



Re-Accredited 'B++' 2.86 CGPA by NAAC

VEER NARMAD SOUTH GUJARAT UNIVERSITY

University Campus, Udhna-Magdalla Road, SURAT - 395 007, Gujarat, India.

વીર નર્મદ દક્ષિણ ગુજરાત યુનિવર્સિટી

યુનિવર્સિટી કેમ્પસ, ઉધના-મગદલા રોડ, સુરત - ૩૯૫ ૦૦૭, ગુજરાત, ભારત.

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-: પરિપત્ર :-

કોમ્પ્યુટર સાયન્સ એન્ડ ઈન્ફોર્મેશન ટેકનોલોજી વિદ્યાશાખા હેઠળની સંલગ્ન B.Voc.(IT) કોર્સ ચલાવતી કોલેજોનાં આચાર્યશ્રીઓને જણાવવાનું કે, NEP-2020 અનુસાર શૈક્ષણિક વર્ષ ૨૦૨૩-૨૪ થી અમલમાં આવનાર B.Voc.(IT) Sem.-1 & 2 નો Major, Minor, Multidisciplinary, AEC, SEC અને VAC નો અભ્યાસક્રમ કોમ્પ્યુટર સાયન્સ વિષયની અભ્યાસ સમિતિના ચેરમેનશ્રીએ અભ્યાસ સમિતિવતી તેમજ કોમ્પ્યુટર સાયન્સ એન્ડ ઈન્ફોર્મેશન ટેકનોલોજી વિદ્યાશાખાના અધ્યક્ષશ્રીએ વિદ્યાશાખાની મંજૂરીની અપેક્ષાએ વિદ્યાશાખા વતી મંજૂર કરી એકેડેમિક કાઉન્સિલને કરેલ ભલામણ એકેડેમિક કાઉન્સિલની તા.૦૭/૦૮/૨૦૨૩ ની સભાના ઠરાવ ક્રમાંક: ૮૮ અન્વયે માન.કુલપતિશ્રીને આપેલ સત્તા અંતર્ગત માનનીય કુલપતિશ્રી દ્વારા મંજૂર કરેલ છે. જેનો અમલ કરવા આથી જાણ કરવામાં આવે છે.

બિડાણ: ઉપર મુજબ

ક્રમાંક : એસ./પરિપત્ર/૨૮૧૮૦/૨૦૨૩

તા.૦૧-૧૧-૨૦૨૩

W. J. S.
કુલસચિવ

પ્રતિ,

(૧) B.Voc.(IT) કોર્સ ચલાવતી સંલગ્ન કોલેજોના આચાર્યશ્રીઓ.

(૨) અધ્યક્ષશ્રી, કોમ્પ્યુટર સાયન્સ એન્ડ ઈન્ફોર્મેશન ટેકનોલોજી વિદ્યાશાખા.

(૩) પરીક્ષા નિયામકશ્રી, પરીક્ષા વિભાગ, વીર નર્મદ દક્ષિણ ગુજરાત યુનિવર્સિટી, સુરત.

...તરફ જાણ તેમજ ઘટતી કાર્યવાહી સારૂ.

Veer Narmad South Gujarat University, Surat

Bachelor of Vocation in Information Technology

(B.Voc.(IT)(Honours))

Under the Faculty of

Computer Science, Application and Information Technology

Name of Program:	Bachelor of Vocation in Information Technology(Honours)
Abbreviation:	B.Voc.(IT)(Honours) : Four Year Integrated Program Multilevel Entry With Exit option
Multi-level Exit Criteria:	i) Under Graduate Certificate Diploma in Information Technology: If the student wish to exit after completion of First year (Semester-1 and Semeter-2) without any back-log and secure additional 4 credits from work based skill oriented university approved courses /vocational courses / summer internship / Apprenticeship in addition to 6 credits from skill-based courses earned during first and second semester. ii) Advance Diploma in Information Technology: If the student wish to exit after completion of Second year (Semester-1 to Semeter-4) without any back-log and secure additional 4 credits from work based skill oriented university approved courses/vocational courses / summer internship / Apprenticeship offered at end of first or second year in addition to 6 credits from skill-based courses earned during first four semesters. iii) B Voc. (IT). (Bachelor of Vocation in Information Technology): After Successfully completion of Sem 1 to Sem 6 without any back-log and secure additional 4 credits from work based skill oriented university approved courses /vocational courses / summer internship / Apprenticeship offered at end of first or second year in addition to 6 credits from skill-based courses earned during first four semesters.
Multi-Level Entry Criteria:	As per the norms of the Veer Narmad South Gujarat University.
Duration:	4 year of B Voc. (IT)(Honours) degree program with multi-level exit options at 1st, 2nd and 3rd Year to obtain Diploma in Information Technology, Advance Diploma in Information Technology and B. Voc.(IT) Degree respectively.
Eligibility:	10+2 or equivalent , in any stream
Objective of the Program:	B.Voc.(IT)(Honours) is skill-based undergraduate degree program in the field of Information Technology. The B.Voc(IT) is specifically designed to equip students with industry need skills and make them to job ready. Main objective of this program is to emphasize practical work, industry internships and software development project in various aspect of the area of Computer Science. The program is designed to produce IT professional those who can get technical skills in area of programming, database management, software engineering, networking and web development. It also aims to focus on problem solving, communication skills and critical thinking.

Program Outcome:	PO1: Understand, analyze and develop computer programs in the areas related to algorithm, web design and networking for efficient design of computer based system. PO2: Enhancing the problem solving, logical, reasoning and analysis capabilities of a problem and integrate the ability with the coding using specific computer programming languages. PO3: To generate Understanding regarding the core and fundamental ideas about the computer platforms, operating systems, software design concepts, networking concepts and advanced and emerging technologies. PO4: Design, implement and evaluate a computer-based system, processing, component or program to meet desired goal with the help of various programming languages, application software, packages, tools, databases on various platforms. PO5: An ability to apply design and development principles in construction of software systems of varying complexity using various algorithmic principles, modeling, coding and design of computer-based systems. PO6: :-Apply standard software engineering practices and strategies in software project development using open source programming environment to deliver a quality of product for business success. Overall, the program outcomes aim to produce graduates who can Work in the IT sector as database administrator, system engineer, software tester, junior programmer, web developer, system administrator, software developer etc.
Program Specific Outcome:	PSO1: Developing understanding about the fundamentals of core concepts of logic developments, critical thinking and problem solving capabilities. Emphasis on effective communication. PSO2: Improving logical and practical concepts using various tools and technologies, coding concepts and implementation of coding to solve the problems. PSO3: Development of team building concepts and working in team with positive approach, enhancing the mindset to contribute as an individual to the team. Improving interpersonal skills. PSO4: Improving student's Understanding related to technical problems and enhancing their capabilities to address the problems to turn into solutions through various possible ways by enhancing critical thinking ability. PSO5: Develop students to capabilities for self-learning, skill development through self-practicing and problem solving abilities.

	PSO6: Enhance the passion among the students for updating knowledge, innovative ideas. Implementing the knowledge in applied areas and research areas by understanding the real world problems, addressing the real world problems and their possible solutions that lead to build a successful Professional career. PSO7: Develop students to work effectively with a range of current, standard, Office Productivity software applications.
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PO and PSO mapping:		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
	PO1								
	PO2								
	PO3								
	PO4								
	PO5								
	PO6								
Medium of Instruction:	English								
Program Structure:	Semester-wise Breakup of the course is given as follows :								

Veer Narmad South Gujarat University, Surat
Program Structure: F.Y.B.Voc(IT) (SEM – 1 and SEM – 2)
(w.e.f. Academic Year 2023-2024)

B Voc. (IT). (Bachelor of Vocation in Information Technology) Three Year Program
B Voc. (IT). (Bachelor of Vocation in Information Technology) (Honours) Four Year Program

Program Structure

Semester-wise break up for the courses:

SEMESTER – 1

Course Code	Course Title	Course Category	Level of Course	Course Credits	Teaching Hours/week	
				Th.+Pra.	Theory	Practical/Fieldwork/Project/Internship
BVOC101	Communication Skills (AEC-01) [Modern Indian Language (MIL) & English language focused on language and communication skills.]	Ability Enhancement Course	100-199 Foundation/Introductory	2	2	0
BVOC102	Basic Mathematics (Student will opt any one course of multi-disciplinary nature from other than the CSIT faculty).	Multi-Disciplinary/Inter-Disciplinary	100-199 Foundation/Introductory	4	4	0
BVOC103	Fundamental of Computer & Peripheral Devices	Minor Course	100-199 Foundation/Introductory	4	4	0
BVOC104	Introduction to Programming Language in C	Major Course	200-299 Intermediate Level Course	4	2	4
BVOC105	Office Automation & Desktop Publishing	Major Course	200-299 Intermediate Level Course	4	2	4
	Practical (Based on Course Code:BVOC104 & BVOC105 Equally divided)	No separate credits allocated for practical. The Practical exam/viva-voce will be based on Course BVOC104 and BVOC105				
BVOC106	Skill Enhancement Course-I (SEC-01) [The student will undergo field training/ internship training <u>OR</u> Select minimum one University approved and recognized 2 credit certificate courses from the skill based courses list offered by the respective institute/department.] (The student need to enroll separately and pay the fees as decided by the respective institute/department)	Skill Enhancement Course (Audit Course)	100-199 Foundation / Introductory	2	-	4
BVOC107	Value Addition Course – I (VAC-01) [The student will select minimum one University approved and recognized 2 credits certificate course from the Value Addition courses list offered by the respective institute/department.] (The student need to enroll separately and pay the fees as decided by the respective institute/department)	Value Addition Course (Audit Course)	100-199 Foundation/Introductory	2	2	-
Other Activities	The student is expected to participate in activities related to National Service Scheme (NCC), National Cadet Corps (NCC), adult education/literacy initiatives, mentoring school students, Elderly literacy program/ Environment preservation activities and other similar activities.			-	-	-
Total				22	16	12

Course Code	Course Title	Course Credit	University Exam Type	Exam Duration	External (SEE) Marks	Internal (CCE) Marks	Total Marks
BVOC101	Communication Skills (AEC-01)	2	Theory/ Written	2 Hours	25	25	50
BVOC102	Basic Mathematics	4	Theory/ Written	2Hours 30 Minutes	50	50	100
BVOC103	Fundamental of Computer & Peripheral Devices	4	Theory/ Written	2Hours 30 Minutes	50	50	100
BVOC104	Introduction to Programming Language in C	4	Theory/ Written : Practical :	2Hours 30 minutes 2 Hours	50 25	50 25	150
BVOC105	Office Automation & Desktop Publishing	4	Theory/ Written : Practical :	2Hours 30 Minutes 2 Hours	50 25	50 25	150
BVOC106	Skill Enhancement Course-I (SEC-01)	2	As per need of course	2 Hours	25	25	50
BVOC107	Value Addition Course-I (VAC-01)	2	As per need of Course	2 Hours	25	25	50
Total		22			325	325	650

For Practical and Project:

- Batch Size – 30 students.
- Practical includes Practical sessions for course-BVOC104 and course-BVOC105.
- **Minimum** Eight Practical hours (4 hours for course-BVOC104 and 4 hours for course-BVOC105) per week should be allocated per batch.
- The journal must be certified by the concerned faculty and by the Head of the Department, failing which the student will not be allowed to appear for External Practical Examination.

Internal/External Evaluation :

CCE (Continuous and Comprehensive Evaluation): To be conducted by college.

SEE (Semester End Evaluation): To be conducted by University

Major Course: Major discipline is the main focus (Core) dominant subject and the degree will be awarded in that discipline. Students must secure a prescribed number of credits (50% of total credits) through core courses in the major discipline. Students can choose the courses from the pool of courses.

Minor Course: Minor discipline is the broader understanding course beyond the major discipline course. It contains generic- electives for students to choose from the pool of courses. It helps students to gain broader knowledge in addition to relevant major disciplines courses as per their choices. Minor subjects may be from same or different disciplines. Student may make choices according to their interest/need, from ODL courses also.

Interdisciplinary/Multidisciplinary/Allied Courses: This is constituent discipline of the major courses and it helps learners to acquire core competence in relevant or any other independent courses of their choices. This course may be major specific or other discipline specific. Learner shall have option to choose the course from available basket of approved courses provided by the university or from any other institutions as the learner's choice. The Credit allocated for these courses is 12 credits of total credits for 3 years' bachelor's degree and four years' bachelor's degree programme.

Internship: A student who wish to exit after successfully completion of first year (Semester-1 and Semester-2) without any backlog is required to obtain Four credits at the end of the year either through the summer internship or university approved skill based certificate courses (two courses of 2-credits each or one 4-credit course). Student is required to enroll for the certificate courses separately by paying the course fees as decided by the college/institute. For summer training, the Institute/college will grant the permission and evaluate the training outcomes. Based on satisfactory completion of the summer training, the Institute head will recommend to the university to grant four credits for summer training. [The internship cost/fees will be bear by the student.]

Skill Enhancement Course: As per NEP (National Education Policy-2020), it is mandatory for students to select a 2 credit skill enhancement course out of the choices given by the college/institute (From available basket of courses as per University norms). It will be mandatory for the student to opt minimum one 2-credit Skill enhancement course out of offered courses recognized by University during semester-1 to semester-5.

Value Addition Course: As per NEP (National Education Policy-2020), it is mandatory for students to select a 2 credit Value Addition Course out of the choices given by the college/institute (From available basket of courses as per University norms). It will be mandatory for the student to opt minimum one 2-credit Value Addition Course out of offered courses recognized by the University during semester-1 to semester-4.

Marks: The scale on which the students will be evaluated. The evaluation methodology will be continuous evaluation and the score obtained will reflect in mark-sheet but not considered for SGPA or CGPA.

*Institute/College will offer any one course from given list of Ability Enhancement Courses approved by the University.

** Major Practical based Subjects: Course BVOC104 and BVOC105 are major courses. Both these courses are carrying 4 credits (2 Hours of theory and 4 hours of practical per week). Both these subjects carry 150 marks of exam weightage (100 theory and 50 practical). External and Internal distribution of marks are in ratio of 50:50 respectively. Students are required to acquire minimum passing marks from theory and practical collectively. Practical exams for course-BVOC104 (2 hours duration) and course-BVOC105 (2 hours duration) will be conducted on same day.

Division of Theory internal marks (CCE) :

For courses having 50 marks as Internals :

Class Assignment/Active Learning: 07 marks + Home Assignment/Field Assignment: 08 marks + Attendance: 10 marks + Class Test*: 25 marks

For courses having 25 marks as Internals :

Class Assignment/Active Learning: 03 marks + Home Assignment/Field Assignment: 03 marks + Attendance: 04 marks + Class Test*: 15 marks

For Practical internal marks (CCE) :

For courses having 50 marks Internals :

Attendance: 10 marks + Viva-voce/Quiz: 20 marks + Lab-work Assessment/Practical: 20 marks.

For courses having 25 marks Internals :

Attendance: 5 marks + Viva-voce/Quiz: 10 marks + Lab-work Assessment/Practical: 10 marks.

Division of Practical External exam marks (SEE) :

For 25 marks Externals :

Division of marks is: Exam evaluation: 20 marks + Viva-voce: 5 Marks.

Practical examination will be conducted for course code-BVOC104 and course code-BVOC105 separately on same day. Students are required to pass in combined head (Theory + Practical) for each course. Students are required to remain present in internal and external theory and practical exams for course code – BVOC104 and BVOC105 mandatory.

Program Passing Rules:

As per University rules.

SEMESTER – 2

Course Code	Course Title	Course Category	Level of Course	Course Credits	Teaching per week	
					Theory	Practical/Fieldwork/Project/Internship
BVOC201	Ability Enhancement Course-II (AEC-02) [Modern Indian Language (MIL) & English language focused on language and communication skills.]	Ability Enhancement Course	100-199 Foundation/Introductory	2	2	0
BVOC202	Environmental Studies	Multi-Disciplinary	100-199 Foundation/Introductory	4	4	0
BVOC203	Operating System	Minor Course	100-199 Foundation/Introductory	4	4	0
BVOC204	Object Oriented Programming with C++	Major Course	200-299 Intermediate Level Course	4	2	4
BVOC205	Web Designing	Major Course	200-299 Intermediate Level Course	4	2	4
	Practical (Based on Course Code: BVOC204 & BVOC205 : Equally Divided)	No separate credits allocated for practical. The Practical exam/viva-voce will be based on Course BVOC204 and BVOC205				
BVOC206	Skill Enhancement Course-II (SEC-02) [The student will undergo field training/ internship training <u>OR</u> Select minimum one University approved and recognized 2 credit certificate course from the skill based courses list offered by the respective institute/department.] (The student need to enroll separately and pay the fees as decided by the respective institute/department)	Skill Enhancement Course (Audit Course)	100-199 Foundation / Introductory	2	0	4
BVOC207	Value Addition Course – II (VAC-02) [To be selected minimum one University approved and recognized 2 credit certificate course from the Value Addition Courses list offered By the respective institute or department.] (The student can select and enroll separately for the course offered by the respective institute/department and need to pay separately as decided by the institute as per norms of university for certificate Courses.)	Value Addition Course	100-199 Foundation / Introductory	2	2	-
Other Activities	The student is expected to participate in activities related to National Service Scheme (NCC), National Cadet Corps (NCC), adult education/literacy initiatives, mentoring school students, Elderly literacy program / Environment preservation activities and othersimilar activities.			-	-	-
Total				22	16	12

Course Code	Course Title	Course Credit	University Exam Type	Exam Duration	External (SEE) Marks	Internal (CCE) Marks	Total Marks
BVOC201	Ability Enhancement Course (AEC -02)	2	Theory/Written	2 Hours	25	25	50
BVOC202	Environmental Studies	4	Theory/Written	2Hours 30 Minutes	50	50	100
BVOC203	Operating Systems	4	Theory/ Written	2Hours 30 Minutes	50	50	100
BVOC204	Object Oriented Programming with C++	4	Theory/Written : Practical :	2Hours 30 minutes 2 Hours	50 25	50 25	150
BVOC205	Web Designing	4	Theory/ Written Practical:	2Hours 30 Minutes 2 Hours	50 25	50 25	150
BVOC206	Skill Enhancement Course – II (SEC-02)	2	As per need of course	2 Hours	25	25	50
BVOC207	Value Added Course – II (VAC-02)	2	As per need of Course	2 Hours	25	25	50
		22			325	325	650

For Practical and Project:

- Batch Size – 30 students.
- Practical includes Practical sessions for course-BVOC204 and course-BVOC205.
- **Minimum** Eight Practical hours (4 hours for course-BVOC204 and 4 hours for course-BVOC205) per week should be allocated per batch.
- The journal must be certified by the concerned faculty and by the Head of the Department, failing which the student will not be allowed to appear for External Practical Examination.

Internal/External Evaluation :

CCE (Continuous and Comprehensive Evaluation): To be conducted by college.

SEE (Semester End Evaluation): To be conducted by University.

Major Course: Major discipline is the main focus (Core) dominant subject and the degree will be awarded in that discipline. Students must secure a prescribed number of credits (50% of total credits) through core courses in the major discipline. Students can choose the courses from the pool of courses.

Minor Course: Minor discipline is the broader understanding course beyond the major discipline course. It contains generic- electives for students to choose from the pool of courses. It helps students to gain broader knowledge in addition to relevant major disciplines courses as per their choices. Minor subjects may be from same or different disciplines. Student may make choices according to their interest/need, from ODL courses also.

Interdisciplinary/Multidisciplinary/Allied Courses: This is constituent discipline of the major courses and it helps learners to acquire core competence in relevant or any other independent courses of their choices. This course may be major specific or other discipline specific. Learner shall have option to choose the course from available basket of approved courses provided by the university or from any other institutions as the learner's choice. The Credit allocated for these courses is 12 credits of total credits for 3 years' bachelor's degree and four years' bachelor's degree programme.

Internship: A student who wish to exit after successfully completion of first year (Semester-1 and Semester-2) without any backlog is required to obtain Four credits at the end of the year either through the summer internship or university approved skill based certificate courses (two courses of 2-credits each or one 4-credit course). Student is required to enroll for the certificate courses separately by paying the course fees as decided by the college/institute. For summer training, the Institute/college will grant the permission and evaluate the training outcomes. Based on satisfactory completion of the summer training, the Institute head will recommend to the university to grant four credits for summer training. [The internship cost/fees will be bear by the student.]

Skill Enhancement Course: As per NEP (National Education Policy-2020), it is mandatory for students to select a 2credit skill enhancement course out of the choices given by the college/institute (From available basket of courses as per University norms). It will be mandatory for the student to opt minimum one 2-credit Skill enhancement course out of offered courses recognized by University during semester-1 to semester-5.

Value Addition Course: As per NEP (National Education Policy-2020), it is mandatory for students to select a 2 credit Value Addition Course out of the choices given by the college/institute (From available basket of courses as per University norms). It will be mandatory for the student to opt minimum one 2-credit Value Addition Course out of offered courses recognized by the University during semester-1 to semester-4.

Marks: The scale on which the students will be evaluated. The evaluation methodology will be continuous evaluation and the score obtained will reflect in mark-sheet but not considered for SGPA or CGPA.

*Institute/College will offer any one course from given list of Ability Enhancement Courses approved by the University.

** Major Practical based Subjects: Course BVOC204 and BVOC205 are major courses. Both these courses are carrying 4 credits (2 Hours of theory and 4 hours of practical per week). Both these subjects carry 150 marks of exam weightage (100 theory and 50 practical). External and Internal distribution of marks are in ratio of 50:50 respectively. Students are required to acquire minimum passing marks from theory and practical collectively. Practical exams for course-BVOC204 (2hours duration) and course-BVOC205(2 hours duration) will be conducted on same day.

Division of Theory internal marks (CCE) :

For courses having 50 marks as Internals :

Class Assignment/Active Learning: 07 marks + Home Assignment/Field Assignment: 08 marks +

Attendance: 10 marks + Class Test*: 25 marks

For courses having 25 marks as Internals :

Class Assignment/Active Learning: 03 marks + Home Assignment/Field Assignment: 03 marks +

Attendance: 04 marks + Class Test*: 15 marks

For Practical internal marks (CCE) :

For courses having 50 marks Internals :

Attendance: 10 marks + Viva-voce/Quiz: 20 marks + Lab-work

Assessment/Practical: 20 marks.

For courses having 25 marks Internals :

Attendance: 5 marks + Viva-voce/Quiz: 10 marks + Lab-work Assessment/Practical: 10 marks.

Division of Practical External exam marks (SEE) :

For 25 marks Externals :

Division of marks is: Exam evaluation: 20 marks + Viva-voce: 5 Marks.

Practical examination will be conducted for course code-BVOC204 and course code-BVOC205 separately on same day. Students are required to pass in combined head (Theory + Practical) for each course.

Students are required to remain present in internal and external theory and practical exams for course code – BVOC204 and BVOC205 mandatorily.

Program Passing Rules:

As per University rules.

Semester - 1

Course Code: BVOC101

Course Title: COMMUNICATION SKILLS

Course Code	BVOC101																																																
Course Title	Communication Skills																																																
Credit	2																																																
Course Category	Ability Enhancement Course (AEC-01)																																																
Teaching per Week	2 Hrs																																																
Level of Course	100-199 (Foundation / Introductory)																																																
Minimum weeks per Semester	15 (Including Class work, examination, preparation etc.)																																																
Nature of Subject	Theory																																																
Implementation Year	A.Y. 2023-24																																																
Pre-requisite	Basic Knowledge of English at 10+2 level																																																
Purpose of Course	Good communication skills help to improve student's skills and develop deeper bonds with others. This course will help students to improve English Communication skills.																																																
Objective	✓ To understand the different aspects of communication using the four macro skills – LSRW (Listening, Speaking, Reading, Writing) ✓ the understanding of the essential components of effective communication ✓ A clear understanding of the role and importance of effective communication ✓ Increased self-awareness of one's ability to communicate at all times																																																
Course Outcome	CO1: Students will be able to improve their communication skills. CO2: To make students understand the importance of effective communication skills in personal and professional life. CO3: Students' will be able to enhance their ability in reading, writing, listening and speaking as per the demand of business world. CO4: To enhance students individual and team work productivity CO5: To enhance the interest in students for updating knowledge to solve problems, and lead to build a successful professional career.																																																
Mapping between Course Outcomes(CO) with Program Specific Outcomes(PSO)	<table><tr><td></td><td>PSO 1</td><td>PSO 2</td><td>PSO 3</td><td>PSO 4</td><td>PSO 5</td><td>PSO 6</td><td>PSO 7</td></tr><tr><td>CO1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>C04</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>		PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	CO1								CO2								CO3								C04								CO5							
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CO5																																																	
Course Content	UNIT-1: Foundation of Communication 1.1 Definition and Meaning, Overview of communication 1.2 Modes of Communication 1.3 Process of Communication 1.4 Features and Process of Professional communication 1.5 Different forms of communication 1.6 Communication Network in an Organization 1.7 Barriers to communication																																																

	UNIT-2: Improving Listening Skills 2.1 Listening Vs Hearing 2.2 Effective Listening 2.3 Process of Listening 2.4 Types of Listening 2.5 Improving Listening Comprehension 2.6 Overcoming Listening Challenges 2.7 Barriers to Effective Listening UNIT-3: Oral Communication Skills 3.1 Non-verbal Communication 3.2 Group –discussions- Conducting G.D on given topics(Oral Practical) 3.3 Principles of Effectives Spoken Communication 3.4 Public speaking 3.5 Practicing Articulation and Voice Modulation UNIT-4: Reading Skills 4.1 Need for Developing Efficient Reading 4.2 Benefits of Effective Reading 4.3 Critical Analysis of Written Material 4.4 Types of Reading 4.5 Reading Comprehension UNIT-5: Written Communication Skills 5.1 Resume writing 5.2 The art of Condensation 5.3 Business Reports 5.4 E-mail writing 5.5 Blog Writing 5.6 Editing and Proof Reading Techniques
Reference Books	1. Handbook of practical Communication skills – Chrisle W. JAICO 2. Basic Managerial Skills for all – S. J. McGrath - PHI 3. Reading to learn – Sheila Smith & Thomas M. Methuen (London) 4. Communication conversation Practice _ Tata McGraw Hill 5. Communication in English – R. P. Bhatnagar & R. T. Bell – Orient Longman 6. Good English – G. H. Vallins – Rups & Co 7. Let's talk English – M. I. Joshi 8. Essentials of Business Communications – Pat & Sons, S. Chand 9. Advance Communicative English, Krishna Mohan and Meenakshi Raman Macmillan Education 10. Effective Business Communication, Cambridge,2020, Samson,T. Alexander, Susan. Thomas Mary Sowmya.
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	50% Internal assessment. 50% External assessment

Course Code: BVOC102
Course Title: BASIC MATHEMATICS

Course Code	BVOC102																																																								
Course Title	Basic Mathematics (Multi-Disciplinary Course – 01) [Title of the course will be the one selected by the student from courses offered by college/institute out of the course basket offered by the University under the Multi-Disciplinary courses or Inter-disciplinary courses.]																																																								
Credits	4																																																								
Course Category	Multidisciplinary Course (MC-01)																																																								
Level of Course	100-199 (Foundation / Introductory)																																																								
Teaching per Week	4 Hrs.																																																								
Minimum weeks per Semester	15 (Including class work, examination, preparation etc.)																																																								
Review / Revision	--																																																								
Implementation Year:	A.Y. 2023-2024																																																								
Purpose of Course	To impart fundamental knowledge and develop mathematical abilities relevant to applications relevant to Computer Applications. [Student will opt any one course of multi-disciplinary nature from other than the computer Science and Application faculty. The course will be offered by the institute/college passed by the Board of Studies of University faculties other than the computer science and application faculty.]																																																								
Course Objective	To Provide a foundation in mathematical concepts and methods that are relevant to Computer Applications and develop the ability to apply mathematical knowledge and techniques to solve problems in computing.																																																								
Pre-requisite	Knowledge of Fundamentals of Mathematics of 10th Grade Level																																																								
Course Outcomes	CO1: Define and explain the fundamental concepts of Mathematical Abilities in organizations. CO2: Students can apply set theory concepts to real-world scenario, such as analyzing survey data. CO3: Enhance student's logical reasoning to solve problems in various contexts, such as puzzles or legal arguments by learning Truth table. CO4: Course aims to equip students with the knowledge and skills to define and operate matrices, compute solutions to business problems through the use of mathematical concepts and techniques. CO5: Course aims to develop students' ability to think logically and critically, as well as to apply mathematical concepts and techniques to real-world problems. CO6: Develop independent learning skills, including the ability to research and explore mathematical concept.																																																								
Mapping between Course Outcomes(CO) with Program Specific Outcomes(PSO)	<table><tr><td></td><td>PSO1</td><td>PSO2</td><td>PSO3</td><td>PSO4</td><td>PSO5</td><td>PSO6</td><td>PSO7</td></tr><tr><td>CO1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	CO1								CO2								CO3								CO4								CO5								CO6							
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CO5																																																									
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Course Content	Unit 1. Set Theory 1.1.Introduction 1.2.Representation 1.3.Operation and its properties 1.4.Venn Diagram 1.5.Cartesian product and graph Unit 2. Functions 2.1 Definition 2.2 Types – Domain and Range 2.3 Construction and functions Unit 3. Mathematical Logic 3.1.Introduction to logic 3.2.Truth Table Unit 4. Boolean Algebra 4.1Definition & Examples of Boolean Algebra 4.2Boolean Functions 4.3Representation and minimization of Boolean Functions 4.4Design example using Boolean algebra Unit 5. Matrices and Determinants 5.1.Matrices of order $M \times N$ 5.2.Row and Column transformation 5.3.Addition, Subtraction and multiplication of Matrices 5.4.Computation of Inverse 5.5.Cramer's Rule 5.6. Business Application of Matrices
Reference Books	1. Co-ordinate Geometry – Shanti Narayan 2. Linear Algebra – Sushoma Verma 3. Advanced Mathematics – B.S. Shah & Co. 4. Schaum's Outline of Boolean algebra and switching circuits – Elliot Mendelson 5. Digital Computer Fundamentals - Tata McGraw Hill, 6th Edition, Thomas C. Bartee 6. Business Mathematics - Qazi Zameeruddin, V. K. Khanna and S. K. Bhambri, Vikas Publishing House Pvt. Ltd.
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	50% Internal assessment. 50% External assessment.

Course Code	BVOC103																																																																
Course Title	Fundamental of Computer and Peripheral Devices																																																																
Credit	4																																																																
Course Category	Minor Course																																																																
Teaching per Week	4 Hrs																																																																
Level of Course	100-199 (Foundation / Introductory)																																																																
Minimum weeks per Semester	15 (Including Class work, examination, preparation etc.)																																																																
Nature of Subject	Theory																																																																
Review/Revision Year	--																																																																
Implementation Year	2023-2024																																																																
Pre-requisite	-																																																																
Purpose of Course	Hardware components of computers and peripherals help to improve student's skills and develop deeper bonds with computer system. This course will help students to improve knowledge about hardware components of computers and peripherals.																																																																
Objective	✓ To understand the different features and working of computers hardware ✓ To understanding of the essential peripherals devices of Computer system. ✓ To provide knowledge of number System, memories & its storage.																																																																
Course Outcome	CO1: Students will be able to develop interest in computers system for professional work. CO2: To make students understand the importance of peripherals devices in professional life. CO3: Student's will be able to enhance their ability in the ground of computer hardware. CO4: To enhance the attention in students for number system. CO5: Student will be able to learn how the computer represents and stores information using binary number system, and will be able to convert between binary and decimal number system. CO6: Students will be able to understand the functions of input output devices, know the different types of I/O Devices, and assess new technology used for I/O devices. CO7: Students will be able to understand concepts of internet and its services and also understand about cloud.																																																																
Mapping between Course Outcomes(CO) with Program Outcomes(PSO)	<table><tr><td></td><td>PSO1</td><td>PSO2</td><td>PSO3</td><td>PSO4</td><td>PSO5</td><td>PSO6</td><td>PSO7</td></tr><tr><td>CO1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO6</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO7</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	CO1								CO2								CO3								CO4								CO5								CO6								CO7							
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Course Content

UNIT-1 Introduction

- 1.1 Introduction of Computer
- 1.2 Applications of Computer
- 1.3 Types of Computers
 - 1.3.1 Super Computers
 - 1.3.2 Mainframes Computers
 - 1.3.3 Mini Computers
 - 1.3.4 Microcomputers (Desktop, Laptop, Notebook, Tablet, Smart Phones)
- 1.4 Block Diagram of computer

UNIT-2: Basic components of Computer

- 2.1 Hardware
 - 2.1.1 Motherboard
 - 2.1.2 Central Processing Unit (CPU)
 - 2.1.3 Memory RAM(SRAM, DRAM, SDRAM), ROM, EPROM, EEPROM
 - 2.1.4 Storage Devices (Hard-Disk, CD, DVD, USB flash memory)
 - 2.1.5 Graphics card, Cooling fan and Power Supply
- 2.2 Software
 - 2.2.1 what is Operating System
 - 2.2.2 Types of operating system (Microsoft's Windows, Apple's macOS and Linux)
 - 2.2.3 Basic of System Software and Application Software
- 2.3 Types of Bus (Address Bus and Data Bus)
- 2.4 Types of memory
 - 2.4.1 virtual memory
 - 2.4.2 cache memory

UNIT-3: Introduction of Input & Output Devices

- 3.1 Introduction of Input Devices
 - 3.1.1 Keyboard
 - 3.1.2 Pointing Devices (Mouse, Trackball, Joystick, Touch Screen, Light Pen)
- 3.2 Introduction of Output Devices
 - 3.2.1 Types of Monitors (LED, LCD, TFT, OLED, Touchscreen Monitor)
 - 3.2.2 Types of Printers (Dot Matrix Printer, Laser Printer, Inkjet Printer)
- 3.3 Introduction of Scanning Devices
 - 3.3.1 Optical Scanner
 - 3.3.2 Bar Code Reader
 - 3.3.3 Web Camera

UNIT-4: Number System in Computer

- 4.1 Type of Number System
 - 4.1.1 Decimal Number System
 - 4.1.2 Binary Number System
 - 4.1.3 Octal Number System
 - 4.1.4 Hexadecimal Number System
- 4.2 Conversion of Decimal to Binary and Binary to Decimal
- 4.3 Binary addition & subtraction

	UNIT-5: Introduction of Internet and Cloud 5.1 What is the Internet? 5.2 Clients and Servers Communication 5.3 WWW, Hypertext Documents and HTTP 5.4 Application of Internet 5.5 Introduction of Web Browser and Terminologies (URL, Address bar, Domain, Links, Navigation Buttons) 5.5 Hardware (Modem, Router, Blue tooth, Fire-Stick) 5.6 Introduction of Cloud 5.6.1 what is Cloud , private cloud, public cloud and hybrid cloud 5.6.2 Application of Cloud (Example of GoogleDoc)
Reference Books	1. Introduction to computers: 4th Edition – Peter Norton 2. Fundamentals of Computers: V. Rajaraman 3. How computer work: Ron White – Tech media 4. Computer Fundamentals: Pradeep K. Sinha & Priti Sinha (BPB) 5. Cloud Computing: Mehul Mahrishi Kamal Kant Hiran, Ruchi Doshi, Dr. Fagbola Temitayo 6. The Internet Book: Everything You Need to Know about Computer Networking and How the Internet Works: Douglas E. Comer
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	50% Internal asses'sment. 50% External assessment

Course Code: BVOC104

Course Title: Introduction to Programming Language in C

Course Code	BVOC104																																																
Course Title	Introduction to Programming Language in C																																																
Credits	4																																																
Course Category	Major Course																																																
Level of Course	200-299 (Intermediate Level)																																																
Teaching per Week	4 Hrs. (2 Hours Theory + 4 Hours Practical work)																																																
Minimum weeks per Semester	15 (Including class work, examination, preparation etc.)																																																
Review / Revision	--																																																
Implementation Year:	A.Y. 2023-2024																																																
Purpose of Course	- Computer programming is a process that leads from an original formulation of a computing problem to executable computer programs. - Programming involves activities such as analysis, developing, understanding, generating algorithms, verification of requirements of algorithms including their correctness, and implementation (commonly referred to as coding) of algorithms in a target programming language. - To emphasis on concepts of Compiler based programming language, structure of code, algorithms, flow-charts, problem solving attitude, concepts of variables and declaration mechanism of different data types, simple I/O statements, conditional statements, loops, compound iterations, strings and certain inbuilt functions, header files, concepts of arrays ,numeric array operations, character array operations, numeric inbuilt functions, concepts of pointers and concept of structure and union.																																																
Course Objective	To introduce students the essentials of computer Programming and programming methodology using C Programming language.																																																
Pre-requisite	Concepts of Algorithms, flowcharts and basic Logical ability.																																																
Course Outcomes	CO1: Students will be able to learn programming concept of compiler based programming language. CO2: Students will be proficient working on conditional statements, iterative Statements and fundamentals of programming concepts using C. CO3: Students will be able to understand and implement conditional statements and improve their logical and reasoning abilities. CO4: Students will learn about arrays and pointers. CO5: Students will able to learn about user defined type Structure and Union.																																																
Mapping between Course Outcomes(CO) with Program Specific Outcomes(PSO)	<table><tr><td></td><td>PSO1</td><td>PSO2</td><td>PSO3</td><td>PSO4</td><td>PSO5</td><td>PSO6</td><td>PSO7</td></tr><tr><td>CO1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	CO1								CO2								CO3								CO4								CO5							
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Course Content	UNIT-1: Introduction 1.1. Concepts of Programming Language 1.2. Concepts of Structured Programming Language 1.3. Introduction of Source Code, Object Code and executable code 1.4. Concepts of Editor, Interpreter and Compiler 1.5. Importance of C Language 1.6. Body Structure of C Program 1.7. C Token, Character Set, Identifiers, literals, Keywords 1.8. Data types 1.9. Concepts of variables and constants & Symbolic constant 1.10. Header Files & pre-compiler directives UNIT-2: Input/Output Statements, Operators and In-Built Functions: 2.1. Input/Output Statements: 2.1.1. Unformatted Input/Output 2.1.2. Formatted Input/Output 2.1.3. Type specifiers 2.2. Operators: 2.2.1. Arithmetic operators 2.2.2. Relational Operators 2.2.3. Logical Operators 2.2.4. Assignment operators 2.2.5. Increment and Decrement Operator 2.2.6. Bit-wise operators 2.2.7. Conditional Operator 2.3. Built-in functions: 2.3.1. String functions 2.3.2. Math functions UNIT-3: Branching and Looping Statements: 3.1. if statements: 3.1.1. simple if statements 3.1.2. if...else statements 3.1.3. if...else if...else statements 3.1.4. Nested if statements. 3.2. Switch..case statements: 3.2.1. Use of break and default 3.2.2. Difference between switch and if statements. 3.3. Iterative statements: 3.3.1. Use of goto statement for iteration 3.3.2. while loop 3.3.3. do..while loop 3.3.4. for loop 3.3.5. Nested while, do..while and for loops 3.3.6. Jumping statement: (break and continue)
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	UNIT-4: Arrays and Pointer 4.1. One dimensional Arrays 4.1.1. Numeric Arrays 4.1.1.1. Sorting (Bubble sort & Selection sort) 4.1.1.2. Searching (Linear) 4.1.2. Character Arrays(String) 4.1.2.1. Reading & Writing String 4.1.2.2. Operation on character Arrays 4.2. Two dimensional Arrays 4.2.1. Numeric Arrays 4.2.1.1. Array operations (Addition, Subtraction, Multiplication) 4.2.1.2. Element Address in array(Row major and Column major) 4.2.2. Character Arrays 4.2.2.1. Declaring& Initializing Two-Dimensional character array 4.2.2.2. Two-Dimensional character Array operations (Searching elements, copying & merging) 4.3. Pointers: 4.3.1. Concepts of Pointers 4.3.2. Chain of Pointers 4.3.3. Pointer Expressions 4.3.4. Pointer and Arrays 4.3.5. Pointer and Character String 4.3.6. Array of Pointers UNIT-5: Structure & Union and User defined function: 5.1. Concepts of structure and Union 5.1.1. Defining, declaring and initializing structure and Union 5.1.2. Typedef and accessing structure member 5.1.3. Difference between structure and union 5.2. User defined functions 5.2.1. Function return type, parameter list, local function variables 5.2.2. Passing arguments to function 5.2.3. Calling function from main() function or from other function. 5.2.4. Function with No arguments and no return value, No arguments and return value, with arguments and no return value, with arguments and return value. 5.3.5. Recursive Function
Reference Books	1. Let us C, Yashwant Kanetkar - BPB Publication 2. Programming in C, Balaguruswami – TMH 3. C: How to Program, Deitel & Deitel - PHI 4. C Programming Language, Kernigham & Ritchie - TMH 5. Programming in C, Stephan Kochan - CBS 6. Mastering Turbo C, Kelly & Bootle - BPB 7. C Language Programming – Byron Gottfried - TMH 8. Programming in C, Pradip Dey & Manas Ghosh – Oxford 9. Magnifying C, Arpita Gopal - PHI 10. Problem Solving with C, Somashekara - PHI
Teaching Methodology	Class Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments
Evaluation Method	50% Internal assessment. 50% External assessment.

Course Code	BVOC105							
Course Title	Office Automation & Desktop Publishing							
Credits	4							
Course Category	Major Course							
Level of Course	200-299 (Intermediate Level)							
Teaching per Week	4 Hrs. (2 Hours Theory + 4 Hours Practical)							
Minimum weeks per Semester	15 (Including class work, examination, preparation etc.)							
Review / Revision	--							
Implementation Year:	A.Y. 2023-2024							
Purpose of Course	Use of modern office equipment in business or any office is intended to facilitate faster processing and delivery of information, accurate analysis of facts and figures, higher efficiency and productivity. Office Automation Tools help in Word processing, managing Worksheets and preparing Presentations. Use of Adobe Creative Cloud Express to get importance of it.							
Course Objective	To learn and obtain the skills related to i) Concepts of data, data storage and processing of data. ii) Introduction of spreadsheet and data manipulation using spreadsheet. iii) To understand use of Adobe S/W.							
Pre-requisite	Concepts of Data and fundamentals of spreadsheet.							
Course Outcomes	CO1: Students will learn the concept of data and storage of data CO2: Learn the Concept of word processor and its uses. CO3- Learn the Concept of Spreadsheet, Using the spreadsheet students will able to learn data manipulation, Statistical analysis of data and graphical presentation of data. CO4- To understand the concept of presentation S/W CO5: Learn the concept of Adobe Cloud Express							
Mapping between Course Outcomes(CO) with Program Specific Outcomes(PSO)		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
	CO1							
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	CO3							
	CO4							
	CO5							

Course Content

Unit 1. Introduction

- 1.1 Concept of Windows, Icon, Menu
- 1.2 Desktop
- 1.3 Creating Folders and Shortcuts
- 1.4 Finding Files & Folders
- 1.5 Creating, Copying, Moving and Deleting files
- 1.6 Windows Explorer

Unit 2. Word Processor

- 2.1 Typing, Editing, Proofing & reviewing
- 2.2 Formatting text & Paragraph
- 2.3 Automatics Formatting and Styles
- 2.4 Working with Tables
- 2.5 Graphics and Frames
- 2.6 Mail Merge

Unit 3. Spreadsheet Software

- 3.1 Concept of worksheet
- 3.2 Working & Editing in Workbooks
- 3.3 Creating Formats & Links
- 3.4 Protecting and Hiding data
- 3.5 Built in Functions (Mathematical, Statistical, String & Date)
- 3.6 Formatting a Worksheet
- 3.7 Creating Charts (Graphics), Formatting and Analysing data
- 3.8 Organizing Data in a List (Data Management)
- 3.9 Printing

Unit 4. Presentation Software

- 4.1 Creating and Editing Slides
- 4.2 Creating and Editing objects in the slide
- 4.3 Animation
- 4.4 Creating and Running Slide Show
- 4.5 Templates

Unit 5. Adobe Creative Cloud Express

- 5.1 Quick Tour of cloud express.
 - 5.1.1 The Library;
 - 5.1.2 Slideshow
 - 5.1.3 Importing Photos
 - 5.1.4 Web Modules.

- 5.2 Minor Projects
 - 5.2.1 Social Media project
 - 5.2.2 Marketing project
 - 5.2.3 Preparing business card.
 - 5.2.4 Presentation.
 - 5.2.5 Preparing logo.
 - 5.2.6 Business flyers.
 - 5.3.6 Resumes.

Reference Books	1. OpenOffice.org For Dummies - Gurdy Leete, Ellen Finkelstein, Mary Leete - Wiley Pub. 2. Beginning OpenOffice 3: From Novice to Professional - Andy Channelle - Apress Pub. 3. The OpenOffice.org 2 Guidebook - Solveig Haugland 4. Taming Apache OpenOffice: Getting Started - Jean Hollis Weber - Friends of OpenDocument Inc. 5. Open Office Basic: An Introduction - James Steinberg - Gold Turtle Pub. 6. PC Software for Windows 2003 Made Simple, - R K Taxali, - TMH 7. 2007 Microsoft Office System Plain & Simple, Joyce & Moon, - PHI 8. Internet 6 in 1 – Joe Krayuak & Harbraken, PHI 9. Introduction to Computer Science-Pearson Education-ITL ESL 10. Introduction to Computers-Peter Norton-The McGraw-Hill companies 11. Adobe Creative Cloud All-in-One for /dummies –Jennifer Smith, Christopher Smith – For Dummies Pub 12. Adobe creative cloud, Joseph Labrecque, ADOBE PRESS
Teaching Methodology	Class Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments
Evaluation Method	50% Internal assessment. 50% External assessment.

Course code: BVOC106
Course Title: Skill Enhancement Course (SEC-01)

Course Code	BVOC106
Course Title	Skill Enhancement Course - I (SEC – 01)
Credit	2
Category of Course	Skill Enhancement Course
Level of Course	100-199 (Foundation / Introductory)
Teaching per Week	2 Hrs (Any or Combination of Theory/Practical/Fieldwork/Internship/Project)
Minimum weeks per Semester	15 (Including class work, examination, preparation etc.)
Review / Revision	--
Implementation Year:	A.Y. 2023-2024
Purpose of Course	- As per NEP (National Education Policy-2020), it is mandatory for students to select a 2 credit Skill Enhancement Course out of the choices given by the college/institute. - It will be mandatory for the student to opt minimum one 2-credit Skill Enhancement Course out of the list of offered courses recognized by the University during semester-1 to semester-5. - This course will be an Audit course. The student can start an alternative career in the field by obtaining higher degree of knowledge in the area. - It's aimed at imparting practical skills, embedded internship, hands-on training, soft skills, life skills, such approved online courses etc. to enhance the employability of students. This may also include courses as per the need of new evolving technology.
Course Objective	Obtaining skill in particular field along with the regular curriculum of the selected program is essential. It not only enhances the skill but also provide an opportunity to develop skill in particular area where one can pursue career in future. Skill enhancement provides the opportunity and knowledge for an individual to develop and strengthen the necessary skills to gain, maintain, and advance in a chosen area. Skill enhancement programs are focused around training that combines the best practices from varieties of areas. Skill enhancement or training typically uses a combination of cognitive and behaviour problem solving approaches, both of which are used to strengthen a person's positive skill develop.
Pre-requisite	No prior knowledge in the field is essential.
Course outcome	CO1: Student selects the area of skill as per his/her interest. The choices will be given by the institute/department. CO2: The students acquire basic and fundamental level of knowledge in the field that the student opted. CO3: Understand the insight of the area and possibility of to explore more in the field. CO4: Understand effective representation of problems in terms addressing the problems. CO5: Learn to upskill and upgrade the knowledge in the area of selected subject.

Course Content and Implementation road-map.	(i) University has categorized and prepared the basket of the courses including approved online courses that can be offered as Skill Enhancement Course. (ii) The institute/college/department can design and implement skill enhancement course by getting approval from the relevant apex body of the university considering the SOP of the certificate course policies of the University. (iii) The institutes/college/departments can select more than one course out of the given sets of courses and offer them to their students. (iv) The students can select any of the courses offered by the institute/college/department from the given choices and enroll for the course. (v) The institute/college/department will arrange appropriate resourceperson(s) for the course.
Reference Books	- The reference materials and books will be decided by the Institutes/Colleges/Departments based on the selected Courses. - Minimum five copies of relevant topics are recommended to keep in the library.
Teaching Methodology	Class Work/ Discussion/ Self-Study/ Seminars/ field works/ practical training/ field work and/or Assignments.
Evaluation Method	50% Internal assessment. 50% External assessment. Maximum Marks: 50 (The course is Audit course. Evaluation and Assessment will be carried out at University level. On successful completion of the course, the student will be granted 2 credits.)

Course code: BVOC107
Course Title: Value Addition Course-I (VAC-01)

Course Code	BVOC107
Course Title	Value Addition Course - I (VAC – 01)
Credit	2
Category of Course	Value Addition Course
Level of Course	100-199 (Foundation / Introductory)
Teaching per Week	2 Hrs (Any or Combination of Theory/Practical/Fieldwork/Internship/Project)
Minimum weeks per Semester	15 (Including class work, examination, preparation etc.)
Review / Revision	--
Implementation Year:	A.Y. 2023-2024
Purpose of Course	As per NEP (National Education Policy-2020), it is mandatory for students to select a 2 credit Value Addition Course out of the choices given by the college/institute. It will be mandatory for the student to opt minimum one 2-credit Value Addition Course out of the list of offered courses recognized by the University during semester-1 to semester-4. This course will be an Audit course. The student can enhance the start an alternative career in the field by obtaining higher degree of knowledge in the area.
Course Objective	Obtaining knowledge in all or any of the components/fields like (i) Understanding India (ii) Environmental Science/Education (iii) Digital/Technological solutions (iv) Health & Wellness, Yoga education, sports, and fitness are essential for holistic development (v) Indian Knowledge system. The course components should be among these five categories/fields and as per the Curriculum and Credit Framework for Undergraduate Programmes of the UGC (Page-22 of the document). The purpose is to impart knowledge and understand the necessities of these aspects in life to make the healthy society and nation. It helps in development of a dedicated and responsible citizen of the country by adding value to the life.
Pre-requisite	No prior knowledge in the field is essential.
Course outcome	CO1: Student selects the area of Value addition as per his/her interest. The choices will be given by the institute/department. CO2: The student acquire basic and fundamental level of knowledge in the field that the student opted. CO3: Understand the insight of the area and possibility of to explore more in the field. CO4: Understand effective representation of problems, solutions and insights of the challenges and problems of the peer subject relevant to value addition. CO5: Learn to upskill and upgrade the knowledge in the area of selected subject.

Course Content and Implementation road-map.	(i) The university has categorized and prepared the list of the courses that can be offered as Value Addition Course. (ii) The institute/college/department can design and implement skill enhancement course by getting approval from the relevant apex body of the university considering the SOP of the certificate course policies of the University. (iii) The institutes/college/departments can select more than one course out of the given sets of courses and offer them to their students. (iv) The students can select any of the courses offered by the institute/college/department from the given choices and enroll for the course. (v) The institute/college/department will arrange appropriate resource person(s) for the course.
Reference Books	- The reference materials and books will be decided by the Institutes/Colleges/Departments or as per the university guidelines based on the selected Courses. - Minimum five copies of relevant topics are recommended to keep in the library.
Teaching Methodology	Class Work/ Discussion/ Self-Study/ Seminars/ field works/ practical training/ field work and/or Assignments.
Evaluation Method	50% Internal assessment. 50% External assessment. Maximum Marks: 50 (The course is Audit course. Evaluation and Assessment will be carried out at University level. On successful completion of the course, the student will be granted 2 credits. However, the obtained score will not be considered for S.G.P.A./C.G.P.A.)

Semester - 2

Course Code: BVOC201

Course Title: Ability Enhancement Course-02

Course Code	BVOC201
Course Title	Ability Enhancement Course – 02 [Title of the course will be the one selected by the student from courses offered by college/institute out of the course basket offered by the University under the Ability Enhancement courses]
Credits	2
Course Category	Ability Enhancement Course (AEC-02)
Level of Course	100-199 (Foundation / Introductory)
Teaching per Week	2 Hrs
Minimum weeks per Semester	15 (Including class work, examination, preparation etc.)
Review / Revision	--
Implementation Year:	A.Y. 2023-2024
Purpose of Course	To be offered to students to achieve competency in a Modern Indian Language and English Language focused on language and communication skills. This will be an elective course. Can be selected from the list of elective options available under the basket of Ability Enhancement certificate Courses offered by the University.
Course Objective	The course aim at enabling the students to acquire and demonstrate the core linguistic skills, including critical reading and expository and academic writing skills that help students articulate their arguments and present their thinking clearly and coherently and recognize the importance of language as a mediator of knowledge and identity. They would also enable students to acquaint themselves with the cultural and intellectual heritage of the chosen MIL and English language, as well as to provide a reflective understanding of the structure and complexity of the language/literature related to both the MIL and English language. The courses will also emphasize the development and enhancement of skills such as communication, and the ability to participate/conduct discussion and debate.
Pre-requisite	Knowledge of English at H.Sc.(12 th) Level
Course Outcomes	The lists of Electives are showing individual course's Course Outcomes.
Mapping between Course Outcomes(CO) with Program Specific Outcomes(PSO)	The list of Ability Enhancement Elective courses are showing mapping between Course Outcomes (CO) with Program Specific Outcomes (PSO) for individual courses.
Course Content	The lists of Electives are showing individual course's Course Contents.
Reference Books	- The list of reference books will be decided by the Institutes/Colleges/Departments or as per the university guidelines based on the selected Courses. - Minimum five copies of five different titles relevant topics are recommended to keep in the library. Electives are showing individual course's reference books.
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	50% Internal assessment, 50% External assessment.

Course Code: BVOC202
Course Title: Environment Studies

Course Code	BVOC202																																																						
Course Title	Environment Studies																																																						
Credits	4																																																						
Course Category	Multi-Disciplinary/Inter-Disciplinary																																																						
Level of Course	100-199 (Foundation/Introductory)																																																						
Teaching per Week	4 Hrs																																																						
Minimum weeks per Semester	15 (Including class work, examination, preparation etc.)																																																						
Review/Revision	--																																																						
Implementation Year:	A.Y.2023-2024																																																						
Purpose of Course	Environmental studies help the student understand the importance of our environment and teach the student to use natural resources more efficiently and embrace a sustainable way of living. It enables the student to know behavior of organisms under natural conditions and the interrelationship between organisms in population and communities.																																																						
Course Objective	1. Define environmental studies and ecology with basic principles. 2. To examine the natural resources and their types and utility. 3. To outline the diversity and explain the conservation and its significations. 4. To identify the environmental issues, types of pollutions and their impact.																																																						
Pre-requisite	Basic Knowledge of importance of Environmental Studies																																																						
Course Outcomes	CO1: To make students understand the importance of Environmental Studies in human's life. CO2: To make the students understand the basic principles of Ecology. CO3: To make the students understand importance and basic fundamentals of natural resources CO4; To make the students understand dangers of pollution. CO5: To get real world experience with field work.																																																						
Mapping between Course Outcomes(CO) with Program Specific Outcomes(PSO)	<table><tr><td></td><td>PSO1</td><td>PSO2</td><td>PSO3</td><td>PSO4</td><td>PSO5</td><td>PSO6</td><td>PSO7</td></tr><tr><td>CO1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO5</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>								PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	CO1								CO2								CO3								CO4								CO5							
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CO3																																																							
CO4																																																							
CO5																																																							

Course Content	Unit:1: Introduction to Environmental Studies 1.1 Multidisciplinary nature of Environmental Studies 1.2 Scope and importance: Concept of sustainability and sustainable development. Unit:2: Ecosystems 2.1 Concept of Ecology and Ecosystem 2.2 Structure and function of ecosystem 2.3 Energy flow in an ecosystem: food chains, food webs and ecological succession. 2.4 Characteristic features of the following: A. Forest ecosystem B. Grassland ecosystem C. Desert ecosystem D. Aquatic ecosystems (ponds, streams, lakes, wetlands, rivers, oceans, estuaries) Unit:3: Natural Resources 3.1 Concept of renewable and non-renewable resources 3.2 Land resources and land use change; Land degradation, soil erosion and desertification. 3.3 Deforestation: Causes, consequences and remedial measures 3.4 Water: Use and over-exploitation of surface and ground water, floods, droughts, conflicts over water (international & inter-state). 3.5 Energy resources: Environmental impacts of energy generation use of alternative and nonconventional energy sources, growing energy needs. Unit:4 Biodiversity and Conservation 4.1 Levels of biological diversity: genetic, species and ecosystem diversity; 4.2 Bio-geographic zones of India; Biodiversity patterns and global biodiversity hot spots 4.3 India as a mega-biodiversity nation; Endangered and endemic species of India 4.4 Threats to biodiversity: Habitat loss, poaching of wildlife, man-wildlife conflicts, biological invasions; 4.5 Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity. 4.6 Ecosystem and biodiversity services: Ecological, economic, social, ethical, aesthetic and Informational value. Unit:5 Environmental Pollution 5.1 Environmental pollution: concepts and types, 5.2 Air, water, soil, noise and marine pollution- causes, effects and controls 5.3 Concept of hazards waste and human health risks 5.4 Solid waste management: Control measures of Municipal, biomedical and e-waste. Field Work (Any Two) 1. Visit to an area to document environmental assets: river/forest/flora/fauna, etc. 2. Visit to a local polluted site- urban/Rural/Industrial/Agricultural. 3. Study of common plants, insects, birds, and basic principles of identification. 4. Study of simple ecosystems – pond, lake and river.
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Reference Books	1. Bharucha, E. (2015). Textbook of Environmental Studies. 2. Gadgil, M., & Guha, R. (1993). This Fissured Land: An Ecological History of India. Univ. of California Press. 3. Groom, Martha J., Gary K. Meffe, and Carl Ronald Carroll. (2006). Principles of Conservation Biology. Sunderland: Sinauer Associates. 4. Nandini, N., Sunitha N., & Sucharita Tandon. (2019). A text book on Environmental Studies (AECC). Sapna Book House, Bengaluru. 5. Pepper, I.L, Gerba, C.P. & Brusseau, M.L. (2011). Environmental and Pollution Science. Academic Press. 6. Rajit Sengupta and Kiran Pandey. (2021). State of India's Environment 2021: In Figures. Centre Science and Environment. 7. Odum, E.P., Odum, H.T. & Andrews, J. (1971). Fundamentals of Ecology. Philadelphia: Saunders.
Teaching Methodology	Class Work, Field work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	50% Internal assessment. 50% External assessment.

Course Code: BVOC203
Course Title: Operating System

Course Code	BVOC203							
Course Title	Operating System							
Credits	4							
Course Category	Minor Course							
Level of Course	100-199 (Foundation / Introductory)							
Teaching per Week	4 Hours							
Minimum weeks per Semester	15 (Including class work, examination, preparation etc.)							
Review / Revision	--							
Implementation Year:	A.Y. 2023-2024							
Purpose of Course	An Operating System (OS) is software that manages computer hardware and software resources and provides common services for computer programs. The operating system is an essential component of the system software in a computer system. Application programs usually require an operating system to function.							
Course Objective	The objective of this course is: 1. To make students understand functionality provided by an Operating System. 2. To make students aware with basic concepts of Linux OS Management. 3. To teach device management to the Students.							
Pre-requisite	Basic knowledge of computer fundamentals.							
Course Outcomes	CO1: Students will learn how operating system is important for computer system and what the role of an OS is, and also learn different types of operating system and their services. CO2: Students will be able to understand the structure and organization of file system. CO3: To get differentiate between windows and linux OS CO4: To install and maintain linux workstation and also able to manage user accounts. CO5: To understand devices, usage of devices, scheduling algorithms and decide which is the best one. CO6: Students will be able to develop application the coordinate with respective OS in a much better way which is an essential.							
Mapping between Course Outcomes(CO) with Program Outcomes(PSO)		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7
	CO1							
	CO2							
	CO3							
	CO4							
	CO5							
	CO6							

Course Content	Unit 1. Operating System Concepts 1.1.Evolution of Operating System & History 1.2.Need of an Operating System 1.3.Single User & Multi User Operating System 1.4.Elements of an Operating System 1.5.Operating System as a Resource Manager Unit 2. Introduction to File System and File Management 2.1.File Concept 2.2.Operations on File 2.3. File Access Methods (Sequential Access and Direct Access) 2.4. Directory Systems File Management Functions. 2.5. File System and Directory Structure organization. 2.6. File Protection. Unit 3. Introduction of Linux 3.1.Introduction of Linux versions 3.2.Components of Linux 3.3.Comparison of Windows and Linux Unit 4. Linux Administration 4.1. Installing Linux 4.2. Installation of Open Source Software 4.3. Maintaining User Accounts 4.4. System Config Services (Package) Unit 5. Device Management 5.1.Device Management Function 5.2.Device Characteristics 5.3.Disk space Management 5.4.Allocation and Disk Scheduling Methods
Reference Books	1. Operating System Concepts: – James Peterson: – McGraw Hill 2. Operating System: – Stallings - PHI 3. Operating System Principles: – Silberschatz, Galvin, Gagne - Willey, India 4. Operating Systems – A. S. Godbole – Tata McGraw Hill - Linux – The Complete Reference – Richard Petersen – Tata McGraw Hill 5. Linux – The Complete Reference – Richard Petersen – Tata McGraw Hill 6. "Linux System Programming: Talking Directly to the Kernel and C Library" Author: Robert Love ISBN: 978-1449339531 Publisher: O'Reilly Media
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	50% Internal assessment. 50% External assessment.

Course Code: BVOC204
Course Title: Object Oriented Programming with C++

Course Code	BVOC204																																								
Course Title	Object Oriented Programming with C++																																								
Credits	4																																								
Course Category	Major Course																																								
Level of Course	200-299 (Intermediate Level)																																								
Teaching per Week	4 Hours (2 Hours Theory + 4 Hours Practical)																																								
Minimum weeks per Semester	15 (Including class work, examination, preparation etc.)																																								
Review / Revision	--																																								
Implementation Year:	A.Y. 2023-2024																																								
Purpose of Course	Understand Object Oriented Programming Concepts and skills necessary for developing programs using C++. And it is important for a computer programmer to understand the concept of overloading and its application. Students will be able to develop real world application with OOPS features.																																								
Course Objective	i) This course has been designed for the beginners to help them understand basic to advanced concepts related to C++ Programming language ii) To make students understand the importance of OOP methodology and techniques. iii) To make students understand the concept of overloading and overriding.																																								
Pre-requisite	Fundamental knowledge of computer programming using 'C' language.																																								
Course Outcomes	CO1: Students will be able to formulate a computing problem to executable computer program using C++ language. CO2: Understand concepts of class, objects, polymorphism, Inheritance and other important Object oriented concepts. CO3: Students will be able to understand concept of constructors and various use. CO3: To understand and apply Dynamic Polymorphism in real world application CO4: Students will be able to learn dynamic memory allocation techniques.																																								
Mapping between Course Outcomes(CO) with Program Specific Outcomes(PSO)	<table><tr><td></td><td>PSO1</td><td>PSO2</td><td>PSO3</td><td>PSO4</td><td>PSO5</td><td>PSO6</td><td>PSO7</td></tr><tr><td>CO1</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>CO4</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	CO1								CO2								CO3								CO4							
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Course Content	Unit 1. Concepts of OOPS: 1.1. Object oriented programming paradigm 1.2. Difference between procedural programming and OOPS 1.3. Benefit of OOP 1.4. Application of C++ 1.5. Various library (header) files require for C++ 1.6. Data types in C++ 1.7. Operators in C++ 1.8. Array																																								

Unit 2. Class and Object:

- 2.1 Concepts of Class and Objects.
- 2.2. Access modifiers (Public, Private, Protected)
- 2.3. Declaring simple class, data member and member functions.
- 2.4. Inline function
- 2.5. Array within class
- 2.6. Memory allocation for object
- 2.7. Static data member
- 2.8. Static member functions
- 2.9. Array of object
- 2.10. Object as function arguments
- 2.11. Returning object
- 2.12. Friend function

Unit 3. Constructors and Destructors

- 3.1 Introduction
- 3.2 Parameterized Constructors
- 3.3 Multiple Constructor in class
- 3.4 Constructor with Default Argument
- 3.5 Copy Constructor
- 3.6 Dynamic Constructor
- 3.7 Destructor

Unit 4. Inheritance:

- 4.1 Concepts of Inheritance
- 4.2 Derived Class
- 4.3 Types of Inheritance
- 4.4 Virtual Base Class
- 4.5 Abstract Class
- 4.6 Constructor in Derived Class
- 4.7 Containership (Nested Class)

Unit 5. Polymorphism

- 5.1 Concepts of Polymorphism
- 5.2 Compile time and Run time Polymorphism
- 5.3 Concept of Overloading (Function & Operator)
- 5.4 Unary and Binary operator overloading using Member Function
- 5.5 Unary and Binary operator overloading using Friend Function
- 5.6 Concept of Overriding:
- 5.7 Concepts of this pointer, virtual function and pure virtual function

Reference Books	1. Let us C++, Yaswant Kanitkar - TMH Publication 2. Programming with C++, E Balaguruswamy - BPB Publication 3. C++ and Object-Oriented Programming Paradigm, Jana - PHI 4. The Complete Reference C++, Herbert Schildt - TMH 5. The C++ Programming Language, Stroustrup – Addison Wesley 6. OOP in Turbo C++, Robert Lafore - Galgotia Publication 7. C++ Primer, Lippman – Addison Wesley 8. Object Oriented Programming Fundamentals & Applications, Probal Sengupta – PHI
Teaching Methodology	Class Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments
Evaluation Method	50% Internal assessment. 50% External assessment.

Course Code: BVOC205
Course Title: Web Designing

Course Code	BVOC205									
Course Title	Web Designing									
Credits	4									
Course Category	Major Course									
Level of Course	200-299 (Intermediate Level)									
Teaching per Week	4 Hours (2 Hours Theory + 4 Hours Practical)									
Minimum weeks per Semester	15 (Including class work, examination, preparation etc.)									
Review / Revision	--									
Implementation Year:	A.Y. 2023-2024									
Purpose of Course	- To introduce the fundamentals of Internet, and the principles of web design. - To construct basic websites using HTML and Cascading Style Sheets. - To build dynamic web pages with validation using Java Script objects and by applying different event handling mechanisms.									
Course Objective	To make students aware of web terminology and website development tools. The students can know the real functions of website development.									
Pre-requisite	Basic knowledge of windows based applications. Some very basic acquaintance with computers and the WWW is assumed.									
Course Outcomes	CO1: Students get knowledge of HTML CO2: To learn how to make attractive webpage using CSS. CO3: Students will able to learn how to develop dynamic and attractive web page using JavaScript. CO4: Students will able to understand about responsive webpage with the help of Bootstrap. CO5:Students get the idea of different protocols used in website and able to understand about web hosting.									
Mapping between Course Outcomes(CO) with Program Specific Outcomes(PSO)			PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	
	CO1									
	CO2									
	CO3									
	CO4									
	CO5									
Course Content	UNIT-1: Fundamentals of HTML 1.1 Introduction to HTML 1.2 Structure of HTML page 1.2.1 Elements of HTML 1.2.2 HTML documents 1.3 HTML Tags 1.3.1 Types of tags: paired and unpaired 1.3.2 Heading and paragraph tag 1.3.3 Working with text, list, frame and table 1.3.4 Working with Forms and Controls 1.3.5 Working with Hyperlinks, images and Multimedia									

	UNIT-2: Introduction to Cascading Style Sheets 2.1. Concept of CSS 2.1.2 Creating Style Sheet 2.1.3 Benefits of CSS 2.1.4 CSS Properties, CS Styling (Background, Text Format, Controlling Fonts) 2.1.5 Working with block elements and objects 2.1.6 Working with Lists and Tables, CSS Id and Class, CSS Color UNIT-3: JavaScript 3.1 Overview of Javascript 3.2 Basic data types 3.3 Javascript operators and Events 3.4 Javascript conditions and loop control structures 3.5 standard functions 3.6 arrays and objects, event driven programming in Javascript UNIT-4: Introduction to Bootstrap 4.1 Fundamentals of Bootstrap 4.2 Bootstrap Grid System 4.3 Bootstrap form and Form Components 4.4 Event handling with HTML or Bootstrap components. UNIT-5: Introduction to Hosting web pages 5.1 Introduction 5.2 Concept of Internet 5.3 Internet Protocols: TCP/IP, FTP, SMTP, FDP, HTTP, POP3 etc. 5.4 Domain-Names System 5.5 Concept of uploading the web site 5.6 Communication between web server and web browser.
Reference Books	1. HTML Unleashed, Darnell Rick - Techmedia 2. HTML & CSS: The complete Reference – Thomas Powel- McGraw Hill Education. 3. HTML, CSS, and JavaScript All in One Covering HTML5, CSS3, and ES6, Sams Teach Yourself By Julie C. Meloni, Jennifer Kyrnin · 2018. 4. HTML & Web Design, K. Jamsa, Konrad King, TMH, 2002. 5. Robbins, J. (2018). Learning Web Design: A Beginner's Guide to HTML, CSS, JavaScript, and Web Graphics. United States: O'Reilly Media. 6. Java script programming for absolute beginner, Harris – PHI 7. Learning Bootstrap 4 – Matt Lambert – Packt Publishing 8. Bootstrap Responsive web development – Jake Spurlock – O'Reilly 9. Beginning CSS: Cascading Style Sheets for Web Design-Ian Pouncey, Richard York, Wiley India.
Teaching Methodology	Class Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments
Evaluation Method	50% Internal assessment. 50% External assessment.

Course: BVOC206
Course Title: Skill Enhancement Course (SEC-02)

Course Code	BVOC206
Course Title	Skill Enhancement Course - II (SEC – 02)
Credit	2
Category of Course	Skill Enhancement Course
Level of Course	100-199 (Foundation / Introductory)
Teaching per Week	2 Hours (Any or Combination of Theory/Practical/Fieldwork/Internship/Project)
Minimum weeks per Semester	15 (Including class work, examination, preparation etc.)
Review / Revision	--
Implementation Year:	A.Y. 2023-2024
Purpose of Course	- As per NEP(National Education Policy-2020), it is mandatory for students to select a 2 credit Skill Enhancement Course out of the choices given by the college/institute. - It will be mandatory for the student to opt minimum one 2-credit Skill Enhancement Course out of the list of offered courses recognized by the University during semester-1 to semester-5. - This course will be an Audit course. The student can start an alternative career in the field by obtaining higher degree of knowledge in the area. - It's aimed at imparting practical skills, embedded internship, hands-on training, soft skills, life skills, such approved online courses etc. to enhance the employability of students. This may also include courses as per the need of new evolving technology.
Course Objective	Obtaining skill in particular field along with the regular curriculum of the selected program is essential. It not only enhance the skill but also provide an opportunity to develop skill in particular area where one can pursue career in future. Skill enhancement provides the opportunity and knowledge for an individual to develop and strengthen the necessary skills to gain, maintain, and advance in a chosen area. Skill enhancement programs are focused around training that combines the best practices from varieties of areas. Skill enhancement or training typically uses a combination of cognitive and behaviour problem solving approaches, both of which are used to strengthen a person's positive skill develop.
Pre-requisite	No prior knowledge in the field is essential.
Course outcome	CO1: Student choose skill of interest from available list of electives offered by the institute/department. CO2: The student acquire basic and fundamental level of knowledge in the Field that the student opted. CO3: Understand the insight of the area and possibility of to explore more in the field. CO4: Understand effective representation of problems in terms addressing the problems. CO5: Learn to upskill and upgrade the knowledge in the area of selected subject.

Course Content and Implementation road-map.	(i) The university has categorized and prepared the list of the courses that can be offered as Skill Enhancement Course. (ii) The institute/college/department can design and implement skill enhancement course by getting approval from the relevant apex body of the university considering the SOP of the certificate course policies of the University. (iii) The institutes/college/departments can select more than one course out of the given sets of courses and offer them to their students. (iv) The students can select any of the courses offered by the institute/college/department from the given choices and enroll for the course. (v) The institute/college/department will arrange appropriate resource person(s) for the course. The institute/college/department/university will assess the student based on the nature of the course. The student will be granted the credits on successful completion of the course.
Reference Books	- The reference materials and books will be decided by the Institutes/Colleges/Departments based on the selected Courses. - Minimum five copies of relevant topics are recommended to keep in the library.
Teaching Methodology	Class Work/ Discussion/ Self-Study/ Seminars/ field works/ practical training/ field work and/or Assignments.
Evaluation Method	50% Internal assessment. 50% External assessment.

Course: BVOC207**Course Title: Value Addition Course (VAC-02)**

Course Code	BVOC207
Course Title	Value Addition Course - I (VAL – 02)
Credit	2
Category of Course	Value Addition Course
Level of Course	100-199 (Foundation / Introductory)
Teaching per Week	2 Hours (Any or Combination of Theory/Practical/Fieldwork/Internship/Project)
Minimum weeks per Semester	15 (Including class work, examination, preparation etc.)
Review / Revision	--
Implementation Year:	A.Y. 2023-2024
Purpose of Course	As per NEP (National Education Policy-2020), it is mandatory for students to select a 2 credit Value Addition Course out of the choices given by the college/institute. It will be mandatory for the student to opt minimum one 2-credit Value Addition Course out of the list of offered courses recognized by the University during semester-1 to semester-4. This course will be an Audit course. The student can enhance the start an alternative career in the field by obtaining higher degree of knowledge in the area.
Course Objective	Obtaining knowledge in all or any of the components/fields like (i) Understanding India (ii) Environmental Science/Education (iii) Digital/Technological solutions (iv) Health & Wellness, Yoga education, sports, and fitness are essential for holistic development and (v) Indian Knowledge System. The course components should be among these five categories/fields and as per the Curriculum and Credit Framework for Undergraduate Programmes of the UGC (Page-22 of the document). The purpose is to impart knowledge and understand the necessities of these aspects in life to make the healthy society and nation. It help in development of a dedicated and responsible citizen of the country by adding value to the life.
Pre-requisite	No prior knowledge in the field is essential.
Course outcome	CO1: Student select the area of Value addition as per his/her interest. The choices will be given by the institute/department. CO2: The student acquire basic and fundamental level of knowledge in the field that the student opted. CO3: Understand the insight of the area and possibility of to explore more in the field. CO4: Understand effective representation of problems, solutions and insights of the challenges and problems of the peer subject relevant to value addition. CO5: Learn to upskill and upgrade the knowledge in the area of selected subject.

Course Content and Implementation road-map.	(i) The university has categorized and prepared the list of the courses that can be offered as Value Addition Course. (ii) The institute/college/department can design and implement skill enhancement course by getting approval from the relevant apex body of the university considering the SOP of the certificate course policies of the University. (iii) The institutes/college/departments can select more than one course out of the given sets of courses and offer them to their students. (iv) The students can select any of the courses offered by the institute/college/department from the given choices and enrol for the course. (v) The institute/college/department will arrange appropriate resource person(s) for the course. (vi) This is an audit course; hence the evaluation will be taken place at the college/institute/department/university based on the nature of the course. (vii) The institute/college/department/university will assess the student based On the nature of the course. The student will be granted the credits on successful completion of the course.
Reference Books	- The reference materials and books will be decided by the Institutes/Colleges/Departments based on the selected Courses. - Minimum five copies of relevant topics are recommended to keep in the library.
Teaching Methodology	Class Work/ Discussion/ Self-Study/ Seminars/ field works/ practical training/ field work and/or Assignments.
Evaluation Method	50% Internal assessment. 50% External assessment.