology and Intellectual property rights Patents, trade secrests, copyright, trademark, choice of Intellectual property (IPr) and plant genetic resomes (PGr) , GAA TRIPS

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COURSE TITLE: BTP-504(Immunology & Animal Biotechnology)

CO1	Candidate could able to Blood grouping
CO2	Students were able to perform Differential Count of WBC
CO3	They could able to perform Widal Test and VDRL
CO4	They became aware of Dot Elisa.
CO5	Student could able to demonstrate ELISA
CO6	They could able to perform Octerlouny Double diffusion (ODD)
CO7	They could able to perform Protein separation by Polyacrylamide Gel Electrophoresis (PAGE)
CO8	Enable the students to perform Isolation of liver parenchyma cells
CO9	Candidate could able to understand Rocket Eltrophoresis.
CO10	They understood the Separation of serum fromblood & precipitation of Immunoglobulins

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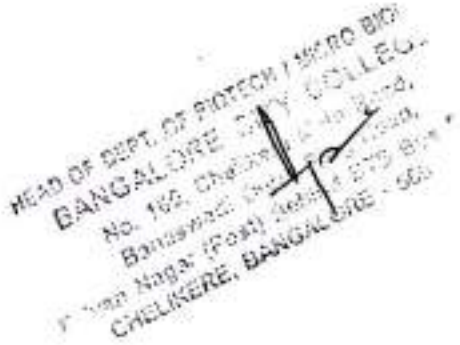
BANGALORE CITY COLLEGE B.SC BIOTECHNOLOGY
COURSE OUT COME –SIXTH SEMESTER (2019)
COURSE TITLE: BTP-603(Plant Biotechnology)

CO1	A brief introduction preparation of plant culture media – MS and White's medium
CO2	Students appreciated Production of Callus and suspension Culture
CO3	They could able to perform Plant Protoplast Isolation
CO4	Students gained the knowledge about Plant propogation through Tissue culture (shoot tip and Nodal culture)
CO5	Enable the students to gain knowledge Preparation of Synthesis seeds.
CO6	A brief note on Anther Culture



B.SC BIOTECHNOLOGY
COURSE OUT COME –SIXTH SEMESTER (2019)
COURSE TITLE: BTT-602(Industrial Biotechnology)

CO1	It gave the brief introduction about industrial Biotechnology, basis principles of fermentation technology 1
CO 2	Enable the students to understand the Screening and Isolation of Microorganisms, maintainance of strains improvement (Mutant selection, Recombinant DNA methods).
CO3	They gained the knowledge about Fermentation Media Natural and synthetic Media. Sterilization techniques – Heat, Radiation and Filtration method.
CO4	Students gained the knowledge about Fermenters
CO5	Students got the idea , about Type of Fermentations
CO6	It help to understand and gain knowledge about Process Development
CO7	It details on Production of Microbial products
CO8	It provides insight of Enzyme Biotechnogy
CO9	Detailed account on Fermented Foods
CO10	Students learnt about how Plant cell suspension culture for the production of food addictives – Saffom and Capasicin
CO11	Technique of mass culture of Algae – spirulina was detailed
CO12	Accounts on Microbial polysaccharides and polyesters; and production of xanthan gum and polyhydroxyalkonoides (PHA)

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B.SC BIOTECHNOLOGY

COURSE OUT COME –SIXTH SEMESTER (2019) SUBJECT- BIOTECHNOLOGY

COURSE TITLE: BTP-604(Industrial Biotechnology)

CO1	A brief introduction about Algal and fungal culture – Spirulina, Agaricus, Yeast and Apergillus
CO2	Students learnt estimation of citric acid from Aspergillus culture.
CO3	They could able to perform estimation of lactic acid and lactose.
CO4	Students gained the knowledge about how Immunobilization of yeast cells are carried out.
CO5	Enable the students to gain knowledge about Preparation of wine
CO6	A brief note on estimation of Alcohol by specific gravity method.
CO7	Students learnt how to perform Immobilisation of Enzymes – (Invertase can be obtained from yeast cells and observed for glucose production).

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