1.1.1 Programme Outcomes (PO), Programme Specific Outcomes (PSO) and Course Outcomes (CO) of all departments 2021-22

Index of Programme Outcomes

Dr. R. R. Kumbhar
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Kolhapur

Index of Programme Specific Outcomes (PSO) and Course Outcomes (CO)

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Kolhap

Programme Outcomes

From 2021-22 to 2023-24

Bachelor of Arts

After successful completion of the degree in Bachelor of Arts students will be able to:

PO1- Knowledge:

Possess and demonstrate the knowledge of basic concepts in Languages and Humanities.

PO2 - Science:

Process the concepts embedded in the subjects scientifically and methodologically.

PO3 - Skills, Employability & Problem Solving:

Pursue professional opportunities with the help of skills obtained and Tackle problems by applying the knowledge gained.

PO4 - Research & Innovation:

Develop research aptitude & innovations in their areas of interest.

PO5 - Social Accountability & Environmental Consciousness:

Cultivate social commitment, cultural & moral responsibility towards climate change and environmental sustainability.

Bachelor of Commerce

After successful completion of the degree in Bachelor of Commerce students will be able to

PO1- Knowledge:

Possess and demonstrate the knowledge of basic concepts in Commerce and management.

PO2- Science:

Process the concept incorporated in the various subjects related to Commerce and management scientifically and methodologically.

PO3 - Culture:

Nurture and promote the universal human values such as liberty, equality and fraternity and humanity.

PO4-Problem solving:

Resolve the problems of occurred in their field by applying the knowledge gained.

PO5-Skills and employability:

Develop professional skills to become employable.

PO6 - Research:

Build the research attitude to solve business problems.

PO7- Social Accountability

Create social responsibilities through various programmes and activities carried out in the college.

Bachelor of Science

After the successful completion of the B.Sc. degree, the students will be able to:

PO1 - Knowledge of Disciplines:

Demonstrate the fundamental practical and theoretical understanding and conceptual knowledge of all the disciplines in physical sciences prescribed.

PO2 - Problem solving skills:

Think and evaluate critically, analyze complex situations and provide solutions to problems using scientific methodology; thus relating the acquired knowledge to day-to-daylife.

PO3 - Research aptitude:

Cultivate a liking for research; and apply the related skills and scientific temper in order to carry out research work that benefits the surrounding community and industry.

PO4 - Professional and soft skills:

Function independently and collaboratively to achieve the work-place goals through successful relations and mannerisms.

PO5 - Environment and Sustainability:

Possess empathetic awareness towards environment and focus on sustainable social development while conducting research and scientific studies.

PO6 - Cultural ethics:

Act in ethically righteous manner in planning, conducting and communicating the research and always keep in mind the cultural ethos of our society.

PO7 - Citizenship:

Perform their roles as culturedandcivilized citizens possessing human values, creativity, positivity and engaged innation-building.

PROFESSIONAL PROGRAMMES

Bachelor of Computer Application

After completion of BCA the student can:

PO1 Understand the concepts of key areas in computerscience.

PO2 Obtain sound knowledge in the theory, principles and applications of computer systems.

PO3 Apply knowledge of mathematics, science, in the design and development of softwaresystems.

PO4 Develop practical skills to provide solutions to industry, society andbusiness.

PO5 Identify, formulate, review and analyze complex problems using various computer techniques.

PO6 Develop entrepreneurship skills amongst thestudents.

PO7 Enhances various managerial and accounting skills for betterprofessional opportunities.

PO8 Inculcate programming aspect amongst thestudents.

PO9 Acquire innovative knowledge; use them to develop software, and to understand the importance of lifelonglearning.

PO10 Develops communication skills and build confidence to face the challenges of the corporateworld.

PO11 Focuses on preparing student for roles pertaining to computer applications andIT industry.

PO12 Acquire ability to apply design and development principles in the construction of softwaresystem.

Bachelor of Science in Biotechnology
(Entire)

PO1 Graduates will gain and apply knowledge of Life sciences, to solve problems related to field ofBiotechnology.

PO2 Graduates will be able to identify, analyze and understand valid conclusions with basic knowledge of traditional subjects in the view of Biotechnology.

PO3 Graduates will be able to design and develop solution for environment & society issue.

PO4 Graduates will be able to decide and apply appropriate tools and techniques in biotechnology.

PO5 Graduates will be able to justify social, health, safety and legal issues and understand his responsibilities in biotechnologicalpractices.

PO6 Graduates will be able to understand the need and impact of Biotechnological solutions on environment and societal context keeping in view need for sustainable solution.

PO7 Graduates will have knowledge and understanding of related norms and ethics in Biotechnology.

PO8 Graduates will be able design, perform experiments, analyze and interpret data after investigating different scientificproblem.

PO9 Graduates will be able to demonstrate knowledge of project and finance management when dealing withBiotechnology.

PO10 Those with biotechnology degrees command a great deal of scientific researchfunding, as the ability to create new and more productive food sources is alwaysin demand.

Department of B.Sc. Computer Science
(Entire)

After completion of B.Sc.-Computer Science (Entire) the student can:

PO1 Graduate will learn fundamental concepts of computers, inputs, outputs and the principles of office automation, Networkbasics.

PO2 Graduate will develop logic for problem solving and know the basic structure of C, C++, C#, Java and HTMLlanguage.

PO3 Graduate will be able to construct simple mathematical proofs and possess the ability to verify them and have substantial experience to comprehend formal logic arguments.

PO4 Graduate will be able to apply principles and concepts of graph theory in practical situations and be able to model real world problems using graphtheory.

PO5 Graduate will understand the basic concepts of Abstract Data Types, Linear and Non-Linear Data structures and ability to choose appropriate data structures to represent data items in real world problems.

PO6 Graduate will have the underlying knowledge of working of operating system and Linux OS.

PO7 Graduate will able to obtain sound knowledge in the theory, principles and applications of computer systems.

PO8 Graduate will have an ability to use appropriate techniques, skills & tools necessary for computing practice.

PO9 Graduate will have an ability to apply knowledge of computing, mathematics, electronics and Statistics appropriate to thediscipline.

PO10 Graduate will have ability of problem analysis: Identify, formulate using principles of mathematics, electronics andstatistics.

PO11 Graduate will have knowledge of software development fundamentals, algorithms and complexity andE-Commerce.

PO12 The student can apply the knowledge they have gained to solve realproblems.

Bachelor of Business Administration

After completion of B.B.A. the student can:

PO1 Understand various concept, their relevance and practical application.

PO2 Apply their managerial capabilities like critical thinking, communication and problem-solvingskills.

PO3 Handle different professional and practical situations with ethical and legalsites.

PO4 Apply rational and creative problem-solving techniques at different level of management.

PO5 Develop appropriate decision-making models andforecasting.

PO6 Illustrate technological environment in modern organizationaloperations.

PO7 Use Research angle for data analysis and designstrategies.

PO8 Develop Leadership skills for effectivedealing.

PO9 Prepare to stand in society as a responsible citizen and find businessopportunities.

PO10 Analyze theoretical knowledge with the practical aspects of organizational setting andmanagement.

Bachelor of Vocation in Graphic Design

PO1	Students will be able to understand a Good Painting, Good Design and Good Photograph. Also able to make a Painting,Sketching.
PO2	Students will be able to understand software tools and techniques for Manipulations, Image Editing, Creating designs andlayouts.
PO3	Students will be able to understand various font styles, understandserif/non serif fonts and how to using fonts or manuscript in thedesign.
PO4	Students will be able to understand the Depth in design, Painting and Photograph.
PO5	Students will be able to develop concepts and provide design solutions in response to a given brief or end user of the companyproduct.
PO6	Students will be able to present a range of promotional material,using branding guidelines in support of a givenbrand.
PO7	Students will be able to read a famous logo and create a unique logoby following steps of Research, Mind Storming andSketching.
PO8	Students will be able to take a artistic photograph and professional image editing. In Indoor-Outdoor, Function, Industrial Area, Product, Wildlifeand Model.
PO9	Students will be able to create a Website Design, Mobile App Designand App\Website wireframedesign.
PO10	Students will be able to create conceptual solution for social andadvertising campaigning.
PO11	Students will understand awareness of the designer’s roles andresponsibilities and how to present themselves and their work within a commercial environment.

Bachelor of Vocation in Foundry Technology

PO1 Acquire in-depth knowledge of Materials so as to develop an ability to discriminate, evaluate, analyze and synthesize existing and futuristic needs in global perspective towards improvement of materials.

PO2 Critically analyze complex engineering problems related to Materials and apply independent judgment for synthesizing information to make intellectual and/or creative advances for conducting research in a wider theoretical, practical and policy context.

PO3 Think laterally and originally, conceptualize and solve engineering problems related to Materials to evaluate a wide range of potential solutions for those problems and arrive at feasible, optimal solutions after considering public health and safety, cultural, societal and environmental factors in the core areas of expertise.

PO4 Acquire professional and intellectual integrity, professional code of conduct, ethics of research, consideration of the impact of research outcomes on professional practices andan understanding of responsibility to contribute to the community for sustainable development of society.

PO5 Apply various advanced software skills and Quality tools to model, analyze and solveproblems related to foundry and related filed.

PO6 Demonstrate high level of professional and intellectual integrity, ethics of research and scholarly standards to promote entrepreneurship.

PO7 Effectively communicate through technical reports, presentations and scientific publications with the technical and engineering community as well as society at large.

PO8 Demonstrate the ability to work in team in the laboratory in achieving multidisciplinary tasks required for the project.

Bachelor of Vocation in Animation and Film-making

PO1 B. Voc. Graduates in Animation & Film making will demonstrate that the critical study of cinema informs their filmmaking and that the study and practice of film production enhance their work as film scholar's analysts.

PO2 B. Voc. Graduates in Animation & Film making will Computer Animation and Game Development graduates will have an understanding of critical and aesthetic issues in computer graphics and mixed-media.

PO3 B. Voc. Graduates in Animation & Film making will access industry related learningresources.

PO4 B. Voc. Graduates in Animation & film making will create effective visual animations using the elements of story.

PO5 B. Voc. Graduates in Animation & film making will identify and apply the 12 principles of animation. List of films featuring clay animation

PO6 B. Voc. Graduates in Animation & Film making will relate some knowledge of the history of animation.

PO7 B. Voc. Graduates in Animation & film making will demonstrate entry-level workplace computer competencies using industry standard 2D & 3D animation software.

PO8 B. Voc. Graduates in Animation & film making will demonstrate industry professional standards within their attitudes, conduct, ethics and work.

PO9 B. Voc. Graduates in Animation & film making will design layouts and backgrounds thatincorporate principles of composition, perspective and color, with speed accuracy and dexterity, using a variety of media.

Bachelor of Vocation in Photography & Videography

PO1	B.Voc. Photography & Videography will learn and understand the principles of Photography, Handling Accessories & Creativity
PO2	Candidate will learn and understand lighting techniques of Commercial work.
PO3	Candidate will learn and understand tools and techniques of creating digital image manipulations.
PO4	B.Voc. Photography & Videography will able to develop an original, innovative and articulate body of work for a professionalPhotography.
PO5	B.Voc. Photography & Videography Design will able to develop and provide design solutions in response to a givenbrief.
PO6	B.Voc. Photography & Videography will able to present a range of promotional material,
PO7	B.Voc. Photography & Videography will gain knowledge of the professionalPhotography environment and awareness of the Photographer's roles and responsibilities, client liaison, and how to present themselves and their work within a commercial environment.

Community College Diploma in Photography

PO1	C.C. Photography will learn and understand the principles of Photography, Handling Accessories &Creativity
PO2	Candidate will learn and understand lighting techniques of Commercial work.
PO3	Candidate will learn and understand tools and techniques of creating digital image manipulations.
PO4	C.C. Photography will able to develop an original, innovative and articulate body of work for a professionalPhotography.
PO5	C.C. Photography Design will able to develop and provide design solutions in response to a given brief.
PO6	C.C. Photography will able to present a range of promotional material,
PO7	C.C. Photography will gain knowledge of the professional Photography environment and awareness of the Photographer's roles and responsibilities, client liaison, and how to present themselves and their work within a commercial environment.

Community College Diploma in Event Photography

PO1	C.C. Event Photography will learn and understand the principles of Photography, Handling Accessories & Creativity
PO2	Candidate will learn and understand lighting techniques of Commercial Events work.
PO3	Candidate will learn and understand tools and techniques of creating digital image manipulations.
PO4	C.C. Event Photography will able to develop an original, innovative and articulate body of work for a professional Photography.
PO5	C.C. Event Photography Design will able to develop and provide design solutions in response to a givenbrief.
PO6	C.C. Event Photography will able to present a range of promotional material,
PO7	C.C. Event Photography will gain knowledge of the professional Photography environment and awareness of the Photographer's roles and responsibilities, client liaison, and how to present themselves and their work within a commercial environment.

Community College Diploma in Cinematography

PO1	C.C.Cinematography will learn and understand the principles of Cinema, Handling Accessories &Creativity
PO2	Candidatewilllearnandunderstandlightingtechniques ofCommercial Events work.
PO3	Candidate will learn and understand tools and techniques of creating digital Video manipulations.
PO4	C.C. Cinematography will able to develop an original, innovative and articulate body of work for a professional Cinematography.
PO5	C.C.Cinematography will able to develop and provide Editing solutions in response to a givenbrief.
PO6	C.C. Cinematography will able to present a range of promotional material,
PO7	C.C. Cinematography will gain knowledge of the professional environment and awareness of the Cinematographer roles and responsibilities, client liaison, and how to present themselves and their work within a commercial environment.

1	**Department of English**	
	PSO 1	Know development, themes and elements of the short story.
	PSO 2	Develop interest in and appreciation of Literature.
	PSO 3	Interpret texts with due sensitivity to both textual and contextual cues.
	PSO 4	Improvement of language through grammar skills.
	PSO 5	Basic knowledge of the nature of language and of the importance of language study in society.
	PSO 6	Acknowledgement of the basic principles and goals of Translation
	PSO 7	Fundamental understanding of core areas of language analysis including phonology, morphology, syntax, semantics and pragmatics.
	PSO 8	Recognition and utilization of basic empirical research methods in Translation.
	PSO 9	Get familiar with representative literary texts within a significant number of historical, geographical, and cultural contexts
	PSO 10	Understand texts in their cultural and historical contexts
	PSO 11	Demonstrate coherent writing in multiple genres (literary analysis and creative writing) as well as an awareness of critical and interpretative methods. Perform competent close readings of texts.
	B. A.I Sem I	**Paper I English for Communication: AECC 1011-A**
	CO1	Describe persons, places, things and pictures.
	CO2	Apply rules of grammar in various contexts like description, conversation.
	CO3	Communicate confidently in different situations.
	CO4	Interpret texts with due sensitivity to both textual and contextual cues.
	B. A.I Sem I	**Paper I English Language and Literature: DSC 1017 –A**
	CO1	familiarize with the English language and develop awareness of the trends in language study
	CO2	identify techniques for strengthening Vocabulary
	CO3	recognizing the denotative and connotative meanings of words
	CO4	read ,understand and interpret prescribed short stories
	B.Com. I Sem I	**Paper I English for Communication: AECC 1040 -A**
	CO1	Formulate grammatically correct sentences.
	CO 2	Improve their language skills in English both in terms of fluency and comprehensibility.
	CO 3	Speak and write effectively using correct vocabulary.
	CO 4	Read closely the variety of forms, styles, structures, and modes of texts.
	B.Sc. I Sem I	**Paper I English for Communication: AECC1501-A**
	CO1	Improve communication and language skills.
	CO 2	Use grammar properly.
	CO 3	Use the language in different situations with confidence.
	CO 4	Read, understand and interpret given texts.
	B. A.I Sem II	**Paper II English for Communication: AECC1011-B**
	CO1	Narrate experiences and form simple stories.
	CO 2	Summarize the given prose text.
	CO 3	Write grammatically correct with correct punctuation marks.
	CO 4	Comprehend the given text and respond to questions asked.
	B. A.I Sem II	**Paper I English Language and Literature: DSC 1017 – A**
	CO1	transcribe and interpret transcriptions of English language
	CO 2	familiarize the concepts of phonology ,phoneme and allophone

	CO 3	translate sentences from English into Marathi and vice a versa
	CO 4	read ,understand and interpret prescribed one –act plays
	B.Com. I Sem II	**Paper II English for Communication: AECC 1040-B**
	CO1	Produce grammatically correct English
	CO 2	Use various expressions in general communicative contexts
	CO 3	Increase interest in and appreciation of English texts.
	CO 4	Interpret texts with due sensitivity to both textual and contextual cues.
	B.Sc. I Sem II	**Paper II English for Communication: AECC 1501-B**
	CO1	Use English language in day today life.
	CO 2	Improve skills in summarizing and note-making.
	CO 3	Transfer information in different forms and interpret data.
	CO 4	Appreciate and analyze prose and poetry.
	B. A. II Sem III	**Paper III English Language and Linguistics III: DSC - 1017 C1**
	CO1	They can use their acquired vocabulary in day to day life.
	CO 2	Transfer their knowledge of English syntax in their daily life
	CO 3	Apply their knowledge and skills of translation in productive way.
	B. A. II Sem III	**Paper III English Literature: DSC-1017 C2**
	CO1	Acquaint with different types of novel and poetry
	CO 2	Identify, analyze, interpret and describe the critical ideas, values, and themes that appear in literary texts.
	CO 3	Employ knowledge of literary traditions to produce creative writing.
	B. A. II Sem III	**AECC- English for Communication**
	CO1	Acquired the skills such as PPT Presentation Skills ,Compering Skills
	CO 2	use grammar properly
	CO 3	read, understand and interpret given texts
	B.Com. II Sem III	**Paper III English for Business Communication: AECC- 1040C (Compulsory English)**
	CO1	Communicate in oral and written mode in day-today lives
	CO 2	Acquire language skills
	CO 3	Learn to appreciate poetry and prose and acquire human values
	B. A. II Sem IV	**Paper III English Language and Linguistics: DSC - 1017 D1**
	CO1	acknowledge the basic principles and types of translation
	CO 2	Competently translate Source Language (SL) into Target Language (TL)
	CO 3	utilize language and translation skills for employability
	B. A. II Sem IV	**Paper III English Literature: DSC-1017 D2**
	CO1	Acquaint with different types of drama and prose
	CO 2	Identify, analyze, interpret and describe the critical ideas, values, and themes that appear in literary texts.
	CO 3	Employ knowledge of literary traditions to produce creative writing.
	B.Com. Part II Sem IV	**Paper IV English for Business Communication AECC (Compulsory English)**
	B. A. III Sem V and Sem VI	**English for Communication: AECC 5 Paper E and AECC 6 Paper F**

	CO1	Communicate in English, in oral and written modes, in their day-to-day lives as well as at workplaces.
	CO2	Face job interviews confidently and efficiently.
	CO3	Acquire soft skills required at workplaces and in real life.
	CO4	Learn group behavior and team work.
	CO5	Learn to value and respect others' opinions and views and develop democratic attitude.
	CO6	Face competitive examinations confidently and efficiently with adequate linguistic confidence.
	CO7	Acquire professional skills required in media writing such as writing editorials
	CO8	Learn to appreciate and enjoy reading poetry and prose passages.
	CO9	Acquire human values and develop cultured outlook.
	B. A. III Sem V and Sem VI	**Paper VII and Paper XII Introduction to Literary Theory and Criticism: DSC-1017E1 and DSC-1017F1**
	CO1	Understand the Major trends in criticism
	CO2	Interpret critical concepts
	CO3	Study the original contributions to literary criticism
	CO4	Acquainted with literary and critical movements
	CO5	Understand the meaning and appreciate the poems critically
	B. A. III Sem V and Sem VI	**Paper VIII and Paper XIII English Literature : Chaucer to Romanticism: DSC-1017E2 and DSC-1017F2**
	CO1	know drama as a major form of literature
	CO2	the origin, development and various types of drama
	CO3	understand the restoration drama
	CO4	do critical analysis of restoration prose
	CO5	the origin, development and various types of Novel
	CO6	do critical analysis of metaphysical
	B. A. III Sem V and Sem VI	**Paper IX and Paper XIV English Literature : Victorian to Post modernism: DSC-1017E3 and DSC-1017F3**
	CO1	know drama as a major form of literature
	CO2	the origin, development and various types of drama
	CO3	understand the Modern and post-modern novel
	CO4	do critical analysis of Modern and post-modern poetry
	B. A. III Sem V and Sem VI	**Paper X and Paper XV Introduction to Translation Studies: DSC-1017E4 and DSC-1017E4**
	CO1	understand the skills required to become a professional translator
	CO2	undertake a translation activity.
	CO3	develop expertise in their working languages in the practice of translation;
	CO4	master the theoretical knowledge relating to translation
	CO5	employ the required skills to translate a document while respecting the author's intentions and register;
	CO6	assimilate thematic (disciplinary) and cultural knowledge needed to complete their translation assignment;
	B. A. III Sem V and Sem VI	**Paper XI and Paper XVI Linguistics: DSC-1017E5 and DSC-1017F5**
	CO1	explore the meanings of an expression in a systematic manner;
	CO2	define intended meaning in language use.
	CO3	describe and explain the ways of discourse and text analysis within the

		framework of Pragmatics
	CO4	apply the acquired skills (linguistic, cultural, research, critical, synthetic) to other disciplines
	CO5	understand the processes of language change and variation.
	CO6	describe different uses of language according to social context.
	CO7	develop, interpret, and analyze a research study, utilizing quantitative reasoning and research skills.

2	**Department of History**	
	PSO 1	Understand the important developments in the Local, National and Global Historical Research in a thematic approach.
	PSO 2	Understand the application of history with reference to Indology, Archives, Museums & Tourism Industry.
	PSO 3	Prepare for competitive and civil examinations.
	PSO 4	Evaluate Historical revolutions and various aspects of Indian Freedom Movement.
	PSO 5	Examine the life and contribution of various Social Reformers, Freedom Fighters and Revolutionaries.
	B. A.I Sem I	**Paper I History of Ancient India– I: DSC 1020A**
	CO1	CO-I- Understand basic knowledge of ancient history.
	CO 2	Elaborate Stone Age cultures in India.
	CO 3	Pursue professional opportunities with the help of skills obtained through Indology &Indography.
	CO 4	Examine the archaeological developments in Indus Valley Civilization.
	B. A.I Sem II	**Paper II History of Ancient India – II: DSC 1020B**
	CO1	Nurture and promote the universal human values such as Liberty, Equality and Fraternity and humanity.
	CO 2	To evaluate features of Buddhism & Jainism.
	CO 3	Critically examine & Cultivate social commitment through preservation & conservation of historical Monuments.
	CO 4	Get acquainted with the rule of various dynasties of Ancient India.
	B. A. II Sem III	**Paper III History of Modern Europe-I: DSC 1020 C-1**
	CO 1	To examine the French revolution & its various aspects.
	CO 2	To get acquaint with salient features of Age of Napoleon & Metternich.
	CO 3	To criticize the unification of Italy.
	CO 4	To study the various aspects of unification of Germany.
	B. A. II Sem IV	**Paper V History of Modern Europe-II:DSC 1020 D-1**
	CO 1	To Criticize First World War and its consequences.
	CO 2	To study the age of Bismarck and his internal- External Policy.
	CO 3	To get acquaint students with Rise of Dictatorship in Modern Europe & Changing scenario.
	CO 4	To study the highlights of Second World War and its consequences.
	B. A. II Sem III	**Paper IV Making of Modern India (1757-1947): DSC 1020 C-2**
	CO	The purpose of the course is to enable the student to Understand the important developments in the Modern Indian History in historiographic approach.
	CO 1	To examine the Establishment and Expansion of British East India Company
	CO 2	To criticize 1857 Revolt and its consequences
	CO 3	To study & examine the rise of Indian Nationalism & Establishment of Indian National Congress
	CO 4	To get acquaint with salient features of Age of Tilak
	B. A. II Sem	**Paper VI Towards Independence: DSC 1020 D-2**

	IV	
	CO 1	To criticize Mahatma Gandhi's contribution in Indian Freedom Struggle
	CO 2	To study the highlights of Revolutionary Movements and its consequences
	CO 3	To understand critically the partition and Independence of India
	CO 4	To study the Constitutional Development Acts in British India
	CO 5	To throw lights on Salient features of Indian Constitution
	B. A. II Sem IV	**Paper no. History of Social Reformers in Maharashtra-I:1025 C-1**
	CO 1	The purpose of the course is to enable the student to Understand the important developments in History of Social Reforms in Maharashtra in social & educational approach
	CO 2	To examine the Socio-Economic & Political condition of Maharashtra in 19th century
	CO 3	To criticize British Rule over India through its administration, Law & Justice
	CO 4	Study & examine the contribution of early social reformers in Maharashtra
	CO 5	To throw lights on life & work of Mahatma JyotibaPhule
	B. A. II Sem IV	**Paper no. History of Social Reformers in Maharashtra-II: 1025 D**
	CO 1	To criticize the social contribution of Chh. ShahuMaharaj
	CO 2	To evaluate the of social contribution of VitthalRamjiShinde
	CO 3	To evaluate the of socio educational contribution of Dr.BabasahebAmbedkar
	CO 4	To study the life & work Women Reformers in Maharashtra
	B. A. III Sem V	**Paper No. VII History of Mughal India (1526-1707) –I: DSC-1020 E-1**
	CO 1	To get acquainted with silent features of Mughal Polity, Society and Economy.
	CO2	To examine and evaluate the various sources of Mughal History.
	B. A. III Sem V	**Paper No. VIII History of USA (1776-1865): DSC-1020 E-2**
	CO 1	To examine the American revolution & its various aspects.
	CO2	To get acquainted with silent features of American Constitution.
	CO3	To evaluate the American Sectional Conflicts and Civil War.
	B. A. III SEM- V.	**Paper No. IX India Since Independence-I: DSC-1020 E-3**
	CO 1	Examine the transformation of congress into a political party.
	CO2	Criticize the internal policy and foreign policy of Prime Ministers of India.
	CO3	Get acquainted with emergency, its nature, scope and impacts.
	CO4	Study agarin reforms in post independent India.
	B. A. III SEM- V.	**Paper No. X History of the Marathas (1630-1818): DSC-1020 E-4**
	CO 1	Examine the changing facets of political conditions of India in 18th century.
	CO2	Criticize the contribution of peshwas to the maratha empire.
	CO3	Get acquainted with north south political expeditions in India.
	B. A. III SEM- V.	**Paper No. XI Research in History: DSC-1020 E-5**

	CO 1	Study and adequate with the nature, scope and importance of History
	CO2	Criticize and evaluate the sources and tools of historical research
	CO3	Study and Examine the steps and process of writing history
	CO4	To inculcate research ethics & burden the research aptitude among students.
	B. A. III SEM-VI.	**Paper No. XII History of Mughal India (1526-1707 A.D.) –II: DSC-1020 F-1**
	CO 1	To get acquainted with silent features of cultural developments of Mughal.
	CO2	To criticize the urban centres of during Mughal era.
	CO3	To critically evaluate the Mughal Maratha relations.
	B. A. III SEM-VI.	**Paper No. XIII History of USA (1865-1945): DSC-1020 F-2**
	CO 1	To study the American economic changes and Growth of capitalism.
	CO2	Criticize first world war and its consequences on America with the help of economic crises and new deal.
	CO3	To analyse the Emergence of USA as an imperial power.
	CO4	Study the highlights of America between two world war's
	B. A. III SEM-VI.	**Paper No. XIV India Since Independence-II: DSC-1020 F-3**
	CO 1	Examine the changing facets of post independent Indian economy with the help of five year plans.
	CO2	Criticize the foreign policy of India.
	CO3	Get acquainted with socio-environmental and political movements in India.
	B. A. III SEM-VI.	**Paper No. XV History of the Marathas (1761-1818)-II: DSC-1020 F-4**
	CO 1	Examine the changing paradigms of Maratha history after paniat III war.
	CO2	Criticize the causes of Decline of Maratha empire.
	CO3	Get acquainted with the socio-economic condition during Maratha Regime
	B. A. III SEM-VI.	**Paper No. XVI Applications of History: DSC-1020 F-5**
	CO 1	To understand the application of history with reference to Archives, Museums &Tourism Industry.
	CO2	To prepare students for competitive and civil examinations.
	CO3	To inculcate research ethics & burden the research aptitude among students.

3	**Department of Political Science**	
	PSO 1	Narrate the scope of the discipline of Political Science.
	PSO 2	Explain the major concepts, theories of Political Science and the thought of Political thinkers.
	PSO 3	Understand the bases and structure of modern governments.
	PSO 4	Analyze the political issues of local, regional, national and global level.
	PSO 5	Comment on important political issues in a studied manner.
	PSO 6	Develop the knowledge base for competitive examinations
	B. A.I Sem I	**Paper I Political Concepts: DSC 1019A**
	CO1	Become aware of basic concepts essential from the point of view of individual and social life.
	CO 2	Understand the inter-relation amongst concepts like Individual, Society, State, Nation.
	CO 3	Will be able to utilize the said concepts.
	B. A.I Sem II	**Paper II Indian Government: DSC 1019B**
	CO1	Will gain knowledge of the institutional functioning of Indian government as a citizen of India.
	CO 2	Will understand the content, importance and utility of Rights and Duties of citizens.
	CO 3	Will become aware of the functioning of the judicial system.
	B. A. II Sem III	**Paper III: Political Process in India:DSC-1019C1**
	CO1	Recall the structure the Indian Federalism and its new trends.
	CO 2	Have an overview of the electoral process in India.
	CO 3	Narrate party system in India and its evolution.
	CO 4	Discuss major issues in Indian politics and its relevance to global democratic theory.
	B. A. II Sem III	**Paper IV : Indian Political Thought – I:DSC-1019C2**
	CO1	Recall the main ideas of important political thinkers in ancient and early modern India.
	CO 2	Compare and comment on critical political concepts.
	CO 3	Look at the important issues of the day in the light of important political ideas put forth by thinkers.
	CO 4	Comment on early intellectual foundations of Modern India.
	B. A. II Sem IV	**Paper V : Political Process in Maharashtra:DSC-1019D1**
	CO1	Narrate the history of the making of Maharashtra.
	CO 2	Understand the features of the Party system in Maharashtra.
	CO 3	Identify and analyze important issues around them in the State.
	CO 4	Know the history of the political economy of Maharashtra.
	B. A. II Sem IV	**Paper VI : Indian Political Thought – II:DSC -1019 D2**
	CO1	Recall the main ideas of important political thinkers of modern India.
	CO 2	Compare and comment on traditions of thought in modern India.
	CO 3	Understand the historical background of modern India.
	CO 4	Comment on intellectual foundations of Modern India.
	B. A. III SEM- V.	**Paper No. VII Contemporary Political Concepts: DSC – 1019 E 1**

	CO 1	Discuss meaning and contents of four important concepts in contemporary Political Theory
	CO2	Appreciate the currents of thought within these Political Concepts.
	CO3	Interpret the issues of the day in the light of these concepts.
	B. A. III SEM- V.	**Paper No. VIII Public Administration: DSC – 1019 E 2**
	CO 1	Appreciate the Political Thought of important leaders of modern India.
	CO2	Identify major themes of modern Indian Political Thought.
	CO3	Compare the ideas of major Political thinkers.
	B. A. III SEM- V.	**Paper No. IX International Politics: DSC – 1019 E 3**
	CO 1	Comprehend the approaches to the study of International Politics.
	CO2	Narrate the thoughts of four important modern political thinkers.
	CO3	Understand important international organizations and issues.
	B. A. III SEM- V.	**Paper No. X Political Ideologies: DSC – 1019 E 4**
	CO 1	Comprehend the structure and content of the concept of „ideology“.
	CO2	Comment on the historical evolution of important ideologies in the world.
	CO3	Appreciate the importance of ideologies in socio-economic and political struggles around us.
	B. A. III SEM- V.	**Paper No. XI A Indian Political Thought – II: DSC – 1019 E 5**
	CO 1	Explain and compare the thoughts of important political thinkers of modern India.
	CO2	Explain important concepts in modern Indian Political Thought.
	CO3	Appreciate ideological strands present in formative years of modern India.
	B. A. III SEM- V.	**Paper No. XI B Democratic Governance: DSC – 1019 E 5**
	CO 1	Narrate important elements in democratic governance and political process.
	CO2	Discuss the meaning and role of political party, pressure groups, leadership in democratic governance
	CO3	Discuss and compare political culture and electoral systems prevalent in different countries.
	B. A. III SEM-VI.	**Paper No.XII Comparative Political System: DSC – 1019 F 1**
	CO 1	Discuss the meaning and role of Political System.
	CO2	Compare different systems of government.
	CO3	Discuss the advantages and disadvantages of different political systems.
	B. A. III SEM-VI.	**Paper No.XIII Practice of Public Administration: DSC – 1019 F 2**
	CO 1	Understand the important processes of Public Administration.
	CO2	Narrate the important structures of Public Administration.
	CO3	Appreciate new trends in administrative process
	B. A. III SEM-VI.	**Paper No.XIV Indian Foreign Policy: DSC – 1019 F 3**
	CO 1	Narrate the evolution of India‟s Foreign Policy.
	CO2	Discuss important issues in India‟s Foreign Policy.
	CO3	Analyse the Foreign Policy of India.

	B. A. III SEM-VI.	**Paper No. XV Local Self-Government of Maharashtra: DSC – 1019 F 4**
	CO 1	Narrate the history of evolution of local self-government institutions in Maharashtra.
	CO2	Tell the place of local self-government institutions in Indian Constitution.
	CO3	Narrate the structure of rural and urban local self-government institutions.
	B. A. III SEM-VI.	**Paper No. XVI A Western Political Thought – II: DSC – 1019 F 5**
	CO 1	Trace the evolution important themes in Western Political Thought.
	CO2	Discuss important concepts in Western Political Thought.
	CO3	Narrate the thoughts of four important modern political thinkers.
	B. A. III SEM-VI.	**Paper No.XVI B Social and Political Movements in India: DSE – 1019 F 5**
	CO 1	Narrate four major socio-political issues in Independent India.
	CO2	Trace the development of four important movements in Independent India.
	CO3	Discuss what a movement is and what its basic elements are.

4	**Department of Sociology**	
	PSO 1	Basic concept and principles can be studied
	PSO2	Social Problems can be studied and solutions can be find out
	PSO3	Students will get Inspiration for new research
	PSO4	Students will be motivated towards Entrepreneurship and Occupation
	PSO5	Students will be Motivated towards Social development
	PSO6	Students will be awaken about Gender equality
	B. A.ISem I	**Paper I Introduction to Sociology–I: DSC 1021A**
	CO1	Know basic knowledge of sociology.
	CO 2	Recognize importance of social values.
	CO 3	To boost their personality.
	CO 4	To maintain the social balance
	B. A.ISem II	**Paper II Principles of Sociology- II: DSC 1021B**
	CO1	Eliminate social inequality.
	CO 2	To improve the society.
	CO 3	Work for social change.
	B. A. II Sem III	**PAPER –III Indian Society Structure and Change-I: DSC-1021C1**
	CO1	The basic structure of Indian society will be known.
	CO 2	National unity will increase
	CO 3	There will be a sense of diversity in the Indian community
	CO 4	The study of social institutions will lead to awareness of social values and social responsibility.
	B. A. II Sem IV	**PAPER NO –V Indian society structure and change –II: DSC-1021D2**
	CO1	To do Social work will be encouraged
	CO 2	The study of new economic policy will encourage industry and business.
	CO 3	It will help in formulating developmental plans for social transformation
	CO 4	The new economic policy will have a positive and negative impact on Indian society
	B. A. II Sem III	**PAPER NO –IV Social problems in india-I: DSC-1021C1**
	CO1	The seriousness of the social problem will be noticed
	CO 2	will be encourage for population control
	CO 3	It will help the government to reduce poverty in the society.
	CO 4	Cybercrime in modern society will come under control.
	B. A. II Sem IV	**PAPER NO - VI Social problems in india-II: DSC-1021D2**
	CO1	Women will be empowered.
	CO 2	Will help reduce sexism.
	CO 3	Corruption in the society will be brought under control.
	CO 4	Society will create empathy for the elderly.
	CO 5	There will be public awareness about HIV.
	B. A. III SEM- V.	**Paper No. VII WEstern sociological thinkeres: DSC-1021E1**
	CO 1	The Expansion of Sociology in India can be Studied
	CO2	It will help to increase students Intellectual level
	CO3	Students will get Inspiration towards Social change
	CO 4	New western Social and Ethical values will be inculcate

B. A. III SEM- V.	**Paper No. VIII Methods of social Research – I: DSC-1021E2**
CO 1	Scientific perspective will increase among Students
CO2	Students will get attracted towards new Research
CO3	Elimination of Social Problems can be done by keeping Scientific perspective
B. A. III SEM- V.	**Paper No. IX Rural sociology: DSC-1021E3**
CO 1	To aware Students about real situation of Rural Society
CO2	It will help to solve Rural Social Problem
CO3	It will be helpful for Rural Development
CO4	By studying change of Rural Society the upcoming Challenges can be studied
B. A. III SEM- V.	**Paper No. X Urban sociology: DSC-1021E4**
CO 1	Basic Concept Of urban Society can be studied
CO2	There will be an incentive to solve Urban Problems.
CO3	Useful for urban planning to implement the government
B. A. III SEM- V.	**Paper No. XI Political sociology: DSC-1021E5**
CO 1	An ability to comprehend the embeddedness of political and the social in each other.
CO2	Be able to understand and appreciate the diversity of ways in which politics operates historically and spatially to generate a more expansive notion of the realm of the political.
CO3	Be able to understand the relationship between state and society in shapingϖ politics in India both historically and analytically.
CO4	Be able to generate hypotheses and research questions within the theoretical perspectives and ethnographic contexts in political sociology.
B. A. III SEM-VI.	**Paper No. XII Indian sociological thinkers: DSC-1021F1**
CO1	The Expansion of Sociology in India can be Studied
CO2	It will help to increase students Intellectual level
CO3	Students will get Inspiration towards Social change
CO4	New Social and Ethical values will be inculcate
B. A. III SEM-VI.	**Paper No. XIII Methods of social research-II: DSC-1021F2**
CO1	Scientific perspective will increase among Students.
CO2	Will master the interview technique.
B. A. III SEM-VI.	**Paper No. XIV Indian Rural Society: DSC-1021F3**
CO1	Rural Development Will Be Encouraged.
CO2	Understand The Political System In Rural Society.
CO3	The rural economy Will Understand.
B. A. III SEM-VI.	**Paper No. XV Industrial sociology: DSC-1021F4**
CO1	Students will be Introduced about Industry and Social Structure of Industry
CO2	Students will be Introduced about Industry and Industrial Structure

	CO3	By knowing Challenges in Industrial Sector they can become Successful Businessman
	CO4	Because of Studying Technology Students will be Able to face Every problems regarding Business.
	B. A. III SEM-VI.	**Paper No. XVI Social anthropology: DSC-1021F5**
	CO1	It will help solve the problems of the tribal community.
	CO2	There will be an incentive to solve the problems of the tribal community.

5	**Department of Economics**	
	PSO 1	Students will be able to analyze the economic and institutional arrangements of firms, industries, organizations, specific regions and countries.
	PSO 2	Students will understand the role of government and regulatory framework in the process of economic development.
	PSO 3	Apply research knowledge in economics
	PSO 4	Students will be able to analysis the current issues of the economies.
	PSO 5	Students will be able to apply micro and macro economic theories and principles to explain the behaviour of individuals, business firms and industries with their interrelationship.
	B. A.I Sem I	**Paper –I Indian Economy-I: DSC 1018 A**
	CO1	Understand nature and characteristics of Indian economy.
	CO 2	Identify issues and challenges before Indian economy.
	CO 3	Analyze new economic policy and its components.
	B. A.I Sem II	**Paper –II Indian Economy –II: DSC 1018 B**
	CO1	Identify problems of Indian agriculture, industry and service sector and useful measures
	CO 2	Analyse trend in volume, composition and direction of India's external sector.
	B.Com. I Sem I	**Business Economics Paper –I:CC -1044 A**
	CO1	Capable to make difference between micro and macro economics.
	CO 2	Analyze demand function and its determinants.
	CO 3	Describe concept of production function with cost and revenue analysis.
	B.Com. I Sem II	**Business Economics Paper –II:CC -1044 A**
	CO1	Explain market structure and price output determination.
	CO 2	Discuss on factor pricing and its theories.
	CO 3	Differentiate between pricing policy and methods.
	B. A.I Sem III	**Paper –III Macro Economics- I: DSC-1018C1**
	CO1	Understand macro-economic variables
	CO 2	Understand National Income and its relevance
	CO 3	Realize quantity and value of money with its changes
	CO 4	Realize macro-economic theories of output and employment.
	B. A.I Sem III	**Paper – IVBanks and Financial Institutions I: DSC-1018 C2**
	CO1	Understand commercial banks with their functions.
	CO 2	Know bankers and bank customer's rights and obligations.
	CO 3	Know central bank and its various policies.
	B. A.ISem IV	**Paper –V Macro Economics – II: DSC-1018 D1**
	CO1	Evaluate trade phase.
	CO 2	Expresses public finance and economic development.
	CO 3	Analyze the current issues of the economies
	B. A.I Sem IV	**Paper –VI Banks and Financial Institutions II: DSC-1018D2**
	CO1	Understand Indian financial market.
	CO 2	Know different development banks and banking reforms.
	CO 3	Understand e-banking sources and their functions.
	B. A. III SEM- V.	**Paper No.VII Micro Economics: DSC 1018E1**

CO1	Differentiate micro and macro economic factors
CO2	Consumer's behavior and equilibrium
CO3	Analyze demand and supply
CO4	Understand theory of production and importance of cost revenue concepts
B. A. III SEM- V.	**Paper No. VIII Research Methodology-I: DSC 1018E2**
CO1	Types of research with their objectives
CO2	Need and importance of literature review and hypothesis in research design
CO3	Use appropriate data collection method in research
B. A. III SEM- V.	**Paper No. IX History of Economic Thoughts: DSC 1018E3**
CO1	Understand the basic economic ideas of various economic thinkers of the world
CO2	Explain the relationship between stage of economic development and the economic consideration.
B. A. III SEM- V.	**Paper No. X Economics of Development: DSC 1018E4**
CO1	Make difference between economic growth and development
CO2	Analyze stages of economic development
CO3	Understand need and importance of sustainable development
CO4	Evaluate role of government and economic development
B. A. III SEM- V.	**Paper No. XI International Economics: DSC 1018E5**
CO1	Analyze international trade through theoretical background
CO2	Understand issues related to international trade
CO3	Know the role and importance of international institutions.
B. A. III SEM-VI.	**Paper No. XII Market and Pricing: DSC 1018F1**
CO1	Understand the causes and consequences of different market structures
CO2	Apply micro economic analysis to the firm under different market conditions
CO3	Understand basic theories behind factor pricing
B. A. III SEM-VI.	**Paper No. XIII Research Methodology-II: DSC 1018F2**
CO1	Find out optimum size of sampling
CO2	Process and represent data
CO3	Analyze data by using simple statistical tools.
CO4	Understand steps of report writing
B. A. III SEM-VI.	**Paper No. XIV Economic Thoughts of Chh. ShahuMaharaj: DSC 1018F3**
CO1	Understand Rajarshi's approach towards various sectors
CO2	Evaluate trade in the Kolhapur state during Rajarshi's reign and now.
CO3	Know model of development of Chh. Shahumaharaj.
B. A. III SEM-VI.	**Paper No. XV Economics of Planning: DSC 1018F4**
CO1	Understand types and conditions of planning.
CO2	Understand issues of economic planning
CO3	Examine planning strategy of India

	CO4	Analyze sector wise development through planning in India.
	B. A. III SEM-VI.	**Paper No. XVI GST in India: DSC 1018F3**
	CO1	Understand need scope and significance of GST
	CO2	Know the different components of GST
	CO3	Understand basic of GST like registration and returns.

6	**Department of Home Science**	
	PSO 1	Understand the role of food and nutrition for the welfare of self and community and apply scientific and analytical principles and techniques of food and nutrition in diet formulation.
	PSO 2	Gain knowledge in textile production techniques and Acquire skill in textile Dyeing and printing.
	PSO 3	Relate the principles of Human Development with self, family and Society and manage life crisis at every stage of life span.
	PSO 4	Exhibit efficient resource use potentials at home and work and appreciatenuances of value based quality life skill oriented learning.
	B. A.I Sem I	**Paper –I Fundamentals of Food Science and Nutrition: DSC 1023 A**
	CO1	Relate between food, nutrition and health
	CO 2	Explain the food groups, nutritional contribution and physical changes during cooking
	CO 3	Identify nutrients and understand their functions, dietary sources and deficiencies
	CO 4	Choose methods of cooking for preventing nutrient losses in cook
	B. A.I Sem II	**Paper –II Resource Management: DSC 1023 B**
	CO1	Explain the concept and process of resource management
	CO 2	Classify resources and identify development of self of as a resource with SWOC analysis
	CO 3	Preparation of money management and time management for self and family
	CO 4	Apply managerial process in event planning management and evaluation
	B. A. II Sem III	**Course III Fundamentals of Interior Design DSC 1023 C1**
	CO1	Student will be able to apply elements of arts and principles of design in interior decoration.
	CO 2	Student will be able to apply to knowledge of colour wheel and colour scheme in interior decoration
	CO 3	Student will be able to apply the knowledge of interior decoration for selection of furniture and furniture arrangement.
	CO 4	Student will be able to plan for flower arrangement and able to demonstration and preparation of flower decoration.
	B. A. II Sem III	**Course IV Introduction to Food Preservation and Food Safety DSC 1023 C2**
	CO1	Student will be able to explain the concept of food preservation and food safety.
	CO 2	Student will be able to aware about food safety and food laws, standards, regulations.
	CO 3	Student will be able to understand the terms of food safety and food preservation.
	CO 4	Student will be able to illustrate the methods of food preservation.
	CO 5	Student will be able to start up in food industry.
	B. A. II SemIV	**Course V Fundamentals of Textile Science and Apparel Construction-I DSC 1023 D1**
	CO1	Student will be able to classify the textile fibres and yarns.
	CO 2	Student will be able to illustrate weaves and finishing process.
	CO 3	Student will be able to understand the terms, tools and equipments of

		apparel construction .
	CO 4	Student will be able to take the perfect body measurement .
	CO 5	Student will be able to acquire the skills of drafting, cutting, stitching and finishing of apparel construction .
	B. A. II Sem IV	**Course VI Development in Prenatal Period to Early Childhood DSC1023 D2**
	CO1	Students will able to distinguish between growth and development.
	CO 2	Students will able to understand stages of prenatal development, signs of pregnancy and care during pregnancy and factors influencing prenatal development
	CO 3	Students will able to identify the characteristic and reflexes of new born.
	CO 4	Students will able to illustrate the development of early childhood.
	CO 5	Students will able to create and use educational aids for development of child.
	CO 6	Students will able to practice /start in Nursery School/ Anganwadi /balwadi or play center.
	B. A. III SEM- V.	**Course Name : B.A.III-DSE 1023E1 Paper No.VII Nutrition for the Family**
	CO1	Student will acquaint with the concept of RDA, nutritional guidelines, nutritional importance and healthy food choices.
	CO2	Students will understand the concept and application of food exchange list and nutrition in daily meal planning.
	CO3	Students will be able to apply knowledge of meal planning in day to day life.
	B. A. III SEM- V.	**Course Name : B.A.III-DSE 1023E2 Paper No.VIII Fundamentals of Textile Science and Apparel Construction-II**
	CO1	Understand the concept of textile printing and painting.
	CO2	Apply the knowledge of elements and principles of design in apparel construction
	CO3	Describe basic concepts of croqui.
	CO4	Demonstrate the elements of apparel construction.
	B. A. III SEM- V.	**Course Name : B.A.III-DSE 1023E3 Paper No.IX Life Span Development**
	CO1	To understand the changes in the physical and motor development during late childhood and adolescence.
	CO2	To acquaint the students to the changes in cognitive and moral development during late childhood and adolescence.
	CO3	To know about the effects and problems faced during adolescence.
	CO4	To understand the changes in socialization during late childhood and adolescence and it's impact on the relationship.
	CO5	To understand the development of morality.
	CO6	To identify the changes in emotionality of children and adolescence and the importance of self regulation.
	B. A. III SEM- V.	**Course Name : B.A.III-DSE 1023E4 Paper No.X Space Planning and Design**
	CO1	Prepare floor plan according to various income groups.
	CO2	Utilizes the skills of Kitchen gardening and landscaping.
	B. A. III	**Course Name : B.A.III-DSE 1023E5**

	SEM- V.	**Paper No.XI Research Methodology in Home Science**
	CO1	Understand the concept and importance of research
	CO2	Know tools and methods of research
	CO3	Apply research tools in Home Science
	B. A. III **SEM- V.**	**Course Name : B.A.III** **Paper No.E- I FASHION AND APPAREL DESIGNING**
	CO1	Student will be able to gain knowledge of elements and Principles of Design
	CO2	Student will be able to Sketch of Garments
	CO3	Student will be able to demonstrate the elements of apparel Constructions
	B. A. III **SEM-VI.**	**Course Name : B.A.III-DSE 1023F1** **Paper No.XII Therapeutic Nutrition**
	CO1	Students will understand the etiology, clinical features and types of various diseases.
	CO2	Students will be able to modify normal diet according changing needs of various therapeutic conditions.
	B. A. III **SEM-VI.**	**Course Name : B.A.III-DSE 1023F2** **Paper No. XIII Traditional Indian Textiles and Embroidery**
	CO1	Understand the concept of Traditional Indian textile.
	CO2	Demonstrate skills in Traditional Indian Embroideries.
	CO3	Acquaint skill of basic and traditional embroidery.
	CO4	Develop entrepreneurship skills in traditional embroidery and stitches.
	B. A. III **SEM-VI.**	**Course Name : B.A.III-DSE 1023F3** **Paper No.XIV Introduction to Guidance and Counseling**
	CO1	To understand the basic concepts of guidance and counseling and its importance
	CO2	To know the qualities and skills of a good counselor
	CO3	To become aware of the ethical and professional issues
	CO4	To understand the process of counseling
	B. A. III **SEM-VI.**	**Course Name : B.A.III-DSE 1023F4** **Paper No. XV Entrepreneurship Development**
	CO1	Understand the concept of entrepreneurship
	CO2	Prepare project proposal for new enterprise
	CO3	Understand the policies and schemes of Go's and NGo's regarding start up of enterprise
	B. A. III **SEM-VI.**	**Course Name : B.A.III-DSE 1023F5** **Paper No.XVI Extension for Development**
	CO1	Understand the concept of extension for development
	CO2	Apply the principles and use of extension teaching methods
	CO3	Utilize the means of communication for extension development
	B. A. III **SEM- V.**	**Course Name : B.A.III** **Paper No.E- 2 Bakery Science**
	CO1	Understand the knowledge of Bakery Science.
	CO2	Apply the techniques of cake, pastry and biscuit in own bakery business.
	CO3	Understand the concept of Food Safety & cost Control.

7	**Department of Hindi**	
	PSO 1	मानवीयमूल्योंकोबढावादेना।
	PSO 2	जिम्मेदारएवंसंवेदनशीलनागरिकबनाना।
	PSO 3	समता, बंधुता, मानवताआदिमूल्योंकोविकसितकरना।
	PSO 4	ज्ञानात्मकऔरवैचारिकक्षमताविकसितकरना।
	PSO 5	समाजसेवाऔरविश्वबंधुत्वकीभावनाकोबढावादेना।
	B. A.I Sem I	**अनिवार्यप्रश्नपत्र: सर्जनात्मकलेखनऔरहिंदीकहानी: GEC-1013 A**
	CO1	छात्रोंकीवैचारिकतातथासर्जनात्मकताकोबढ़ावादेना।
	CO 2	कहानीविधासेपरिचितकरना।
	CO 3	जनसंचारमाध्यमलेखनकेविविधक्षेत्रोंसेछात्रोंकोपरिचितकराना।
	CO 4	जनसंचारमाध्यमोंकेलेखनकौशलकोअवगतकराना।
	B. A.I Sem I	**ऐच्छिकप्रश्नपत्र -1 कथेतरगद्यसाहित्यऔररचनात्मकलेखन: DSC-1016 A**
	CO1	छात्रोंकीविचारक्षमतातथासर्जनात्मकताकोबढ़ावादेना।
	CO 2	छात्रोंकीहिंदीसाहित्यकेप्रतिरुचिकोबढ़ावादेना।
	CO 3	साहित्यकीविविधविधाओंसेछात्रोंकोपरिचितकरानाऔरभावात्मकविकासकराना।
	CO 4	छात्रोंमेंहिंदीभाषाकेश्रवण, पठनएवंलेखनकौशलकोबढ़ावादेना।
	B. A.I Sem II	**अनिवार्यप्रश्नपत्र: सर्जनात्मकलेखनऔरहिंदीकहानी: GEC-1013 B**
	CO1	छात्रोंकीवैचारिकतातथासर्जनात्मकताकोबढ़ावादेना।
	CO 2	कहानीविधासेपरिचितकरना।
	CO 3	संपादनकलाकेसिद्धांतएवंउद्देश्योंकोअवगतकराना।
	CO 4	संपादक - उपसंपादककेमहत्त्वएवंदायित्वसेपरिचितकराना।
	B. A.I Sem II	**ऐच्छिकप्रश्नपत्र - 2 आधुनिककविताऔररचनात्मकलेखन: DSC-1016 B**
	CO1	छात्रोंकीविचारक्षमतातथासर्जनात्मकताकोबढ़ावादेना।
	CO 2	नैतिकमूल्य, राष्ट्रीयमूल्यएवंउत्तरदायित्वकेप्रतिछात्रोंमेंआस्थानिर्माणकरना।
	CO 3	राष्ट्रप्रेम, राष्ट्रीयएकताएवंसामाजिकप्रतिबद्धताहेतुछात्रोंमेंराष्ट्रभाषाहिंदीकाप्रचार-प्रसारकरना।
	CO 4	हिंदीकेप्रतिनिधिगद्यकारोंएवंकवियोंसेछात्रोंकोपरिचितकराना।
	BAIII Sem V &Sem VI	**Paper VII and Paper XII** विधाविशेषकाअध्ययन **DSE – 1016 E 1 &DSE – 1016 F 1**
	CO1	उपन्यासऔरआत्मकथासाहित्यसेपरिचितकराना।
	CO2	उपन्यासकारसंजीवकेव्यक्तित्वएवंकृतितवकोसमझाना।
	CO3	पाँवतलेकीदूबउपन्यासमेंचित्रितआदिवासीएवंपर्यावरणवादीविमर्शकाअध्ययनकराना।
	CO4	साहित्यकेनवीनविधाओंसेपरिचितकरना।
	CO5	मराठीसेहिंदीमेंसाहित्यकेअनुवादप्रक्रियासेपाि◌चितकराना।
	CO6	कुर्सीपहियोंवालीआत्मकथाकीप्रासंगिकतासेअवगतकराना।
	CO7	छात्रोंकीविचारक्षमतातथासर्जनात्मकताकोबढ़ावादेना।
	BAIII Sem V &Sem VI	**Paper VIII and Paper XIII** साहित्यषास्त्रऔरआलोचना **DSE – 1016 E 2 & DSE – 1016 F 2**
	CO1	साहित्यकेनिर्मितिप्रक्रियाकाबोधकराना।
	CO2	काव्यकेविभिन्नअंगों, भेदोंसेपरिचितकराना।
	CO3	काव्यकेनवीनविधाओंसेपरिचितकरना।

	CO4	शब्दशक्तियोंसेपरिचितकराना।
	CO5	रसकेविभिन्नअंगोंकोसमझाना।
	CO6	काव्यसिद्धांतोंसेपरिचितकराना।
	CO7	छात्रोंकीविचारक्षमतातथासर्जनात्मकताकोबढ़ावादेना।
	BAIII Sem V &Sem VI	**Paper IX and Paper XIV** हिंदीसाहित्यकाइतिहास **DSE – 1016 E 3& DSE – 1016 F 3**
	CO1	हिंदीभाषातथासाहित्यकीविकासयात्रासेअवगतकराना।
	CO2	हिंदीसाहीत्यकीविकासयात्रामेंहिंदीभाषाकेमाध्यमसेअलग-अलगविचारधाराऔरप्रवृत्तियोंसेअवगतकराना।
	CO3	छात्रोंमेंसाहित्यसमझनेतथाउसकाअस्वादन, मूल्याकनकरनेकीदृष्टीकोबढ़ाना।
	CO4	छात्रोंकोसाहितकेसंदर्भमेंविभिन्नसाहित्यिकविधाओंविकासक्रमसेपरिचितकराना।
	CO5	छात्रोंकोयुगीनसामाजिक, राजनीतिकपरिस्थितियोंकेपरिप्रेक्ष्यमेंहिंदीसेअवगतकराना।
	CO6	इतिहासकारोंद्वाराप्रस्तुतकालविभाजनऔरनामकरणकोजाननेकेलिएप्रेरितकरना।
	CO7	हिंदीसाहित्यकेअंतर्गतगद्य-पद्यविधाऔरउसकेभेदों, उपभेदोंसेअवगतकराना।
	CO8	आदिकालसेलेकरआधुनिककालतककेसंत, महात्मा, लेखक, कवियोंकीविचारधाराऔरउनकेद्वारानिर्मितसाहित्यकासामान्यपरिचयकराना।
	BAIII Sem V &Sem VI	**Paper X and Paper XV** प्रयोजनमूलकहिंदी **DSE – 1016 E 4& DSE – 1016 F 4**
	CO1	हिंदीमेंकार्यकरनेकीरूचिकोविकसितकरना।
	CO2	रोजगारउन्मुखशिक्षाएवंकौशल्यप्रदानकरना।
	CO3	प्रिंटएवंदृकश्रव्यमाध्यमोंसेपरिचयकराना।
	CO4	नवइलेक्ट्रानिकमाध्यमोंसेपरिचयकराना।
	CO5	रोजगारपरकहिंदीकीउपयोगितास्पष्टकराना।
	BAIII Sem V &Sem VI	**Paper XI and Paper XVI** भाषाविज्ञानएवंहिंदीभाषा **DSE – 1016 E 5& DSE – 1016 F 5**
	CO1	भाषाकेविविधरूपोंकापरिचयकराना।
	CO2	भाषाविज्ञानकासामान्यपरिचयकराना।
	CO3	हिंदीभाषाएवंलिपिकेउद्भवओरविकासकापरिचयकराना।
	CO4	भाषाकेशुद्धताकेप्रतिछात्रोंकोजागृतकराना।
	CO5	मानकहिंदीवर्तनीऔरव्याकरणसेछात्रोंकोपरिचितकराना।

8	**Department of Marathi**	
	B. A.ISem I and Sem II	**DSC1015 A : मराठीअभ्यासपत्रिका१ and GEC 1013 A: मराठीअभ्यासपत्रिका A Sem : I(गद्य)** **DSC 1015 B: मराठीअभ्यासपत्रिका२ and GEC 1013 B: मराठीअभ्यासपत्रिका B Sem :II(पद्य)**
	CO1	मराठीभाषा,मराठीसाहित्याविषयीचेप्रेम,आस्थावउत्तरदायीत्वाचीकर्तव्यभावनानिर्माणकरणे.
	CO 2	मराठीभाषा,साहित्याचीपरंपरा,लेखकवकवीयांचीओळखकरूनदेणे.
	CO 3	विद्यार्थ्यांच्याशिक्षणप्रक्रियेतप्रत्यक्षसहभागवशोधकतावाढविणे.
	CO 4	मातृभाषा,इतरभाषा,राष्ट्रीयएकात्मताआणिमानवीमूल्यांविषयीजाणीवनिर्माणकरणे.
	BA IIISEM V Paper No. VII	**DSE 1015 E1**भारतीयकाव्यशास्त्र
	CO1	भारतीयकाव्यशास्त्राचीओळखकरूनदेणे
	CO2	काव्याचीलक्षणे, प्रयोजनेआणिकारणेसमजावूनदेणे
	CO3	साहित्याचीनिर्मितीप्रक्रियाआणिस्वरूपयांचीओळखकरूनदेणे
	CO4	भारतीयअलाकरांचीओळखकरूनदेणे
	BA IIISEM V Paper No. VIII	**DSE 1015 E2**भाषाविज्ञानआणिमराठीभाषा
	CO1	विद्यार्थ्यांचीमराठीभाषाआणिसाहित्याभ्यासाचीरुचीवाढविणे
	CO2	भाषेचेस्वरूप, कार्य, महत्त्वविशदकरणे
	CO3	मानवीवमानवेतरभाषासंज्ञापनाचीमाहितीदेणे
	CO4	भाषेतीलध्वनी,शब्द,वाक्य,अर्थविचारसमजावूनसांगणे
	CO5	मराठीभाषेचेव्याकरणववर्णविचारसमजावूनदेणे
	BA IIISEM V Paper No. IX	**DSE 1015 E3**मराठीवाङ्मयाचाइतिहास
	CO1	मध्ययुगीनवाङ्मयीनइतिहासाचापरिचयकरूनदेणे
	CO2	मध्ययुगीनकालखंडातीलवाङ्मयीनपरंपरा,रचनाप्रकारवग्रंथकारांचीमाहितीकरून देणे
	CO3	मध्ययुगीनकालखंडातीलवाङ्मयनिर्मितीच्याप्रेरणांचासांस्कृतिकपार्श्वभूमीचाउलगडाकरणे
	CO4	मध्ययुगीनकालखंडातीलप्रमुखसंप्रदायवग्रंथनिर्मितीयांचाअनुबंधस्पष्टकरणे
	CO5	मध्ययुगीनकालखंडातीलभाषेचेस्वरूपस्पष्टकरणे
	BA IIISEM V Paper No.X	**DSE 1015 E4** मराठीभाषासर्जनआणिउपयोजन
	CO1	अऔपचारिकआणिअनौपचारिकक्षेत्रांनुसारभाषिकव्यवहारसमजूनघेणे
	CO2	विविधक्षेत्रातीलभाषिककौशल्येआणिक्षमताविकसितकरणे
	CO3	लेखनआणिवाचनआणिभाषणयाकौशल्यांचाविकासकरणे
	CO4	उपयोजितआणिसर्जनशीललेखनासविद्यार्थ्यांनाउद्‌य्क्तकरणे
	CO5	भाषिकउपयोजनानेविद्यार्थ्यांचाशब्द्‌संग्रहसमृद्धकरणे
	BA IIISEM V Paper No.XI	**DSE 1015 E5**वाङ्मयप्रवाहाचेअध्ययन (विज्ञानसाहित्य)
	CO1	मराठीतीलविविधसाहित्याचापरिचयकरूनदेणे
	CO2	कादंबरीयावाङ्मयप्रकाराचीओळखकरूनदेणे
	CO3	विज्ञानसाहित्यातीलप्रवाह,प्रेरणा,स्वरूप, वैशिष्ट्येवविकाससमजावूनदेणे

	CO4	अभ्यासासाठीनेमेलेल्यासाहित्यकृतीद्वारेसंबंधितसाहित्यप्रकाराचेआकलनकरूनदेणे
	BA IIISEM VI Paper No.XII	**DSE 1015 F1**आधुनिकवपाश्चात्त्यकाव्यशास्त्र
	CO1	आधुनिकवपाश्चात्त्यकाव्यशास्त्राचीओळखकरूनदेणे
	CO2	आधुनिककाव्याचीलक्षणे,प्रयोजनेआणिकाव्यानंदसमजूनघेणे
	CO3	साहित्याचीनिर्मितीप्रक्रियाआणिस्वरूपयांचीओळखकरूनदेणे
	CO4	भाषेतीलवृत्तांचीओळखकरूनदेणे
	BA IIISEM VI Paper No.XIII	**DSE 1015 F2** मराठीभाषाआणिव्याकरण
	CO1	मराठीभाषेचाउगमकाळ,प्राचीनत्वजनकभाषेविषयीमाहितीकरूनघेणे
	CO2	मराठीवरइतरभाषांचाझालेलाप्रभावसांगणे
	CO3	मराठीभाषावतिच्यासंलग्नबोलीविषयीपरिचयकरूनदेणे
	CO4	मराठीभाषेचेव्याकरणवप्रयोगविचारसमजावूनदेणे
	CO5	भाषेविषयीविद्यार्थ्यांच्यामनातआवडनिर्माणकरणे
	BA IIISEM VI Paper No.XIV	**DSE 1015 F3** मराठीवाङ्मयाचाइतिहास (पंडितीकाव्यतेबखरवाङ्मय)
	CO1	मध्ययुगीनवाङ्मयीनइतिहासाचापरिचयकरूनदेणे
	CO2	मध्ययुगीनकालखंडातीलवाङ्मयीनपरंपरा,रचनाप्रकारवग्रंथकारांचीमाहितीकरूनदेणे
	CO3	मध्ययुगीनकालखंडातीलवाङ्मयनिर्मितीच्याप्रेरणांचासांस्कृतिकपार्श्वभूमीचाउलगडाकरणे
	CO4	मध्ययुगीनकालखंडातीलप्रमुखसंप्रदायवग्रंथनिर्मितीयांचाअनुबंधस्पष्टकरणे
	CO5	मध्ययुगीनकालखंडातीलभाषेचेस्वरूपस्पष्टकरणे
	BA IIISEM VI Paper No.XV	**DSE 1015 F4** मराठीभाषासर्जनआणिउपयोजन
	CO1	औपचारिकआणिअनौपचारिकक्षेत्रांनुसारभाषिकव्यवहारसमजूनघेणे
	CO2	विविधक्षेत्रातीलभाषिककौशल्येआणिक्षमताविकसितकरणे
	CO3	लेखनआणिवाचनआणिभाषणयाकौशल्यांचाविकासकरणे
	CO4	उपयोजितआणिसर्जनशीललेखनासविद्यार्थ्यांनाउद्‌युक्तकरणे
	CO5	जनसंपर्ककौशल्यांचीआवश्यकतावतंत्रेसमजूनघेणे
	BA IIISEM VI Paper No.XVI	**DSE 1015 F5** वाङ्मयप्रवाहाचेअध्ययन (पर्यावरणसाहित्य)
	CO1	मराठीतीलविविधसाहित्याचापरिचयकरूनदेणे
	CO2	प्रवासवर्णन, भटकंतीयावाङ्मयप्रकाराचीओळखकरूनदेणे
	CO3	पर्यावरणसाहित्यातीलप्रवाह, प्रेरणा,स्वरूप, वैशिष्ट्येवविकाससमजावूनदेणे
	CO4	अभ्यासासाठीनेमेलेल्यासाहित्यकृतीद्वारेसंबंधितसाहित्यप्रकाराचेआकलनकरूनदेणे

9	**Department of Geography**	
	PSO 1	Explain the scope of the Geography.
	PSO 2	Explain the concepts, theories and models of Geography
	PSO 3	Understand the new trends in Geographical studies.
	PSO 4	Understand the Geographical issues of local to global level with reference to resources.
	PSO 5	Develop scientific thinking for analyzing environmental issues.
	PSO 6	Develop the knowledge and thinking power for solution for Geo-environmental Problems.
	B. A.ISem I	**Introduction to Physical Geography Core Course- 1:DSC-1022A**
	CO1	To develop a keen interest in the subject and to pursue it for higher studies.
	CO 2	Become aware of the basic concepts of physical geography
	CO 3	Understand concepts of Physical Geography like Evolution of the Earth, Earths Interior etc.
	CO 4	Understand with distinctiveness of Geography as a field of learning with practical approach.
	CO 5	Will be able to utilize practical knowledge of GIS
	B. A.ISem II	**Human Geography Core Course-1: DSC -1022B**
	CO1	Will gain knowledge of the basic conceptual framework of Human Geography.
	CO 2	Become able to develop a keen interest in the subject and to pursue it for higher studies.
	CO 3	Become aware of the basic concepts of Human geography
	CO 4	Understand concepts of Human Geography like Human Evolution, Races, World Population etc.
	CO 5	Will become aware of the functioning of Google Earth.
	CO 6	Understand with distinctiveness of Human Geography as a field of learning with practical approach.
	B. A.ISem I and Sem II	**AECC Science Technology and Development (STD): GEC -1014 A (Sem I) and GEC -1014 B (Sem II)**
	CO1	After the completion of this course students are expected to be familiar with the basic scientific concept. Besides, they will be acquainted with the new research in basic science, communication Technology, space Science defense, Ocean research and disaster management
	B. A. II Sem III	**Soil Geography, DSC-1022C1**
	CO1	Students should be able to understand significance of soil geography which is the fundamental branch of Physical Geography.
	CO 2	Students should be able to compare and relate soil is key resource for the development of any country.
	CO 3	Students should be able to make use of various models of soil formations.
	CO 4	Students should be able classify soil degradation and soil distribution in Maharashtra and India
	CO 5	Students should be able to use soil sample tools.
	CO 6	Students should learn to analyze saline and alkaline soil and comprehend vermi compost process
	CO 7	Students should be familiar with the concept, need and methods soil of management

	B. A. II Sem III	**Resource Geography, DSC-1022C2**
	CO1	Students should know Resource geography is the fundamental branch of Physical Geography.
	CO 2	**S**tudents understand mineral resource is key resources for the development of any country.
	CO 3	Students should know forest and energy resources.
	CO 4	Students should know approaches in resource management and concept of sustainability.
	CO 5	Students should know principles of energy conservation and Indian Renewable energy Programme
	B. A. II Sem IV	**Oceanography, DSC-1022D1**
	CO1	Students should be able to define nature and scope of oceanography.
	CO 2	Student should be able to describe temperature, salinity and currents of ocean.
	CO 3	Students should be able to classify ocean deposits.
	CO 4	Students should be acquainted with practical's related to oceanography i.e. hypsographic curve, wind rose, Isohalines and isotherms.
	B. A. II Sem IV	**Agricultural Geography, DSC-1022D2**
	CO1	Students be able to understand the concept and development of Agriculture.
	CO 2	Students be able to inspect the role of agricultural determinants towards the changing cropping pattern.
	CO 3	Students be able to revise the Green Revolution.
	CO 4	Students be able to know agricultural concepts and modern technologies used in Agriculture.
	B.A. Part III Sem V	**Paper VII: Evolution of Geographical Thought, DSE 1022 E1**
	CO1	Students should be able to understand in-depth knowledge about the Evolution of Geographical Thoughts.
	CO2	Students should be able analyse recent trends in geography after studying thought processes.
	CO3	Students should be able to make use of various models of paradigms and debates in geographical study.
	CO4	Students should be able classify the concepts of different schools of geographic thoughts.
	B.A. Part III Sem V	**Paper VIII: Geography of India, DSE 1022 E2**
	CO1	Students should be able to understand significance of location in geography
	CO2	Students should be aware about mechanism of monsoon and seasons in India
	CO3	Students should be able to relate the knowledge with the present climatic and weather conditions.
	CO4	Students should acquire detailed knowledge about soils, vegetations, drainage systems in India
	CO5	Students should be able to acknowledge the importance of agriculture and

		industry in Indian economy
	CO6	Students should be familiar with the knowledge concerning the economic setup of the India
	B.A. Part III Sem V	**Paper IX: Population Geography, DSE 1022 E3**
	CO1	Students should be able to understand basics of population study, population growth trends and its distribution
	CO2	Students should understand population geography along with relevance to the demographic data
	CO3	Students should be able to compare and relate population dynamics.
	CO4	Students would get an understanding of distribution and trends of population growth in the developed and less developed countries, along with population theories.
	CO5	Students should be able to make use of various models and understanding of the implications of population composition in different regions of the world.
	CO6	Students should get an appreciation of the contemporary issues in the field of population studies
	B.A. Part III Sem V	**Skill Enhancement Course (SEC) Tourism Planning (SEC –AF1)**
	CO1	Describe the structure and planning of Tourism.
	CO2	Discuss how to arrange tours.
	B.A. Part III Sem VI	**Paper X: Economic Geography, DSE 1022 F1**
	CO1	Students should be able to get in-depth knowledge about basic concepts in economic geography
	CO2	Students should be able to understand importance of location factor in economic activities with special reference to agriculture and industry.
	CO3	Students should be able to enhance detailed understanding of the basics concepts related to manufacturing and major manufacturing industries (selected countries) of the world.
	CO4	Students should be able classify the transport and trade
	B.A. Part III Sem VI	**Paper XI, Semester - VI Urban Geography, DSE 1022 F2**
	CO1	Students should be able to understand significance of the importance of urban settlements through urban geography
	CO2	Students should be able to compare and relate types of Urban Settlements, Site and Situations
	CO3	Students should be familiar with an idea of relationship between human activities and urban development.
	CO4	Students should be able understand the issues regarding present urban problems and will be capable of handling present problematic situations in urban areas
	CO5	The students will become as a good urban planner and environmental conservator
	B.A. Part III Sem VI	**Paper XII, Semester - VI Political Geography, DSE 1022 F3**
	CO1	Students should be aware of the knowledge of political geography as a fundamental branch of Human Geography

	CO2	Students should be familiarized with the basics and fundamental concepts and theories of Political Geography
	CO3	Students should be able to make decisions about resource conflicts and politics of displacement.
	B.A. Part III Sem VI	**Semester V Skill Enhancement Course (SEC) Introduction to Surveying (SEC –AF)**
	CO1	Discuss Meaning, Types of Survey with Reference to Field Survey and Ground Survey
	CO2	Discuss the importance and application of surveying

10	**Department of Commerce (B. Com. Programme)**	
	B.Com. I Sem I	**Financial Accounting Paper- I: CC – 1043A**
	CO1	To understand theoretical background of Financial accounting.
	CO 2	To understands process of amalgamation.
	CO 3	To know the Accounting in the Books of Partnership Firm and Limited Company and Accounting of Professionals.
	B.Com. I Sem I	**Principles of Business Management Paper –I: CC - 1041 A**
	CO1	Recall the functions of management.
	CO 2	Classify the managerial skills.
	CO 3	Differentiate the principles of management.
	CO 4	Generate the different types of organizational plans.
	B.Com. I Sem I	**Principles of Marketing Paper –I: CC-1042A**
	CO1	Student acquire knowledge of core concepts of marketing and identifies buying behaviour of consumer.
	CO 2	Students will demonstrate strong conceptual knowledge of marketing research and recent trends in marketing development.
	B.Com. I Sem I	**Business Mathematics Paper –I:GEC-1045A**
	CO1	Apply the relevant formula in both theoretical and practical context, demonstrate understanding of arithmetic formula in work and discussion.
	CO 2	Work with simple ratios, conversion between fractions, decimals and percentage.
	CO 3	Use computational techniques and algebraic skills essential for the study of systems of linear equations, matrix algebra
	CO 4	Formulate and solve the mathematical models (linear programming problems) for physical situations like production, distribution of goods and economics.
	B.Com. I Sem I	**Insurance Paper-I: GEC-1046 A**
	CO1	To understand concept of insurance, types of insurance and significance of insurance.
	CO 2	To know the insurance contract and principles of insurance.
	CO 3	To understand who is insurance agent and procedure of becoming insurance agent, ethical code of conduct, qualification of insurance agent and remuneration of insurance agent.
	CO 4	To know why privatization of insurance and IRDA act.
	B.Com. I Sem II	**Financial Accounting Paper- II: CC- 1043B**
	CO1	To understand process of single entry system.
	CO 2	To demonstrate consignment account and Departmental Accounting.
	CO 3	To understand theoretical background of Financial Accounting Standard.
	B.Com. I SemII	**Principles of Business Management Paper –II: CC - 1041 B**
	CO1	Recognize Organizing process.
	CO 2	Interpret staffing and establish its relationship with Human Resource Management.

	CO 3	Execute the concept of directing and its importance in business organizations.
	CO 4	Check Management in the Twenty-first Century and plan accordingly.
	B.Com. I Sem II	**Principles of Marketing Paper –I: CC-1042B**
	CO1	Be familiar with the recent elements of the marketing mix.
	CO 2	Students will demonstrate effective understanding of retailing and rural marketing.
	B.Com. I Sem II	**Business Mathematics Paper -1I:GEC-1045B**
	CO1	Verify the value of the limit of a function at a point using the definition of the limit.
	CO 2	Compute the expression for the derivative of a function using the rules of differentiation including the product rule, quotient rule and chain rule.
	CO 3	Explain the relationship between the derivative of a function as a function and the notion of derivative as slope of tangent line to a function at a point.
	CO 4	Recognizes the different techniques of integration (By parts, trigonometric integrals, partial fraction),
	B.Com. I Sem II	**Insurance Paper-I: GEC-1046 B**
	CO1	To understand Life Insurance, Marine Insurance, Fire Insurance and General Insurance.
	CO 2	To know the procedure of taking Life Insurance Marine Insurance, Fire Insurance and General Insurance Policies.
	CO 3	To understand the new insurance schemes.
	B.Com. II Sem III	**Paper I:Business Statistics – I CC - 1051 C**
	CO1	Apply Statistics in various fields and classify data and representing it graphically.
	CO 2	Understand concept of population, sample and different methods of sampling.
	CO 3	Make familiar with statistical measures viz. Measures of Central Tendency and Dispersion.
	CO 4	Understand the concept of bivariate data and analyze data by using correlation and regression.
	B.Com. II Sem IV	**Paper II: Business Statistics – II CC - 1051 D**
	CO1	Understand the concept of probability and probability distributions and apply probability distributions in real life.
	CO 2	Measure trend and seasonal indices in Time series.
	CO 3	Compute simple and weighted Index numbers.
	CO 4	Distinguish between process and product control, plotting control charts for variable and attributes**.**
		BRF
	CO1	After Completion of this Course student should be able to apply the gained knowledge of laws in the day to day life
		MMP
	CO1	Know contribution of various management Guru’s in modern management

	CO2	Explain process & types of Strategic management.
	CO3	Illustrate stakeholder's role in corporate governance.
	CO4	Describe Knowledge Management
		MMP-II
	CO1	Know Various Quality management Concepts.
	CO2	Explain Types of Events Management.
	CO3	Analyze Change Management.
	CO4	Describe International Management.
		IM-I
	CO1	Outline basic meaning of industrial management.
	CO2	Plan various aspects of selection of factory location.
	CO3	Examine industrial environment and pollution.
	CO4	Identify suitable maintenance system.
		IM-II
	CO1	Understand fundamental concepts of Classify Human Resource Management.
	CO2	Explain sources of recruitment and its importance in Human Resource Management.
	CO3	Describe the need and importance of Training and Development.
	CO4	Illustrate the difference between Performance Appraisal and Merit Rating.
		IM-III
	CO1	Classify inventory on the basis of cost and quantity.
	CO2	Identify steps involved in production planning and control.
	CO3	Understand fundamentals of quality management.
	CO4	Describe Supply Chain and Supply Logistic Management.
		IM-IV
	CO1	Identify knowledge and facts of Compensation Management.
	CO2	Examine information related to Industrial Relations.
	CO3	Apply knowledge of Human Resource Audit in solving Managerial problems.
	CO4	Explain Concept of International HRM.
		Advanced Accountancy-I
	CO1	To familiarize with vertical format of Bank Final account, accounting procedure of Farm Accounting, Hire purchase system and Insurance claim.
	CO2	Tounderstand theoretical background of management accounts and cost accounting.
		Advanced Accountancy-II
	CO1	To demonstrate concept of Auditing, Auditor and Audit Report.
	CO2	To elaborate concept of Vouching, Verification and Valuation.
	CO3	To describe the Recent Trends in Auditing.
	CO4	To understand Computer Assisted Audit Techniques.
		Advanced Accountancy-III
	CO1	To prepare Cost Sheet of a company.
	CO2	To use marginal costing technique in decision making process.
	CO3	To estimate working capital requirement and can prepare funds flow statement.
	CO4	To utilize Ratio Analysis technique in analysis of financial statements.
		Advanced Accountancy-IV

	CO1	To demonstrate concept of Basics of Income Tax.
	CO2	To analyzeand solve the problems of Salaries, House Property, Business or Professionof Income.
	CO3	To compute Taxable Income of Individual.
	CO4	To outline of the Goods and Service Tax.

11	**Department of Chemistry**	
	PSO 1	To encourage students to fix their feet and bright their carrier in the fields of science and technology for sustainable future and solve the emerging opportunities and challenges.
	PSO 2	To encourage our budding scientist in the field of chemical research for human well beings.
	PSO 3	To encourage and motivate the students to understand the chemistry in our daily life
	PSO 4	To inspire students to follow the principles of green chemistry which provides guideline for the exploration of nature without disturbing equilibrium of the nature
	PSO 5	We help the students to understand theoretical chemistry by its practical applications in which traditional and modern apparatus are used.
	PSO 6	To create awareness and understanding of various critical perspectives and environmental challenges.
	PSO 7	To understand the diversity of the subject in the different fields.
	PSO 8	To encourage the student towards creativity and generates scientific attitude.
	PSO 9	To encourage students to adopt comparative understanding with mathematical, biological and social sciences.
	B. Sc.ISem I	**Paper I-Part I: Inorganic Chemistry DSC-1002 A**
	CO1	To understand the fundamental concepts about atomic structure and general trends in periodic table.
	CO 2	To learn the aspects in Ionic bonding, Molecular orbital theory and valence bond theory.
	B. Sc.ISem I	**Paper I-Part II: Organic Chemistry DSC-1002 A**
	CO 1	To learn the fundamental concepts in f organic chemistry, aromaticity and stereochemistry.
	CO 2	To understand the different methods of synthesis of various organic compounds - Aldehydes andketones.
	B. Sc.ISem II	**Paper II- Part I: Physical Chemistry: DSC-1002B**
	CO1	To understand the laws of thermodynamics, various aspects of enthalpy and free energy.
	CO 2	To acquire the knowledge about Chemical Kinetics, Thermochemistry and Nuclear chemistry.
	B. Sc.ISem II	**Paper II- Part II: Analytical & Industrial Chemistry: DSC-1002B**
	CO 1	To acquire fundamental skills required for Analytical & Industrial chemistry
	CO 2	To gain the knowledge about various techniques in Chromatography.
	CO 3	To study the various aspects in Dairy and Leather chemistry.
	B.Sc. III SEM-V	**DSE-I Physical and Inorganic Chemistry**
	CO 1	The students will be able to understand the wave mechanics of atomic structure.
	CO 2	After studying the course the students will came to know the phenomenon related to the micro particle like electrons.
	CO 3	The fundamentals behinds the spectroscopic techniques like Raman, electronics, vibrational will be studied by the students.
	CO 4	Basics of photochemistry will be understood by the students after

		completion of this course.
	CO 5	The theory of the reaction rates can be studied by the students.
	CO 6	To sensitize the students for learn the basic of structure and defects in crystals
	CO 7	Students will gain an understanding of synthesis and applications of the semiconductors and superconductors in electrical and electronic devices.
	CO 8	To impart essential knowledge in students regarding classification, types, mechanism and applications of catalyst in industrial fields is explained.
	CO 9	To improve the level of understanding of structure, method of preparation and applications of organometallic compound in various fields are explained.
	CO 10	To give the students a thorough knowledge of role of various metals and nonmetals in our health are discussed
	B.Sc. III SEM-V	**DSE-II Organic and Analytical Chemistry**
	CO 1	Learn mechanism of different organic name reactions and to become confident to solve the problems based on the reactions.
	CO 2	Learn the utility of reagents in organic synthesis.
	CO 3	Understand fundamentals of terpenoids, alkaloids.
	CO 4	Understand the applications of nucleophilic substitution reaction of aromatic compounds
	CO 5	Acquire knowledge of pharmaceuticals and its use
	CO 6	Understand basic concepts of qualitative and quantitative analysis.
	CO 7	Acquire skills of titrimetric and gravimetric analysis.
	CO 8	Gain skills of potentiometric and colorimetric analysis.
	CO 9	Learn and understand the separation techniques such as paper and thin layer chromatography
	B.Sc. III SEM-VI	**DSE-III Physical and Inorganic Chemistry**
	CO 1	The students will be able to understand the theoretical aspect of chemical transformation.
	CO 2	Students will understand deep knowledge about surface phenomenon and isotherms of surface reactions.
	CO 3	The methods of detections of radioactivity of the samples have been clearly understood by the students.
	CO 4	The students will be able to understand the working principle of cells and batteries.
	CO 5	The chemistry behind the ethanol fermentation by anaerobic bacteria will be completely understood by the students.
	CO 6	Students should able to get idea about theories, factors and Knowledge of prevention from corrosion
	CO 7	Students will gain knowledge about ligands, chelates, classification and applications of chelating agents in analytical chemistry.
	CO 8	To develop interest among students in various nuclear reactions is highlighted. Role of radio isotopes in medicinal, industrial and archaeology fields is explained.
	CO 9	To study the important aspects of the mechanism of the reactions involved in inorganic complexes of transition metals.
	CO 10	The students will get a basic understanding of nanochemistry,

		nanotechnology and its fascinating aspects.
	B.Sc. III SEM-VI	**DSE-IV Organic Spectroscopic Techniques & Industrial Chemistry**
	CO 1	Students should be able to Understand basic concepts of spectroscope
	CO 2	Acquire knowledge of various spectroscopic techniques such as UV, IR, NMR and Mass Spectroscopy.
	CO 3	Interpret molecular structures by using spectroscopic techniques..
	CO 4	Understand basics of industrial chemistry.
	CO 5	Learn manufacturing processes of heavy chemicals.
	CO 6	Acquire knowledge of sugar and jaggery industry.
	CO 7	Learn and understand fermentation processes involved in manufacturing of alcohol.
	CO 8	Understand overall information regarding manufacture of fertilizers

12	**Department of Mathematics**	
	PSO 1	To study differentiability of real valued functions and to make aware students about their applicability.
	PSO 2	To study various classes of differential equations.
	B. Sc.ISem I	**Paper I- Section I: Calculus: DSC -1003 A**
	CO1	Calculate the limit and examine the continuity of a function at a point.
	CO 2	Understand the consequences of various mean value theorems for differentiable functions.
	CO 3	Sketch curves in Cartesian and polar coordinate systems.
	B. Sc.ISem I	**Paper I- Section II: Algebra and Geometry: DSC -1003 A**
	CO1	Understand the importance of roots of real and complex polynomials and learn various methods of obtaining roots.
	CO 2	Familiarize with relations, equivalence relations and partitions.
	CO 3	Employ De Moivre's theorem in a number of applications to solve numerical problems.
	CO 4	Recognize consistent and inconsistent systems of linear equations by the row echelon form of the augmented matrix, using rank.
	CO 5	Find eigenvalues and corresponding eigenvectors for a square matrix.
	CO 6	Explain the properties of three dimensional shapes.
	B. Sc.ISem II	**Paper II- Section I:Multivariable Calculus: DSC -1003 B**
	CO1	Learn conceptual variations while advancing from one variable to several variables in calculus.
	CO 2	Apply multivariable calculus in optimization problems.
	CO 3	Inter-relationship amongst the line integral, double and triple integral formulations.
	CO 4	Applications of multivariable calculus tools in physics, economics, optimization, and understanding the architecture of curves and surfaces in plane and space etc.
	CO 5	Realize importance of Green, Gauss and Stokes' theorems in other branches of mathematics.
	B. Sc.ISem II	**Paper II-Section II:Ordinary Differential equations: DSC -1003 B**
	CO1	Understand the genesis of ordinary differential equations.
	CO 2	Learn various techniques of getting exact solutions of solvable first order differential equations and linear differential equations of higher order.
	CO 3	Know Picard's method of obtaining successive approximations of solutions of first order differential equations, passing through a given point in the plane and Power series method for higher order linear equations.
	CO 4	Grasp the concept of a general solution of a linear differential equation of an arbitrary order and also learn a few methods to obtain the general solution of such equations.
	CO 5	Formulate mathematical models in the form of ordinary differential equations to suggest solutions of the day to day problems arising in physical, chemical & biological disciplines.
	B. Sc. II SemIII	**Paper-III: Number Theory and Integral Calculus DSC-1003C**
		Section I: Number Theory
	CO1	Students will able to use mathematical induction and understand the logic and methods behind the major proofs in Number Theory.

	CO 2	Students will able to describe method of solving linear Diophantine equation
	CO 3	Students will able to determine GCD and LCM by using Euclidean algorithm.
	CO 4	Students will able to understand the definition of congruence and familiar with number theoretic functions.
		Section II: Integral Calculus
	CO1	Students will able to acquire the information about beta, gamma function and evaluate it in various problems
	CO 2	Students will able to apply Leibnitz rule for differential under integral sign
	CO 3	Students will able to aearn definition of Fourier Series, Odd and Even Functions, Half range series.
	CO 4	Students will able to use the knowledge of double and triple integrals for finding area and volume
	B. Sc. II Sem IV	**Paper-IV Discrete Mathematics and Integral Transform DSC-1003D**
		Section I: Discrete Mathematics
	CO1	Student will able to understand Recurrence Relation, Generating functions and solving problems involving recurrence equations.
	CO 2	Student will able to understand basic concept of graph theory to apply in various fields.
	CO 3	Student will able to Formulate Recurrence Relations to solve problems involving an unknown sequence.
	CO 4	Student will able to familiarize with the types of graphs, types of paths and their properties
		Section II: Integral transforms **Course Outcomes:**
	CO1	Students will able to recognize the different methods of finding Laplace transforms and Fourier transforms of different functions.
	CO 2	Student will able to explain the applications and the usefulness of these special functions.
	CO 3	Student will able to Determine Fourier transform, Relation between Laplace and Fourier Transform.
	CO 4	Student will able to apply the knowledge of Laplace transforms, Fourier transforms and Finite Fourier transforms in finding the solutions of differential equations,
	B.Sc. III SEM-V	**1003 E1 Real analysis and Modern Algebra**
	CO 1	After studying this course student will understand and learn about The characteristics of set of real number.
	CO2	Sequence and series of real numbers and their properties.
	CO 3	Riemann Integral and Improper Integral.
	CO4	An algebraic structures Group and Ring
	CO5	Properties and terminologies related to Group and Ring
	B.Sc. III SEM-V	**1003E2 Matrix Algebra and Numerical Methods-I**
	CO 1	After completing this course, students will understand and learn about Terminologies related with matrices
	CO2	Able to solve system of homogeneous and non-homogenous equations.

	CO 3	Formulate and apply suitable methods to solve problems
	CO4	Identify and select procedures for various sequencing, assignment, transportation problems.
	B.Sc. III SEM-V	**DSC -1003E2 Optimization Techniques and Numerical Methods-I**
	CO 1	After studying this course student will understand and learn about Formulate and apply suitable methods to solve problems
	CO2	Identify and select procedures for various sequencing, assignment, transportation problems
	CO 3	Use appropriate numerical methods and determine the solutions to given non-linear equations.
	CO4	Use appropriate numerical methods and determine approximate solutions to systems of linear equations and ordinary differential equations.
	CO5	Demonstrate the use of interpolation methods to find intermediate values in given graphical and/or tabulated data.
	B.Sc. III SEM-VI	**1003 F1 Metric Spaces and Linear Algebra**
	CO 1	After studying this course student will understand and learn about Metric spaces and its different types.
	CO2	solution of ordinary differential equations using fixed point
	CO 3	Vector spaces and operators on them.
	CO4	Inner product spaces
	B.Sc. III SEM-VI	**1003F2 Complex Analysis and Numerical Methods-II**
	CO 1	Upon successful completion of this course, Students will understand and learn about basic concepts of functions of theory of function of complex variable.
	CO 2	Differentiation and integration of complex valued functions.
	CO 3	Use appropriate numerical methods and determine the solutions to given non-linear equations.
	CO 4	Use appropriate numerical methods and determine approximate solutions to systems of linear equations and ordinary differential equations.
	CO5	Demonstrate the use of interpolation methods to find intermediate values in given graphical and/or tabulated data.

13	**Department of Statistics**	
	PSO1	With a short term course in Statistical Quality Control they can serve asQualitycontrol expert
	PSO2	With short term course in Actuarial Science they can work inInsuranceCompanies.
	PSO3	They can work as a Data analyst in various fields.
	B. Sc.ISem I	**Paper I- Part- I: Descriptive Statistics –I: DSC - 1004 A**
	CO1	To know scope of Statistics and sampling methods.
	CO 2	Compute descriptive statistics,
	CO 3	Compute moments, skewness, kurtosis and to interpret it.
	CO 4	Analyze data pertaining to attributes and interpret the results.
	B. Sc.ISem I	**Paper I- Part- II: Elementary Probability Theory: DSC - 1004 A**
	CO1	Distinguish between Deterministic and Non-deterministic experiments.
	CO 2	Understand the basic concepts of probabilities.
	CO 3	Learn theorems on probabilities and compute probabilities.
	CO 4	Understand concepts of probabilities and independence of events.
	CO 5	Understand the concept of discrete random variable, probability distributions and mathematical expectations.
	B. Sc.ISem II	**Paper II- Part- I: Descriptive Statistics –II: DSC - 1004 B**
	CO1	Understand concept of bivariate data.
	CO 2	To compute correlation coefficient and its interpretation.
	CO 3	To compute regression coefficients and regression lines.
	CO 4	Understand the need of vital statistics and concepts of mortality and fertility.
	CO 5	Know the concept and use of time series.
	B. Sc.ISem II	**Paper II- Part- II:Discrete Probability Distributions:DSC - 1004 B**
	CO1	Apply some univariate standard discrete probability distributions to different situations and mathematical expectations.
	CO 2	To learn relation between different discrete distributions.
	CO 3	Concept of bivariate random variable, probability distributions.
	B. Sc. II Sem III	**Paper V: Probability Distributions-I DSC - 1004 C1**
	CO1	Students will be able to compute descriptive statistics, moments, skewness, kurtosis, m.g.f. and c.g.f for continuous univariate distributions.
	CO 2	Students will be able to compute various statistical measures for continuous bivariate distributions.
	CO 3	Students will be able to understand transformation of continuous univariate and bivariate random variable.
	CO 4	Students will be able to understand various continuous probability distributions and their applications in different fields.
	B. Sc. II Sem III	Paper VI: Statistical Methods **DSC - 1004 C2**
	CO1	Students will be able to understand the concept of Multiple Linear Regression, residual.
	CO 2	Students will be able to understand the concept of multiple correlation and partial correlation.
	CO 3	Students will be able to compute simple, weighted index numbers and cost of living index number.
	CO 4	Students will be able to understand the basics of official Statistics.

	B. Sc. II Sem IV	**Paper VII: Probability Distributions-II DSC - 1004 D1**
	CO1	Students will be able to understand various continuous probability distributions and their applications in different fields.
	CO 2	Students will be able to know the relation between various probability distributions.
	CO 3	Students will be able to learn basics of R- software
	CO 4	Students will be able to learn data analysis using R- software.
	B. Sc. II Sem IV	**Paper VIII: Introduction to Reliability Theory & Testing of Hypothesis DSC - 1004 D2**
	CO1	Students will be able tounderstand the basic concepts of reliability and ageing properties.
	CO 2	Students will be able to recognize the basic concepts of testing of hypothesis
	CO 3	Students will be able to distinguish between large and small sample tests.
	CO 4	Students will be able to apply small and large sample tests in real life examples.
	B.Sc . II	Statistics Practical
	CO1	Students are expected to be able tocompute probabilities of standard probability distributions, expected frequencies and test the goodness of fit.
	CO 2	Students are expected to be able to understand how to obtain random sample from standard probability distribution.
	CO 3	Students are expected to be able to construct various control charts.
	CO 4	Students are expected to be able to understand the applications and Sketch of various discrete and continuous distributions
		SEC 1 Introduction to MS-Excel
	CO1	Students should be able to Use excels for entering and manipulating data.
	CO 2	Students should be able to Use advanced techniques for report visualizations.
	CO 3	Students should be able to Handle huge amount of data.
		SEC 2 Advance MS- Excel
	CO1	Students should be able to apply advanced formulas to lay data in readiness for analysis
	CO 2	Students should be able to understand various statistical methodologies of summarizing data
	CO 3	Students should be able to share workbooks with others.
	B. Sc. III SEM-V	**DSE 1004E1 Probability Distributions**
	CO1	knowledge of important univariate distributions such as Laplace, Cauchy, Lognormal, Weibull, Logistic, Pareto, Power Series Distribution
	CO2	Knowledge of Multinomial and Bivariate Normal Distribution.
	CO3	Knowledge of Truncated Distributions.
	CO4	Knowledge to apply standard continuous probability distributions to different real life data/situations.
	CO5	Knowledge about order statistics and associated distributions
	CO6	Concept of Markov chains and Queuing theory.
	B.Sc. III SEM-V	**DSE 1004E2 Sampling Theory & Operation Research**
	CO1	The students shall get

	CO2	Basic knowledge of complete enumeration and sample, sampling frame sampling distribution, sampling and non-sampling errors, principle steps in sample surveys, sample size determination, limitations of sampling etc.
	CO3	Introduced to various sampling methods such as simple random sampling, stratified random sampling, systematic sampling and cluster sampling.
	CO4	An idea of conducting sample surveys and selecting appropriate sampling techniques.
	CO5	Knowledge of comparing various sampling techniques.
	CO6	Knowledge of ratio and regression estimators
	CO7	Concept of Linear programming problem.
	CO8	Knowledge of solving LPP by graphical and Simplex method.
	CO 9	Knowledge of Transportation, Assignment and Sequencing problems
	CO10	Knowledge of types of decision making environments and to take decisions in such environments
	CO 11	Knowledge of simulation technique and Monte Carlo technique of simulation.
	B. Sc. III SEM-V	**SEC - Statistical Computing Using R**
	CO1	R programming with some basic notations for developing their own simple programs. And visualizing graphics in R.
	CO2	Generation of random sample from various distributions by inverse transformation method.
	B. Sc. III SEM-VI	**DSE 1004F1 Probability Theory & Statistical Inference - II**
	CO1	Knowledge about important inferential aspects such as point estimation.
	CO2	Knowledge of various important properties of estimator,
	CO3	Knowledge about inference of parameters of standard discrete and continuous distributions.
	CO4	Concept of CR inequality.
	CO5	Knowledge of different methods of estimation
	CO6	Knowledge of interval estimation.
	CO7	Acquainted with testing of hypotheses.
	CO8	Knowledge of nonparametric statistical inference and various tests
	B.Sc. III SEM-VI	**DSE 1004F2 Design of Experiment, Quality Management & Data Mining**
	CO1	Understand the basic terms in design of experiments.
	CO2	Carry out one way and two Analysis of Variances.
	CO3	Give statistical interpretation of the experimental results obtained. Concept of efficiency of design.
	CO4	Concept of ANOCOVA
	CO5	Understand factorial experiments.
	CO6	Knowledge of quality tools used in Quality management.
	CO7	Knowledge of Six sigma methodology.
	CO8	Difference between process control and product control.
	CO 9	Basic knowledge of data mining

14	**Department of Botany**	
	PSO 1	Students will acquire comprehensive knowledge about microbes and their role in environment.
	PSO 2	Students will develop comprehensive knowledge about algae, fungi and lichen and their significance.
	PSO 3	Students will get comprehensive knowledge about bryophytes, pteridophytes and their utilization.
	PSO 4	Students will develop comprehensive knowledge about gymnosperms and their evolutionary significance.
	PSO 5	Students will develop comprehensive about plant environment, adaptations and ecological interactions in plants.
	PSO 6	Students will get comprehensive knowledge about ecosystem its functioning and phytogeogarphy of India.
	PSO 7	Students will get comprehensive knowledge about angiosperm morphology and taxonomy.
	PSO 8	Students will get comprehensive knowledge about plant families and their economic importance.
	PSO 9	Accurately interpretation of collected information and use taxonomical information to evaluate and formulate a position of plant in taxonomy.
	PSO 10	Students will be able to demonstrate proficiency in the experimental techniques and methods of analysis appropriate for their area of specialization within biology.
	PSO 11	Students will develop knowledge about management, problem analysis, ethics and communication.
	B. Sc.ISem I	**Paper I- Biodiversity in Microbes, Algae and Fungi: DSC - 1007 A1**
	CO1	Candidates trained will be able to identify and classify bacteria, fungal, algal and lichen live and preserved specimen.
	CO 2	Candidates' trained will be able to understand classification of fungal, algal and lichen.
	CO 3	Candidates trained will be able to identify diatoms.
	CO 4	Candidates trained will be able to identify VAM fungi.
	B. Sc.ISem I	**Paper II-Bryophytes, Pteridophytes and Gymnosperms (Archegoniates): DSC - 1007 A2**
	CO1	Candidates trained will be able to identify and classify bryophytes, pteridophytes and gymnosperms.
	CO 2	Candidates' trained will be able to understand classification of bryophytes, pteridophytes and gymnosperms.
	CO 3	Candidates trained will be able to know the sustainable utilization of these plants to the society.
	B. Sc.ISem II	**Paper III - Plant Ecology:DSC - 1007 B1**
	CO1	Candidates trained will be able to understand the basic components of ecology.
	CO 2	Candidates trained will be able to understand various species interactions.
	CO 3	Candidates trained will be able to understand ecological succession.
	CO 4	Candidates trained will be able to understand ecosystem and phytogeography.
	B. Sc.ISem II	**Paper IV- Angiosperms Taxonomy: DSC - 1007 B2**
	CO1	Candidates trained will be able to understand the morphology of flowering plant.

	CO 2	Candidates trained will be able to understand the classification of flowering plant.
	CO 3	Candidates trained will be able to understand the morphological, floral, distinguishing characters and economic importance of families.
	B. Sc. II Sem III	**Paper-III :Taxonomy, Embryology and Plant Physiology DSC 1007 C**
		Section – I (DSC 1007 C1) :"Taxonomy , Embryology"
	CO 1	Trained students will be able to understand organization and different mechanism of flower.
	CO 2	Trained students will be able to understand development and types of embryo.
		Section – II (DSC 1007 C2): "Plant Physiology"
	CO 1	Students will know the plant water relationship and role of minerals in plant growth.
	CO 2	Trained students will be able to understand the concept of photosynthesis and respiration.
	B. Sc. II Sem IV	**Paper-IV : DSC 1007 D : " Plant Anatomy and Plant Metabolism "**
		Section – I (DSC 1007D1) : "Plant Anatomy"
	CO 1	Trained students will be able to understand the scope, importance and techniques of anatomy.
	CO 2	Trained students will be able to know the various plant adaptations.
		Section- II (DSC 1007 D2) : "Plant Metabolism"
	CO 1	Students will know the mechanism of enzymes, growth, seed dormancy and seed germination.
	CO 2	Trained students will be able to understand the mechanism of Nitrogen metabolism.
	B.Sc. III SEM-V	**DSC 7 F : " Cytology and Research Techniques in Life Sciences & Microbiology, Plant Pathology and Biofertilizers"**
	CO 1	To know the details of microscopy- principles of light microscopy, Electron microscopy, (TEM &SEM), fluorescence microscopy.
	CO2	To perform chromatography technique.
	CO 3	The methods used in micrometry, microphotography and Electrophoresis.
	CO 4	The radioactive isotopes and its importance.
	CO 5	To know the microorganisms in biological world.
	CO6	Will become aware of applications of different microbes in various industries
	CO7	To know the potential of these studies to become an entrepreneur.
	CO 8	To equip themselves with skills related to laboratory as well as industries based studies.
	B.Sc. III SEM-V	**DSC 7 F : "Plant Biochemistry and Stress Physiology & Plants Systematics and Paleobotany"**
	CO 1	The properties of Monosaccharide's, Oligosaccharides &Polysaccharides
	CO2	Understand the properties of saturated fatty acids and unsaturated fatty acids.
	CO 3	Lipids metabolism in plants.
	CO 4	The Beta oxidation, Gluconeogenesis and its role immobilization of fatty acids during germination.

	CO 5	To know the concept of systematic.
	CO6	The characters of economically important families of Angiosperms
	CO7	The phylogeny of Angiosperms, a general account of origin of Angiosperms.
	CO 8	Trace the history of development of systems of classification emphasising Angiospermic taxa.
	CO 9	The wide varieties in Angiosperm and trends in classification.
	B.Sc. III SEM-VI	**DSC 7 H : "Molecular Biology and Biotechnology & Horticulture, Forestery and Herbal Technology"**
	CO 1	The scope and importance of molecular biology.
	CO2	The biochemical nature of nucleic acids, their role in living systems, experimental evidences To prove DNA as a genetic material
	CO 3	Gain knowledge about the mechanism and essential component required for the DNA replication.
	CO 4	The fundamentals of Recombinant DNA technology.
	CO 5	Know about the genetic engineering.
	CO6	Principles and basic protocols of plant tissue culture.
	CO7	The methods of propagation of horticultural plants.
	CO 8	How to manage a good nursery.
	CO 9	About principles of gardening.
	CO10	About landscape designing.
	CO11	About garden plants.
	CO 12	About forest types of India.
	B.Sc. III SEM-VI	**DSC 7 G : "Genetics and Plant Breeding & Biostatistics, Economic Botany and Ethnobotany"**
	CO 1	The mendelian genetics and basic laws of inheritance.
	CO2	The phenomenon of dominance, laws of segregation, independent assortments of Gene's.
	CO 3	The phenomenon of multiple allelism.
	CO 4	The linkage and crossing over and its significance.
	CO 5	About the genomic Organisation.
	CO6	The science of plant breeding.
	CO7	The biostatistics and statistical terms.
	CO 8	The methods of sampling and representation of data..
	CO 9	The concept of mean mode & median.
	CO10	The role of plants in human welfare.
	CO11	Gain Knowledge about various plants of economic use. Importance of plants and plant products.
	B.Sc. III SEM-VI	DSC 7 H : "Molecular Biology and Biotechnology & Horticulture, Forestery and Herbal Technology"
	CO 1	The scope and importance of molecular biology.
	CO2	The biochemical nature of nucleic acids, their role in living systems, experimental evidences To prove DNA as a genetic material.
	CO 3	Gain knowledge about the mechanism and essential component required for the DNA replication.
	CO 4	The fundamentals of Recombinant DNA technology.
	CO 5	Know about the genetic engineering.
	CO6	Principles and basic protocols of plant tissue culture.
	CO7	The methods of propagation of horticultural plants.

	CO 8	How to manage a good nursery.
	CO 9	About principles of gardening.
	CO10	About landscape designing.
	CO11	About garden plants.
	CO 12	About forest types of India

15	**Department of Zoology**	
	PSO 1	Understand the nature and basic concepts of Animal diversity, taxonomy, Comparative anatomy Developmental biology, physiology, Biochemistry, Genetics and Evolutionary Biology
	PSO 2	Perform procedures as per laboratory standards in the areas of Animal diversity, taxonomy, Comparative anatomy, Developmental biology, physiology, Biochemistry, Genetics and Evolutionary Biology, Entomology, Sericulture, Biochemistry, Animal biotechnology, Immunology and research methodology
	PSO 3	Understand the applications of applied zoology in Apiculture, Aquaculture, Agriculture and Medical zoology
	PSO 4	Acquired knowledge about research methodologies and skills of problem solving methods
	PSO 5	Students will contributes the knowledge for Nation building and society welfare.
	B. Sc.ISem I	**Paper I - Animal Diversity: DSC -1008A**
	CO1	Students are able to understand the importance of taxonomy.
	CO 2	Students are able to understand the evolution, history of life of nonchordata to Chordata.
	CO 3	Students are able to identify and classify the animals.
	CO 4	Students are able to understand parasitic adaptations in animals, preventive and control measures in
	B. Sc.ISem I	**Paper II - Animal Diversity: DSC -1008 A**
	CO1	Students are able to understand phylogenetic evolution of chordate.
	CO 2	Students are able to understand the morphology about the Chordate animals.
	CO 3	Students can classify chordate.
	CO 4	To study the distinguish characters of chordate and non chordates.
	CO 5	Students can classify Venomous and non-venomous snakes
	B. Sc.ISem II	**Paper III - Comparative Anatomy of Vertebrates: DSC -1008 B**
	CO1	Understand the comparative structures of integument.
	CO 2	Understand the comparative structure of skeletal system, digestive system, respiratory system, heart, aortic arches, kidney, respiratory organs, brain of vertebrates
	CO 3	Students are able to understand sense organs in vertebrates.
	B. Sc.ISem II	**Paper IV - Developmental Biology of Vertebrates: DSC -1008 B**
	CO1	Understand the Gametogenesis, Fertilization, pattern of cleavege, fate map, germ layers and early development, movements, neurogenesis and organogenesis in animals.
	CO 2	Understand the implantation, placenta and metamorphosis in frog
	CO 3	Understand the control of development- Gene activation, determination, induction, Differentiation, intercellular communication, cell movements and cell death
	CO 4	Understand the Chick embryology
	B. Sc. III SEM-V	**PAPER –V BIOTECHNOLOGY**
	CO 1	On completion of the course, students are able to: Understanding the Molecular Biology, DNA replication, transcription and Translation

	CO2	Understand the Molecular biology
	CO 3	Understand the Biotechniques use in biology
	CO 4	Production of cloned animals Understanding the cell and tissue culture techniques
	B.Sc. III SEM-V	**PAPER-VI APPLIED ZOOLOGY**
	CO 1	On completion of the course, students are able to: To understand the host parasite relationship, epidemiology of diseases, and protozoa parasite
	CO2	Understand the economic importance of insects
	CO 3	To understand the economic importance of fishes and the aquaculture technique
	CO 4	To study and understand the various Pest and its Management. To study Dairy Farming , Poultry Farming, Goat Farming and economic importance
	B.Sc. III SEM-VI	**PAPER-VI I**
	CO 1	On completion of the course, students are able to: Understand about the basics knowledge about ecology
	CO2	Understand the aquatic biomes and its functioning
	CO 3	Understand the marine biology animals adaptation
	CO 4	Understand the freshwater biology, and physicochemical factors Understands the basic need of aquatic resource management
	B.Sc. III SEM-VI	**VIII- Immunology**
	CO 1	On completion of the course, students are able to: Understand about the basics knowledge about immune system
	CO2	Understand the functioning of immune system and good health.
	CO 3	Understand the of immunity, antigens-antibodies and Complement system, MHC's
	CO 4	Student can explain the immune responses
	CO 5	Able to understand types of hypersensitivity and auto immune diseases
	CO 6	Able to understand vaccine preparation, antigen and antibody understand concepts of tumor immunology and transplantation immunology

16	**Department of Microbiology**	
	PSO 1	Perform the basic techniques related to screening, isolation and cultivation of microorganism from various sources Understand microorganisms and their relationship with the environment
	PSO 2	Understand microorganisms and their relationship with the environment
	PSO 3	Conduct the basic research with this microorganism and perform the diagnostic procedures required in food, milk and pharmaceutical industries.
	PSO 4	Follow the aseptic techniques and conduct the process of sterilization as well as perform the techniques to control the microorganism
	PSO 5	Produce and analyze the microbial product at laboratory level.
	B. Sc.ISem I	**Paper I - Introduction to Microbiology and Microbial Diversity: DSC-1010 A**
	CO1	Classify the organism on the basis of their nutritional requirements
	CO 2	Explain the beneficial and harmful activities of microorganisms.
	CO 3	Understand structure and functions of cytoplasmic components.
	B. Sc.ISem I	**PaperII- Basic Techniques in Microbiology:DSC-1010 A**
	CO1	Identify and differentiate organisms on the basis of their morphology and staining properties.
	CO 2	Apply various physical and chemical methods for sterilization of different materials.
	CO 3	Understand and explain the working of different types of microscopes.
	B. Sc.ISem II	**Paper III- Basic Biochemistry and Microbial Nutrition: DSC - 1010 B**
	CO1	.Classify the microorganisms on the basis of their nutritional requirement.
	CO 2	Understand the structure and function of various macromolecules.
	CO 3	Able to design the culture media for isolation and cultivation of organism.
	B. Sc.ISem II	**Paper IV- Applied Microbiology: DSC - 1010 B**
	CO1	Apply their knowledge to test the water microbial point of view.
	CO 2	Use various methods to isolate microorganisms from environment.
	CO 3	Able to Analyze the milk microbiologically
	B. Sc. II Sem III	**Paper V DSC- 1010C : Microbial Physiology , Metabolism**
	CO1	Students are expected to be able to explain various phases of growth in bacteria and various environmental factors affecting it.
	CO 2	Students are expected to be able to explain the microbial physiology , patterns of growth and various methods of bacterial growth measurement.
	CO 3	Students are expected to be able to inter relate between anabolism and catabolism.
	CO 4	Students are expected to be able to understand metabolic pathways & mode of energy generation.
	CO 5	Students are expected to be able to understand nutrient uptake and transport across the cell membrane.
	B. Sc. II Sem III	**Paper VI DSC- 1010C : Industrial and Applied Microbiology**
	CO1	Students are expected to be able to learn and control bioreactor for maximizing the production.
	CO 2	Students are expected to be able to know the applications and limitations of different bioinformatics and statistical methods in biology.
	CO 3	Students are expected to be able to understand basic fermentation process,

		design of fermenters and their types.
	CO 4	Students are expected to be able to understand principle and working of various instruments used in laboratory.
	CO 5	Students are expected to be able to understand and design sampling methods for microbial examination of air.
	B. Sc. II Sem IV	**Paper VII DSC- 1010D1 : Microbial Genetics and Molecular Biology**
	CO1	Students are expected to be able to understand basic concepts of gene, mutation and DNA repair and recombination.
	CO 2	Students are expected to be able to describe the importance of genetic code & discuss molecular mechanism underlying mutation ,
	CO 3	Students are expected to be able to understand & explain the various gene transfer mechanisms in bacteria .
	CO 4	Students are expected to be able to explain various terms used in medical microbiology, different modes of transmission, prevention and control of microbial diseases.
	CO 5	Students are expected to be able to describe the types of cells and organs involved in immune system.
	B. Sc. II Sem IV	Paper VIII Basics in Medical Microbiology and Immunology
	CO1	Students are expected to be able tounderstand basic principles of medical microbiology & infectious disease.
	CO 2	Students are expected to be able to explain various ways of prevention and control of microbial diseases.
	CO 3	Students are expected to be able to understand the silent features of Ag-Ab reaction & its uses.
	CO 4	Students are expected to be able to describe the types of organs involved in immune system.
		SEC II **MICROBIAL DIAGNOSIS IN HEALTH CLINICS**
	CO1	Students are expected to be able to apply the knowledge of laboratory diagnosis of pathogen.
	CO 2	Students are expected to be able to understand different clinical sample collection techniques and its preservation.
	B.Sc. III SEM-V	**DSE:1010E1 IMMUNOLOGY AND MEDICAL MICROBIOLOGY**
	CO 1	Upon successful completion of course ,students are expected to be able to Understand the overall organization of the Immune system.
	CO2	Understand the salient features of antigen antibody reaction & its use in diagnostics and in various other studies.
	CO 3	Understand various viral, bacterial & fungal diseases, their causative agent,and mode of infection, epidemiology lab diagnosis, treatment and prophylaxis.
	B.Sc. III SEM-V	**DSE: 1010 E 2 INDUSTRIAL MICROBIOLOGY AND MICROBIAL BIOCHEMISTRY**
	CO 1	On completion of course , student learn about – Metabolic pathways and Bioenergetics
	CO2	Various downstream processing
	CO 3	Basic concept related to enzyme
	CO 4	Enzyme production and determination of its activity

	B.Sc. III SEM-VI	**DSE:1010F1 VIROLOGY AND MICROBIAL GENETICS**
	CO 1	Upon successful completion of course , students will be able to – Describe various stages involved in multiplication cycle of viruses
	CO2	Understand methodological approaches in isolation, cultivation & purification of viruses.
	CO 3	Understand molecular mechanism involved in gene regulation
	CO 4	Explain techniques used to manipulate genes & formation of clones
	B.Sc. III SEM-VI	**DSE:1010F2 AGRICULTURAL AND ENVIRONMENTAL MICROBIOLOGY**
	CO 1	Upon successful completion of course , students will be able to – Understand various plant microbe interactions especially rhizosphere , phyllosphere and mychorrhizae and their applications especially the biofertilizersand their production techniques
	CO2	Understand various biogeochemical cycles – C,N,P cycle and microbes involved
	CO 3	Understand the basic principle of environment microbiology and be able to apply these principles to understanding and solving environmental problems – waste water treatment and bioremediation.
	CO 4	Know the Microorganisms responsible for water pollution and their transmission

17	**Department of Electronics**	
	PSO1	The main aim of program (B.Sc. Electronics) is to develop the students withadequate theory knowledge of the electronic components, circuit design,instruments and practical work.
	PSO2	Understand and develop ideas, knowledge and practical skill based on readingand through the internet.
	PSO3	Transfer of appropriate knowledge and methods from one topic to anotherwithin the subject.
	PSO4	To encourage students to develop skills for accepting challenges of up-coming technological advancements.
	PSO5	Students learn to carry out practical work in the laboratory.
	PSO6	They get experience in applying skills and greater expertise.
	PSO7	To prepare students with necessary fundamental concepts and specificpractical skills.
	PSO8	Develop the foundation of student to face rapidly developing electronic field.
	PSO9	To give training on circuit design, analysis, building and testing.
	PSO10	Apply appropriate techniques, modern instrument and equipment to studyelectronic circuit analysis for low frequency, mid frequency and highfrequency, with the help of signal generator and Digital Storage Oscilloscope.
	PSO11	Career opportunities and planning.
	B. Sc.ISem I	**Paper I - Analog Electronics-I: DSC-1005 A**
	CO1	Identify and explain electrical components and determine the value of resistor, inductor and capacitor using color code method.
	CO 2	Understand the basic properties of electrical elements, and solve DC circuit analysis problems, DC network theorems.
	CO 3	Acquire the knowledge about the characteristics and working principles of PN junction diode, Zener diode, photo diode, LED and different diode applications.
	CO 4	Understanding and study of rectifier, filter and voltage regulator circuits.
	B. Sc.ISem I	**Paper II- Digital Electronics-I: DSC-1005 A**
	CO1	Understanding the basics of Digital Electronics, different number systems, Binary Codes and signed representation of binary number. Also understand the conversion between different number systems and solve the binary arithmetic problems.
	CO 2	Design and construction of the basic and universal logic gates and studying the Boolean algebra and simplification of Boolean expression using different methods.
	CO 3	Understanding and comparing different logic families according IC specifications and their circuit configurations.
	CO 4	Understand, analyze and design various combinational circuits.
	B. Sc.ISem II	**Paper III-Analog Electronics-II: DSC-1005 B**
	CO1	Analyze output in different operating modes of Bipolar Junction Transistor and Demonstrate the operating principle and output characteristics of Bipolar Junction Transistor
	CO 2	Explain construction and characteristics of JFETs, MOSFETs and UJT.
	CO 3	Design biasing circuits for BJT and study different coupling methods used in multistage amplifiers

	CO 4	Analyze the importance of feedback in amplifiers. Apply the knowledge gained in the design of transistorized circuits and Oscillators.
	B. Sc.ISem II	**Paper IV- Digital Electronics-II: DSC-1005 B**
	CO1	Understand, analyze and design various sequential circuits.
	CO 2	Understanding the working of different shift registers and counters.
	CO 3	Became able to know various types of analog to digital converters and digital to analog converters.
	CO 4	Explain and compare the working of multivibrators using special application IC 555. Understanding and designing of multivibrator circuits.
	B.Sc. III SEM-V	**DSE 1005E1 Linear Integrated Circuits, 8051 Microcontroller Interfacing and Embedded C**
	CO1	Understand the fundamentals and areas of applications for the integrated circuits and 8051 microcontroller.
	CO2	Analyze important types of integrated circuits and various interfacing circuits
	CO3	Demonstrate the ability to design practical circuits that perform the desired operations.
	CO4	Understand the differences between theoretical, practical results in integrated and interfacing circuits.
	CO5	Select the appropriate integrated circuit/interfacing modules to build a given application.
	B.Sc. III SEM-V	**DSE 1005E2 Instrumentation, Antenna and Wave Propagation**
	CO1	At the end of the course, a student will be able to: Classify and explain transducers with examples, including those for measurement of temperature, flow, motion, position and light.
	CO2	Knowledge of sensor and Actuators
	CO3	Analyze the performance characteristics of each instrument
	CO4	Illustrate basic Digital instruments such as Digital voltmeters and Multimeter, Bio- Medical Instrument
	CO5	Apply the principles of electromagnetic to explain antenna characteristics such as radiation pattern and directivity.
	CO6	Understand the structure and working of special antennas such as Dipole antenna, Yagi-Uda antenna and Microstrip patch antennas.
	CO7	Identify the suitable antenna for a given communication system.
	CO8	Be familiar with the basic propagations namely ground wave propagation, free space propagation and sky wave propagation
	B.Sc. III SEM-VI	**DSE 1005 F1 Industrial Process Control, PLC Programming and Advanced Microcontroller and Embedded System**
	CO1	At the end of the course, a student will be able to: Describe typical concepts and components of a Programmable Logic Controller.
	CO2	Use timer, counter, and other intermediate programming functions.
	CO3	Design and program basic PLC circuits for entry-level PLC applications.
	CO4	Explain and apply the concept of electrical ladder logic, its history, and its relationship to programmed PLC instruction.
	CO5	Understand the architecture and function of each pin of AVR 8-bit

		Microcontroller.
	CO6	Write, debug and simulate embedded C language programs.
	CO7	Understand Timer operation, Interrupt environment and Serial Communication.
	CO8	Understand the interfacing of various systems with AVR microcontroller
	B.Sc. III SEM-VI	**DSE 1005F2 Power Electronics, FPGA & VHDL Programming**
	CO1	At the end of the course, a student will be able to: Understand the basics of Power Electronics
	CO2	Learn the detail of power semiconductor switches (Construction, Characteristics and Operation).
	CO3	Understand the working of various types of converters.
	CO4	Learn how to analyze the converters and design the components of them, under various load types.
	CO5	Understand single-phase and three-phase Supply converters
	CO6	Design and Analyze Three phase uncontrolled and controlled Rectifier
	CO7	Understand the syntax and behavior of the VHDL language.
	CO8	Use modern development tools to design complex digital circuits
	CO 9	Simulate and make a synthesis of extensive designs in so called "Field Programmable Gate Array" (FPGA).

18	**Department of Computer Science**	
	PSO 1	Design, implementation, testing, and evaluate a computer system, component and algorithms to meet desired needs and to solve a problems using Computers.
	PSO 2	Demonstrate knowledge of Computer fundamentals, discrete mathematics and data structures, Network systems and Internet Technologies.
	PSO 3	Demonstrate knowledge of probability and statistics, including applications appropriate to computer science, information and technology.
	B. Sc.ISem I	**Paper I - Problem Solving using Computers & Database Management System: DSC-1006A**
	CO1	Students should be able to understand the concepts of programming before actually starting to write new programs.
	CO 2	Students should be able to understand what happens in the background when the programs are executed
	CO 3	Students should be able to develop logic for Problem Solving
	CO 4	Students should be made familiar about the basic constructs of programming such as data, operations, conditions, loops, functions etc.
	CO 5	Students should be able to apply the problem solving skills using syntactically simple language
	B. Sc.ISem II	**Paper II - Problem Solving using Computers & Database Management System –II: DSC-1006B**
	CO1	Apply knowledge of computer architecture and organization appropriate to the discipline
	CO 2	Analyze given processing element, and identify and define the computing requirements.
	CO 3	Design, implement, and evaluate a microcontroller-based system, process, component, or program to meet desired needs.
	CO 4	Use current techniques, skills, and tools necessary for Low-Level computing.
	B.Sc. III SEM-V	**DSE-1006E1 Computer Network and Software Engineering**
	CO 1	Students should be able to learn the basic Computer Network and Software engineering concepts.
	CO2	Students should learn and understand various OOSE concepts along with their applicability contexts.
	CO 3	Students can learn the concepts, methods and techniques necessary to efficiently capture software requirements in use cases and transform them into detailed designs.
	CO 4	Students should able to develop models using the UML notation
	CO 5	Students will analyze requirements with use cases and apply an iterative, agile process.
	B. Sc. III SEM-V	**DSE-1006E2 Internet Technologies – I and Introduction to JAVA**
	CO 1	Students will be known the basics Java Programming Language.
	CO2	Students will be known the basics Object Oriented Concepts.
	CO 3	Students will be known about java concepts like interfaces, exception handling.
	CO 4	Students will be known to design and develop small java applications
	B. Sc. III	**SEC-1006C PHP Programming**

	SEM-V	
	CO 1	Students will be knowing basics PHP programming Language.
	CO2	Students will be getting the primer knowledge of web application development frameworks.
	CO 3	Students will be known about internet techniques.
	CO 4	Students should be able to design and develop web applications.
	B.Sc. III SEM-VI	**DSE-1006F1 Advanced Computer Network and Object Oriented Software Engineering**
	CO 1	Students should be able to learn the basic Computer Network and Software engineering concepts.
	CO2	Students should learn and understand various OOSE concepts along with their applicability contexts.
	CO 3	Students can learn the concepts, methods and techniques necessary to efficiently capture software requirements in use cases and transform them into detailed designs.
	CO 4	Students should able to develop models using the UML notation
	CO 5	Students will analyze requirements with use cases and apply an iterative, agile process
	B. Sc. III SEM-VI	**DSE-1006F2 Internet Technologies – II and Data Science using Python**
	CO 1	To demonstrate proficiency with statistical analysis of data.
	CO2	To develop the ability to build and assess data-based models.
	CO 3	To apply data science concepts and methods to solve problems in real-world contexts and will communicate these solutions effectively.
	CO 4	Apply Machine Learning Algorithms to build machine intelligence.
	B.Sc. III SEM-VI	**SEC-1006D Advanced PHP Programming**
	CO 1	Students should to learn the basic tags used in HTML.
	CO2	Student should develop their own Cascading Sheets in order to design web pages.
	CO 3	Students should be able to develop Static web pages.

19	**Department of Computer Science Entire**	
	PSO 1	Graduate will have an ability to use appropriate techniques, skills & tools necessary for computing practice.
	PSO 2	Graduate will have an ability to apply knowledge of computing, mathematics & electronics appropriate to the discipline.
	PSO 3	Graduate will have ability of problem analysis: Identify, formulate using principles of mathematics, electronics.
	PSO4	Graduate will have knowledge of software development fundamentals,including programming, data structures, algorithms and complexity
	PSO 5	The student can apply the knowledge they have gained to solve real
	B. Sc.ISem I	**Mathematics Paper I - Discrete mathematics: GEC-1300A**
	CO1	Be able to construct simple mathematical proofs and possess the ability to verify them.
	CO 2	Have substantial experience to comprehend formal logic arguments.
	CO 3	Be able to apply basic counting techniques of combinatorial problems.
	CO 4	Be able to specify and manipulate basic mathematical objects such as sets, functions and relations and will also be able to verify simple mathematical properties that these objects possess.
	B. Sc.ISem I	**Mathematics Paper II - Algebra: GEC-1300A**
	CO1	Classify numbers into number sets.
	CO 2	Determine when a function is one-one & onto.
	CO 3	Prove results involving divisibility & greatest common divisors.
	CO 4	Apply Fermat’s theorem to find the remainder when any large number is divided by any other integer.
	B. Sc.ISem I	**Electronics Paper I - Analogue electronics-I: GEC-1301 A**
	CO1	Demonstrate and explain electrical components and determine the value of resistance of resistor, Inductance of inductor and capacitance of capacitor using color code method.
	CO 2	Understand the basic properties of electrical elements, and solve DC circuit analysis problems, DC network theorems.
	CO 3	To acquire the knowledge about the characteristics and working principles of PN junction diode, Zener diode, photo diode, LED and different diode applications.
	CO 4	Understanding and designing of rectifier, filter and voltage regulator circuits.
	B. Sc.ISem I	**Electronics Paper II - Digital electronics: GEC-1301A**
	CO1	Understanding the basics of Digital Electronics and different number systems and conversion between them.
	CO 2	Design and construction of the basic and universal logic gates and Studying the Boolean algebra and simplification of Boolean expression using different methods.
	CO 3	Understand, analyze and design various combinational circuits.
	CO 4	Understand, analyze and design various sequential circuits.
	B. Sc.ISem I	**Statistics Paper I - Descriptive statistics-I and Paper II - Probability & discrete probability: GEC-1302A**
	CO1	To analyse, classify, tabulate and represent the data graphically.
	CO 2	To compute and interpret various measures of central tendency, dispersion, moments, skewness,kurtosis, Nature of data.

	CO 3	Real Life applications of probability and probability distributions.
	CO 4	Practical work on Excel, R and C
	B. Sc.ISem I	**Computer science Paper I - Introduction to computers-I and Paper II - Programming in 'C'-I: CC-CS- 1303A**
	CO1	To learn fundamental concepts of computers, inputs, outputs and operating systems.
	CO 2	To learn the principles of office automation.
	CO 3	To develop logic for problem solving.
	CO 4	To teach basic principles of programming.
	CO 5	To develop skills for writing programs using 'C'.
	B. Sc.ISem II	**Mathematics Paper I - Graph theory: GEC-1300B**
	CO1	Be able to apply principles and concepts of graph theory in practical situations.
	CO 2	Have a strong background of graph theory which has so many applications in areas of computer Science, Biology, Chemistry, Physics, and Sociology etc.
	CO 3	Be able to model real world problems using graph theory.
	CO 4	Understand the use of graphs as models.
	B. Sc.ISem II	**Mathematics Paper II – Calculus: GEC-1300B**
	CO1	Inspect the value of the limit of a function at a point using the definition of the limit.
	CO 2	Find the limit of a function at a point numerically & algebraically using appropriate techniques including L'Hospital's rule.
	CO 3	Experiment with differentiation of exponential, logarithmic, trigonometric & inverse trigonometric functions n times.
	CO 4	Illustrate the consequences of the intermediate value theorem for continuous functions.
	CO 5	Show whether a function is differentiable at a point.
	B. Sc.ISem II	**Electronics Paper I - Analog electronics-II: GEC-1301B**
	CO1	Analyze output in different operating modes of Bipolar Junction Transistor and Demonstrate the operating principle and output characteristics of Bipolar Junction Transistor
	CO 2	To explain construction and characteristics of JFETs and MOSFETs.
	CO 3	Design of multistage amplifier and oscillators and Analyze the importance of feedback in amplifiers.
	CO 4	Apply the knowledge gained in the design of transistorized circuits, amplifiers and Oscillators.
	CO 5	Understanding various operating modes of Op-amp and its linear/non-linear applications.
	B. Sc.ISem II	**Electronics Paper II - Digital electronics - II: GEC-1301B**
	CO1	Explain and compare the working of multivibrators using special application IC 555.
	CO 2	Understanding and designing of multivibrator circuits.
	CO 3	Understanding various memories and differentiate them.
	CO 4	Describe the architecture and functional block diagram of 8085 microprocessor along with pins and their functions.
	CO 5	Understand and classify the instruction set of 8085 microprocessor and distinguish the use of different instructions and apply it in assembly language programming.

	B. Sc. I Sem II	**Statistics Paper I - Descriptive statistics-II and Paper II - Continuous probability distribution & testing of hypothesis: GEC-1302B**
	CO1	To analyse, classify, tabulate and represent the data graphically.
	CO 2	To compute and interpret various measures of central tendency, dispersion, moments, skewness,kurtosis, Nature of data.
	CO 3	Real Life applications of probability and probability distributions.
	CO 4	Practical work on Excel, R and C
	B. Sc.ISem II	**Computer science Paper I - Introduction to computers-IIandPaper II - Programming in 'C'-II: CC-CS-1303B**
	CO1	Define the basics in web design.
	CO 2	Visualize the basic concept of HTML.
	CO 3	Recognize the elements of HTML.
	CO 4	Introduce basics concept of CSS.
	CO 5	Develop the concept of web publishing
	CO 6	To know the concept of array and functions.
	CO 7	Implement pointers and structures 8. To know file handling.
	B. Sc. Part – III (Computer science Entire) SEM-V	**DSE-1305E** **Core Java and Operating system**
	CO1	After learning the course the students should be able to: Understand structure of java program,jvm,type conversion
	CO2	Explain and implements programs in java using control statements, method overloading,constructors,array of objects,keywords this and static,
	CO3	Write program on inheritance, package ,abstract class and interfaces
	CO4	Implement multithreading in object oriented programs. Understand concept of checked and unchecked exception and write exception handling programs.
	CO5	To tell what is an operating system, its objectives and functions
	CO6	To classify types of operating system and explain operating system services.
	CO7	To explain protection, system calls, system programs and application programs
	CO8	To understand the concept of process management, memory management and file management and deadlocks
	B. Sc. Part – III (Computer science Entire) SEM-V	**DSE-1306E** **Data Communication and Software Engineering with UML**
	CO1	To understand the fundamental concept and components of Data Communication system.
	CO2	To explain Concept of network, advantages and disadvantages, categories and architectures of network.
	CO3	To explain types of transmission media and types of transmission modes.
	CO4	Understand multiplexing and switching techniques. Explain network devices, protocols and elements of protocol and standards.
	CO5	Understand functions of physical layer, digital to analog conversion methods, analog to digital conversion methods.
	CO6	Understand Data link layer design issues, Framing, Error detection, and

		Error correction and flow control.
	CO7	To understand the basics of software and software engineering
	CO8	To learn what is system's development life cycle.
	CO 9	To learn and understand what are traditional and latest process models
	CO 10	To learn and know what is agile development.
	CO 11	To learn different fact finding techniques, which serve as a basis for requirements analysis and gathering.
	CO 12	To understand the importance of SRS in s/w development.
	CO 13	To study use of Unified modelling language.
	CO 14	To learn how to draw UML diagram.
	CO 15	To understand and learn to select suitable UML diagram for our software system.
	CO 16	To understand the basics of software testing
	B. Sc. Part – III (Computer science Entire) SEM-V	**DSE-1307E** **C# Programming and E-Commerce**
	CO1	After learning the course the students should be able to: To understand the Event driven & sequence driven programming, to explain .net framework architecture, understand assembly, namespace, garbage collector & JIT Compilers
	CO2	Understand data types, operators, conditional, unconditional & looping statements. To understand how to write function & procedures
	CO3	Understand class, object, & OOP concepts
	CO4	Understand different controls in window application, events & properties of controls.
	CO5	To understand the process of Electronic commerce and Business strategy involved in it and security concerns while doing online businesses.
	CO6	Appreciate ethical implications of professional practice.
	CO7	Be aware of global perspectives.
	CO8	Analyze features of existing e-commerce businesses, and propose future directions or innovations for specific businesses
	B. Sc. Part – III (Computer science Entire) SEM-VI	**Computer Science DSE-1305F** **Advanced Java and Data warehousing and mining Theory:**
	CO1	On successful completion of the course, the students will be able to, Create a full set of UI Widgets using Abstract Windowing Toolkit (AWT) & Swings
	CO2	Learn to access database through Java programs, using Java Data Base Connectivity (JDBC).
	CO3	Create dynamic web pages using Servlets
	CO4	Create dynamic web pages using JSP.
	CO5	To understand Data Warehousing, Working of data warehouse, Data Warehouse applications.
	CO6	To understand types of data Warehouse, Difference between Data Warehouse (OLAP) and Operational Database (OLTP).
	CO7	To understand and explain concept of data mining, Process of knowledge discovery in databases (KDD)

	CO8	To Explain Data Objects and Attribute Types.
	CO 10	To Understand Data Preprocessing and Data Quality.
	CO 11	To explain major tasks in Data Preprocessing.
	CO 12	To understand market basket analysis and explain Apriori algorithm.
	CO 13	To understand concept of Classification
	CO 14	To understand regression analysis, Concept of clustering and explain K-means Clustering algorithm
	B. Sc. Part – III (Computer science Entire) SEM-VI	**DSE-1306F Computer Networks and C# and introduction to ASP.Net**
	CO1	After learning the course the students should be able to: Understand Flow control protocols-Sliding window protocol, One bit sliding window protocol, protocol using go back N, Protocol using selective repeat.
	CO2	Explain design issues, concept of routing, routing algorithms and Congestion Control algorithms.
	CO3	Explain transport layer service primitives, TCP, UDP protocol.
	CO4	Understand session layer services, Remote Procedure Call(RPC)
	CO5	Explain Presentation layer services, Concept of cryptography and types of cryptography
	CO6	Explain Functions of application layer, application layer protocols (DNS, HTTP, SMTP, Telnet and FTP) and network security.
	CO7	To get knowledge different types of errors, structured & unstructured exception, to understand how to trace errors.
	CO8	To understand database connection, connected & disconnected architecture, data binding to controls, data validations.
	CO9	Understand & Generate Reports from database using crystal report
	CO 10	Get Basic introduction to ASP.net, understand different ASP.net controls, understand concepts of Master Page
	B. Sc. Part – III (Computer science Entire) SEM-VI	**DSE-1307F Linux OS and Artificial intelligence and Expert system**
	CO1	After learning the course the students should be able to: To understand the linux basics- shell, kernel, general purpose utilities, directory handling commands, file handling commands
	CO2	To implement basic filters.
	CO3	To understand environment variables.
	CO4	To use VI editor and its different commands.
	CO5	To write shell scripts and run them
	CO6	To write shell scripts using different conditional and looping statements.

20	**Department of BCA**	
	PSO 1	Understand the concepts of key areas in computer science.
	PSO 2	Develop practical skills to provide solutions to industry, society and business.
	PSO 3	Identify, formulate, review and analyze complex problems using various computer techniques
	B.C. A. Part I Sem I	**Paper I - Fundamentals of Computer: BCA-1433 A**
	CO1	Describe peripheral devices and number systems.
	CO 2	Understand operating environment.
	CO 3	Demonstrate the use of Linux Operating system commands.
	B.C. A. Part I Sem I	**Paper II - Programming Using C Part-I: BCA-1434 A**
	CO1	Understand the problem solving techniques.
	CO 2	Develop algorithm and flowcharts for different problems.
	CO 3	Design programs using control statements.
	CO 4	Handle multidimensional array.
	B.C. A. Part I Sem I	**Paper III - Principles of Management: BCA-1435 A**
	CO1	Understand the influence of historical forces on current practice of management.
	CO 2	Utilize frameworks in the functions of management.
	CO 3	Understand leadership styles to anticipate the consequences of each leadership style
	CO 4	Identify and apply appropriate managementtechniques for organizations; and understand social responsibility involved in business situations.
	B.C. A. Part I Sem I	**Paper IV - Financial Accounting with Tally: BCA-1436 A**
	CO1	Use basic accounting terminology, procedures and systems of maintaining accounting records.
	CO 2	Understand financial statements.
	CO 3	Learn to create company, enter accounting voucher entries and also print financial statements etc. in tally.
	CO 4	Demonstrate various reports in tally.
	B.C. A. Part I Sem I	**Paper V - AECC Business Communication: BCA-1437 A**
	B.C. A. Part I Sem II	**Paper I - Basics Web Technology: BCA-1440 B**
	CO1	Understand the basic working of Internet and its main services.
	CO 2	Create web pages using HTML.
	CO 3	Applying CSS styles in web page development.
	CO 4	Utilize theoretical skills and practical experience of web design.
	B.C. A. Part I Sem II	**Paper II - CC Programming Using C Part-II: BCA-1441 B**
	CO1	Understand the different techniques used in C programming.
	CO 2	Write programs using advance C concepts.
	B.C. A. Part I Sem II	**Paper III - Operating System: BCA-1442 B**

	CO1	Possess knowledge of Operating Systems and their types.
	CO 2	Apply the concept of a process and scheduling algorithms.
	CO 3	Realize the concept of deadlock and different ways to handle it.
	CO 4	Understand various memory management techniques and file system.
	B.C. A. Part I Sem II	**Paper IV- Database Management System: BCA-1443 B**
	CO1	To analyze the difference between traditional file system and DBMS
	CO 2	Acquire knowledge in fundamentals of Database Management System
	B.C. A. Part I Sem II	**Paper V- Human Resource Management: BCA-1444 B**
	CO1	Students should understand the concept of Human Resource Management within the organization.
	CO 2	To know the proper Recruitment and Selection Procedure in organization.
	B.C. A. PartI II Sem III	BCA-1405C **Object Oriented Programming with C++**
	CO 1	Student will be able to understand the features of C++ supporting object oriented programming.
	CO 2	Student will be able to understand how to apply the major object-oriented concepts to implement object oriented programs in C++, encapsulation, inheritance and polymorphism.
	CO 3	Student will be able to understand advanced features of C++ specifically stream I/O and file handling.
	CO 4	Student will be able to implement concept of OOP
	B.C. A. PartI II Sem III	BCA-1406C **Software Engineering**
	CO 1	Student will be able to compare and chose a process model for a software project development.
	CO 2	Student will be able to identify requirements analyze and prepare models.
	CO 3	Student will be able to prepare the SRS, Design document, Project plan of a given software system.
	CO 4	Student will be able to work as an individual and as part of a multidisciplinary team to develop and deliver quality software.
	B.C. A. Part II Sem III	**BCA-1407C RDBMS with Oracle**
	CO 1	Students will be able enhance the knowledge and understanding of database analysis and design
	CO 2	Students will be able enhance programming skills and techniques using SQL and PL/SQL
	CO 3	Students will be able use the relational Model and how it is supported by SQL and PL/SQL
	CO 4	Students will be able to solve database problems using SQL and PL/SQL by using Cursors and Triggers.
	B.C. A. Part II Sem III	BCA-1408C **Entrepreneurship Development**
	CO 1	Examine the characteristics of an entrepreneur as well their role in economic development of the country.
	CO 2	To facilitate a clear perspective to diagnose and effectively handle human behavior issues in organizations.

	CO 3	To know insight into their own behavior in interpersonal and, group, team, situations.
	CO 4	On completion of this course students should be able to start their own business
	B.C. A. Part II Sem III	BCA-1410C **Object Oriented Programming with C++ Practical**
	CO 1	Students will be able implement object oriented programming concepts using C++ language.
	CO 2	Students will be able apply the principles of virtual functions and polymorphism.
	CO 3	Students will be able analyzing and handling files using C++.
	CO 4	Students will be able implement concept of functions overloading and operators overloading.
	B.C. A. Part II Sem III	**BCA 1411C Lab Course based on RDBMS with Oracle**
	CO 1	Students will be able to translate an information model into a relational database schema and to implement the schema using RDBMS.
	CO 2	Students will be able to apply relational database theory to create database tables for SQL queries.
	CO 3	Students will be able to apply advanced SQL features like views, indexes, synonyms, etc. for database management.
	CO 4	Students will be able to analyze PL/SQL structures using PL/SQL block: functions, procedures, cursors and triggers for database applications.
		Skill Enhancement Course PHP-I
	CO 1	Students will able to Implement basic functions of PHP.
	CO 2	Students will able to Design a responsive web site using PHP, HTML and CSS3.
	B.C. A. Part II Sem IV	**BCA-1412D Data Structure Using C++**
	CO 1	Students will be able use and implement appropriate data structure for the required problems using a programming language such as C++.
	CO 2	Students will be able to write programs for various searching & sorting techniques.
	CO 3	Students will be able to implement various data structures viz. Stacks, Queues.
	CO 4	Students will be able to implement of Linked Lists and Trees.
	B.C. A. Part II Sem IV	**BCA-1413D Advanced web Technology**
	CO 1	Students will be able to analyze a web page and identify its elements.
	CO 2	Students will be able to Develop skills in analyzing the usability of a website.
	CO 3	Students will be able to Develop basic programming skills using java script.
	CO 4	Students will be able to Integrate java and server side scripting languages to develop web applications.
	B.C. A. Part II	BCA-1414 D **Principles of Marketing**

	Sem IV	
	CO 1	Students will able to Understand the marketing concepts and its evolution.
	CO 2	Students will able to Know the consumer behaviour and their decision making process.
	CO 3	Students will able to Make decision on product, price, promotion mix and distribution.
	CO 4	Students will able to Set standard and measure service quality and productivity.
	B.C. A. Part II Sem IV	**BCA-1415D E Commerce**
	CO 1	To understand the features, functions and common practices of E-Commerce.
	CO 2	To understanding on how internet can help business grow.
	CO 3	To understanding on the importance of security, privacy, and ethical issues as they relate to E-Commerce.
	CO 4	To understanding on how innovative use of the E-Commerce can help developing competitive advantage.
	B.C. A. Part II Sem IV	BCA-1417D **Lab Course based Data Structure using C++**
	CO 1	Students will be able to choose appropriate data structure to represent data items in real world.
	CO 2	Students will be able to design programs using data structures like stack, queues, binary tree.
	CO 3	Students will be able to develop programs of searching and sorting.
	CO 4	Students will be able to develop programs using static and dynamic implementation
	B.C. A. Part II Sem IV	**Lab Course II BCA-1417D (Based on Advanced Web Technology)**
	CO 1	Students will be able to choose appropriate data structure to represent data items in real world.
	CO 2	Students will be able to design programs using data structures like stack, queues, binary tree.
	CO 3	Students will be able to develop programs of searching and sorting.
	CO 4	Students will be able to develop programs using static and dynamic implementation.
		Skill Enhancement Course PHP-II
	CO 1	Students will able to implement array and loops in PHP.
	CO 2	Students will able to Implement file handling concepts using PHP.
	B.C.A III SEM-V	**Cost Accounting**
	CO 1	The objective of the course is to provide adequate basic understanding about cost sheet, material issues and labour cost to the students.
	CO2	This course designed to familiarize students with the basic concepts of cost and various methods and techniques of costing.
	CO 3	This course aims of imparting knowledge about the cost accounting principles and method.
	B.C.A III	**E Commerce**

	SEM-V	
	CO 1	To understanding on how internet can help business grow. To understanding on the importance of security, privacy, and ethical issues as they relate to E-Commerce.
	CO2	To understanding on how innovative use of the E-Commerce can help developing competitive advantage.
	CO 3	To understanding on how internet can help business grow
	B.C.A III SEM-V	**Computer Network**
	CO 1	Define, use and implement Computer Networks and the basic components of a Network system.
	CO2	Know and Apply pieces of hardware and software to make networks more efficient, faster, more secure, easier to use,
	CO 3	Able to transmit several simultaneous messages, and able to interconnect with other networks.
	CO 4	Familiarity with the basic protocols of computer networks, and how they can be used to assist in network design and implementation
	CO 5	Understand how the Internet works today
	B.C.A III SEM-V	**RDBMS with Oracle**
	CO 1	Enhance the knowledge and understanding of database analysis and design
	CO2	Enhance programming skills and techniques using SQL and PL/SQL
	CO 3	Use the relational Model and how it is supported by SQL and PL/SQL
	CO 4	To solve database problems using SQL and PL/SQL by using Cursors and Triggers
	B.C.A III SEM-V	**Visual Programming**
	CO 1	Design, create, build, and debug Visual Basic applications.
	CO2	Explore Visual Basic‘s Integrated Development Environment (IDE).
	CO 3	Implement syntax rules in Visual Basic programs.
	CO 4	Explain variables and data types used in program development
	B.C.A III SEM-V	**Strategic Management**
	CO 1	Design, create, build, and debug Visual Basic applications.
	CO2	Explore Visual Basic‘s Integrated Development Environment (IDE).
	CO 3	Implement syntax rules in Visual Basic programs.
	CO 4	Explain variables and data types used in program development.
	B.C.A III SEM-VI	**Data Mining and Data Warehousing**
	CO 1	Describe different methodologies used in data mining and data ware housing.
	CO2	Understand the functionality of the various data mining and data warehousing component.
	CO 3	Appreciate the strengths and limitations of various data mining and data warehousing models.
	CO 4	Explain the analyzing techniques of various data.
	CO 5	Compare different approaches of data ware housing and data mining with various technologies

	B.C.A III SEM-VI	**Linux Operating System**
	CO 1	Get knowledge of Operating System functions
	CO2	Execute different commands in Linux
	CO 3	Develop various shell script programs using VI editor.
	B.C.A III SEM-VI	**Java Programming**
	CO 1	Understanding of the principles and practice of object oriented analysis and design in the construction of robust, maintainable programs which satisfy their requirements;
	CO2	Ability to implement, compile, test and run Java programs comprising more than one class, to address a particular software problem.
	CO 3	Demonstrate the principles of object oriented programming;

21	**Department of BBA**	
	PSO 1	Students will have knowledge of management concepts, HRM practices,Material Management, E –Commerce, and production management.
	PSO 2	Students will learn concept of management of tourism, entertainment, education, telecommunication and day care services.
	PSO 3	BBA graduates able to identify a business opportunities and sources
	PSO4	BBA graduates will learn consumer behavior, preferencesand consumersatisfaction
	PSO 5	BBA graduates will learn concept of management accounting Break Evenconcept& budgets like cash budget, flexible budget capital budget etc
	PSO 6	Students will able to differentiate between methods of measurement of NationalIncome, direct and indirect taxes.
	PSO 7	BBA graduates will learn entrepreneurial competency and entrepreneurial skill.
	PSO 8	Students will have capability of marketing a product or a serviceincludingdigital marketing.
	PSO 9	Students can demonstrate the fundamentals of creating and managinginnovation, new business development, and high-growth potential entities
	PSO 10	Students will have ability to do analysis of statistical data.
	BBA IISem III	**Paper I -Fundamentals of Entrepreneurship: CC1372C**
	CO1	Describe the concept of for Entrepreneurship
	CO 2	Understand the process of EDP
	CO 3	Define the concept Women Entrepreneurship, social and group Entrepreneurship
	BBA IISem III	**Paper II - Management Accounting – I: CC1373C**
	CO1	Define the conceptual framework of Management Accounting.
	CO 2	Illustrate the process of budgeting and use of marginal and standard Costing.
	BBA IISem III	**Paper III -Service Marketing: CC1374C**
	CO1	To understand the concept of service marketing.
	CO 2	To learn about marketing process for different types of products and services.
	BBA IISem III	**Paper IV -Strategic Management: CC1375C**
	CO1	Understand the organization’s vision, mission, examine principles, techniques and models of organizational and environmental analysis.
	CO 2	Describe Strategy formulation and implementation such as corporate governance and business.
	BBA IISem III	**Paper V -E-Commerce- I: CC1376C**
	CO1	Recognize the impact of Information and Communication technologies, especially of the Internet in business operations.
	CO 2	2 Recognize the fundamental principles of e-Business and e-Commerce.
	CO 3	Distinguish the role of Management in the context of e-Business and e-Commerce.
	CO 4	Explain the added value, risks and barriers in the adoption of e-Business and e-Commerce.
	BBA IISem III	**Paper VI - Statistical Techniques for Business – I: Allied Course**

		1377C
	CO1	Use various graphical and diagrammatic techniques and interpret.
	CO 2	Set process data, characterize the process behavior using descriptive statistics.
	CO 3	Compute correlation coefficient, regression coefficient.
	CO 4	Index number helps to study such change's effect due to factors that cannot be directly measured.
	BBA II Sem III	**Paper VII - Environmental Study: AECC-EVS**
	BBA IISem IV	**Paper I - Entrepreneurship & Project Management: CC1378 D**
	CO1	Describe the role and importance of entrepreneurship for economic development.
	CO 2	Understand the key steps in the elaboration of business idea.
	CO 3	Define the stages of the entrepreneurship for the successful development of entrepreneurial ventures.
	BBA IISem IV	**Paper II - Management Accounting – II: CC1379D**
	CO1	Understand analysis and interpretation of financial Statement
	CO 2	Know the basics of human resource accounting
	CO 3	Understand the concept of Funds flow and cash flow
	BBA IISem IV	**Paper III -Production & Operation Management: CC1380D**
	CO1	get knowledge about functions and process of production management
	CO 2	Students come to know about recent trends in production management
	CO 3	Understand production concept along with quality management.
	BBA IISem IV	**Paper IV -Research Methodology: CC1381D**
	CO1	Understand the basic idea of research.
	CO 2	Choose proper sample design.
	CO 3	Analyze the data.
	CO 4	Write a research paper and research report.
	BBA IISem IV	**Paper V -E-Commerce- II: CC1382D**
	CO1	Go for small e-business startup.
	CO 2	Examine e-Commerce strategic method for product promotion and digital marketing of the product.
	CO 3	Understand e-retail business its functions risks and, procurements.
	CO 4	Correlate more with government its policy its processes and e-governance.
	BBA IISem IV	**Paper VI - Statistical Techniques for Business – II: Allied Course 1383D**
	CO1	Basic probability axioms, discrete and continuous random variable as well as be familiar with common named discrete and continuous random variable. How to translate real-word problems into probability models.
	CO 2	Identify if the process is in-control. If not, identify special patterns that may exist.
	CO 3	Set up the null and alternative hypotheses correctly and choose the appropriate test statistic
	CO 4	Time series Analysis Know how to use them in examine economic and financial process.
	BBA IISem IV	**Paper VII - Environmental Study: AECC-EVS**
	B.B.A III	**CC-1377E Financial Management-I**

	SEM-V	
	CO 1	At the end of this course learners will able to Understand the concepts in Financial Management.
	CO 2	Prepare statement of Working Capital
	CO 3	Demonstrate calculations of Leverage.
	CO4	Understand the concepts Capitalization
	B.B.A III, SEM-V	**GEC1378E Fundamentals of Business Laws and Tax Laws-I**
	CO 1	At the end of this course learners will able to Understand the Philosophy of Law.
	CO 2	Understand Sale of goods.
	CO 3	Analyze Tax Laws.
	CO4	Describe Classification of Taxes.
	CO4	Understand the concepts Corporate Restructuring
	B.B.A III, SEM-V	**GEC-1379E Foundation of Human Skills-I**
	CO 1	At the end of this course learners will able to To develops different human skills among
	CO 2	To enhance quality behavior
	CO 3	To increase Emotional Quotient by learning values
	CO4	To Understand communication skills and personal ability.
	B.B.A III, SEM-V	**GEC-1379F** **Foundation of Human Skills-II**
	CO 1	At the end of this course learners will able to Describe new skills in management.
	CO 2	Elaborate the concept of personality and different Theory of personality.
	CO 3	Understand skill development method and interpersonal skill.
	CO4	Understand the concept of career management.
	B.B.A III SEM-V	**GEC-1380E International Business-I**
	CO 1	At the end of this course learners will able to Identify types of International Business and its approaches.
	CO 2	Elaborate different theories of International Business.
	CO 3	Explain role of International Institutions.
	CO4	Describe India's Export and Import Policy
	B.B.A III SEM-VI	**GEC-1380F International Business-II**
	CO 1	At the end of this course learners will able to Describe role of FEMA and ECGC.
	CO 2	Explain importance of Trade Blocks.
	CO 3	Understand the competitive advantages in different industries.
	CO4	Describe Strategies in product life cycle.
	B.B.A III	**GEC-1381E Research Methodology**
	CO 1	At the end of this course learners will able to Understand the basic idea of research.
	CO 2	Choose proper sample design
	CO 3	Analyze data.
	CO4	Write research report.

22	**Department of Biotech. Optional**	
	PSO 1	Graduates will be able to apply knowledge of biotechnology to conserve flora & fauna.
	PSO 2	Graduates will be able to outline various projects for human welfare & social awareness
	PSO 3	Graduates will be able to perform various techniques in Life sciences.
	PSO 4	Graduates will be able to differentiate plant & animals to species level.
	B. Sc. I Sem I	**Paper I - Basics of Biotechnology I: DSC 1009A**
	CO1	Describe various proteins w.r.t. their structural level.
	CO 2	Classify types of vitamins & able to state their deficiency syndromes.
	CO 3	Specify types of Diabetes & can counsel remedies.
	CO 4	Outline types & uses of Sugars & Lipids.
	B. Sc. I Sem I	**Paper II - Basics of Biotechnology II: DSC 1009A**
	CO1	Isolate & purify particular protein.
	CO 2	Explain the principle of centrifugation.
	CO 3	Understand the working of Microscope.
	CO 4	Discuss the instrumentation & working of UV visible spectroscopy.
	B. Sc. I Sem II	**Paper III – Microbiology: DSC -1009 B**
	CO1	Elucidate the harmful activities of bacteria.
	CO 2	Design media to culture specific bacterial strain.
	CO 3	Conclude importance of sterilization
	CO 4	Compare various types of staining.
	B. Sc. I Sem II	**Paper IV - Basics Cell biology and genetics: DSC 1009 B**
	CO1	List various cell organelles with functions.
	CO 2	Differentiate Prokaryotic & Eukaryotic cells.
	CO 3	Elaborate the Mendelian Genetics.
	CO 4	Predict how crossing over helps in species diversity & evolution
	B.Sc. III SEM-V	**DSC 1009 E1 Plant Biotechnology & Environmental Biotechnology**
	CO 1	At the end of this course students will be able to: Formulate media to produce plantlets on industrial scale.
	CO2	Produce transgenic plants with high quality.
	CO 3	Describe the concept of toxicity.
	CO 4	Discover different ways of Bioremediation
	B.Sc. III SEM-V	**DSC 1009 E2 Bioprocess Engineering & Fermentation Technology**
	CO 1	At the end of this course students will be able to: Discriminate various types of fermentation medium with respect to product formation.
	CO2	Design Fermentor for appropriate fermentation.
	CO 3	Choose correct method for qualitative & quantitative analysis of end product.
	CO 4	Enumerate steps of downstream processing to purify industrially important product.
	B.Sc. III SEM-VI	**DSC 1009 F1 Cell Metabolism , Virology & Animal Cell Culture**
	CO 1	At the end of this course students will be able to:

		Compare various pathways in Cell.
	CO2	Elaborate virus reproduction cycles to develop strategies for antiviral therapies.
	CO 3	Produce transgenic animals for economical importance
	CO 4	Become a good entrepreneur to set up ATC based industries
	B.Sc. III SEM-VI	**DSC 1009 F2 Gene Biotechnology & Bioinformatics & Biophysical & Biochemical Techniques**
	CO 1	At the end of this course students will be able to: Generate new strategies of gene therapies.
	CO2	Construct drug molecule.
	CO 3	Illustrate various biochemical techniques.
	CO 4	Understand various tracer techniques & their applications.

23	**Department of Biotech. Entire**	
	PSO 1	Graduates will gain and apply knowledge of Life sciences, to solve problems related tofield of Biotechnology.
	PSO 2	Graduates will be able to identify, analyze and understand valid conclusions with basicknowledge of traditional subjects in the view of Biotechnology
	PSO 3	Graduates will be able to decide and apply appropriate tools and techniques inbiotechnology
	PSO4	Graduates will be able to design and develop solution for environment & society issue.
	PSO 5	Graduates will be able to justify social, health, safety and legal issues and understand hisresponsibilities in biotechnological practices.
	PSO 6	Graduates will be able to understand the need and impact of Biotechnological solutionson environment and societal context keeping in view need for sustainable solution.
	PSO 7	Graduates will be able design, perform experiments, analyze and interpret data afterinvestigating different scientific problem.
	PSO 8	Graduates will be able to demonstrate knowledge of project and finance managementwhen dealing with Biotechnology
	PSO9	Those with biotechnology degrees command a great deal of scientific researchfunding,as the ability to create new and more productive food sources is always in demand.
	B. Sc. I Sem I	**Chemistry-I:DSC 1331 A**
	CO1	Analyze the relation between different measures of concentration
	CO 2	Construct the thermodynamic models for reaction rate
	CO 3	learn the concepts of hybridization
	CO 4	Calculate Gibb’s free energy for biological process.
	B. Sc. I Sem I	**Biochemistry-I: DSC 1332 A**
	CO1	Understand basic concepts of origin of life
	CO 2	Outline the importance of carbohydrates and lipids in the diet.
	CO 3	Understand the basic concepts of biological buffer system.
	CO 4	Predict and illustrate sap value, iodine value, and acid value.
	B. Sc. I Sem I	**Plant Science: DSC 1333 A**
	CO1	Understand general classification of plant kingdom
	CO 2	explain the terms used in plant morphology and taxonomy
	CO 3	outline the general characters of Algae, Bryophytes etc.
	CO 4	Explain the rules of taxonomy.
	B. Sc. I Sem I	**Biotechnology for Human welfare– I:DSC-1334 A**
	CO1	To enumerate the importance of Biotechnology in Human Development.
	CO 2	To learn the different aspect of Biotechnology.
	CO 3	Understand the importance of Biotechnology in health.
	CO 4	To learn the techniques of production of Biofertilizer.
	B. Sc. I Sem I	**Computer: DSC 1335 A**
	CO1	Choose the operating system for computers.
	CO 2	To learn different aspects of office operations.
	CO 3	Outline the database management system.
	B. Sc. I Sem I	**Biotechniques and Instrumentation: DSC 1336 A**
	CO1	Illustrate different methods of protein purification
	CO 2	Demonstrate and use different lab instruments

	CO 3	understand basic concepts of spectroscopy
	CO 4	Perceive the knowledge about different types of microscopy.
	B. Sc. I Sem I	**Microbiology-I: DSC 1337 A**
	CO1	Choose specific staining techniques for various types of Microorganisms.
	CO 2	explain different methods required for sterilization
	CO 3	Understand the bacterial bacterial taxonomy
	CO 4	Understand nutritional requirements of bacteria.
	B. Sc. I Sem I	**Biotechnology for Human welfare– II:DSC-1338 A**
	CO1	Acquire the knowledge about importance of biotechnology.
	CO 2	Acquire the knowledge about applications of biotechnology in agriculture.
	CO 3	Understand the importance of Biotechnology in health.
	CO 4	Acquire the knowledge about applications of biotechnology in conservation and environment.
	B. Sc. I Sem II	**Chemistry-II: DSC 1331 B**
	CO1	Describe the mechanism of organic evolution
	CO 2	elaborate the concept of aromaticity
	CO 3	compare the gravimetric and titrimetric analysis
	CO 4	Explain chemical nature of natural products.
	B. Sc. I Sem II	**Biochemistry-II: DSC 1332B**
	CO1	Classify different types of proteins.
	CO 2	Elaborate the role of chromatography in purification of bimolecule.
	CO 3	Describe the functions of different coenzymes.
	CO 4	Explain IUB classification of enzymes.
	B. Sc. I Sem II	**Animal Science:DSC 1333 B**
	CO1	Understanding the diversity of life.
	CO 2	Reflect the importance of host parasite relationship
	CO 3	Explain the structure and functions of different types of tissue.
	CO 4	Encourage the students to opt for carrier in applied zoology.
	B. Sc. I Sem II	**Biostatistics: DSC 1334 B**
	CO1	To learn the details nature of Biological Data
	CO 2	Explain the importance of sampling
	CO 3	Perceive the knowledge of probability &testing hypothesis.
	CO 4	Outline the importance of graphical representation of data.
	B. Sc. I Sem II	**Introduction to Bioinformatics: DSC-1335 B**
	CO1	To understand the importance of Bioinformatics in Biotechnology
	CO 2	Illustrate the relation Online data and Biological Data.
	CO 3	Explain importance of Biological Database.
	CO 4	Outline the different software used in Bioinformatics
	B. Sc. I Sem II	**Basics in cell biology DSC 1336 B**
	CO1	percieve knowledge about the cell theory
	CO 2	Explain concept of different types of membrane transport.
	CO 3	Outline the types of conservation in expression.
	B. Sc. I Sem II	**Microbiology-II: DSC 1337B**
	CO1	Acquire the Knowledge about the isolation of microorganism in pure culture from mixed population.
	CO 2	To carry out microbiological analysis of water
	CO 3	To conclude Different modes of transmission of diseases.
	B. Sc. I Sem II	**Developmental biology: DSC-1338-B-**

	CO1	Reflect the importance of various processes in Development of Organism.
	CO 2	Understand basic concepts of Gametogenesis
	CO 3	Differentiated between animal and plant development.
	CO 4	outline the concepts of Embryonic Development.
	B.Sc.-III Biotechnology entire SEM-V	**DSC 1355E** **Basics in Genetic Engineering**
	CO 1	At the end of this course students will be able to: Understand the concept of cloning
	CO2	Demonstrate the techniques of DNA fingerprinting
	CO 3	Perceive knowledge about sequencing technology.
	CO 4	illustrate the importance of probe designing
	B.Sc.-III Biotechnology entire SEM-V	**DSC 1356E** **Industrial Biotechnology**
	CO 1	At the end of this course students will be able to: Construct the design required to set up industrial fermentation.
	CO2	Draw a contrast between industrial & pilot fermentation
	CO 3	Discover various ways of media formulation for industrial scale.
	CO 4	Predict & illustrate the nature of industrial processes.
	B.Sc.-III Biotechnology entire SEM-V	**DSC 1357E** **Applications of biotechnology in Agriculture**
	CO 1	At the end of this course students will be able to: Outline the importance of Hybridization & mutation in crop improvement.
	CO2	Explain the techniques of artificial seed germination.
	CO 3	Discuss the strategies to develop transgenic plants
	CO 4	Formulate biofertilizer.
	B.Sc.-III Biotechnology entire SEM-V	**DSC 1358E** **Developmental Biology** **(Animal & Plant)**
	CO 1	At the end of this course students will be able to: Learn the concept of apomixes &polyembryony
	CO2	Understand the mechanism of self incompatibility.
	CO 3	Classify different characters & biological functions of embryo development.
	CO 4	Elaborate the mechanism of regeneration.
	B. Sc.-III Biotechnology entire SEM-V	**DSC 1355F** **Advances in Genetic Engineering**
	CO 1	At the end of this course students will be able to: Reflect the importance of chemical synthesis of DNA.
	CO2	Appreciate Differentiate various types of PCR & their applications.
	CO 3	The importance of screening.
	CO 4	Study impact of GM foods on human health.
	B. Sc.-III Biotechnology entire SEM-V	**DSC 1356F** **Food & Microbial Biotechnology**
	CO 1	At the end of this course students will be able to:

		Choose appropriate fermentation technology.
	CO2	Compare classical & Modern fermentation techniques.
	CO 3	Outline the importance of preservation.
	CO 4	Study characteristics of food supply.
	B. Sc.-III Biotechnology entire SEM-V	**DSC 1357F** **Applications of biotechnology in Health**
	CO 1	At the end of this course students will be able to: Appreciate the exigency of stem cell technology
	CO2	Classify different types of vaccines
	CO 3	Explain the mechanism of hybridoma technology.
	CO 4	Predict the nature of forensic medicines.
	B. Sc.-III Biotechnology entire SEM-V	**DSC 1358F** **Bioinformatics**
	CO 1	At the end of this course students will be able to: Outline the importance of Human Genome Project.
	CO2	List different types of structural database.
	CO 3	Explain the importance of phylogenetic analysis.
	CO 4	Construct drug molecules.

24	**Department of Physics**	
	PSO 1	Students should understand mathematical concepts needed for understanding Physics
	PSO 2	Students should understand fundamental basic theories of General Physics, Classical Mechanics, Quantum mechanics, Electricity and magnetism, Modern Physics, Space Science, Semiconductor Physics and able to apply this knowledge to analyze the verity of physics phenomenon
	PSO 3	Students should learn laboratory skills; students should take measurements in Physics laboratory and analyze the measurements to draw valid conclusions
	PSO 4	Students will be capable of oral and written scientific communication and will prove that they can think critically and work independently.
	B. Sc.ISem I	**Paper I - Mechanics – I: DSC-1001A$_1$**
	CO1	To demonstrate and understand the basic primary knowledge of Mechanician theories in Physics.
	CO 2	Students will demonstrate a proficiency in solving problems in Vectors, Ordinary Differential Equations etc.
	CO 3	To understand the basic concepts of dot product, cross product, Ordinary Differential Equations, laws of motion, rotational motion, momentum and energy etc.
	CO 4	To develop the critical skill in students to understand mechanics.
	B. Sc.ISem I	**Paper II - Mechanics– II: DSC-1001A$_2$**
	CO1	To demonstrate and understand the basic primary knowledge of Mechanician theories in Physics.
	CO 2	Students will demonstrate a proficiency in solving problems in Elasticity, gravitation, oscillation, Differential equation ofSimple harmonic motion, special theory of relativity etc.
	CO 3	To understand the basic concepts of elastic constants, gravitation and Kepler's laws, Simple harmonic motion, etc.
	CO 4	To develop the critical skill in students to understand special theory of relativity.
	B. Sc.ISem II	**Paper III - Electricity, Magnetism and Electromagnetic Theory-I: DSC-1001B$_1$**
	CO1	To demonstrate and understand the basic primary knowledge of Electricity, Magnetism and Electromagnetic Theory.
	CO 2	Students will demonstrate a proficiency in solving problems in Thevenin's theorem, and Norton's theorem, magnetism, electrostatics etc.
	CO 3	To understand the basic concepts of Ballistic galvanometer, networks theorem, magnetostatics and electrostatics etc.
	CO 4	To develop the critical skill in students to understand electricity and magnetism.
	B. Sc.ISem II	**Paper IV - Electricity, Magnetism and Electromagnetic Theory – II: DSC-1001B$_2$**
	CO1	To demonstrate and understand the applied knowledge of electricity, Magnetism and Electromagnetic Theory.
	CO 2	Students will demonstrate a proficiency in solving problems in gradient, divergence, Curl and their significance, VectorIntegration, Line, surface and volume integrals of Vector fields, Maxwell's equations and Electromagnetic wave propagation.

	CO 3	To understand the basic concepts of gradient, divergence, Curland their significance,Gauss-divergencetheorem and Stoke's theorem of vectors, Electromagnetic Induction, Maxwell’s equations and Electromagnetic wave propagation etc.
	CO 4	To develop the critical skill in students to understand applied knowledge of Electricity, Magnetism and Electromagnetic Theory.

25	**Department of B. Voc. Graphic Design**	
	PSO 1	B. Voc. Graduate in Graphic Design will learn and understand the principles of Drawing, Sketching, Design, Color Theory and Typography.
	PSO 2	Graduate will learn and understand tools and techniques of creating designs and layouts for the print media AND creating digital Illustrations.
	PSO 3	Graduate will learn and understand tools and techniques of creating digital image manipulations.
	PSO 4	B. Voc. Graduate in Graphic Design will able to develop an original, innovative and articulate body of graphic design work for a professional portfolio.
	PSO 5	B. Voc. Graduate in Graphic Design will able to develop and provide design solutions in response to a given brief.
	PSO 6	B. Voc. Graduate in Graphic Design will develop demonstrated ability to evaluate the requirements for packaging in response to a brief.
	PSO 7	B. Voc. Graduate in Graphic Design will able to present a range of promotional material, using branding guidelines, in support of a given brand.
	PSO 8	B. Voc. Graduates in Graphic Design will gain knowledge of the professional design environment and awareness of the designer’s roles and responsibilities, client liaison, and how to present themselves and their work within a commercial environment.
	B. Voc. Part I Sem I	**Paper I - English for Business Communication**
	B.Voc. Part I Sem I	**Paper II - Color Theory Part I: B.Voc-GD-CC-1558B**
	CO 1	Understand the relationship between Value, Hue, Chroma. The Color Wheel -theories of Color Relationships/Harmonies.
	CO 2	Understand to illustrate the application of color in three different color harmonies on a repeat side to side pattern of one's original design. Illustrate understanding of color proportion and extension. Develop and demonstrate ability to recognize color harmonies and proportions of color used by designers in existing spaces
	CO 3	Understand Color Symbolism, Color Psychology, Historical & Contemporary use of Color. Local color and subjective use of color. Emotional effects Personal Color preferences.
	CO 4	To develop more mature and varied colour skills using Graphic Software.
	B.Voc. Part I Sem I	**Paper III - Elements of Art and Principles of Design: B.Voc-GD-CC-1559B**
	CO 1	Discover the basic principles of two dimensional design through the manipulation of black, white and gray.
	CO 2	Encourage to adopt a creative approach to problem solving and to become self-critical in the editing of the work.
	CO 3	Develop a vocabulary of terms specific to the visual arts and particularly two dimensional art
	CO 4	Use elements and principles in various designs created by using Graphic Design Software

	B. Voc. Part I Sem I	**Paper IV - History of Graphic Design: B.Voc-GD-CC-1560B**
	CO 1	Provide exposure to images and information to inspire great work, further study, and exploration. Organize information for better communication.
	CO 2	Identify influences and characteristics of design styles. Recognize significant contributors to design.
	CO 3	Observe and discuss examples of effective design. Recognize prevalent historical design themes.
	CO 4	Understand unification/separation of design and society. Unification/separation of design and technology
	B. Voc. Part I Sem II	**Paper V - Business Communication-II**
	B. Voc. Part I Sem II	**Paper VI - Color Theory (Part II): B.Voc-GD-CC-1564C**
	CO 1	Understand that when producing physical colors as in paint a Subtractive System is used and when producing colors digitally as on a computer an Additive System is used.
	CO 2	Understand to illustrate the application of color in three different color harmonies on a repeat side to side pattern of one's original design. Illustrate understanding of colorproportion and extension. Develop and demonstrate ability to recognize color harmonies and proportions of color used by designers in existing spaces.
	CO 3	Understand that color is a meaningful constant for sighted people and it& a powerful psychological tool. By using color psychology, he can send a positive or negative message, encourage sales, calm a crowd, or make an athlete pump iron harder.
	CO 4	Understand Color Psychology, applying Color Psychology to Everday Life.
	B.Voc. Part I Sem II	**Paper VII–Typography: B.Voc-GD-CC-1565C**
	CO 1	Understand generation of letter forms, including analysis of basic alphabet categories and rationale of individual letter-style characteristics.
	CO 2	Understand fundamentals of typography with emphasis on the formal aspects of designing with typographic elements.
	CO 3	Study contexts allowing the individual nature of the project content and audience to start influencing and determining their typographic choices.
	CO 4	Use typography for meaningful design solution with minimal content by using Graphic Design Software.
	B.Voc. Part I Sem II	**Paper VIII - Perspective: B.Voc-GD-CC-1566C**
	CO 1	Understand the art of representing three-dimensional objects on a two dimensional surface so as to give the right impression of their height, width, depth, and position in relation to each other.
	CO 2	Know all details in perspective. Perspective drawings have a horizon line, which is often implied. This line, directly opposite the viewer's eye, represents objects infinitely far away. They have shrunk, in the distance, to the infinitesimal thickness ofa line.
	CO 3	Understand types of perspective. One point perspective uses one vanishing

		point placed on the horizon line. Two point perspective uses two points placed on the horizon line. Three point perspective uses three vanishing points.
	CO 4	Use perspective in various designs created by using Graphic Design Software
	B. Voc Part III Sem V	**Advertising Art (Part III)**
	CO1	Upon completion of this course, students will be able to Understand Creative Advertising.- Planning and Execution — Ideas - Soul of Advertising— Unique Selling (Propositions) — Points of a Product
	CO2	Understand and Study How Product Analyses are made. Applications of USPs— Basic Human Motives that make People Act— Desire and Hope— Basic Human Desires that relate to Advertised Products— Humor— Sympathy — Empathy — Anxiety — Fear— Executing The Theme Creatively
	CO3	Understand What is Copy Platform?—Copywriting Functions of Advertising Copy—Basic Ingredients of Copy—Approach to Writing Copy—'The Headline—Text Copy—Visualization— Invention of Advertising Ideas—Advertising must be such that it is capable of easy perception— Advertising must be interesting— Advertising must use the best presentation techniques— What is `Graphic' in advertising design
	CO4	Study Principles of Design: The Law of Balance—The Law of Rhythm—The Law of Emphasis—The Law of Unity—The Law of Simplicity—The Law of Proportion
	B. Voc Part III Sem V	**Logo Designing**
	CO1	Upon completion of this course, students will be able to Understand importance of Preliminary sketches, first step in designing an effective logo.These can be as simple as paper and pen drawings or drafts made using a vector program, such as Illustrator. Start with 20 to 30 sketches or ideas and then branch out to create variations of the original ideas. If nothing seems to work, start over and begin sketching new ideas. An effective graphic designer will spend more time on this preliminary work than any other step in the design process.
	CO2	How to keep your logo balanced by keeping the ―weight‖ of the graphics, colors, and size equal on each side. Though the rule of balance can occasionally be broken, remember that your logo will be viewed by the masses, not just those with an eye for great art, so a balanced design is the safest approach.
	CO3	Understand how color theory is complex, but designers who understand the basics are able to use color to their advantage. Use colors near to each other on the color wheel (e.g. for a ―warm‖ palette, use red, orange, and yellow hues). Don‘t use colors that are so bright that they are hard on the eyes. The logo must also look good in black and white, grayscale, and two colors. Breaking the rules sometimes is okay; just make sure you have a good reason to!
	CO4	Create various design styles of a logo, and to pick the right one, you should have some background information about the client and the brand. A recent trend in logo design is the Web 2.0 style of 3D-looking logos,

		with ―bubbly‖ graphics, gradients, and drop shadows. This style may work well for a Web 2.0 website or tech company, but may not be effective for other kinds of brands.
	B. Voc Part III Sem V	**Photography**
	CO1	Upon completion of this course, students will be able to Understand **Short History** 1. Precursor technologies, 2. Invention of photography, 3. Film photography, 4. Digital Photography
	CO2	Understand and Study **Camera controls -** Focus, Aperture, Shutter Speed, White Balance, Film Speed, Metering, Autofocus
	CO3	Study **Type of lenses -** Normal, Long focus, Wide angle, Telephoto, Macro, Fisheye, Zoom
	CO4	Study **Photographic Techniques & accessories -** Depth of field, using camera filters, tripod
	B.Voc Part III Sem V	**Brands and Branding**
	CO1	**Upon completion of this course, students will be able to** To understand Meaning of **Brand and Branding -** Brand is a term closely linked to a product or place‘s image and reputation in that it ―captures the idea of reputation observed, reputation valued and reputation managed‖ At its simplest, a brand is ―a product or service or organisation, considered in combination with its name, its identity and its reputation‖
	CO2	To understand & study **Brands: Not just about Promotion, but about Trust and Respect** Importantly, brands represent more than a set of images to promote a product or place; they are about trust and respect (Bell, 2005). The meanings, symbols, and values represented by brands ―not only reinforce the identity and uniqueness of destinations but also reassure the people, habitués, values, and symbols of their own culture, thus preserving the…‗state of being‘ of the place‖
	CO3	To **Build a Brand** Branding is a way of defining your business to yourself, your team and your external audiences. It could be called the business‘ ―identity‖, but only on the understanding that it embodies the core of what the business is and its values, not just what it looks and sounds like.
	B. Voc Part III Sem VI	**Symbol and Icon Design**
	CO1	An understanding of symbolism is a critical part of graphic design. Designers use symbols in both obvious and subtle ways to communicate something about the design. Symbolism is a profound, complex subject so in this post I will present an overview of what I consider to be the most important for designers to be aware of in terms of symbolism.
	CO2	Understand and Study SYMBOLISM OF COLOR: USING COLOR FOR MEANING Color Symbolism in the Western world: Color Symbolism in the Eastern World:
	CO3	Understand **ICON DESIGN - Icon design** is the process of designing a graphic symbol that represents some real, fantasy or abstract motive, entity or action. In the context of software applications, an icon often represents a program, a function, data or a collection of data on a omputer

		system.
	CO4	Study **Brand icons for commercial -** A further type of computer icon is the brand icon of commercial third-party software programs available on the computer system. These brand icons are bundled with their product and installed on a system with the software**.**
	B.Voc Part III Sem VI	**Visual Communication and Information Graphics**
	CO1	To understand & study **THE COMMUNICATION DESIGN** Industries are changing rapidly For our graduates to remain valid contributors to contemporary communication industries they must be able to understand the multitude of communication platforms they will encounter, from the traditions of print, to online and tablet devices; environmental graphics to the sound and motion of film.
	CO2	To understand **RELATIONS BETWEEN DATA VISUALIZATION AND INFOGRAPHICS** The purpose of data visualization and infographics is to provide visual presentation of complex and irregular information in a planned and comprehensible manner. Both terms have different meanings despite this joint purpose.
	CO3	To understand **TECHNOLOGICAL INFRASTRUCTURE OF DATA VISUALIZATION AND INFOGRAPHIC WORKS** Inclusion of interactive or motion formats to the study calendar into the infographics and data visualization projects together with static formats will develop students‘ skills to use technology
	B.Voc Part III Sem VI	**Public Signage Graphics**
	CO1	To understand Signage - Signage is the design or use of signs and symbols to communicate a message to a specific group, usually for the purpose of marketing or a kind of advocacy. A signage also means signs collectively or being considered as a group. The term signage is documented to have been popularized in 1975 to 1980.
	CO2	To understand and learn **HISTORY** The French ensign indicates its essential connection with what is known in English as a flag, and in France, banners not infrequently took the place of signs or sign boards in the Middle Ages. Signs, however, are best known in the form of painted or carved advertisements for shops, inns, etc.
	CO3	To understand & study types of signage – **Pictograms** Pictograms are images commonly used to convey the message of a sign. In statutory signage, pictograms follow specific sets of colour, shape and sizing rules based on the laws of the country in which the signage is being displayed.
	CO4	To study and process on **SIGN SHAPE -** The shape of a sign can help to convey its message. Shape can be brand- or design-based, or can be part of a set of signage conventions used to standardize sign meaning. Usage of particular shapes may vary by country and culture.
	B.Voc Part III Sem VI	**UI/UX Design**
	CO1	To understand User Interface Design - Designing effective interfaces for software systems
	CO2	To understand and learn **IMPORTANCE OF USER INTERFACE**

		System users often judge a system by its interface rather than its functionality. A poorly designed interface can cause a user to make catastrophic errors . Poor user interface design is the reason why so many software systems are never used.
	CO3	To understand & study **GRAPHICAL USER INTERFACES** Most users of business systems interact with these systems through graphical user interfaces (GUIs) – although, in some cases, legacy text based interfaces are still used.
	CO4	To create **GUI CHARACTERISTICS** • Windows • Icons • Menus • Pointing Devices • Graphics

26	**Department of B. Voc. Animation and Film Making**	
	PSO 1	B. Voc. Graduates in Animation & Film making will demonstrate that the cercal study of cinema informs their filmmaking and that the study and practice of film production enhance their work as film scholars' analysts.
	PSO 2	B. Voc. Graduates in Animation & Film making will Computer Animation and Game Development graduates will have an understanding of critical and aesthetic issues in computer graphics and mixed-media
	PSO 3	B. Voc. Graduates in Animation & Film making will access industry related learning resources.
	PSO 4	B. Voc. Graduates in Animation & film making will create effective visual animations using the elements of story
	PSO 5	B. Voc. Graduates in Animation & film making will identify and apply the 12 principles of animation. List of films featuring clay animation
	PSO 6	B. Voc. Graduates in Animation & Film making will relate some knowledge of the history of animation.
	PSO 7	B. Voc. Graduates in Animation & film making will demonstrate entry-level workplace computer competencies using industry standard 2D & 3D animation software
	PSO 8	B. Voc. Graduates in Animation & film making will demonstrate industry professional standards within their attitudes, conduct, ethics and work
	PSO 9	B. Voc. Graduates in Animation & film making will design layouts and backgrounds that incorporate principles of composition, perspective and color, with speed accuracy and dexterity, using a variety of media.
	B. Voc. Part I Sem I	**Paper I - AECC– I: Business Communication-I**
	CO 1	Use appropriate words and sentences for effective communication.
	CO 2	Use various data representation techniques.
	CO 3	Use appropriate skills for resume writing.
	CO 4	Understand skills required for effective interview.
	B. Voc. Part I Sem I	**Paper II - Fundamentals Of Art: B.VOC-AFM-CC-1682A**
	CO 1	Students will have demonstrable skills in their area of emphasis. These skills include formal and conceptual applications of foundation principles within their primary media.
	CO 2	Demonstrate basic practical visual art research skills, techniques and approaches to art making.
	CO 3	Create meaningful links between concepts and materials within a contemporary framework, relating to the history and theories of art.
	CO 4	Demonstrate a clear understanding of art as a language across 2D and 3D studies.
	CO 5	Apply such meaningful to their visual art practice and research.
	CO 6	Demonstrate skills in academic writing and research & Illustrate independent visual art research and its application to practice and study.
	B. Voc. Part I Sem I	**Paper III–Perspective: B.VOC-AFM-CC-1683A**
	CO 1	They relate to building knowledge and awareness, enhancing critical reflection, developing synthetic, analytical and presentation skills,
	CO 2	Perspective-taking is the process by which an individual views a situation from another's point-of-view.

	CO 3	Being able to analyze a situation from multiple perspectives, apply knowledge to new cases and present work fluently and convincingly
	CO 4	Interpret and evaluate artistic expression considering the cultural context in which it was created
	CO 5	the actors and processes involved in law and development, from both an external and an internal perspective 9 CO107.4
	CO 6	Analyze similarities and differences in human experiences and consequent perspectives
	B. Voc. Part I Sem I	**Paper IV - History Of Animation: B.VOC-AFM-CC-1684A**
	CO 1	Students completing an assignment in Area C (Arts) courses will be able to analyze modes of artistic expression.
	CO 2	Students will be able to identify through analysis the role of institutions (religious,political, economic, social, educational, etc.) in the development of all periodculture.
	CO 3	Students will be able to assess and explain the repeating patterns of population rushes that characterize the history of area.
	CO 4	Through research, students will present a paper showing and evaluating an element of change in history.
	CO 5	Students completing an assignment in Humanities Area C will be able to identify the influence of culture on human expression
	CO 6	Students will be able to identify and evaluate major agents of change/reform in area History.
	B. Voc. Part I Sem II	**Paper V - English for Business Communication-II**
	CO 1	Use appropriate words and sentences for effective communication.
	CO 2	Use appropriate skills for resume writing.
	CO 3	Use various data representation techniques.
	CO 4	Understand skills required for effective interview.
	B. Voc. Part I Sem II	**Paper VI - Colour Theory (Part II): B.VOC-AFM-CC-1689B**
	CO 1	Recognize color as a quality in the physical world, including natural phenomena. Be able to describe a variety of uses of color
	CO 2	Apply color principles to 2 and 3 Dimensional design problems
	CO 3	Color Theory is a Animation course that develops a student's understanding of the complex nature of color.
	CO 4	The student will demonstrate skills in designing with color, while developing sensitivity through hue, value, intensity, proportion and placement in a composition.
	CO 5	Distinguish principles of subtractive and additive color phenomena
	CO 6	Study of the additive and subtractive principles of color theory as they apply to the visual communication design process.
	B. Voc. Part I Sem II	**Paper VII - Classic Animation: B.VOC-AFM-CC-1690B**
	CO 1	Enhance your drawing skills with storyboard and background design exercises.
	CO 2	Create storyboards for an animated film, character model sheets, layouts, and final artwork for rendering.
	CO 3	Progress to the art direction, digital ink and paint phase of production on

		your final project.
	CO 4	Assemble a traditional animation portfolio in preparation for graduation.
	CO 5	Delve into the fundamentals of drawing, animation, and basic art direction.
	CO 6	Explore more complex animation concepts like animating a character's thoughts and emotions through acting principles.
	B. Voc. Part I Sem II	**Paper VIII - Digital Animation: B.VOC-AFM-CC-1691B**
	CO 1	Create drawings and paintings using custom brush libraries.
	CO 2	Export digital content for use in other software programs
	CO 3	Use Bezier paths to digitally ink vector graphic drawings
	CO 4	Demonstrate the synthesis of story, style, character, location, emotion, and symbology in compositional studies.

27	**Department of B. Voc. Foundry Technology**	
	PSO 1	B. Voc. Graduates in Foundry Technology will demonstrate knowledge ofMachine Drawing, Material Science, Gating System Design & Metallurgy tosolve actual casting products/processes related problems in Foundries
	PSO 2	Graduates will become Innovators & Entrepreneurs to address social,technical and business challenges.
	PSO 3	B. Voc. Graduates in Foundry Technology will select and apply relevantmodern technique and IT Tools to solve complex problems in design andmanufacturing of casting components.
	PSO4	B. Voc. Graduates in Foundry Technology will able to understand and solvesocial, health, legal issues related to foundry.
	PSO 5	B. Voc. Graduates in Foundry Technology will able to use appropriate environmental friendly processes for foundry to achieve sustainable growth.
	PSO 6	B. Voc. Graduates in Foundry Technology will be able apply ethical business practices in Industry.
	PSO 7	B. Voc. Graduates in Foundry Technology will able to work inIndustry/Foundry as a team player as well as a team leader
	PSO 8	B. Voc. Graduates in Foundry Technology will be able to communicate effectively and professionally at Local to Global level.
	PSO 9	B. Voc. Graduates in Foundry Technology will be able to apply Project Management Techniques and Financial Management Techniques in foundry.
	B. Voc. Part I Sem I	**Paper I - AECC– I: Business Communication-I**
	CO 1	Use appropriate skills for resume writing.
	CO 2	Use various data representation techniques.
	CO 3	Understand skills required for effective interview
	B. Voc. Part I Sem I	**Paper II - Engineering Graphics-I: B.VOC-FT-CC-1594A**
	CO 1	Use various drawing techniques & drawing instruments.
	CO 2	Draw various Conics such as Ellipse & Parabola
	CO 3	Draw various special curves.
	CO 4	Take appropriate projections of given point.
	CO 5	Take appropriate projections of given Line.
	B. Voc. Part I Sem I	**Paper III - Engineering Materials: B.VOC-FT-CC-1595A**
	CO 1	Select appropriate materials and its compositions amongst Ferrous Metals.
	CO 2	Select & Recommend suitable Non-ferrous Metal for Materials of Construction.
	CO 3	Apply knowledge of Plastics & Fibers for Material selection.
	CO 4	Apply knowledge of Refractory Materials in Industry.
	B. Voc. Part I Sem I	**Paper IV - Pattern Construction Technology: B.VOC-FT-CC-1596A**
	CO 1	Identify various types of Patterns & their Allowances.
	CO 2	Study of patterns for special processes
	CO 3	Study process of pattern making.
	B. Voc. Part I	**Paper V - Moulding Technology: B.VOC-FT-CC-1597A**

	Sem I	
	CO 1	Understand Sand Molding Techniques.
	CO 2	Understand sand molding machines.
	CO 3	Understand various mold design techniques
	CO 4	Identify Core making processes.
	B. Voc. Part I Sem II	**Paper II - AECC-II Business Communication-II**
	CO 1	Use appropriate communication skills and vocabulary for effective group discussion on a particular topic.
	CO 2	Communicate professionally with his/her subordinates and business concerns effectively.
	CO 3	Use various negotiation techniques for business dealings for his/her organization.
	CO 4	Use effective marketing aids for organizational business growth.
	B. Voc. Part I Sem II	**Paper VI - Engineering Graphics-II: B.VOC-FT-CC-1602B**
	CO 1	Use concepts of engineering drawing for Manufacturing/Fabrication/Design in foundry/Industries
	CO 2	Visualize and draw various projection methods for lines and planes
	CO 3	Visualize and draw various projection methods of solids
	CO 4	Understand sketching of development of surfaces
	CO 5	Read and Interpret concepts of Isometric and Perspective Projections.
	CO 6	Use various commands in Computer Aided Drafting.
	B. Voc. Part I Sem II	**Paper VII - Melting Technology: B.VOC-FT-CC-1603B**
	CO 1	Handle scraps and select proper charging method in furnace
	CO 2	Find appropriate melting operations and decide post melting treatments as per type and grade of metal
	CO 3	Decide correct procedure of composition control as per required properties and composition.
	CO 4	Select appropriate parameters for efficient operations of furnace
	CO 5	Decide appropriate handling techniques for liquid metals in foundry
	B. Voc. Part I Sem II	**Paper VIII - Gating System and Risering: B.VOC-FT-CC-1604B**
	CO 1	Select appropriate Gating System.
	CO 2	Design Gating system for given mould.
	CO3	Design appropriate risers for a particular mould.
	B. Voc. Part I Sem II	**Paper IX - Casting Processes: B.VOC-FT-CC-1605B**
	CO 1	Select appropriate casting method for the components
	CO 2	Analyze casting defects & implement remedial measures in the foundry
	B. Voc Part III Sem V	**PAPER XXI: SECONDARY STEEL MAKING**
	CO1	Students will able to differentiate the special grades of steel.
	CO2	Students will understand the importance of making clean steel.
	B. Voc Part III Sem V	**PAPER –XXII: QUALITY CONTROL**
	CO1	Study various approaches of quality

	CO2	Understand kaizen, Deming and Juran's quality control policies.
	CO3	Study design of experiments using factorial approach and analyze the experiments.
	CO4	Discuss various quality improvement processes using charts, block diagram, distribution and QFD.
	CO5	Understand statistical processes control in quality and reliability assessment of product.
	CO6	Understand and apply Taguchi's experimental design for quality control
	B. Voc Part III Sem V	**PAPER –XXIII: INDUSTRIAL MANAGEMENT**
	CO1	Apply principles of management and carry out various functions of management.
	CO2	Analyze and select financial and marketing strategies of project.
	CO3	Apply various strategies of management for Human Resource Planning.
	B. Voc Part III Sem VI	**PAPER - XXIV- WELDING AND SALVAGING PROCESSES**
	CO1	Demonstrate various welding processes.
	CO2	Select appropriate welding process according material specification.
	CO3	Salvage different components according to physical and metallurgical characteristics.
	B. Voc Part III Sem VI	**PAPER –XXV: ENERGY CONSERVATION AND POLLUTION CONTROL**
	CO1	Select appropriate energy source including alternate energy sources.
	CO2	Apply and create energy conservation techniques.
	CO3	Design the procedure to control the pollution in foundries.
	B. Voc Part III Sem VI	**PAPER –XXVI: FRACTURE MECHANICS AND ANALYSIS OF FAILURE**
	CO1	Apply the concepts of fracture mechanics.
	CO2	Analyze various types of failure at different condition.
	CO3	Evaluate different case studies of failures.

28	**Diploma in Photography**	
	B. Voc. Part I Sem I	**Paper – I: English for Business Communication:**
	B. Voc. Part I Sem I	**Paper –II: Foundation Photography: Community-PH-CC-1651A**
	CO 1	Understand the basic techniques of using professional cameras
	CO 2	Understand the basic lights arrangements for indoor and outdoor photography. Illustrate understanding of colourveriations Develop and demonstrate ability to recognize ambiance light
	CO 3	Developing the sense to Understand reflected light , Colour of light and creating proper Image
	CO 4	To develop the basic knowledge of composition for photography.
	B. Voc. Part I Sem I	**Paper –III : Photography Technique part I: Community-PH-CC-1652A**
	CO 1	Discover the basic principles of Light reflection and their intensity .
	CO 2	Encourage to adopt a creative approach to problem solving and to become self-critical in the Lighting of the work.
	CO 3	Develop the various methods of creating light for photography
	CO 4	Understand the use of accessories for using indoor & outdoor photography
	B. Voc. Part I Sem I	**Paper IV: Basic Photoshop: Community-PH-CC-1653A**
	CO 1	Provide exposure to images and information to inspire great work, further study, and exploration. Organize information for better communication.
	CO 2	Understand the basic editing tools and there use for editing
	CO 3	Understand the techniques of image editing for printing
	CO 4	Understand unification/separation of design and society. Unification/separation of design and technology.
	B. Voc. Part I Sem II	**CC part-I (Diploma) English for Business Communication-II**
	B. Voc. Part I Sem II	**Paper –VI: Applied Physic & Photography: Community-PH-CC-1658B**
	CO 1	Understand proper use for photography of ambiance light
	CO 2	Understand to creating light for self creativity of their work
	CO 3	Develop the motion sense and create proper exposure
	CO 4	Understand Light Physics for creativity
	B. Voc. Part I Sem II	**Paper –VII: Photography Technique (Part 2): Community-PH-CC-1659B**
	CO 1	Understand creating glamour, split, butterfly light, rembrandt light, Rim light, High Key & Low Key.
	CO 2	Understand the colors of light and creating innovative image frame.
	CO 3	Study the flexible setting of various cameras for photography .
	CO 4	Use techniques for solving problem during photography.
	B. Voc. Part I Sem II	**Paper –VIII: Photo Editing: Community-PH-CC-1660B**
	CO 1	Understand the art Photography and using as per necessary filters.
	CO 2	Know all details in light and shadows and manage proper combination of light.
	CO 3	Understand types of perspective of object. and making proper lens correction

	CO 4	Use perspective in various designs, action, created by using Photoshop Software

29	**Department of M. Voc. in Foundry Technology**	
	PSO 1	Students from Foundry Technology will collect and analyze data for solving the problems related with casting by using modelling, analysis & quality tools.
	PSO 2	2. Student will make use of advance material testing techniques, gating design and casting simulation for improving quality of product.
	M. Voc. Part I SemI	**I Design of Experiment and Research Methodology**
	CO 1	Understand the importance of research design and sampling.
	CO 2	Analyze the data collected measure the same.
	CO 3	Construct a hypothesis and analyse it with different tools.
	CO 4	Understand the importance of report writing.
	M. Voc. Part I SemI	**II Concepts in Material Science**
	CO 1	Understand basics of the structure- properties relationship.
	CO 2	Understand importance of phase diagrams in micro structure design
	CO 3	Analyze, interpret and solve scientific materials data/ problems.
	CO 4	Apply principles of heat treatments of steels.
	M. Voc. Part I SemI	**II Advances in Iron and Steel Making**
	CO 1	Design alloy chemistry for manufacturing /procurement of desired composition of the steel as per the specification.
	CO 2	Decide raw materials quality and sequence of refining for making clean steel
	CO 3	Control the cost of the steel by careful selection of the raw materials and other necessary ingredients required for steel manufacturing.
	CO 4	Understand metallurgical benefits of ingot and continuous cast products.
	CO 5	Devise ways for energy conservation and environmental pollution.
	M. Voc. Part I SemI	**IV Mechanical Behaviour of Materials**
	CO 1	Analyze mechanical deformation of the materials using analytical treatment.
	CO 2	Use mechanical metallurgical concepts in understanding mechanical deformation.
	CO 3	Identify failure modes and reasons of failures of engineering components.
	CO 4	Incorporate fracture mechanics concepts in the mechanical design.
	CO 5	Use micro structural principles for the design of fracture and creep resistant materials.
	M. Voc. Part I SemI	**V Elective Inon-Destructive Testing**
		2. Advanced Composites
		3. Nano Materials and Nano Technology
		4. Industrial Automation and Safety
	M. Voc. Part I SemII	**VI High Pressure Die Casting**
	CO 1	Establish correlation between process parameters to resultant die casting
	CO 2	Solve numerical problems related to die casting design
	CO 3	Understand concepts and process capabilities of casting
	CO 4	Know pre-treatment and post heat treatments of die castings

	CO 5	Understand die casting defects and their remedial measures.
	M. Voc. Part I SemII	**VII Industrial Engineering**
	CO 1	Demonstrate interdisciplinary knowledge of method study, work measurement techniques and ergonomics for the overall improvement of productivity and effectiveness.
	CO 2	Demonstrate an interdisciplinary knowledge of method study, work measurement techniques and ergonomics for the overall improvement of productivity and effectiveness.
	M. Voc. Part I SemII	**VIII Total Quality Management**
	CO 1	Understand the concepts in TQM.
	CO 2	Implement quality tools towards Quality improvement
	CO 3	Understand the structure and functions of quality council in order to drive TQM implementation 5
	CO 4	Setting direction for TQM efforts, creating vision, mission, quality policy and establishing strategic objectives
	M. Voc. Part I SemII	**IX Entrepreneurship Development**
	CO 1	Understand traits in entrepreneurship
	CO 2	Understand the role of small scale industries in Indian economy.
	CO 3	Create a feasibility repost for business
	CO 4	Create Business plan and prepare project report.
	M. Voc. Part I SemII	**50 X Elective II**
		1. Human Resource Management
		2. Production and Operation Management
		3. Costing and Cost Control
		4. Quality Management System

30	**Department of M. Voc. in Graphic Design**	
	PSO 1	Analyze, synthesize, and utilize design processes and strategy from concept to delivery to creatively solve communication problems.
	PSO 2	Create communication solutions that address audiences and contexts, by recognizing the human factors that determine design decisions.
	PSO 3	Utilize relevant applications of tools and technology in the creation, reproduction, and distribution of visual messages.
	PSO 4	Apply graphic design principles in the ideation, development, and production of visual messages.
	PSO 5	Identify and utilize design history, theory, and criticism from a variety of perspectives, including: art history, communication/information theory, and the social/cultural use of design objects.
	PSO 6	Confidently participate in professional design practice and management within a collaborative work environment.
	PSO 7	Employ best practices and management in the design profession and within a collaborative work environment.
	M. Voc. Part I SemI	**Paper-I: UI/UX: CC-1301A**
	CO 1	Gather useful information about users and activities through asking, looking, learning. The basic concept & examples of UI UX Design while creating designs, how they works together in harmony.
	CO 2	Learn and appreciate the skill of sketching as a process for user experience design. Learn to give and accept critiques of design ideas in a constructive manner. Demonstrate skills for low-fidelity prototyping and describe the strengths and weaknesses of a variety of prototyping methods
	CO 3	Appreciate the process of user experience design as a cyclical, iterative process. Understand the differences between usability and user experience. Analyze an interaction design problem and propose a user-centered process, justifying the process and identifying the trade-offs
	CO 4	Prepare high quality, professional documentation and artifacts relating to the design process for preparation for a professional portfolio
	M. Voc. Part I SemI	**Paper-II: SEO - I(Search Engine Optimisation): CC-1302A**
	CO 1	Understanding the concept of Search Engine Optimisation (SEO).
	CO 2	Know the actual role of Search Engines. Detail study of search engines, browsers, competitors, launching & working.
	CO 3	Create Web pages designed to be easily crawled and optimally indexed by search engines. The process of Technical SEO – The requirement of modern search engines.
	M. Voc. Part I SemI	**Paper-III: Communication – I: CC-1303A**
	CO 1	Understand the importance of Communication in all aspects of social life
	CO 2	Communication definition related to graphic design. Types of Communication
	CO 3	Role of communication in Digital age. Look out the changes in between technological revolution
	CO 4	Digital Media elements & types. Requirement of data transformation via digital communication.
	M. Voc. Part I	**Paper-IV: Human Factors in Visual Design: CC-1304A**

	SemI	
	CO 1	Understanding of basic concepts and techniques related to human factors in design
	CO 2	Understanding of design principles and processes and the work of influential designers
	CO 3	Able to explore, develop and extend design ideas by integrating specialist visual communication and techniques in response to a brief
	CO 4	Explain how personal preference, group preferences, style and trends may impact on the design of products, systems and/or environments.
	M. Voc. Part I SemII	**I Motion Design: CC-1308B**
	CO 1	Gather useful information about Motion Design that this is the process of graphic design put it into motion.
	CO 2	Learn and appreciate the skill of sketching as a process animation and visual effects.
	CO 3	Difference between Animation and Motion Design
	CO 4	Create high quality, professional animation using Motion Design tools.
	M. Voc. Part I SemII	**II SEO – II: CC-1309B**
	CO 1	Generate the keywords via concept map. The study based on research and thinking process of own. Self study on working of search engines and browsers.
	CO 2	Define White Hat SEO Techniques and Black Hat SEO Techniques. Understand the process to create Pay-Per-Click (PPC) Campaigns
	CO 3	Create a web layout with appropriate keywords, meta data and URL.
	M. Voc. Part I SemII	**III Communication – II: CC-1310B**
	CO 1	Important role of Visuals, Info graphics for transfer messages. Detail study of Visual Communication
	CO 2	Detail study of Typical or Traditional Media and Digital Media.
	CO 3	Definition, Advantages- disadvantages and difference between Synchronous & Asynchronous Communication & E- Learning. Application & uses of communication tools in day to day life
	M. Voc. Part I SemII	**IV Publication: CC-1311B**
	CO 1	Publication is the term that relate with designing, printing, legal context that copy write and basic definition of publication Design. Traditional Publication artwork study for printing sizes, colours, paper quality, layout, data visualization methods
	CO 2	The importance of Typography, photography, colours, layouting, Interactions in Publication Design. Study of Publication Design specifications in portrait, landscape and square size modes.
	CO 3	Electronic Publishing also known as E-Publishing, Digital Publishing or Online Publishing. How it is becoming common to distribute artworks by using online sources.

31	**Department of M. Com II**	
	M.Com. Part II SemIII	**Paper I - Business finance –I: CP1217C**
	CO 1	Understanding of different theoretical aspects of Business Finance.
	CO 2	Understanding of connection between theoretical concept & practical applicability of Business Finance.
	CO 3	Exposure to students towards recent trades in business Finance.
	M.Com. Part II SemIII	**Paper II - Management AccountingI: CP 1218C**
	CO 1	Understand the fundamentals of Management Accounting.
	CO 2	Explain the analysis and interpretation of financial statements.
	CO 3	Demonstrate the estimation of working capital requirements.
	CO 4	Practice to analyze the changes in financial position.
	M.Com. Part II SemIII	**Paper III - Advanced Accountancy-V (Cost Accounting): CP 1219C**
	CO 1	To acquire the knowledge of elements of cost and cost sheet.
	CO 2	To acquaint the knowledge and skill to prepare job cost sheet and contract account.
	CO 3	To explain the costing process for processing units and service organizations.
	CO 4	To understand to reconcile the cost and financial accounts.
	M.Com. Part II SemIII	**Paper IV - Advanced AccountancyVI(Research Methodology): CBP1222C**
	CO 1	To prepare Project report by using primary and secondary data.
	CO 2	To apply the knowledge of research methodology to prepare the project report based on the field work.
	M.Com. Part II SemIV	**Paper V -Business finance –II: CP1225D**
	CO 1	Understanding of different aspects of Capital market and depositories.
	CO 2	Understanding of connection between Mutual Funds, Portfolio Management and Micro Finance.
	CO 3	Exposure to students towards corporate restructuring and financial decision making.
	M.Com. Part II SemIV	**Paper VI -Management Accounting II: CP 1226D**
	CO 1	Understand the fundamentals of Management Control System and Reporting.
	CO 2	Explain the marginal costing and cost-volume-profit analysis and practice decision making based thereon.
	CO 3	Simulate the budgetary control system and demonstrate the budgeting.
	CO 4	Practice to analyze the cost variances.
	M.Com. Part II SemIV	**Paper VII -Advanced Accountancy VII (Financial Management): CBP1227D**
	CO 1	To understand procedure of capital structure decisions in corporate sector.
	CO 2	To understand motives and benefit and procedure of corporate restructuring.
	M.Com. Part II SemIV	**Paper VIII -Advanced AccountancyVIII (Taxation): CBP1230D**

	CO 1	To know the basic concept related to income tax.
	CO 2	To understand the process of computing taxable income.
	CO 3	To practice with e-filing of income tax return and online payment.
	CO 4	To gain knowledge about GST.

32	**Department of M. Sc. I Maths**	
	M.Sc. I Sem I	**Paper I– Algebra: CP-1170A**
	CO 1	Check solvability of groups via Sylows theorems.
	CO 2	Check irreducibility of polynomial over any field.
	CO 3	Be familiar with theory of modules.
	M.Sc. I Sem I	**Paper II -Advanced Calculus: CP-1171A**
	CO 1	Make use of Greens Theorem, Stokes Theorems for an arc rectification of curve.
	CO 2	Analyze convergence of sequences and series of functions.
	CO 3	Find the directional derivative of function of several variables.
		optimize function of several variables
	M.Sc. I Sem I	**Paper III -Complex Analysis : CP-1172A**
	CO 1	Know how to check given complex valued function is analytic or not.
	CO 2	Find power series expansion of an analytic function with radius of convergence.
	CO 3	Find zeros and singularities of complex valued functions.
	CO 4	Evaluate integral of complex valued functions along given curve.
	M.Sc. I SemI	**Paper IV - Ordinary Differential Equations: CP-1173A**
	CO 1	find the linearly independent and hence general solutions of given differential equations
	CO 2	Find series solution of Bessel's and Legendre's differential equations.
	CO 3	apply Picard's successive approximation method to find approximate solution of initial value problem
	M.Sc. I Sem I	**Paper V -Classical Mechanics: CP-1174A**
	CO 1	analyze motion of system of particles through Lagrangian& Hamiltonian principles
	CO 2	Apply principle of variation of calculus for extrimization of problem.
	CO 3	study motion of rigid body
	M.Sc. I Sem II	**Paper I -Linear Algebra:CP-1175B**
	CO 1	After studying this course, students will have a demonstrable knowledge of Vector space, Linear Transformations, Canonical Forms and Bilinear Transformations.
	M.Sc. I Sem II	**Paper II - Integral Equations: CP-1176B (New)**
	CO 1	Solve linear Fredholm and Volterra Integral equations.
	CO 2	Compare properties of Differential and Integral equations.
	CO 3	To solve Initial and Boundary value problems by converting to equivalent integral equations
	M.Sc. I Sem II	**Paper III -General Topology: CP-1177B**
	CO 1	Find different topologies on a given set and study their properties.
	CO 2	Check continuity of functions through different topological approaches.
	M.Sc. I Sem II	**Paper IV - Partial Differential Equations: CP-1178B**
	CO 1	Classify given second order partial differential equations.
	CO 2	use different method to solve boundary value problem specially use wave equations, Heat equations
	M.Sc. I Sem II	**Paper V - Numerical Analysis : CP-1179B**
	CO 1	Solve linear and nonlinear equations by various numerical methods.
	CO 2	Find numerical integration along with error computation.
	CO 3	Solve initial value problem by different numerical methods.