DR. BABASAHEB AMBEDKAR MARATHWADA UNIVERSITY
Chhatrapati Sambhajinagar.

CIRCULAR /SU/CM/Revised B.C.M./NEP/112/2024

It is hereby inform to all concerned that, the recommendation of the Dean, Faculty of Commerce & Management; **the Academic Council at its meeting held on 08.04.2024 has accepted the *"Revised Syllabus of B.C.M. (Hons with Research) Programme"* as per direction by the state goverment letter dated on 13 March 2024 and Norms of National Education Policy-2020** under the Faculty of Commerce & Management **run at the all concerned Affiliated Colleges,** Dr. Babasaheb Ambedkar Marathwada University as per appended herewith.

This is effective from the Academic Year 2024-25 and Onwards as per appended herewith.

All concerned are requested to note the contents of this circular and bring notice to the students, teachers and staff for their information and nccessary action.

University Campus,
Aurangabad-431 004.
REF.NO. SU/COM/2024-25/ 458-67

Date:- 10-06-2024.

Deputy Registrar,
Academic Section
Syllabus unit.

Copy forwarded with compliments to :-

1] **The Principal all concerned affiliated colleges,**
Dr. Babasaheb Ambedkar Marathwada University.
2] The Director, University Network & Information Centre, UNIC, with **a request to upload this Circular on University Website.**

Copy to :-

1] The Director, Board of Examination & Evaluation,
2] The Section Officer, [B.Com. Unit] Examination Branch,
3] The Section officer, [Eligibility Unit],
4] The Programmer [Computer Unit-1] Examinations,
5] The Programmer [Computer Unit-2] Examinations,
6] The In-charge, [E-Suvidha Kendra], Rajarshi Shahu Maharaj Pariksha Bhavan, Dr. Babasaheb Ambekar Marathwada University.
7] The Public Relation Officer,
8] The Record Keeper.

Dr. Babasaheb Ambedkar Marathwada University

Chhatrapati Sambhajinagar-431001

FourYears

Bachelor of Computer Management

(BCM) Honours

DegreePrograminAffiliatedCollegesto

Dr. Babasaheb Ambedkar Marathwada University

Under Faculty of Commerce & Management

CourseStructure

(Revised)

(ASPERNEP-2020)

Subject: Computer Management

Effective from2024-25

Dr.BabasahebAmbedkarMarathwadaUniversity,
ChhatrapatiSambhajinagar

Facultyof Management Science
Curriculum Structure
Bachelor of Computer Management (BCM) Honours
Academic Year 2023-2024
Semester-I

CourseType		Course Code	CourseTile	Total Lectures (Teaching Lectures/week)	Cre-dits	SchemeofExamination			
						Max Marks	UA	IA	Min Marks
		DSC:DisciplineSpecificCore							
Major-1 (M1)	DSC-1	BCM101T	ComputerFundamentals	02hrs/perweek	02	50	30	20	20
	DSC-2	BCM102P	ComputerFundamentals-Lab	04hrs/perweek	02	50	30	20	20
Major-2 (M2)	DSC-1	BCM103T	OperatingSystem	02hrs/perweek	02	50	30	20	20
	DSC-2	BCM104P	OperatingSystem-Lab	04hrs/perweek	02	50	30	20	20
Major-3 (M3)	DSC-1	BCM105T	PrincipleofManagement	02hrs/perweek	02	50	30	20	20
	DSC-2	BCM106T	FundamentalsofAccounting	02hrs/perweek	02	50	30	20	20
	GE/OE:Generic/OpenElective(Chooseanyone)								
Generic/Open Elective(Choose any one)	GE/OE-1	BCM107T	A]DigitalElectronics	02hrs/perweek	02	50	30	20	20
			B]Tally	02hrs/perweek	02	50	30	20	20
			C]Entrepreneurship Development	02hrs/perweek	02	50	30	20	20
	SEC:SkillEnhancementCourse(Chooseanyone)								
SEC: Skill EnhancementCourse (Choose any one)	SEC-1	BCM108P	A] Ms-Office	01hr1/perweek	02	50	30	20	20
	SEC-2		A]Ms-Office-Lab	02hrs/perweek					
	SEC-1		B]WebDevelopment Technology	01hr1/perweek	02	50	30	20	20
	SEC-2		B]WebDevelopment Technology-Lab	02hrs/perweek					
	AEC, VEC,IKS:(Commonforall Faculty)								
AEC , VEC,IKS	AEC1	BCM109T	English	02hrs/perweek	02	50	30	20	20
	IKS-1	BCM110T	Preservation of Himroo WeavingDesignPatterns of Paithani/Historical Heritage / Study of Regional Language / History of Marathwada/ KhadiGramudyog /International TradeinAncientIndia	02hrs/perweek	02	50	30	20	20
	OJT/FP/CEP/CC/RP								
OJT/ FP/CEP/CC/RP	CC1	BCM111P	Health&Wellness	04hrs/perweek	02	50	30	20	20
					22	550			

Dr.BabasahebAmbedkarMarathwadaUniversity,Sambhajinagar

Facultyof Management Science
Curriculum Structure
Bachelor of Computer Management (BCM) Honours
Academic Year 2023-2024
Semester–II

CourseType		Course Code	CourseTile	Total Lectures (Teaching Lectures/week)	Cre-dits	Scheme of Examination			
						Max Marks	UA	IA	Min Marks
		DSC:DisciplineSpecific Core							
Major-1 (M1)	DSC-3	BCM201T	DBMS	02hrs/perweek	02	50	30	20	20
	DSC-4	BCM202P	DBMS-Lab	04hrs/perweek	02	50	30	20	20
Major-2 (M2)	DSC-3	BCM203T	Cprogramming	02hrs/perweek	02	50	30	20	20
	DSC-4	BCM204P	Cprogramming-Lab	04hrs/perweek	02	50	30	20	20
Major-3 (M3)	DSC-3	BCM205T	BusinessOrganization	02hrs/perweek	02	50	30	20	20
	DSC-4	BCM206T	FundamentalsofEconomics	02hrs/perweek	02	50	30	20	20
	GE/OE:Generic/OpenElective(Chooseanyone)								
Generic/ Open Elective (Choose anyone)	GE /OE-2	BCM207T	A]FinancialLiteracy	02hrs/perweek	02	50	30	20	20
			B]FundamentalsofBanking	02hrs/perweek	02	50	30	20	20
			C]FundamentalofE-commerce	02hrs/perweek	02	50	30	20	20
	VSE:VocationalSkillCourses(Chooseanyone)								
VSC: Vocational Skill Courses(Choose anyone)	VSC-1	BCM208P	A]AdvanceWebDevelopment Technology	01hr1/perweek	02	50	30	20	20
	VSC-2		B]AdvanceWebDevelopment Technology-Lab	02hrs/perweek					
	VSC-1		B]DataAnalysisUsingMS-Excel	01hr1/perweek	02	50	30	20	20
	VSC-2		B]DataAnalysisUsingMS-Excel-Lab	02hrs/perweek					
	AEC,VEC,IKS:(CommonforallFaculty)								
AEC, VEC, IKS	AEC-2	BCM209T	English(Commonfor all thefaculty)	02hrs/perweek	02	50	30	20	20
	VEC-1	BCM210T	Constitution of India (Commonforallthefaculty)	02hrs/perweek	02	50	30	20	20
	OJT/FP/CEP/CC/RP								
OJT/ FP/CEP/CC/RP	CC-2	BCM211P	YogaEducation / SportsandFitness (Common for all thefaculty)	04hrs/perweek	02	50	30	20	20
					22	550			

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Faculty of Management Science

CurriculumStructure

Bachelor of Computer Management (BCM) Honours

Academic Year 2023-2024

Semester–III

CourseType		CourseCode	CourseTile	Total Lectures (TeachingLectures /week)	Cre-dits	SchemeofExamination			
						Max Marks	UA	IA	Min Marks
		DSC:DisciplineSpecific Core							
Major-(Core) Mandatory	DSC-5	BCM301T	DataStructureusingC	02hrs/perweek	02	50	30	20	20
	DSC-6	BCM302T	AdvanceDBMS	02hrs/perweek	02	50	30	20	20
	DSC-7	BCM303P	DataStructureusingC-Lab	04hrs/perweek	02	50	30	20	20
	DSC-8	BCM304P	AdvanceDBMS-Lab	04hrs/perweek	02	50	30	20	20
Minor(Chooseanytwofrompoolofcourses)Itisfromdifferentdisciplineofthesamefaculty									
Minor	MN-1	BCM305T	A]Statistics	02hrs/perweek	02	50	30	20	20
			B]PowerBI	02hrs/perweek	02	50	30	20	20
			C]InternetTechnology	02hrs/perweek	02	50	30	20	20
	MN-2	BCM306T	A]Mathematics	02hrs/perweek	02	50	30	20	20
			B]SystemAnalysis&Design	02hrs/perweek	02	50	30	20	20
			C]DigitalMarketing	02hrs/perweek	02	50	30	20	20
	GE/OE:Generic/OpenElective(Chooseanyone)								
Generic/OpenElective(Choose any one)	GE/OE-3	BCM207T	**A]ComputerNetworking**	02hrs/perweek	02	50	30	20	20
			B]IndianEthos	02hrs/perweek	02	50	30	20	20
			C]MarketingManagement	02hrs/per week	02	50	30	20	20
	VSC:VocationalSkillCourses(Chooseanyone)								
VSC: Vocational Skill Courses(Chooseany one)	VSC-3	BCM208P	A]ComputerHardware	01hr1/perweek	02	50	30	20	20
	VSC-4		A]ComputerHardware-Lab	02hrs/perweek					
	VSC-3		B]JavaScript	01hr1/perweek	02	50	30	20	20
	VSC-4		B]JavaScript-Lab	02hrs/perweek					
	AEC,VEC,IKS:(CommonforallFaculty)								
AEC,VEC ,IKS	AEC-3	BCM209T	Modern Indian Language(MIL-1) (Common for all thefaculty)	02hrs/perweek	02	50	30	20	20
	OJT/FP/CEP/CC/RP								
OJT/ FP/CEP/CC/RP	FP	BCM210P	FieldProject	04hrs/perweek	02	50	30	20	20
	CC-3	BCM211P	CulturalActivity/ NSS,NCC (Commonfor all thefaculty)	04hrs/perweek	02	50	30	20	20
					22	**550**			

A]BasicsofElectronics
A]BasicsofElectronics-Lab

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Faculty of Management Science

CurriculumStructure

Bachelor of Computer Management (BCM) Honours

Academic Year 2023-2024

Semester–IV

CourseType		Course Code	CourseTile	Total Lectures (Teaching Lectures/week)	Cre-dits	SchemeofExamination			
						Max Marks	UA	IA	Min Marks
		DSC:DisciplineSpecificCore							
Major-(Core) Mandatory	DSC-9	BCM401T	OOPsusingC++	02hrs/perweek	02	50	30	20	20
	DSC-10	BCM402T	ASP.Net	02hrs/perweek	02	50	30	20	20
	DSC-11	BCM403P	OOPsusingC++-Lab	04hrs/perweek	02	50	30	20	20
	DSC-12	BCM404P	ASP.Net-Lab	04hrs/perweek	02	50	30	20	20
Minor(Chooseanytwofrompoolofcourses)Itisfromdifferentdisciplineofthesamefaculty									
Minor	MN-3	BCM405T	A]SPSS	02hrs/perweek	02	50	30	20	20
			B]Creativity&Innovation	02hrs/perweek	02	50	30	20	20
			C]ComputerNetworking	02hrs/perweek	02	50	30	20	20
	MN-4	BCM406P	A]SPSS-Lab	04hrs/perweek	02	50	30	20	20
			B]Creativity&Innovation-Lab	04hrs/perweek	02	50	30	20	20
			C]ComputerNetworking-Lab	04hrs/perweek	02	50	30	20	20
	GE/OE:Generic/OpenElective(Chooseanyone)								
Generic/Open Elective(Choose anyone)	GE/OE-4	BCM407T	A]BusinessCommunication	02hrs/perweek	02	50	30	20	20
			B]DisasterManagement	02hrs/perweek	02	50	30	20	20
			C]QuantitativeAptitude	02hrs/perweek	02	50	30	20	20
		SEC:SkillEnhanceCourses(Chooseanyone)							
SEC: Skill Enhance Courses	SEC-3	BCM408P	**A]WebServicesusingXML**	01hr1/perweek	02	50	30	20	20
	SEC-4		**A]WebServicesusingXML- Lab**	02hrs/perweek					
	SEC-3		**B]CyberSecurity-I**	01hr1/perweek	02	50	30	20	20
	SEC-4		**B]CyberSecurity-I-Lab**	02hrs/perweek					
		AEC,VEC,IKS:(CommonforallFaculty)							
AEC , VEC,IKS	AEC-4	BCM409T	Modern Indian Language(MIL-2) (Common for all thefaculty)	02hrs/perweek	02	50	30	20	20
		OJT/FP/CEP/CC/RP							
OJT/ FP/CEP/CC/RP	CEP-1	BCM410P	Community engagementand service	04hrs/perweek	02	50	30	20	20
	CC-4	BCM411P	(Fine/ Applied/ Visual/ Performing Arts)(Commonfor allthefaculty)	04hrs/perweek	02	50	30	20	20
					22	**550**			

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Faculty of Management Science

CurriculumStructure

Bachelor of Computer Management (BCM) Honours

Academic Year 2023-2024

Semester–V

CourseType		Course Code	CourseTile	Total Lectures (Teaching Lectures/week)	Cre-dits	Scheme of Examination			
						Max Marks	UA	IA	Min Marks
		DSC:Discipline SpecificCore							
Major-(Core) Mandatory	DSC-13	BCM501T	JavaProgramming	02hrs/perweek	02	50	30	20	20
	DSC-14	BCM502T	SoftwareEngineering	02hrs/perweek	02	50	30	20	20
	DSC-15	BCM503P	JavaProgramming-Lab	04hrs/perweek	02	50	30	20	20
	DSC-16	BCM504P	SoftwareEngineering-Lab	04hrs/perweek	02	50	30	20	20
		DSE:Discipline SpecificElective(Choose anyonefrompool ofcourses)							
DSE: DisciplineSpecific Elective	DSE-1	BCM505T	C#	02hrs/perweek	02	50	30	20	20
	DSE-2	BCM506T	WebDevelopmentusing PHP	02hrs/perweek	02	50	30	20	20
	DSC-1	BCM507P	C#-Lab	04hrs/perweek	02	50	30	20	20
	DSC-2	BCM508P	WebDevelopmentusing PHP-Lab	04hrs/perweek	02	50	30	20	20
Minor(Chooseanytwofrompoolofcourses)Itisfromdifferentdisciplineofthesamefaculty									
Minor	MN-5	BCM509T	A]DigitalMarketing	02hrs/perweek	02	50	30	20	20
			B]ImageProcessing	02hrs/perweek	02	50	30	20	20
			C]CyberSecurity-II	02hrs/perweek	02	50	30	20	20
	MN-6	BCM510P	A]DigitalMarketing-Lab	04hrs/perweek	02	50	30	20	20
			B]ImageProcessing-Lab	04hrs/perweek	02	50	30	20	20
			C]**CyberSecurity-II**-Lab	04hrs/perweek	02	50	30	20	20
		VSC:VocationalSkillCourses(Chooseanyone)							
VSC: Vocational Skill Courses(Choose anyone)	VSC-5	BCM511T	**A]CyberSecurity&Law**	02hr1/perweek	02	50	30	20	20
			A]Entrepreneurship	02hrs/perweek					
	VSC-6	BCM512P	**B]CyberSecurity&Law-II-Lab**	04hr1/perweek	02	50	30	20	20
			B]Entrepreneurship-Lab	04hrs/perweek					
		OJT/FP/CEP/CC/RP(Chooseanyonefrompoolofcourses)							
OJT/ FP/CEP/ CC/RP	FP/CEP-2	**BCM513P**	Field Project / community engagementand service	04hrs/perweek	02	50	30	20	20
					22	**550**			

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Facultyof Management Science
Curriculum Structure
Bachelor of Computer Management (BCM) Honours
Academic Year 2023-2024
Semester–VI

CourseType		Course Code	CourseTile	Total Lectures (Teaching Lectures/week)	Cre-dits	Scheme of Examination			
						Max Marks	UA	IA	Min Marks
		DSC:DisciplineSpecificCore							
Major-(Core) Mandatory	DSC-17	BCM601T	Python	02hrs/perweek	02	50	30	20	20
	DSC-18	BCM602T	BasicsAndroid	02hrs/perweek	02	50	30	20	20
	DSC-19	BCM603P	Python-Lab	04hrs/perweek	02	50	30	20	20
	DSC-20	BCM604P	BasicsAndroid-Lab	04hrs/perweek	02	50	30	20	20
	DSC-21	BCM605T	IKS	02hrs/perweek	02	50	30	20	20
		DSE:Discipline SpecificElective(Choose anyonefrompool ofcourses)							
DSE: DisciplineSpecific Elective	DSE-3	BCM606T	SoftwareTesting	02hrs/perweek	02	50	30	20	20
			InternetofThings(IoT)	02hrs/perweek	02	50	30	20	20
	DSE-4	BCM607T	SoftwareTesting-Lab	04hrs/perweek	02	50	30	20	20
			InternetofThings(IoT)-Lab	04hrs/perweek	02	50	30	20	20
Minor(Chooseanytwofrompoolofcourses)Itisfromdifferentdisciplineofthesamefaculty									
Minor	MN-7	BCM608T	A]GeographyInformation System(GIS)	02hrs/perweek	02	50	30	20	20
			B]DataMining	02hrs/perweek	02	50	30	20	20
			C]SoftwareProject Management	02hrs/perweek	02	50	30	20	20
	MN-8	BCM609T	A]ERP	02hrs/perweek	02	50	30	20	20
			B]SystemProgramming	02hrs/perweek	02	50	30	20	20
			C]ITAct	02hrs/perweek	02	50	30	20	20
		OJT/FP/CEP/CC/RP(Chooseanyonefrompoolofcourses)							
OJT/ FP/CEP/ CC/RP	OJT-1	BCM610T	OnJobTraining	08hrs/perweek	04	100	60	40	40
					22	550			

Dr.BabasahebAmbedkarMarathwada University, Aurangabad

Faculty of Management Science

CurriculumStructure

Bachelor of Computer Management (BCM) Honours

Academic Year 2023-2024

Semester–VII

CourseType		Course Code	CourseTile	Total Lectures (Teaching Lectures/week)	Credits	Scheme of Examination			
						Max Marks	UA	IA	Min Marks
		DSC:DisciplineSpecificCore							
Major-(Core) Mandatory	DSC-22	BCM701T	CloudComputing	02hrs/perweek	02	50	30	20	20
	DSC-23	BCM702T	ArtificialIntelligence	02hrs/perweek	02	50	30	20	20
	DSC-24	BCM703P	CloudComputing-Lab	04hrs/perweek	02	50	30	20	20
	DSC-25	BCM704P	ArtificialIntelligence-Lab	04hrs/perweek	02	50	30	20	20
	DSC-26	BCM705T	AndroidApplication Development	02hrs/perweek	02	50	30	20	20
	DSC-27	BCM706T	BiometricSystem	02hrs/perweek	02	50	30	20	20
	DSC-28	BCM707P	LabbasedonBCM705T& BCM706T	04hrs/perweek	02	50	30	20	20
		DSE:Discipline SpecificElective(Choose anyonefrompool ofcourses)							
DSE: DisciplineSpecific Elective	DSE-5	BCM606T	JavaServerPage	02hrs/perweek	02	50	30	20	20
			Multimedia	02hrs/perweek	02	50	30	20	20
	DSE-6	BCM607T	JavaServerPage-Lab	04hrs/perweek	02	50	30	20	20
			Multimedia	04hrs/perweek	02	50	30	20	20
ResearchMethodology									
Research Methodology	OJT-1	BCM610T	ResearchMethodology	04hrs/perweek	04	100	60	40	40
					22	**550**			

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CurriculumStructure

Bachelor of Computer Management (BCM) Honours

Academic Year 2023-2024

Semester-VIII

CourseType		Course Code	CourseTile	Total Lectures (Teaching Lectures/week)	Credits	Scheme of Examination			
						Max Marks	UA	IA	Min Marks
		DSC:DisciplineSpecificCore							
Major-(Core) Mandatory	DSC-29	BCM801T	BlockchainTechnology	02hrs/perweek	02	50	30	20	20
	DSC-30	BCM802T	DataScience	02hrs/perweek	02	50	30	20	20
	DSC-31	BCM803P	BlockchainTechnology-Lab	04hrs/perweek	02	50	30	20	20
	DSC-32	BCM804P	DataScience-Lab	04hrs/perweek	02	50	30	20	20
	DSC-33	BCM805T	E-Commerce	02hrs/perweek	02	50	30	20	20
	DSC-34	BCM806T	AWS	02hrs/perweek	02	50	30	20	20
	DSC-35	BCM807P	PracticalBasedon BCM805T&BCM806T	04hrs/perweek	02	50	30	20	20
		DSE:Discipline SpecificElective(Choose anyonefrompool ofcourses)							
DSE: DisciplineSpecific Elective	DSE-7	BCM808T	MachineLearning	02hrs/perweek	02	50	30	20	20
			BigData	02hrs/perweek	02	50	30	20	20
	DSE-8	BCM809T	MachineLearning-Lab	04hrs/perweek	02	50	30	20	20
			BigData-lab	04hrs/perweek	02	50	30	20	20
OJT									
OJT	OJT-2	BCM810P	OnJobTraining	08hrs/perweek	04	100	60	40	40
					22	550			

PREFACE

The National Education Policy-2020 reveals our way towards a comprehensive, inclusive, and progressive educational landscape as we stand on the cusp of a new age in education. The curriculum for the Bachelor of Computer Management (B. C. M.) programme, which aims to give students the information, skills, and values they need to succeed in the fast-paced world of the twenty-first century, represents the philosophy and goals of this revolutionary policy.

Fundamentally, the National Policy aims to create an educational framework that is learner-centred, multidisciplinary, and focused on encouraging creativity, critical thinking, and innovation. It breaks down traditional silos by emphasising the integration of knowledge across disciplines to promote holistic understanding and Management of concepts. In order to develop well-rounded graduates who can handle challenging situations with agility and insight, the Bachelor of Computer Management (B. C. M.) programme incorporates interdisciplinary studies in addition to a wide range of courses covering different scientific domains.

The curriculum acknowledges the importance of practical involvement in promoting the development of real-world skills and depth of knowledge by promoting inquiry, experiential learning, and hands-on exploration. Students will be able to enhance their problem-solving abilities, apply theory to real-world circumstances, and promote an attitude of inquiry and discovery through laboratory work, field work, management and commerce lectures, internships, and project-based learning opportunities.

The dedication to justice, inclusivity, and universal access to high-quality education is fundamental to the National Education Policy 2020. This dedication is reflected in the Bachelor of Computer Management (B.C.M.) programme, which embraces variety in viewpoints, experiences, and backgrounds while promoting an inclusive learning environment where each student feels valued, encouraged, and equipped for success.

Additionally, the curriculum places a strong emphasis on developing moral principles, civic engagement, and global citizenship, giving children a sense of responsibility for both the environment and society. The Bachelor of Computer Management (B.C.M.) programme integrates courses on sustainability, ethics, and social sciences in order to develop graduates who are not only skilled in their industries but also kind, moral leaders who are dedicated to changing the world.

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Bachelor of Computer Management Program

Educational Objectives (PEOs)

These Programme Educational Objectives outline the fundamental ideas that underpin the Bachelor of Computer Management programme, demonstrating our dedication to producing graduates who are capable of succeeding in the workplace, making significant contributions to society, and leading fulfilling lives in the face of the swift advancement of technology.

1. **Mastering of Discipline-Specific Knowledge** :Graduates of the Bachelor in Computer Management degree will exhibit a thorough understanding of the underlying theories, concepts, and development processes in the fields of computer application development and allied fields. With this knowledge, they will be able to analyse complex computational issues, come up with creative fixes, and promote the field of computer applications.
2. **Interdisciplinary Proficiency:** Graduates will be able to integrate knowledge and abilities from different computer science fields, which will promote an innovative and comprehensive approach to problem-solving. With a variety of perspectives and approaches, they will be able to address complex problems and provide all-encompassing solutions in the rapidly changing field of technology.
3. **Critical Thinking and Analytical Skills** :Graduates will develop strong critical thinking skills that will allow them to carefully examine material, analyse data, and come to well-reasoned conclusions based on solid facts. Their ability to apply scientific methods and logical reasoning will enable them to tackle challenging computational issues and lead the development of innovative solutions.
4. **Leadership and Innovation** :The graduate will demonstrate the kind of leadership abilities and entrepreneurial spirit needed to spark constructive change in the technology industry. They will demonstrate originality, tenacity, and flexibility, using ingenuity to take on complex problems and seize chances for growth in the ever-changing field of computer applications.
5. **Global Citizenship and Cultural Sensitivity**: The graduate will embrace cultural sensitivity and a global viewpoint, realising how interrelated varied cultures are in the digital age. They will embrace variety, actively participate in intercultural communication, and add to the advancement of global knowledge and comprehension, encouraging cross-border cooperation.

Introduction to Undergraduate Bachelor of Computer Management (Four Years Honors) Programme

In a world where technology is complex and developing quickly, computer science can assist you in solving difficult problems. The foundation of computer science in the modern world is a bachelor's degree in computer Managements. Admission to the BCM programme is a four years programme. Those interested in studying computer science, software engineering, information technology, networking technology, and information security should pursue this degree. With an emphasis on the design and analysis of software security, the degree is centred on the design, development, and implementation of software systems.

Furthermore, there are many of options in the programming industry for earning money as a specialist in your sector. You can find several kinds of software as a computer programmer, such as web and database software. It often offers good compensation and a variety of job opportunities. Furthermore, since the job market continues to expand, you can find employment in IT outsourcing across the globe, including the United States, Europe, the United Kingdom, and Australia. You might work for different government agencies or for businesses and organisations.

The National Education Policy 2020 (NEP 2020) transformative aims are met by the Undergr aduate Bachelor of Computer Management (BCM) Programme, which is offered as a traditio nal three-year degree or as an extended four-year honours degree.

This extensive curriculum is the cornerstone for developing the next generation of tech-savvy workers with the knowledge and abilities needed to prosper in the digital age.

In keeping with the NEP 2020's focus on holistic and multidisciplinary education, the BCM curriculum combines interdisciplinary courses with core computer Management ideas to provide students with a well-rounded educational experience.

In addition, the programme places a strong emphasis on industry partnership, practical Management, and experiential learning to guarantee that graduates are not just academically strong but also prepared for the workforce after completing their studies.

With the help of elective courses, research opportunities, and specialised tracks, the BCM programme enables students to customise their educational experience to fit their interests and professional goals.

With the help of this innovative and dynamic approach, the BCM programmes offered under NEP 2020 prepare students to become leaders and innovators in the quickly developing field

of computer Managements by instilling in them critical thinking, problem-solving, and adaptability in addition to technical expertise.

I Course Study

Whether pursuing the conventional three-year degree or the extended four-year honours degree, the undergraduate Bachelor of Computer Management (BCM) program's course structure combines academic underpinnings with real-world Managements. The courses are carefully crafted to give students a strong foundation in fundamental concepts of computer Managements, such as programming languages, data structures, algorithms, and software engineering techniques and commerce and management concepts such as accounts, economics business environment, tally and other advance concepts of commerce and management.

Furthermore, to meet the changing demands of the digital ecosystem, specialised courses cover a wide range of topics like database management, networking, web development, artificial intelligence, and cyber security.

Embracing the principles of flexibility and adaptability advocated by the NEP 2020, the BCM program offers a wide range of elective courses and interdisciplinary options, allowing students to explore niche area of interest or complement their technical expertise with knowledge from other domains.

The BCM programme includes a wide selection of elective courses and interdisciplinary options, embracing the flexibility and adaptability concepts promoted by the NEP 2020. This allows students to investigate areas of interest that they may find niche in or to augment their technical expertise with knowledge from other fields.

Additionally, the programme incorporates practical projects, internships, and the development of students' professional abilities, entrepreneurial mindsets, and practical skills. Fundamentally, the BCM program's course design is a reflection of its dynamic and forward-thinking approach, which aims to provide students with the necessary information, abilities, and mindset to prosper in a world driven by technology.

II Broad Categories of Courses

The undergraduate Bachelor of Computer Management (BCM) programme is designed to pro vide a wide range of courses that are intended to help students develop their core subject matt er expertise, minor domain proficiency, skill sets, career skill development, and values-based education.

1. ***Major courses*** : The major subjects give students a solid understanding of foundational concepts in computer Managements, commerce, and management. These subjects include programming languages, software engineering, database management, computer networks, operating systems, and computer topics.
2. ***Minor Courses*** :Minor domains provide students with the chance to further explore specialised areas including web programming, mobile Management development, data science, cyber security, GIS, IoT, Blockchain Management and artificial intelligence in addition to these basic disciplines, enabling people to acquire specialised knowledge in line with their professional goals .
3. ***Skill Enhancement Course*** : Courses for skill development are incorporated into the curriculum to support students' technical proficiency. Skill development is a crucial component of a student's road to success in both their personal and professional lives. It encourages holistic growth, scholastic success, the ability to solve problems, self-assurance, employability, adaptability, and entrepreneurship.
4. ***Value Education Courses :***Concurrently, value courses emphasise the significance of holistic development by helping students become well-rounded, globally minded persons by imparting moral principles, social responsibility, cultural sensitivity, and environmental awareness.
5. ***Ability Enhancement Courses :***Moreover, ability enhancement courses give students the chance to learn about interdisciplinary topics, cultivate interdisciplinary viewpoints, and improve their employability via interdisciplinary encounters.
6. ***Generic Elective / Open Elective courses :***Flexible course options that let students study a wide range of interdisciplinary topics outside of their primary field of study.
7. ***Discipline Specific Elective Courses :***specialised courses that provide students with in-depth understanding and proficiency in particular fields within their field of study of choice.
8. ***Indian Knowledge Courses :*** Courses promoting awareness and knowledge of India's unique heritage by shedding light on the country's history, philosophy, and customs.
9. ***Co-curricular Courses :***courses that support students' personal development and employability by fostering their holistic growth via extracurricular activities, real-world experiences, and skill-building projects.

When taken as a whole, these BCM programme components guarantee that graduates become not just technically skilled professionals but also ethically conscious leaders ready to contribute significantly to society.

Career or Jobs Opportunities after BCM Degree

Since BCM is a skill-oriented programme, people who complete it are likely to find employment more easily than those who pursue only academic degrees like BSc or BCom. This is particularly true for those who wish to pursue employment opportunities immediately after completing their undergraduate degree. There are promising career opportunities for BCM graduates in the public and private sectors. Therefore, here are a few job options that fit under the BCM's purview if you're wondering what to do after finishing it:

System Engineer-

Managing a system's commercial, engineering, and management components is one of a system engineer's responsibilities. They find and address problems inside a system, often introduce new ones, and even replace the hardware.

Computer Programmer-

A computer programmer creates, modifies, and assesses programmes that have an impact on the functionality of computer systems or Managements. To convert their ideas into commands that a computer can follow, they collaborate with programmers.

Network Administrator-

A network administrator's duties centre on the hardware and software components of a computer. They set up network upgrades, identify and fix faults, and offer fixes for any problems that can compromise the operation of the computer network.

Web Developer-

As technologists, job candidates would design and oversee websites. Because they might apply what they know about HTML, PHP, and Java to their projects.

Web Designer-

A web developer creates, develops, and maintains online pages using code. They strive to create aesthetically pleasing and user-friendly websites by fusing text with images, audio, and video.

Dr.Babasaheb AmbedkarMarathwada University
ChhatrapatiSambhajinagar
Bachelor of Computer Management (BCM)-Honours
Syllabus
Academic Year 2023-24
Semester - I

Discipline Specific Core(DSC)

Subject Title		**Computer Fundamentals**		
Subject Ref. No.		**BCM101T**	**No. of Credits**	2
			No. of Periods / Week	30 / 2
			Assignments / Sessional	20
			Semester Examination	30

Course Objectives

The main objective of this course to provide basic knowledge of Computer hardware , software, input/output devices, memory , introduction to network

Course Outcomes (COs)

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

CO-1	Converse in basic computer terminology
CO-2	Formulate opinions about the impact of computers on society
CO-3	Possess the knowledge of basic hardware peripherals
CO-4	Know the basics of programming and networking

Pre Requisite		**Number of Lecture**
Unit – I	**Introduction to Computer:** Computer Characteristics, Concept of Hardware, Software , Evolution of computer and Generations, Types of Computer – Analog and Digital computers, Hybrid Computers, General Purpose and Special Purpose Computer, Limitations of Computer Applications of Computer in Various Fields. **Structure and Working of Computer:** Functional Block Diagram of Computer. CPU, ALU, Memory Unit, Bus Structure of Digital	**12**

	Computer – Address, Data and Control Bus. **Input/Output Devices:** Input Device – Keyboard, Mouse, Scanner, MICR, OMR. Output Devices – VDU, Printers – Dot Matrix, Daisy-wheel, Inkjet, Laser, Line Printers and Plotters.	
Unit – II	**Computer Memory:** Memory Concept, Memory Cell, Memory Organization, Semiconductor Memory – RAM, ROM, PROM, EPROM, Secondary Storage Devices – Magnetic Tape, Magnetic Disk (Floppy Disk and Hard Disk.), Compact Disk.	**8**
Unit – III	**Computer Language and Software:** Algorithm, Flowcharts, Machine Language, Assembly Language, High Level Language, Assembler, Compiler, Interpreter. Characteristics of Good Language. Software – System and Application Software with examples. **Networking:** Concept, Basic Elements of a Communication System, Data Transmission Media, Topologies, LAN, MAN, WAN, Internet	**10**
		Total – 30 Lecture
Text Books	1. Introduction to Computers by Peter Norton, McGraw Hill 2. Introduction to Computers by Balagurusamy, McGraw Hill	
Additional Reference Books	1. Modern Digital Electronics by R. P. Jain, 3rd Edition, McGraw Hill 2. Digital Design and Computer Organisation by Dr. N. S. Gill and J. B. Dixit, University Science Press 3. Digital Principles and Applications by Malvino and Leach,McGrawHill	

Subject Title		Computer Fundamentals - LAB		
Subject Ref. No.		BCM102P	No. of Credits	2
			No. of Periods / Week	60 / 4
			Assignments / Sessional	20
			Semester Examination	30

Course Objectives

The main objectives of this course are to understand the basic application of Computer Software's

Course Outcomes (COs)

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

CO-1	Understand the basis applications of Computer Software
CO-2	Study the basic components of Computer system
CO-3	Learn browsing & searching
CO-4	Establish virtual communication using various online platforms

List of Practical's

1) Making report of Configuration of computer in Lab
2) Study different ports of CPU & connect different devices.
3) Connecting Internet using wire & wireless.
4) Installation & configuration of windows 7/8/10
5) Creating user in windows & configure
6) Browsing & Surfing on internet
7) Creating email address, sending receiving mail etc.
8) Practical Based on remote desktop on platform
9) Online meeting using zoom, google meet, skype etc.
10) Google form
11) Accessing network, identifying computer name & sharing drive & folder
12) Google Classroom

Subject Title		Operating System			
Subject Ref. No.		BCM103T	No. of Credits		2
			No. of Periods / Week		30 / 2
			Assignments / Sessional		20
			Semester Examination		30

Course Objectives

The main objective of this course to provide role & basic operations of operating system, memory management & types of Operating System

Course Outcomes (COs)

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

CO-1	Understand the main components and Structure of Operating System& their functions.
CO-2	Analyze various ways of Process Management& CPU Scheduling Algorithms.
CO-3	Evaluate various device and resources like Memory, Time and CPU Management techniques in distributed systems.
CO-4	Apply different methods for Preventing Deadlocks in a Computer System.
CO-5	Execute basic operations over the UNIX operating system.

Pre Requisite		Number of Lecture
Unit – I	Introduction: What Operating Systems do, Computer system organization, Computer system architecture, Operating system structure?System Structure: Operating system services, User operating system interface, System Calls, Types of System Calls, Overview of UNIX Operating System, Basic features of Unix operating System.	**10**
Unit – II	Process Concept: Process Concept, Process Scheduling, Operation on Process. Process Scheduling:Basic Concepts, Scheduling Criteria, Scheduling Algorithms.Synchronization: Background, The critical	**8**

	section problem. Semaphores: Usage, Implementation, Deadlocks and Starvation, Classic problems of synchronization. Deadlocks: Deadlock Characterization, Deadlock Prevention	
Unit – III	Memory Management: Background, Basic hardware, Address Binding, Swapping, Contiguous memory allocation, Paging: Basic Method, Hardware Support, Protection, and Memory Management in UNIX.Files and Directories in UNIX, File Structure, File System Implementation of Operating System Functions, File permission, Basic Operation on Files.	**12**
	Total Lectures	**30**
Text Books	1. Operating system Concepts: Abraham Silberschatz, Peter B. Galvin, Greg Gagne, 8th Edition, Wiley. 2. Unix and shell Programming by B.M Harwani, OXFORD University Press.	
Additional Reference Books	1. Principles of Operating Systems by Naresh Chauhan, OXFORD University Press . 2. Unix Concept and application- Sumitabhadas 3. Unix Shell Programming-YashwantKanetkar	

Subject Title		Operating System - LAB			
Subject Ref. No.		BCM104P	No. of Credits		2
			No. of Periods / Week		60 / 4
			Assignments / Sessional		20
			Semester Examination		30

Course Objectives

The main objectives of this course are to understand the basic application of Computer Software's

Course Outcomes (COs)

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

CO-1	Understand the main components and Structure of Operating System& their functions.
CO-2	Analyze various ways of Process Management& CPU Scheduling Algorithms.
CO-3	Evaluate various device and resources like Memory, Time and CPU Management techniques in distributed systems.
CO-4	Apply different methods for Preventing Deadlocks in a Computer System.

List of Practical's

1) Experiments on DOS : Perform these commands internal commands. DIR,TYPE,DEL,ERASE,MD,CD,COPY,RMDIR,VER,DATE,TIME,PAT H,CLS,RMDIR,VER,DATE,TIME,PATH,CLS,BREAK, SET,EXIT.

2) Experiments on linux 2. Perform an experiment to install any rpm or debianlinux distribution with emphasis on drive partitioning. , Install rpm and deb packages, Perfom these commands in linux- chmod, su , chown, chgrp ,ls, mkdir, pwd, date, who, find, uname, wc, ifconfig. , Create, open , edit, view file in linux.
3) Experiments of Windows : Mycomputer, properties , Folder , files , sub-folder, create folder, copy, rename, delete, recycle bin, tool bar , menu bar,
4) Control Panel, components of control panel, command line,

Subject Title	Principles of Management		
Subject Ref. No.	BCM105T	No. of Credits	2
		No. of Periods / Week	30 / 2
		Assignments / Sessional	20
		Semester Examination	30

Course Objectives

To understand Management is a goal oriented process.

Course Outcomes (COs)

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

CO-1	To provide an understanding of basic management concepts, principles and practices
CO-2	To enable the students to study the evolution of Management and business ethics.
CO-3	To describe the management functions of planning, organizing, Forecasting & Communication.
CO-4	To study the basic Knowledge of Management.

Unit	Topic	Number of Lecture
Unit – I	Forms of Business Organizations and Ownership: Sole Proprietorship, Partnership, Joint Stock Company, Public & Private undertakings, Government Companies. Management: Meaning & Definition of Management, Nature, Scope and its various functions. Evolution of management thoughts: classical and new classical systems, contingency approaches, scientific management.	6
Unit – II	Planning: nature, purpose and functions, types of plan, Management by Objective (MBO), steps in planning. Decision Making: Meaning, Steps in Decision Making, Techniques of Decision Making. Strategic planning – concepts, process, importance and limitations; Growth strategies- Internal and external.	12
Unit – III	Organizing: Concept, formal and informal organizations, task force, bases of departmentation, different forms of organizational structures, avoiding organizational inflexibility. Teamwork – meaning, types and stages of team building. Concept of staffing- Recruitment and Selection. Motivation – concept, importance and theories.	12
	Total Marks	30
Text Books	1. Principles and Practices of Management: L. M. PRASAD (S. Chand publishers). 2. Essentials of Management: Koontz H. & Weihrich H. (Tata Mc Graw Hill Publishers). 3. Stephen Robbins (Pearson publishers).	

	4. VSP Rao & V H Krishna, Management, Excel books.	
Additional Reference Books	1. Principles of Management, T-Ramasamy, Himalaya Publication House. 2. Principles of Management:AmarJyoti Publication 2010. 3. Management-Heinz Weihrich,Mark V Cannice,Harold Koontz. 4. Management- S.A .Shalekar-Himalaya Publication.	

Subject Title		Fundamentals Of Accounting			
Subject Ref. No.		BCM106T	No. of Credits		2
			No. of Periods / Week		30/2
			Assignments / Sessional		20
			Semester Examination		30

Course Objectives

The main objective of this course to maintain Systematic tracking of financial transactions .

1)	To understand the basic underlying concepts, principles and conventions of accounting.
2)	To prepare trading, profit & loss and balance sheet of a firm.
3)	To comprehend the concept of depreciation and different methods to treat depreciation in accounting.

Pre Requisite	Basic understanding of terms and meanings used in Accounting and Financial practices.	Number of Lecture
Unit – I	Basic Accounting Concepts and conventions: Money Measurement Concept, Entity Concept, Going Concern Concept, Cost Concept, Dual Aspect Concept, Accrual Concept, Conservatism, Materiality Concept, Consistency concept, and accounting conventions.	10
Unit – II	Accounting Structure: Process of Accounting Journal, Ledger and Trial Balance Errors & their rectification based on Double Entry Book-Keeping System. Bank Reconciliation statement, Preparation of Financial Statements: Form and Preparation of Income Statement and Statement of Financial Position, Adjustments.	10
Unit – III	Accounting for Deprecation and its importance in decision making-Fixed Instalment Methods & Reducing Balance Methods and preparation of final accounts of Joint stock companies and overview of Indian and International	10

	accounting standards.	
	Total Lectures	**30**
Text Books	1. Jain SP and Narang KL, Fundamentals of accounting, Kalyani Publishers, 7th edition, 2012 2. B.S. Raman, Fundamentals of accounting, United publishers, Mangalore. 3. Reddy AppannaiahSrinivasa, Fundamentals of accounting, Himalay Publishing House, First Edition, 2004, Mumbai. 4. Shukla M.C., T.S. Grewal and S.C. Gupta, – Advanced Accounts, Vol-I, Chand &sons, New Delhi. 5. Gupta R.L., and M. Radhaswamy , Advanced Accountancy Vol I, Sultan Chand &Sons, New Delhi.	
Additional Reference Books	1. Jain S.P and Narang K.L, Fundamentals of accounting, Kalyani Publishers, 2001, New Delhi. 2. S.K. Paul, Accounting Practices; Central education publishing house,1992, Calcutta. 3. S. Anil kumar, V. Rajesh kumar, B. Mariyappa, Fundamentals of Accounting, Himalaya Publishing House, Fifth edition 2010.	

Generic Elective / Open Elective
Select any one from BCM107T (A) to BCM107T (C)

Subject Title		Digital Electronics			
Subject Ref. No.		BCM104T (A)	No. of Credits		2
			No. of Periods / Week		30 / 2
			Assignments / Sessional		20
			Semester Examination		30

Course Objectives

The main objective of this course is To acquire the basic knowledge of digital logic levels and application of knowledge to understand digital electronics circuits.

Course Outcomes (COs)

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

CO-1	Examine the structure of number systems and perform the conversion among different number systems
CO-2	Became familiar with the digital signal, positive and negative logic, Boolean algebra, logic gates, logical variables, the truth table,
CO-3	Illustrate reduction of logical expressions using Boolean algebra, k-map and tabulation method and implement the functions using logic gates
CO-4	realize combinational circuits for given application

Pre Requisite	There is no prerequisites for attending this course	No of Lecture
Unit – I	**Number Systems** Analogue versus Digital ,Number Systems , Decimal Number System, Binary Number System, Octal Number System, Hexadecimal Number System, 1's Complement & 2's Complement subtraction, Conversion Binary - Decimal, Octal-Decimal, Hexadecimal-Decimal, Decimal-Binary, Decimal-Octal, Decimal-Hexadecimal, Binary - Octal, Octal - Binary, Hex - Binary, Binary - Hex, Hex - Octal and Octal - Hex. **Binary Codes & Digital Arithmetic** Binary Coded Decimal (BCD), BCD-to-Binary, Binary-to-BCD Conversion, ASCII code, Basic Rules of Binary Addition and Subtraction, Binary Addition, Multiplication, Subtraction Using 1's & 2's Complement, Binary Division	**10**

Unit – II	**Logic Gates & Boolean Algebra** Positive and Negative, Truth Table, Logic Gates, OR Gate, AND Gate, NOT Gate, EXCLUSIVE-OR Gate, NAND Gate, NOR Gate, EXCLUSIVE-NOR Gate, Universal Gates.Introduction to Boolean Algebra, Postulates of Boolean Algebra, Theorems of Boolean Algebra, **Simplification Techniques** Sum-of-Products Boolean Expressions, Product-of-Sums Expressions, ∑and Pi Nomenclature, Karnaugh Map Method, Construction of a Karnaugh Map, K Map for 2, 3 & 4 variables, rolling & Overlapping, Don't care condition	**12**
Unit – III	**Arithmetic Circuits** Combinational Circuits, Implementing Combinational Logic, Arithmetic Circuits Basic Building Blocks , Half-Adder, Full Adder , Half-Subtractor, Full Subtractor, Adder -Subtractor, Arithmetic Logic Unit (ALU).	**08**
	Total – Lecture	**30**
Text Books	1) Digital Electronics Principles, Devices and Applications By Anil K. Maini , John Wiley & Sons, Ltd 2) Digital Electronics & Micro- Computer R.K Gaur DhanpatRai Publication 3) Modern Digital Electronics By R.P Jain MC Graw Hill Publication	
Additional Reference Books	Digital Fundamentals by Thomas L. Floyd , Pearson Education Limited	

Subject Title		Tally			
Subject Ref. No.		BCM107T – (B)	No. of Credits		2
			No. of Periods / Week		30 / 2
			Assignments / Sessional		20
			Semester Examination		30

Course Objectives

The main objectives of this course is to understand the concepts of computerized accounting , perform financial transactions , generate financial reports and prepare GST compliance using Tally

Course Outcomes (COs)

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

CO-1	Understand the fundamentals of Computerised Accounting
CO-2	Use Tally to create and maintain company data
CO-3	Record Financial Transactions and generate Reports in Tally
CO-4	Use Tally for GST Compliances and other functions

Pre Requisite		None	Number of Lecture
Unit – I		**Introduction to Computerised Accounting** Accounting Softwares, Customised& Prepackaged, Codification & Classification **Accounting in Tally** Creation of company, setting up chart of accounts, creating inventory masters	10
Unit – II		**Accounting Records in Tally** Creating vouchers, posting transactions, and generating invoices and other financial reports **GST Compliance in Tally Prime** Creating GST masters, registering for GST, and filing GST returns	10
Unit – III		**Other functionalities of Tally** Payroll and other HR functions of Tally, Credit &Cashflow Management, Forecasting & Budgeting using Tally	10
		Total Lectures	30
Text Books		1. Asok K Nadhani, "Mastering Tally PRIME", BPB Publications	
Additional Reference Books		1. Tally Prime User Guide 2. Tally Prime GST Guide 3. Tally Prime for Beginners	

Subject Title		Entrepreneurship Development		
Subject Ref. No.		BCM107T – (C)	No. of Credits	2
			No. of Periods / Week	30 / 2
			Assignments / Sessional	20
			Semester Examination	30

Course Objectives:

1. To impart the knowledge of Entrepreneurship Development among students.
2. To understand the basic concepts of Entrepreneurship development.
3. To understand the Government policies on entrepreneurship.
4. Understanding of Start-Ups, New Ventures in Business.

Course Outcomes (COs)

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

CO-1	Students will be able to identify, analyze and express one's own stance on social responsibility and ethics of business circumstances.
CO-2	Students will be able to cogitate on evolution, functions and principles of Management, and comprehensively grasp managers' tasks such as planning, decision-making, directing, negotiating and problem-solving.
CO-3	This subject will help to develop cognizance of the importance of human behavior and analyze the complexities associated with management of the group behavior in the organization.
CO-4	Students will be able to understand the traits, dimensions, and styles of effective leaders and, the relationship between strategic, tactical, and operational plans for effective Management

Pre Requisite		None	Number of Lecture
Unit – I		Entrepreneur: meaning- Importance, Qualities, nature, types, traits, culture, similarities and economic and differences between Entrepreneur and Intrapreneur. Entrepreneurship development-its importance- Role of Entrepreneurship -Entrepreneurial environment	**10**
Unit – II		Entrepreneurship Development and Government: Role of Central Government and State Government in promoting Entrepreneurship - Introduction to various incentives, subsidies and grants - Export Oriented Units - Fiscal and Tax concessions available.	**10**
Unit – III		Challenges to Woman Entrepreneurs, Achievements of Woman Entrepreneurs, Role Models of Woman Entrepreneurs, Women Entrepreneurs Problems and Prospects Creating and starting the venture - Steps for starting a small industry -	**10**

		selection of types of organization - International entrepreneurship opportunities. MSMEs: Small Business: Concept & Definition, Role of Small Business in the modern Indian Economy, Small entrepreneur in International business	
		Total Lectures	**30**
Text Books		1.Vasanth Desai "Dynamics of Entrepreneurial Development and Management Himalaya Publishing House ISBN 81-7014-619-4 2. 2. N.P.Srinivasan&G.P.Gupta," Entrepreneurial Development ", Sultanchand&Sons. ISBN: 8185386196.	
Additional Reference Books		1.Robert D.Hisrich, Michael P.Peters, "Entrepreneurship Development, Tata McGraw Hill edition ISBN : 1259001636.	

SEC : Skill Enhancement Course (Choose any one)

Subject Title		MS-office & Lab		
Subject Ref. No.		BCM108P - (A)	No. of Credits	2
			No. of Periods / Week Theory	15 / 1
			No. of Periods / Week Practical	30 / 2
			Assignments / Sessional	20
			Semester Examination	30

Course Objectives

The main objective of this course to learn office work with different applications such as Ms-word, MS-excel and Power Point

Course Outcomes (COs)

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

CO-1	Able to perform documentation and presenting skills.
CO-2	Proficient in using Windows, Word Processing Applications, Spreadsheet Applications, and Presentation Graphics Applications
CO-3	Create different types of tables / graphs / charts
CO-4	Analyze the data using different mathematical formulas

Pre Requisite		There is no prerequisites for attending this course	No of Lecture
Unit – I		Create a Table : Convert text to tables , Convert tables to text , Create a table by specifying rows and columns , Apply table styles , Modify a Table , Sort table data , Configure cell margins and spacing ,Merge and split cells ,Resize tables, rows, and columns , Split tables , Configure a repeating row header	**10**
Unit – II		Spreadsheet basics , Creating, editing, saving and printing spreadsheets , Working with functions & formulas , Modifying worksheets with color & auto formats , Graphically representing data : Charts & Graphs, Speeding data entry : Using Data Forms , Analyzing data : Data Menu, Subtotal, Filtering Data ,Formatting worksheets , Securing & Protecting spreadsheets, home menu, inset menu, sheet copy, rename, preparing	**10**

		table in excel	
Unit – III		Electronic Slide Presentation, Slide Formatting, Theme & Slide Layout, SmartArt Charts & Graphics, Adding Animation Effects, Giving Effects & Transitions to Slides, Creating Professional Slide Presentations, Setting up a Slide Show & Giving Timings, Adding Music to Presentations, Compiling Videos of Presentations , Sharing & Saving Different Formats of Presentations, Linking Word & Excel	**10**
		Total Lecture	**30**
Text Books		1. Master Book Of Computer: Learn MS Office,BasicComputer,MSExcel,ExcelFormulas,Tally, HTML Kindle Edition , by MangeshBhuvad 2. Mastering MS Office (English, Paperback, Kumar Bittu)	
Additional Reference Books		1. Microsoft Office 2010 Introductory, Gary B. Shelly, Misty E. Vermaat 2. Jodi Davenport, Critch Greaves, Michael Groh and Eruce Hall berg, Inside Microsoft Office Professional , 1994, New Riders Publications. 3. CloriaMadumere, 3 – IN – 1 Microsoft Word, Powerpoint and Excel 2010, First Edition 2016, Create space Independent Publishing Platform.	
Website		1. https://www.javatpoint.com/ms-word-tutorial 2. https://www.udemy.com/course/get-started-with-microsoft-word/	

Subject Title	Web Development Technology			
Subject Ref. No.	BCM108P - (B)	No. of Credits	:	2
		No. of Periods / Week Theory	:	15 / 1
		No. of Periods / Week Practical	:	30 / 2
		Assignments / Sessional	:	20
		Semester Examination	:	30

Course Objectives

The main objective of this course to learn different tags of HTML, design different client side forms of web side which helps to create static webpage

Course Outcomes (COs)

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

CO-1	Implement different HTML tags.
CO-2	Design WebPages using basic HTML tags & forms.
CO-3	Understand Fundamentals of Internet, Web page.

Prerequisite	No prerequisite knowledge required.	No. of Lectures
Unit I	**Internet Basics** -Introduction to Internet, Internet Services, WWW, Working of Internet, Internet Connection Concepts, Introduction to Internet, Concepts, Web page: static, Dynamic, Active. Scripting languages: Server side, Client Side. Web site development Phases, Web: Designing, Development and Publishing, HTTP, URL registration, browsers, search engines, Web server, Proxy servers. **Introduction of HTML** Basic principles involved in developing a web site , Planning process, rules of web designing, Designing navigation bar , Page design, Home Page Layout, Concept.	6
Unit II	**HTML Elements** Introduction To HTML, Common HTML, Tags Physical & Logical, Some basic tags like <body> , changing background color of page, text color etc., Text formatting tags, <p> , <hr> tags, Ordered & Unordered Lists Tags, Inserting image, Links: text, image links, image mapping , Tables. **HTML & Form Handling**	5

	Frame, Form Introduction with text box, text area, buttons, List box, radio, checkbox, HTML input attributes, methods, Unicode Transformation Format (UTF), linking webpages	
Unit III	**HTML 5** Introduction , form elements – date, dateTime, email, number, range, tel, color, URL, datetimelocal, month , week, time, placeholder attribute, autofocus attribute, required attributes . HTML audio , video	4
	Total – Lecture	**15**
Text Books	• HTML, DHTML, JavaScript, Perl & CGI Ivan Bayross • HTML & CSS : The Complete reference, Fifth Edition By Thomas Powell	

Reference books	• Html, Xhtml, And Css Bible (English) 5th Edition (paperback) by Schafer, Steven • HEAD FIRST HTML AND CSS, 2/ED (UPDATED FOR HTML) by ROBSON • Beginning HTML and CSS (English) (Paperback) by Rob Larsen • Learn to Code HTML and CSS (English) (Paperback) by Howe • Head First HTML5 Programming by Elisabeth Freeman and Eric Freeman
Web references	1. www.w3school.com • www.tutorialpoint.com
Web Development Technology -Lab	
1	1. Write HTML programs to demonstrate following : - Bold - Italics -underline - Font – Times new roman - Font size – 24 - Font color – red - Paragraph - Strikethrough -Left align sentence - Right align sentence -Center align sentence - Page with yellow background - New line -Horizontal line - All headings -Moving text

2

2. Write HTML code to display following lists:

Fruits

- Apple
- Mango
- banana

1. Cold -drinks
   - Sprite
   - Thumps –up
   - Coke

- this
- is

1. the
2. unordered
   - ordered
   - list
3. example
4. of

- HTML.

Nesting lists

i. item 1
   - sub item 1
   - sub item 2
     a. sub item 1
     b. sub item 2

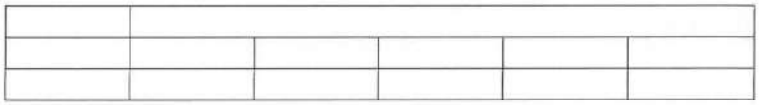
ii. item 2
   1. sub item 1
      - sub item 1
      - sub item 2
   2. sub item 2

iii. item 3

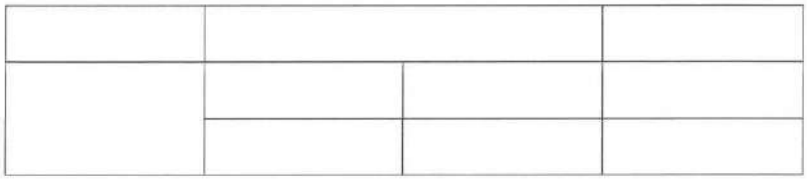
3

1. Write an HTML code that will display an image on webpage.
2. Write an HTML code that will display link, on click navigate to another webpage.
3. Write an HTML code that will use image as a link , on click to that image navigate to another webpage.
4. Write an HTML code that will divide image into different shapes (image mapping), on click to that image hot spot navigate to another webpage. (use shapes like rectangle, circle etc.)
5. Write an HTML code that will display following Table formats : (insert suitable row & column content)

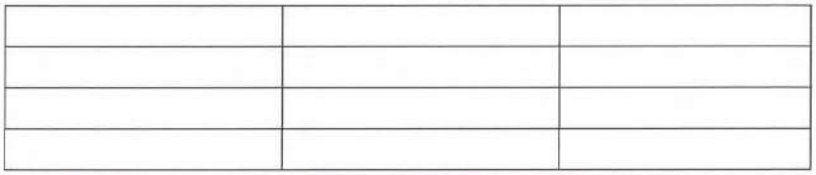
1.



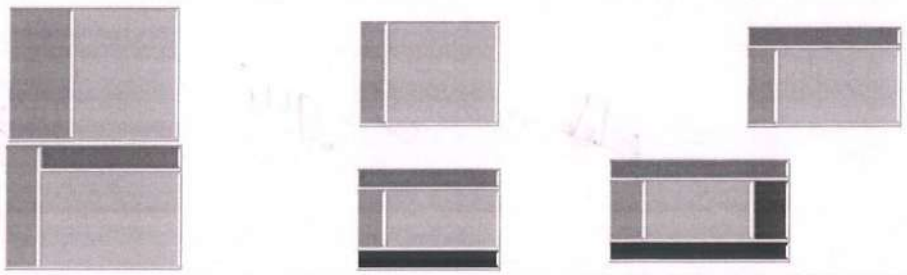
2.



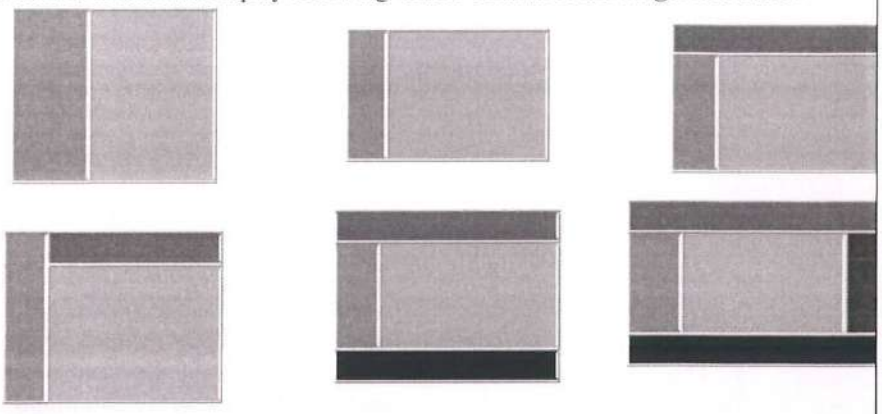
3.



6. Write an HTML code that will display following frame formats :



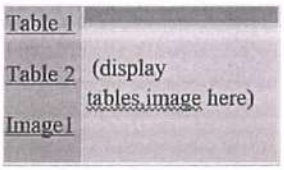
7. Write an HTML code that will display following frame formats & use **target attribute** :



8. Write an HTML code that will display **a Registration** form on a webpage. (Use text box, text area, buttons, list box, radio, checkbox).
9. Write an HTML code that will display a **feedback** form on a webpage.(Use suitable form elements).
10. Design an HTML form that will **accept student information** from webpage (Use suitable form elements).
11. Design an HTML form that will use all HTML5 controls.

12. Design an HTML form that will **accept student information** from webpage (Use suitable form elements).
13. Design an HTML form that will use all HTML5 controls.

19. write an HTML code for displaying following: When user clicks on Table 1, Table 2, display following



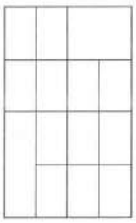
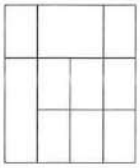


Table 1 Table 2



Subject Title	English		
Subject Ref. No.	BCM109T	No. of Credits	2
		No. of Periods / Week	30 / 2
		Assignments / Sessional	20
		Semester Examination	30

Course Objectives

This course is designed to build upon students' Grammatical command on English Language in order to enhance their receptive and productive skills.

Course Outcomes (COs)

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

CO-1	The Students will be developed in both productive and receptive skills
CO-2	They will be able to produce syntactically, Grammatically correct sentences.
CO-3	They will be able to reason and develop themselves both in traditional and electronic sources.
CO-4	The learner's community will be able to use their applied knowledge in computer Application learning and research
CO-5	The Learner's Community will be able to write text in an appropriate style, write Complex reports, letters and present a case with an effective logical structure and will review any professional pr literary work of art and will develop knowledge about computer assisted language learning and its application.

Pre Requisite			Number of Lecture
Unit – I		English as Global Language British English and American English Grammar- definitions, types, characteristics, Merits and limitations. Elements of Grammar Sentence elements Parts of Speech Stative and Dynamic verbs Modal Auxilliaries	**8**
Unit – II		Nouns, Pronouns, and basic noun phrase Noun classes, Determiners, Reference and articles Number, Gender, the Genitive, Pronouns, Tenses, Mood , Aspect	**8**
Unit – III		Adjective and Adverbs, prepositions and prepositional phrases- place relations, time relations, The simple sentence- Negation, Question and commands, Sentence connection. Active/ passive voice, Academic v/s Imaginative, Direct and	**14**

			Indirect Speech, Formal and Informal Letters and Application. Appropriate usage of punctuation, apostrophe, commas, semi-colon, hyphen. ***Particles*** 1. Cursive Writings – Daily one page 2. Letter Writing- official and unofficial 3. Writing of email, writing of formal Application 4. Reading Prose Lesson Reading Poems Reading Fiction Reading Drama 5. Seminar Presentation: 6. Peer Discussion 7. Peer interaction based on task activity 8. How to appear for Interview 9. Appropriate usage of pauses, ellipsis, and Discourse items while speaking. 10. Developing Listening Skills 11. Listening to audio- lingual acids 12. Listening- social, political, historical and scientific speech 13. Power point Presentation not less than 10 slides along with self introduction.	
			Total	**30**
Reference Books			1. Quirk, R. and S. Green Baum. A University Grammar of English Language. Harlow: Pearson education limited, 1973. 2. Quirk, Randolph A Student's Grammar of the English Language. Harlow: Pearson education Limited. 1990. 3. Crystal, David. A Rediscover Grammar with David crystal. London: Longman.1996. 4. Leech, Geoffrey and Jan. Svartvik. A Commutative English Grammar. Pearson education ltd. 1994.	
Additional Books			1. Marlinet A; Thompson, A Practical English Grammar. Delhi: Oxford University Press.1986. 2. Leach, Geoffrey and Svartvik Jan. A Communicative Grammar of English. Second edition Singapore: Singapore Publishers, 1994. 3. Angela Downing and Philip Locke A University course in English Grammar. London and New York. Routledge 2002.	

IKS -1 (BCM110 T)
University Syllabus

Subject Title		**IKS**		
Subject Ref. No.		BCM110T	**No. of Credits**	2
			No. of Periods / Week	30 / 2
			Assignments / Sessional	20
			Semester Examination	30

CC -1 (BCM111 P)
Health & Wellness
University Syllabus

Subject Title	:	**Health & Wellness**			
Subject Ref. No.	:	BCM111P	**No. of Credits**	:	2
			No. of Periods / Week	:	60 / 4
			Assignments / Sessional	:	20
			Semester Examination	:	30

Course Objective (COs)

To acquaint students with fundamentals of Health & Wellness critical in inclusive development of the human being as a whole.

Course Outcomes (COs)

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

1)	Understand the meaning, definitions, dimensions, and scope of health, fitness and wellness
2)	Gain Insights into the causes of illness and the management of those ill-health through proper knowledge
3)	Gain knowledge about the nutrition, components of nutrition and their impact on health.

Pre Requisite	:	Basic awareness of Business Organisation.	**Number of Lecture**
Unit – I	:	**INTRODUCTION** Meaning, Definition, Aims, Objectives & Dimensions of Health and Wellness. Principles of Health Education. Factors affecting Health and Wellness. Health Agencies: World Health Organization (WHO) United Nation Educational Scientific & Cultural Organization (UNESCO) Integrated Child Development Services (ICDS) Ministry of Health & Family Welfare (MHFW **NUTRITION AND WEIGHT MANAGEMENT** Meaning, Definition and Importance of Nutrition, Food and effect of malnutrition on health, Mid-Day Meal. Basic Nutrients (Protein, Carbohydrate, Fat, Vitamins, Mineral & Water), Phytonutrients, Fibrous Food. Diet, Balance Diet, Athletic Diet, Factors affecting Diet. Obesity – Concept, Problems, Causes, Prevention, Assessment and procedure of weight Management.	**20**

	Unit – II	:	**HYGIENE, PERSONAL HYGIENE, MENTAL HYGIENE & COMMUNITY HYGIENE** Meaning, Concept and types of Hygiene. Importance of Hygiene for healthy life, desirable hygienic habits and Importance of rest, sleep & exercise. Personal Hygiene: - Care of Skin, Eye, Teeth, Ear, Nail, Nose and Hair. Mental Hygiene, its importance and its practice procedure. **HEALTH PROBLEMS IN INDIA** Causes, Prevention and Control of Communicable Diseases: Malaria, Dengue, Corona virus. Causes, Prevention and Control Non-Communicable Diseases: Thalassemia, Asthma, Arthritis. Postural Deformities: Causes and corrective exercise of Kyphosis, Lordosis, Scoliosis, Knock Knees, Bow leg and Flat foot. Problems associated with postural deformities Life Style Disease (Diabetes, Hypertensions, Stroke) and Stress Management.	**20**	
	Unit – III	:	**MANAGEMENT OF HEALTH ISSUES** Substance Abuse (Drug, Cigarette, Alcohol), De-addiction, Counselling & Rehabilitation. Types of Physical Fitness & Health Benefits. Postural Deformities & Corrective Measures. Spirituality & Mental Health. Role of Yoga, Asanas& Meditation in maintaining health & Wellness. Role of Sleep in maintenance of physical & mental health.	**20**	
			Total Lecture	**30**	
	Reference Books:	:	1. Turner, C.E. et al. School Health and Health Education, National Library of Australia. 2. 2. Thakur, S. KriraChikitsha, PaschimbangaRajyaPustakParishad. 3. Nutrition Encyclopaedia, edited by Delores C.S. James, The Gale Group, Inc. 4. Ghosh, B.N. A Treaties of Hygiene and Public Health, Scientific Publishing Co., Kolkata.		

Faculty of Management Science
Curriculum Structure
Bachelor of Computer Management (BCM) Honours
Academic Year 2023-2024
Semester –II

Subject Title	**Database Management System**		
Subject Ref. No.	BCM201T	**No. of Credits**	2
		No. of Periods / Week	30 / 2
		Assignments / Sessional	20
		Semester Examination	30

Course Objectives

The objective of the course is to present an introduction to database management systems, with an emphasis on how to organize, maintain and retrieve - efficiently, and effectively - information from a DBMS

Course Outcomes (COs)

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

CO-1	Understand the basic principles of database management systems.
CO-2	Draw Entity-Relationship diagrams to represent simple database application scenarios
CO-3	Write SQL queries for a given context in relational database. .
CO-4	Implement normalization , views and ACID properties on database

Pre Requisite	Basics of Computer Fundamentals and OS	**Number of Lecture**
Unit – I	***Introduction to Databases and Transactions***: What is database system, purpose of database system, view of data, relational databases, database architecture, transaction management, ***Data Models*** : The importance of data models, Basic building blocks, Business rules, The evolution of data models, Degrees of data abstraction. ***Database Design, ER-Diagram and Unified Modeling Language*** : Database design and ER Model:overview, ER-Model, Constraints, ER-Diagrams, ERD Issues, weak entity sets, Codd's rules, Relational Schemas, Introduction to UML Relational database model: Logical view of data, keys, integrity rules. ***Relational Database design***: features of good relational database design, atomic domain and	**8**

	Normalization (1NF, 2NF, 3NF, BCNF).	
Unit – II	**Relational algebra** : introduction, Selection and projection, set operations, renaming, Joins, Division, syntax, semantics. Operators, grouping and ungrouping, relational comparison. **Calculus**: Tuple relational calculus, Domain relational Calculus, calculus vs algebra, computational capabilities. Constraints, Views and SQL : What is constraints, types of constrains, Integrity constraints, ***Views***: Introduction to views, data independence, security, updates on views, comparison between tables and views. ***SQL***: data definition, aggregate function, Null Values, nested sub queries, Joined relations. Triggers.	**12**
Unit – III	***Transaction management and Concurrency control***: Transaction management: ACID properties, serializability and concurrency control, Lock based concurrency control (2PL, Deadlocks), Time stamping methods, optimistic methods, database recovery management.	**10**
	Total Lectures	**30**
Text Books	1. A Silberschatz, H Korth, S Sudarshan, "Database System and Concepts", fifth Edition McGraw-Hill , 2. Raghu Ramakrishnan and Johannes Gehrke, Database Management Systems (3/e), McGraw Hill, 2003	
Additional Reference Books	3. Rob, Coronel, "Database Systems", Seventh Edition, Cengage Learning	
Websites	4. https://www.javatpoint.com/dbms-tutorial 5. https://www.tutorialspoint.com/dbms/index.htm 6. https://www.guru99.com/dbms-tutorial.html	

Subject Title	DBMS - LAB		
Subject Ref. No.	BCM202P	No. of Credits	2
		No. of Periods / Week	60 / 4
		Assignments / Sessional	20
		Semester Examination	30

Course Objectives

The objective of the course is to present an introduction to database management systems, with an emphasis on how to organize, maintain and retrieve - efficiently, and effectively - information from a DBMS

Course Outcomes (COs)

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

CO-1	Understand the basic principles of database management systems.
CO-2	Draw Entity-Relationship diagrams to represent simple database application scenarios
CO-3	Write SQL queries for a given context in relational database. .
CO-4	Implement normalization , views and ACID properties on database

Pre Requisite	Basics of Computer Fundamentals, operating system & DBMS theory concepts

S.No	NameoftheExperiment	
1.	ImplementationofDDLcommandsofSQLwithsuitable examples • Createtable • Altertable • DropTable	
2.	ImplementationofDMLcommandsofSQLwithsuitableexamples • Insert • Update • Delete	
3.	Implementationofdifferenttypesoffunctionwithsuitableexamples • Numberfunction • AggregateFunction • CharacterFunction • ConversionFunction • DateFunction	

4.	Implementationofdifferenttypesofoperators inSQL • Arithmetic Operators • LogicalOperators • ComparisonOperator • SpecialOperator • SetOperation	
5.	ImplementationofdifferenttypesofJoins • InnerJoin • OuterJoin • NaturalJoinetc..	
6.	StudyandImplementationof • GroupBy&having clause • Orderbyclause • Indexing	
7.	Study&Implementationof • Subqueries • Views	
8.	Study&Implementationofdifferenttypes ofconstraints.	
9.	Study&ImplementationofDatabaseBackup&Recoverycommands.Study&ImplementationofRollback,Commit,Savepoint.	
10.	• CreatingDatabase/TableSpace • ManagingUsers:CreateUser,DeleteUser • Managingroles:-Grant,Revoke.	
11.	Study&ImplementationofPL/SQL.	
12.	Study&Implementation ofSQLTriggers.	

Subject Title		C Programming			
Subject Ref. No.		BCM203T	No. of Credits		2
			No. of Periods / Week		30 / 2
			Assignments / Sessional		20
			Semester Examination		30

Course Objectives

The main objective of this course is to understand the concept of programming coding which helps to enhance the thinking ability to solve complex problem through programming languages

Course Outcomes (COs)

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

CO-1	Understand the concept of programming with constant & variables used in C programming
CO-2	Learn the implementation of loop, conditional statement to build programming logic
CO-3	Be able to use homogeneous & heterogeneous to write complex programming
CO-4	Understand & learn Input/output streams using File handling

Pre Requisite	Basics of Computer Fundamentals and OS	Number of Lecture
Unit – I	C is a Structured Language, Complier Vs Interpreters, The Form of a C Program, Library & Linking, Compilation & Execution of C Program **Variables, Data Types, Operator & Expression :** Character Set, C Token, Identifier & Keyword, Constant, Integer, Floating Point, Character, String, Enumeration , Data Types in C, Data Declaration & Definition, Operator & Expression, Arithmetic, Relational, Logical, Increment &Decrement, Bitwise, Assignment, Conditional ,2.8 Precedence & Associativity of Operators. **Console I/O :** Introduction, Character input & Output, String Input & Output, Formatted Input/Output (scanf/printf) sprintf&sscanf **Control Statement :**Introduction, Selection Statements If, Nested if, if-else-if, The? Alternative, The Conditional Expression, switch, Nested switch, Iteration Statements , for loop, while loop, do-while loop , Jump Statements goto& label, break & continue, exit() function. **Storage Class & Scope :** Meaning of Terms, Scope - Block scope & file scope, Storage	**08**

	Classes, Automatic Storage, Extern Storage, Static, Storage, Register Storage, **Bitwise Operator :** Introduction, Applications Masking, Internal Representation of Date, Bit Fields	
Unit – II	**Function :** Introduction, Arguments & local variables, Returning Function Results by reference & Call by value, Recursion **Array & String :** Single Dimension Arrays , Accessing array elements, Initializing an array, Multidimensional Arrays, Initializing the arrays, Memory Representation Accessing array elements, Passing Single Dimension array to Function, Array & Pointer, Array of Pointer, String Manipulation Functions **Pointers :** Introduction, Memory Organization, The basics of Pointer, The Pointer operator, Application of Pointer, Pointer Expression Declaration of Pointer, Initializing Pointer, De-referencing Pointer, Pointer Arithmetic, Precedence of & , * operators, Pointer to Pointer,	**12**
Unit – III	**Structure, Union, Enumeration &typedef :**Structures Declaration and Initializing Structure, Accessing Structure members, Structure Assignments, Arrays of Structure, Passing Structure to function, Structure Pointer, Unions. **File handling:** Introduction, Defining & Opening a File, Closing a File, Input/Output Operations on Files, Error Handling During I/O Operation, Random Access To Files, **Command Line Arguments.**	**10**
	Total Lectures	**30**
Text Books	C : The Complete Reference : Herbert Schildt , Programming in ANCI C : Balgurusamy, Graphics under C : YashwantKanetkar , Let us C : YashwantKanetkar	
Additional Reference Books	Programming with C : Bryon Gottfried, Graphics Under C : Y. Kanetkar Let us C Solutions : Y.P. Kanetkar, 3. Spirit Of "C" : MoolishKooper.	

Subject Title	C programming- LAB		
Subject Ref. No.	BCM204P	No. of Credits	2
		No. of Periods / Week	60 / 4
		Assignments / Sessional	20
		Semester Examination	30

Course Objectives

The objective of the course is to present an introduction to database management systems, with an emphasis on how to organize, maintain and retrieve - efficiently, and effectively - information from a DBMS

Course Outcomes (COs)

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

CO-1	Understand the concept of programming with constant & variables used in C programming
CO-2	Learn the implementation of loop, conditional statement to build programming logic
CO-3	Be able to use homogeneous & heterogeneous to write complex programming
CO-4	Understand & learn Input/output streams using File handling

Pre Requisite	Basics of Computer Fundamentals and operating system

Assignment No 1	:	Write a program to find Area, Perimeter of Square & Rectangle.
Assignment No 2	:	Write a program to enter any year and check whether it is leap year or not
Assignment No 3	:	Write a Program on string and numbers
Assignment No 4	:	Write a Program to find greater among five using conditional operator
Assignment No 5	:	Write a Program to find odd and even numbers between 1 to 100 using go to statement.
Assignment No 6	:	Write a program to find max. Among 3 nos.
Assignment No 7	:	Write a program to enter any numbers and find the factorial of that number Write a program to enter any number and find it is prime number or not
Assignment No 8	:	Write a program, to enter any number and find it is an Armstrong Number or not
Assignment No 9	:	Write a program to print Floyd's Triangle Write a program to print Fibonacci Series with lower and upper limit
Assignment No 10	:	Write a program to make inter conversion of Decimal, Binary & Hexadecimal no.

Assignment No 11	:	Write a program to find LCM & GCD of numbers
Assignment No 12	:	Write a program to Insert & Delete an element at given location in array. Write a program to Transpose of matrices
Assignment No 13	:	Write a program to find the Multiplication of matrices Write a program to Display upper & lower diagonal of matrices
Assignment No 14	:	Array of Structure e.g. student result, Employee pay slip , Phone b Write a program to perform all arithmetic operations on two numbers using pointer
Assignment No 15	:	Programs on following concepts Function with no parameter & no return values Function with parameter & return values
Assignment No 16	:	Function with parameter & no return values Function with call by reference
Assignment No 17	:	Recursion function e.g. sum of digit, reverse of digit, Fibonacci series , factorial on given number
Assignment No 18	:	String manipulation function e.g. string copy, concatenation, compare, stringlength, reverse string
Assignment No 19	:	Five Programs on Loop within loop and on specific output
Assignment No 20	:	Five program on loop within loop and on specific output
Assignment No 21	:	File handling e.g. Read / Write file, copy file, merging file and Random access of file Write a program to store number of sentences in backend file
Assignment No 22	:	Write a program to enter 40 numbers and separate odd and even numbers from them and display the contents of odd and even file
Assignment No 23	:	Write a program to store the record in data.dbf file with following details Empcode, name, designation, basic salary , net salary using binary file
Assignment No 24	:	Using command line argument Program to copy content of one file to another
Assignment No 25	:	Sort numbers from file Read & write data using fprintf() and sscanf() function

Subject Title		Business Organization			
Subject Ref. No.		BCM205T – (B)	No. of Credits		2
			No. of Periods / Week		30 / 2
			Assignments / Sessional		20
			Semester Examination		30

Course Objectives

The main objective of this course to make acquaint students with fundamentals of business organization and management systems as a body of knowledge and To impart to the students an understanding of business concepts with a view to prepare them to face challenge of managing business in the new era.

Course Outcomes (COs)

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

1)	Demonstrate a critical understanding of Business Organisation.
2)	Understand modern business practices, forms, procedures and functioning of various business organizations.
3)	Understand the basic concepts in commerce, trade and industry.

Pre Requisite	Basic awareness of Business Organisation.	Number of Lecture
Unit – I	**Introduction to Business:** Business – Concept, nature and scope, business as a system, business objectives, business and environment interface, distinction between business, commerce and trade, Business ethics, social responsibilities of Business **Business Enterprises:** Forms of Business Organisation: Sole Proprietorship, Partnership firm, Joint Stock Company, One Person Company, Cooperative society; Limited Liability Partnership; Multinational Corporations; Choice of Form of Organisation; Business Combination: Need and Objectives, Forms: Mergers, Takeovers and Acquisitions	12
Unit – II	**Business Environment:** Meaning and significance of Business environment, Internal and external environment, Dimensions of Business Environment; Uncertainty and business; Environmental Analysis and Diagnosis, Environment scanning techniques: SWOT and ETOP. **Entrepreneurship: Founding the Business:**	9

		Entrepreneur-Entrepreneurship-Enterprise; entrepreneurial ideas and opportunities in the contemporary business environment; Process of entrepreneurship; Forms of entrepreneurship; Skill India, Start-up India, Make in India, Globalisation	
	Unit – III	**Contemporary Issues of Business Organisations :** Emerging Issues and Challenges; Innovation in Organisational Design; Learning Organisations, Workforce Diversity, Franchising, Outsourcing, and E-commerce; Government and businessinterface;Sustainability; Digitalisation and Technological innovations	**9**
		Total Lecture	**30**
	Reference Books:	1. S.A. Sherlekar, Modern Business Organization and Management, Himalaya Publishing House. 2. Y.K. Bhushan, Fundamentals Of Business Organization & Management, S.Chand Publications. 3. Basu, C. R., Business Organization and Management, Tata Mcgraw Hill, Publishing House, New Delhi 4. Vasishth, Neeru, Business Organisation, Taxmann, New Delhi	

Subject Title		Fundamentals Of Economics			
Subject Ref. No.		BCM206T	No. of Credits		2
			No. of Periods / Week		30 / 2
			Assignments / Sessional		20
			Semester Examination		30

Course Objectives

The course aims at introducing students with the basic concepts & analytical methods of economics helpful in decision making with issues relative at firm, industry & national levels.

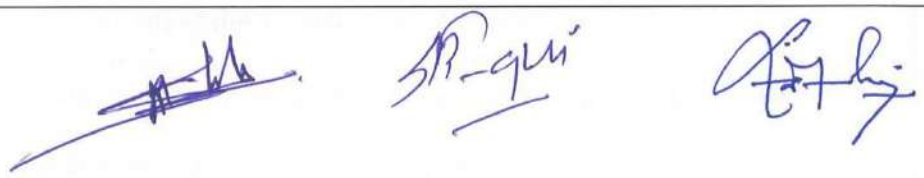
Course Outcomes (COs)

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

CO-1	Comprehend the fundamental questions of economics related to decision making.
CO-2	Identify & analyze the basic determinants of consumer behavior & markets.
CO-3	Apply tools & techniques of economics for optimal results at micro & macro levels.
CO-4	Learn & Become familiar with the macroeconomic issues .

		Number of Lecture
Unit – I	**Introduction** *-Why study economics?* -Scope of Economics: Micro & Macro Economics, Diverse fields of Economics, Positive & Normative Economics -The Economic Problem: Scarcity, Choice & Opportunity Cost; Production Possibility Frontier - Economic Systems & The Role of Govt: Command Economies, laissez-faire Economies & Mixed Economies	**10**
Unit – II	**Basic Microeconomics & Applications** -How Market Works: Market forces of Demand & Supply, Elasticity& its applications -Consumer Behavior: Utility theory, Indifference Curve approach, Optimum Choice - Production Analysis: Short-run & Long-run Production functions, Law of Variable Proportions, Iso-quants, Returns to Scale -Cost of Production: Short-run and long run cost curves, Revenue-cost output relationship, Profit maximization -Market Structures: Perfect Competition, Monopoly, Monopolistic Competition, Oligopoly -Economic Appraisal Techniques: Payback period, NPV, IRR, Cost-Benefit Ratio	**10**

Unit – III	**Introduction to Macro Economics** -National Income: Circular Flow of Income, Measures of National Income, GDP as a measure of Economic Well-Being -Macro Economic Issues : Growth & Development ,Inflation & Unemployment -Introduction to Fiscal & Monetary Policies	**10**
	Total Marks	**30**
Text Books	Economics; Paul A Samuelson, William D Nordhaus; Tata Mc Graw Hill, Special Indian Edition (Indian Adaptation by SudipChaudhari&Anindya Sen)	
Additional Reference Books	Principles of Micro Economics, Gregory Mankiw, Cengage Learning Principles of Macro Economics, Karl E Case, Ray C Fair & Sharon M Oster, Prentice Hall , Pearson	



Generic/Open Elective (Choose any one)

Subject Title		**Financial Literacy**		
Subject Ref. No.		**BCM207T**	**No. of Credits**	2
			No. of Periods / Week	30 / 2
			Assignments / Sessional	20
			Semester Examination	30

Course Objectives

The course aims at making the students familiar with the different aspects of financial literacy such as savings, investments, taxation & insurance helpful in promotion of financial well -being.

Course Outcomes (COs)

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

CO-1	Develop proficiency for personal & family financial planning,
CO-2	Apply the concept of investment planning.
CO-3	Analyze banking & insurance products.
CO-4	Do Personal Tax Planning .

		Number of Lecture
Unit – I	**Financial Planning & Financial Products** -Introduction to Saving -Time Value of Money - Management of Spending & Financial Discipline	**10**
Unit – II	**Banking & Digital Payments** -Banking Products & Services -Digitization of financial transactions: Debit & Credit Cards, Net banking and UPI & Digital wallets - Security & Precautions against Ponzi Schemes, Online Frauds etc	**10**
Unit – III	**Investment Planning, Management & Personal Tax** -Investment Opportunity & Financial Products -Insurance Planning: Life & Non -Life, Medical Insurance Schemes -Introduction to basic Personal Tax Structure in India -Aspects of Personal Tax planning	**10**

	-Exemptions & Deductions for Individuals - e-filing of Tax Returns	
	Total Lectures	**30**
Text Books	-Sinha, Madhu. Financial Planning; Tata Mc Graw Hill. -Introduction to Financial Planning- Indian institute Of Banking & Finance	
Suggested Readings	-Halan, Monika, Lets Talk Money : You've Worked Hard for it, Now Make It Work for You, Harper Business - Pandit Amar, The Only Financial Planning Book that You Will Ever Need, Network 18 Publications Ltd	

Subject Title		Fundamentals of Banking			
Subject Ref. No.		BCM207T – (B)	No. of Credits		2
			No. of Periods / Week		30 / 2
			Assignments / Sessional		20
			Semester Examination		30

Course Objectives

The main objectives this course is to enable the students in developing an understanding about the banking perspectives' and to acquaint students with the knowledge about various aspects of banking regulations

Course Outcomes (COs)

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

1)	Demonstrate a critical understanding of the Fundamentals of Banking.
2)	Understand the nuances of Relationship Management In Banking Sector.
3)	Enable students to gain insights about types of Banking Instruments.
4)	Prepare students for future trends in Banking Sector.

Pre Requisite	Basic awareness of Banking Sector.	Number of Lecture
Unit – I	**Introduction:** Meaning & Origin of the word Bank- Evolution of Banking in India- Banking System, Structure, Types of Banks in India- Functions of Commercial Banks- RBI Regulations & Control of Commercial Banks. **Banker & Customer Relationship:** Banker & Customer: Meaning, General & Special Relationship – Types of Customers & Account Holders: Procedure & Practice in opening & conducting of Individual, Minor, Joint ,Partnership Firms, Joint Stock Company ' Trust, Clubs, Associations & Joint Hindu Family Accounts- KYC Norms	10
Unit – II	**Negotiable Instruments:** Introduction- Meaning & Definition- Kinds& Features –Endorsements- Meaning, Essentials & Kinds of Endorsement. **Paying Banker & Collecting Banker:** Paying Banker: Meaning, Precautions, Statutory Protection to the Paying Banker- Dishonour of Cheques: Grounds & Consequences of Dishonour	8

	Collecting Banker: Meaning, Duties, Responsibilities & Statutory Protection to Collecting Banker.	
Unit – III	**Principles of Bank Lending:** Types of Bank Lending: Loans, Cash Credit, Overdraft, Bills Purchased, Bills Discounted, Letters of Credit etc- Modes of creating Charge- Mortgage, Pledge, Lien & Hypothecation- Types of Securities- Bad Loans- Sound Principles of Bank Lending	12
	Total Lecture	**30**
Reference Books:	1. Banking Theory: Law & Practice, KPM Sundaram& VL Varshney 2. Banking Theory: Law & Practice, B.Santhanam, Margam Publications 3. Introduction to Banking, VijayaRaghavan 4. Indian financial System, M.Y. Khan	

Subject Title		Fundamentals of E-commerce			
Subject Ref. No.		BCM207T – (C)	No. of Credits		2
			No. of Periods / Week		30 / 2
			Assignments / Sessional		20
			Semester Examination		30

Course Objectives

To understand the basic concepts of E-commerce, e-payments

Course Outcomes (COs)

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

CO-1	Understand the basic concepts of E-commerce
CO-2	Learn basic concepts of Internet Technology
CO-3	Create an awareness of e-shopping and E-payment
CO-4	Understand the different securities issues with e-commerce

		Number of Lecture
Unit – I	E-commerce meaning & concept , Need & advantages of e-commerce, traditional commerce, types of e-commerce, requirement of e-commerce, consumer Buying through E-platforms such as Flipcart, Amazon, Ebay, Snapdealetc Internet : Concepts , FTP, WWW, intranet & Extranet, Search Engines	
Unit – II	Electronic Payment System : E-cash, e-cheque, credit cards, debit cards, smart cards EDI : introduction , networking infrastructure of EDI, functions and Components of EDI, File types of EDI, Payment through UPI, Mobile Wallet, Phone Banking, Net Baking	
Unit – III	Securities Issues of e-commerce : Firewall, E-locking , Encryption , Introduction of PKI (Public Key Infrastructure), Payment Getaways, Visa, Rupay and Mastercards	
	Total Marks	**30**
Text Books	1. **Fundamentals of E-Commerce** By Dr. Mukesh Chansoriya,Dr. Ashish khare,Dr. Rajeev Sharma 2. E-COMMERCE : AN INDIAN PERSPECTIVE Paperback – 10 October 2019 by S.J.P.T Joseph 3.	
Additional Reference Books		
Website	https://www.coursera.org/courses?query=e-commerce https://www.udemy.com/topic/e-commerce/	

Vocational Skill Courses (VSE) (Choose any one)

Select any one from BCM208p– (A) to BCM208p – (B)

Subject Title		Advance Web Development Technology			
Subject Ref. No.		BCM206T - (A)	No. of Credits		2
			No. of Periods / Week Theory		15 / 1
			No. of Periods / Week Practical		30 / 1
			Assignments / Sessional		20
			Semester Examination		30

Course Outcomes (COs)

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

CO-1	Understand the different types of CSS.
CO-2	Apply CSS to different HTML elements.
CO-3	Write code using JavaScript with HTML.
CO-4	Write program for form validation.

Pre Requisite	Basic knowledge of HTML tags.	Number of Lecture
Unit – I	**Basics of CSS** Introduction To Style sheet, types of style sheets- Inline, External, Embedded CSS, text formatting properties, CSS Border, margin properties, Positioning Use of classes in CSS, color properties, use of & **Advance CSS** Styling Backgrounds • Styling Text • Styling Fonts • Styling Links • Styling Lists • Styling Tables CSS Box Model • CSS Border • CSS Outline • CSS Margin • CSS Padding • CSS Dimension • CSS Display • CSS Positioning • CSS Floating • CSS Navigation Bar • CSS Image Gallery • CSS Image Opacity • CSS Align	08
Unit – II	**CSS3**	

	CSS3 Introduction • Borders • border-radius • Border Images • Backgrounds • Background Size • background-origin • Text Effects • text-shadow • box-shadow • Text • text-overflow • word-wrap • word-break • Fonts Transforms • 2D Transforms • 3D Transforms Transitions • transition-delay • transition-duration • transition-property • transition-timing-function	**12**
Unit – III	**JavaScript Fundamentals-** Intro to script, types, intro of JavaScript, JavaScript identifiers, operators, control & Looping structure, Intro of Array, Array with methods, Math, String, Date Objects with methods User defined & Predefined functions, DOM objects, Window Navigator, History, Location. **Event handling & Validations on Forms – JavaScript** Handling Events on Button, Textbox, radio button, checkbox, drop down box, text area etc. Form Validation – numeric, alphanumeric, alphabets and any combination of these.	**10**
	Total Lecture	**30**
Text Books	• HTML, DHTML, JavaScript, Perl & CGI Ivan Bayross • HTML & CSS : The Complete reference, Fifth Edition By Thomas Powell	
Additional Reference Books	• Html, Xhtml, And CSS Bible (English) 5th Edition (paperback) by Schafer, Steven • HEAD FIRST HTML AND CSS, 2/ED (UPDATED FOR HTML) by ROBSON • Beginning HTML and CSS (English) (Paperback) by Rob Larsen • Learn to Code HTML and CSS (English) (Paperback) by Howe • Javascript Bible (English) 7th Edition by Danny Goodman Michael, Morrison Paul Novitski Tia GustaffRayl • Javascript Programming: Pushing the Limits (English) 1st Edition By (2013)Jon Raasch • Head First JavaScript (2007) By michael Morrison • JavaScript: The Definitive Guide (2011) by Flanagan, David • Introducing HTML5 - Bruce Lawson, Remy Sharp	

Web References	1.www.w3school.com 2. www.tutorialpoint.com	

Advance Web Development Technology –Lab
Following assignment should be covered

1. Write an HTML code using **Inline stylesheet** for displaying sentences with
   a. font : Times new roman
   b. font size: 18
   c. color : red
   d. bold , italics

2. Write an HTML code using **Embeddedstylesheet** for displaying sentences with
   a. font : Times new roman
   b. font size: 18
   c. color : red
   d. bold , italics
3. Write program to demonstrate the embedded stylesheet using *class.*
4. Write an HTML code using **External stylesheet** for displaying sentences with
   a. font : Times new roman
   b. font size: 18
   c. color : red
   d. bold , italics

5. Write programs using embedded stylesheet for following :***(don't write tags)***

CSS Selectors The element selector (for particular tag only) The class selector (for all elements) The class selector (for only <p> elements)	**CSS Backgrounds** Set the background color of a page Set the background color of different elements Set an image as the background of a page
CSS Text Set the text color of different elements Align the text Remove the line under links Decorate the text (strikethrough,underline) Control the letters in a text (capital , uppercase , lowercase) Specify the space between characters Specify the space between lines	**CSS Fonts** Set the font of a text Set the size of the font
CSS Links Add different colors to visited/unvisited links Use of text-decoration on links Specify a background color for links	**CSS Lists** All the different list item markers in lists Set an image as the list-item marker
CSS Tables Specify a black border for table, th, and td elements Specify the width and height of a table Set the horizontal alignment of content (text-align) Set the vertical alignment of content (vertical-align) Specify the padding for th and td elements Specify the color of the table borders	**CSS Border** Set the color of the four borders Set the color of the top border Set the color of the bottom border Set the color of the left border Set the color of the right border
CSS Margin Specify margins for an element The margin shorthand property Set the bottom margin of a text using a percent value	**CSS Padding** Set the left padding of an element Set the right padding of an element Set the top padding of an element

JAVASCRIPT

1. Write a JavaScript code that will display different images as per selection of user selection. (Use radio buttons).

2. Write JavaScript code that will accept two numbers from user & on click of buttons (add, mul, sub, div) display appropriate result in the third textbox.

3. Write JavaScript code that will make sure that user must enter values in all the fields if user fails to do so then display appropriate error message to user.(Take suitable fields for Registration form – cover all the elements)

4. Write JavaScript code that will place textbox & drop down box on webpage , accept input from textbox & accept a digit from 1-10 from drop-down as per selection display alert message as many times as value selected from dropdown box & message will be the input of the textbox.

5. write a HTML code that will display a textbox & a drop down box , accept the string from user in textbox & a number (1-9)from drop down box , display the string as many times as the number selected by user on webpage. (using **JavaScript**)

6. Write an HTML code that will accept numbers from user until user enters 0 from prompt box & display the message "You have entered…*number*…" On the webpage for every number. (using **JavaScript)**

7. Write a program using **HTML 5** that will use number, email, range, date.

8. Write a HTML code that will display a textarea on webpage to accept a paragraph from user. Using JavaScript display the total count of words present in the paragraph.

9. Write a HTML code that will display a textarea on webpage to accept a paragraph from user. Using JavaScript display the total count of word 'sachin' present in the paragraph.

10. Write a HTML code that will display a textarea on webpage to accept a paragraph from user. Using JavaScript replace the every occurrences of word 'sachin' with 'ramesh' present in the paragraph.

11. Write a HTML code that will display a textarea on webpage to accept a paragraph from user. On click of button Using JavaScript display first 5 and last 5 word with red color , times new roman font , size – 24 using embedded stylesheet.

12. Write a HTML code that will display a textarea on webpage to accept a paragraph from user. On click of button Using JavaScript display first 5 word with red color , times new roman font , size – 24 using external stylesheet on webpage.

Subject Title		Data Analysis Using MS-Excel			
Subject Ref. No.		BCM208P (B)	No. of Credits		2
			No. of Theory / Week		15/1
			No. of practical / Week		30/2
			Assignments / Sessional		20
			Semester Examination		30

Course Objectives

Understand and Identify the principles of data analysis, Build Apply analysis techniques to datasets in Excel and Become adept at using Excel functions and techniques for analysis

Course Outcomes (COs)

CO-1	Knowledge about MS EXCEL and its operations, representing data diagrammatically and graphically using MS-EXCEL
CO-2	Analyse data: Use Excel's built-in tools to analyse data sets
CO-3	Visualize data: Use pivot charts and Excel charts to visualize data
CO-4	Transform data: Apply formulas and other tools to structure and transform data

		Numbe of Lecture

Unit – I	**Introduction to Excel** Introduction to the Excel interface: Ribbon, Quick Access Toolbar, Formula Bar. Uses of Excel, Saving, closing and opening files, Spreadsheet window pane, Title Bar, Cell Address ,Menu Bar, Formatting Toolbar, Entering and editing data (text, numbers, dates, etc.). **Columns & Rows** Selecting Columns & Rows, Changing Column Width & Row Height, Auto fitting Columns & Rows, Hiding/ Unhiding Columns & Rows, Inserting & Deleting Columns & Rows, Cell, Address of a cell, Components of a cell Format, value, formula, Use of paste and paste special, Conditional Formatting , Inserting or deleting rows or columns, Working with multiple sheets. **Charts** Ribbon of Chart Tools, Chart Type, Change Colors, different Chart Styles, Creating simple charts and graphs like bar charts, pie charts to visualize data.	**07**
Unit – II	**Formulas** Introduction to formulas and their role in calculations, Using basic mathematical and logical operators +, -, *, /, AND, OR, Common functions for data analysis Sum, Average, if, Count, max, min, Proper, Upper, Lower, Using AutoSum, Concatenate, Vlookup, Hlookup, Match, Countif, Text, Trim **Data Handling** Find& Replace, Go To, Quick Filtering, Performing Calculations on Filtered Data, Remove Duplicates, Data Validation, Data Table, Grouping, Sorting and filtering data to focus on specific subsets. Conditional formatting to highlight data based on criteria.	**08**
Text Books	Data Analysis Using Microsoft Excel By Ash Narayan Sah	
Additional Reference Books	https://www.khanacademy.org/computing/ap-computer-science-principles/data-analysis-101	

Data Analysis Using MS-Excel Lab

Practical

1) Crate data sets related to different scenarios (e.g., sales figures, student grades, customer information).
2) Sort data by different criteria (alphabetical, numerical, date) to organize and analyze it effectively.
3) Create different chart types (bar, column, and line, pie) to visualize data sets and identify trends or patterns.
4) Apply filters to isolate specific data points or categories within a data set based on defined

conditions.

5) Create a simple PivotTable from a sample data set, experimenting with different layouts and filters to summarize key information..
6) Use conditional formatting to highlight data exceeding certain thresholds or meeting specific criteria..
7) Build a data table to analyze different scenarios based on changing input values in a formula.
8) Use VLOOKUP to retrieve specific data points based on a lookup value in another table.
9) Set up advanced data validation rules to restrict data entry and ensure data accuracy.
10) Utilize logical functions (IF, AND, OR) to create conditional statements within formulas for complex decision-making.

Ability Enhancement Course - AEC-2

Subject Title		English			
Subject Ref. No.		BCM209T	**No. of Credits**		2
			No. of Periods / Week		30 / 2

Common for All the Faculty

Vocational Skill Courses- VEC-1`

Subject Title		Constitution of India			
Subject Ref. No.		BCM210T	**No. of Credits**		2
			No. of Periods / Week		30 / 2

Common for All the Faculty

Co-curriculum Courses – CC2

Subject Title		Yoga Education / Sports and Fitness (Common for all the faculty)			
Subject Ref. No.		BCM211P (A)	**No. of Credits**		2
			No. of Periods / Week		30 / 2
			Assignments / Sessional		20
			Semester Examination		30

Common for All the Faculty