E.M.G. YADAVA WOMEN'S COLLEGE, MADURAI – 625 014.

(*An Autonomous Institution – Affiliated to Madurai Kamaraj University*)

Re-accredited (**3rd Cycle**) with Grade **A+** & **CGPA 3.51** by NAAC

DEPARTMENT OF COMPUTER APPLICATIONS

CBCS With OBE

BACHELOR OF COMPUTER APPLICATIONS

PROGRAMME CODE - J

COURSE STRUCTURE

(w.e.f. 2022 – 2023 Batch onwards)

CRITERION - I

1.1.3 Details of courses offered by the institution that focus on employability / entrepreneurship / skill development during the year.

Syllabus copies with highlights of contents focusing on Employability / Entrepreneurship / Skill Development

To be Noted:

HIGHLIGHTED COLORS	COURSES
	Employability
	Skill Development
	Entrepreneurship
	Skilled & Employability

Annexure - 17

E.M.G. YADAVA WOMENS COLLEGE, MADURAI -14.

(An Autonomous Institution – Affiliated to Madurai Kamaraj University)
(Re –accredited (3rd cycle) with Grade A+ and CGPA 3.51 by NAAC)

DEPARTMENT OF COMPUTER APPLICATIONS – UG
(w.e.f. 2022– 2023 Batch onwards)
CBCS with OBE

Vision

To achieve brilliance in Professional Education.To make students as Software Professionals with strong understanding in essentials andshine in latest technologies.

Mission

- To develop innovative ideas, talents, problem solving skills, leadership quality among the students.
- To create industrial interaction to improve the entrepreneurship skills.
- To teach the students with latest trends, tools and technologies.
- To strengthening the attitudes and soft skills of the students and encourage resource based projects to the students.

Programme Educational Objectives (PEOs):B.C.A

SL.No.	Programme Educational Objective
PEO1	Equip the students to meet corporate needs
PEO2	Professionally educate the students for pursuing higher education
PEO3	Nurture the students with skills required to become an entrepreneur.
PEO4	Adapt the students with better learning ability in the ever changing software industry.
PEO5	Manage cross culture environment and have peer recognition.
PEO6	Shows continuous improvement in their professional career through lifelong learning, appreciating human values and ethics

Programme Outcomes for Science Graduates

On completion of B.C.A Programmes students will be able to

SL.No.	Programme Outcomes
PO1	Develop necessary foundation in fundamentals, aptitude, applications of sciences and other related subjects. Able to clear competitive examinations, appear with confidence and possess basic skills on the related subjects. Secure jobs in employment in Government / Private / Industry and entrepreneurship.
PO2	Receive basic experimental skills in the observation and study of nature, biological techniques, scientific research and demonstrate proficiency in critical analysis or creativity and provide scientific solutions to the problems of the society.
PO3	Enhance the digital knowledge of statistics and to understand its application in interpreting the obtained data.
PO4	Obtain knowledge with emerging trends in their disciplinary and inter-disciplinary areas. Usage of modern tools and software can also be put to use.
PO5	Lead lifelong learning & contribute sustainability to environment, equip students enough to take up higher studies up to research in various disciplines to become professionals.
PO6	Imbibe democratic, ethical, moral, social & spiritual values in the minds of the learners to become responsible citizens and build a healthy nation.

Programme Specific Outcome (PSOs):

PSOs	Graduate Attributes	After completion of B.C.A the students will be able to	PO Addressed
PSO-1	Knowledge & Proficiency	Explore technical knowledge in diverse areas of Computer Applications and experience an environment conducive in cultivating skills for successful career, entrepreneurship and higher studies.	PO1
PSO-2	Problem analysis	Be acquainted with the contemporary issues, latest trends in technological development and thereby innovate new ideas and solutions to existing problems.	PO2
PSO-3	Problem Solving	Attain the ability to design and develop computer applications, evaluate and recognize potential risks and provide innovative solutions.	PO2
PSO-4	Modern tool usage	Provide framework for Information Technology users with tools that will assist them in their decision-making when faced with Information Technology ethical dilemmas	PO4
PSO-5	Social responsibility	Meet the programming skills and technical skills which is the requirements of the IT based industries	PO6
PSO-6	Lifelong Learning	Adapting to new technologies and constantly upgrade their skills with an attitude towards independent and lifelong learning.	PO5
PSO-7	Ethical& Moral and Spiritual Values	Principles that manage the behavior of a person or group in a computer environment like values that cater the needs to become responsible citizens.	PO6
PSO-8	Leadership, Teamwork & Communication	Acquire training, Internships and team work to develop innovative projects.	PO3

Qualification for Admission

Candidate should have passed 10 +2 Mathematics with Computer Science / Physics / Chemistry as one of the subjects. Candidates should have passed the Higher Secondary Examination, Mathematics as one of the subject, conducted by the Board of Higher Education, Government of Tamilnadu, CBSC & ICSE or any other examination approved by Madurai Kamaraj University as equivalent.

Duration of the Course

The students shall undergo this prescribed course of study for the period of three academic years under Choice Based Credit System (CBCS) semester pattern with Outcome Based Education (OBE).

Medium of Instruction: English

System: Choice Based Credit System with Outcome Based Education Model

Courses of Study with Credit Distribution for BCA

Category	No.of Courses	No.of Credits
Part-I	4	12
Part –II	4	12
Major Core Paper	17	60
Discipline Specific Elective Courses	3	15
Generic Elective Courses	4	20
Skill Enhancement Courses	6	12
Inter Disciplinary Courses	2	4
Ability Enhancement Compulsory Course	2	4
NSS/Physical Education	1	1
Total	43	140

Nature of the Course

Courses are classified according to the following nature

1. Knowledge and skill oriented
2. Employability oriented
3. Entrepreneurship oriented

Outcome Based Education (OBE) & Assessment

Students understanding must be built on and assessed for wide range of learning activities, whichincludes different approaches and are classified along several basis, such as

1. **Based on purpose:**

- Continuous Assessment (internal tests, Assignment, seminar, quiz, Documentation, Case lets, ICT based Assignment, Mini projects administered during the learning process)
- External Assessment (Evaluation of students' learning at the end of instructional unit)

2. **Based on Domain Knowledge: (for UG Up to K4 levels)**

Assessment through K1, K2, K3 & K4

Annexure - 17

EVALUATION (THEORY)

(PART I /PART II / PART III)

Internal (Formative) : 25 marks

External (Summative) : 75 marks

Total : 100 marks

Formative Test (CIA-Continuous Internal Assessment) : 25 Marks

Components	Marks
Test (Average of three tests) (Conducted for 100 marks and converted into 20 marks)	**20**
Assignment(Quiz/ Documentation/ Case lets/ ICT based Assignment/ Mini Projects)	**5**
Total	**25**

- ✓ **Centralized system** of Internal Assessment Tests
- ✓ There will be **Three Internal Assessment** Tests
- ✓ Duration of Internal assessment test will be **1 hour for Test I and 2 hours for Test II and III** respectively.
- ✓ Students shall write **retest** with the approval of HOD on genuine grounds if they are absent.

Question Paper Pattern for Continuous Internal Assessment- Test I

Section		Marks
A-Multiple Choice Question	(3x1 mark)	3
B-Short Answer	(1x2 marks)	2
C-Either Or type	(1/2x 5 marks)	5
D-Open choice type	(1/2 x 10 marks)	10
Total		20

Question Paper Pattern for Continuous Internal Assessment -Test II and III

Multiple choice for Section		Marks
A- Multiple Choice Question	(6x1 mark)	6
B-Short Answer	(2x2 marks)	4
C-Either Or Type	(2/4 x5 marks)	10
D-Open Choice Type	(2/3 x 10 marks)	20
Total		40

Conducted for 100 marks and converted into 20 marks

Question Paper Pattern for Summative Examination

Section	Marks
A- Multiple choice Questions without Choice (10x1 mark)	10
B-Short Answer without choice (5x2 marks)	10
C-Either Or type (5/10 x5 marks)	25
D-Open Choice type (3out of 5x10 marks)	30
Total	75

In respect of Summative Examinations passing minimum is **36 % for UG.**

Distribution of Marks in % with K Levels CIA I, II, III & External Assessment

Blooms Taxonomy	Internal Assessment			External Assessment
	I	II	III	
Knowledge (K1)	12%	12%	12%	13%
Understanding (K2)	44%	22%	22%	21%
Apply (K3)	44%	33%	33%	33%
Analyze (K4)	-	33%	33%	33%

Latest amendments and revision as per **UGC** and **TANSCHE** norms is taken into consideration in curriculum preparation.

. BLUE PRINT FOR INTERNAL ASSESSMENT – I

Articulation Mapping - K Levels with Course Learning Outcomes (CLOs)

Sl. No	CLOs	K- Level	Section A		Section B		Section C	Section D	Total
			MCQs (No Choice)		Short Answers (No Choice)		(Either or Type)	(Open choice)	
			No. of Questions	K-Level	No. of Questions	K-Level			
1	CLO1	Up to K3	3	(K1)	1	K1	2 (K2) (Each set of questions must be in the same level)	1 (K2) & 2 (K3)	
No. of Questions to be asked			3		1		2	3	9
No. of Questions to be answered			3		1		1	1	6
Marks for each question			1		2		5	10	-
Total Marks for each section			3		2		5	10	20

BLUE PRINT FOR INTERNAL ASSESSMENT – II

Articulation Mapping - K Levels with Course Learning Outcomes (CLOs)

Sl. No	CLOs	K- Level	Section A		Section B		Section C	Section D	Total
			MCQs (No Choice)		Short Answers (No Choice)		(Either or Type)	(Open choice)	
			No. of Questions	K-Level	No. of Questions	K-Level			
1	CLO2	Up to K3	3	(K1/ K2)	1	(K1/ K2)	2 (K2) / 2 (K4) (Each set of questions must be in the same level)	2 (K3) & 1 (K4)	
2	CLO3	Up to K4	3	(K1/ K2)	1	(K1/ K2)			
No. of Questions to be asked			6		2		4	3	15
No. of Questions to be answered			6		2		2	2	12
Marks for each question			1		2		5	10	-
Total Marks for each section			6		4		10	20	40

Annexure - 17

BLUE PRINT FOR INTERNAL ASSESSMENT – III

Articulation Mapping - K Levels with Course Learning Outcomes (CLOs)

Sl. No	CLOs	K- Level	Section A		Section B		Section C	Section D	Total
			MCQs (No Choice)		Short Answers (No Choice)		(Either or Type)	(Open choice)	
			No. of Questions	K-Level	No. of Questions	K-Level			
1	CLO 4	Up to K3	3	(K1/ K2)	1	(K1/ K2)	2 (K2) / 2 (K4) (Each set of questions must be in the same level)	2 (K3) & 1 (K4)	
2	CLO 5	Up to K4	3	(K1/ K2)	1	(K1/ K2)			
No. of Questions to be asked			6		2		4	3	15
No. of Questions to be answered			6		2		2	2	12
Marks for each question			1		2		5	10	-
Total Marks for each section			6		4		10	20	40

Distribution of Marks with K Levels CIA I, CIA II and CIA III

CIA	K Levels	Section -A MCQ (No choice)	Section -B Short Answer (No choice)	Section -C (Either or Type)	Section –D (Open choice)	Total Marks	% of Marks
I	K1	3	2	-	-	5	12
	K2	-	-	10	10	20	44
	K3	-	-	-	20	20	44
	K4	-	-	-	-	-	-
	Marks	**3**	**2**	**10**	**30**	**45**	**100**
II	K1	5	2	-		7	12
	K2	1	2	10	-	13	22
	K3	-	-	-	20	20	33
	K4	-	-	10	10	20	33
	Marks	**6**	**4**	**20**	**30**	**60**	**100**
III	K1	5	2	-		7	12
	K2	1	2	10	-	13	22
	K3	-	-	-	20	20	33
	K4	-	-	10	10	20	33
	Marks	**6**	**4**	**20**	**30**	**60**	**100**

Annexure - 17

Articulation Mapping - K Levels with Course Learning Outcomes (CLOs) for External Assessment

Sl. No	CLOs	K- Level	Section A		Section B		Section C (Either/ or Type)	Section D (open choice)	Total
			MCQs (No choice)		Short Answers (No choice)				
			No. of Questions	K- Level	No. of Questions	K- Level			
1	CLO 1	Up to K3	2	K1/K2	1	K1/K2	2 (K3 & K3)	1(K2)	
2	CLO 2	Up to K3	2	K1/K2	1	K1/K2	2(K2 & K2)	1(K3)	
3	CLO 3	Up to K4	2	K1/K2	1	K1/K2	2 (K4 &K4)	1(K4)	
4	CLO 4	Up to K 3	2	K1/K2	1	K1/K2	2 (K3 & K3)	1(K3)	
5	CLO 5	Up to K 4	2	K1/K2	1	K1/K2	2 (K4 & K4)	1(K4)	
No. of Questions to be asked			10		5		10	5	30
No. of Questions to be answered			10		5		5	3	23
Marks for each question			1		2		5	10	
Total Marks for each section			10		10		25	30	75 (Marks)

Distribution of Section-wise Marks with K Levels for External Assessment

K Levels	Section A (MCQ'S) (No choice)	Section B (Short Answer) (No choice)	Section C (Either or Type)	Section D (Open Choice)	**Total Marks**	% of Marks
K1	9	6	-	--	**15**	13
K2	1	4	10	10	**25**	21
K3	-	-	20	20	**40**	33
K4	-	-	20	20	**40**	33
Total Marks	10	10	50	50	**120**	100

K1- Remembering and recalling facts with specific answers

K2- Basic understanding of facts and stating main ideas with general answers

K3- Application oriented- Solving Problems, Justifying the statement and deriving Inferences.

K4- Examining, analyzing, presentation and make inferences with evidences

EVALUATION (PRACTICAL)

Core Lab / Skill Enhancement Course Lab

Internal (Formative) : 40 marks

External (Summative) : 60 marks

Total :100 marks

Question Paper Pattern for Internal Practical Examination: 40 Marks

- ✓ There will be Two Internal Practical Examination.
- ✓ Duration of Internal Examination will be 2 hours.

S.No	Components	Marks
1.	I – Writing the Program (2x8)	16
2.	II – Test and Debug the Program (2x4)	08
3.	III - Printing the Correct Output (2x4)	08
4.	IV- Viva	03
5.	V –Record book	05
	Total	**40**

Question Paper Pattern for External Practical Examination: 60 Marks

- ✓ Duration of External Examination will be 3 hours.

S.No	Components	Marks
1.	I – Writing the Program (2x10)	20
2.	II – Test and Debug the Program (2x10)	20
3.	III- Printing the Correct Output (2x5)	10
4.	IV – Viva	5
5.	V - Record book	5
	Total	**60**

In respect of external examinations passing minimum is **35% for Under Graduate** Courses and in total, **aggregate of 40%.**

Latest amendments and revisions as per **UGC** and **TANSCHE** norm is taken into consideration to suit the changing trends in the curriculum.

Annexure - 17

EVALUATION (THEORY)

(PART IV - SEC & IDC)

Internal (Formative) : 25 marks

External (Summative) : 75 marks

Total :100 marks

Formative Test (CIA-Continuous Internal Assessment) : 25 Marks

Components	Marks
Test (Conducted for 50 marks and converted into 25 marks)	**25**

- ✓ There will be Only one Internal Assessment Test
- ✓ Duration of Internal assessment test will be 2 hour for Test
- ✓ Students shall write retest with the approval of HOD on genuine grounds if they are absent.

Question Paper Pattern for Continuous Internal Assessment- Test

Section		Marks
A-Multiple Choice Question	(5x1 mark)	5
B-Short Answer	(5x2 marks)	10
C-Either Or type	(3x 5 marks)	15
D-Open choice type	(2/3 x 10 marks)	20
Total		50

Conducted for 50 marks and converted into 25 marks

Question Paper Pattern for External Examination

Section		Marks
A-Multiple Choice Question	(10x1 mark)	10
B-Short Answer	(5x2 marks)	10
C-Either Or type	(5x 5 marks)	25
D-Open choice type	(3/5 x 10 marks)	30
Total		75

Annexure - 17

BLUE PRINT FOR INTERNAL ASSESSMENT
Articulation Mapping - K Levels with Course Learning Outcomes (CLOs)

Sl. No	CLOs	K- Level	Section A		Section B		Section C	Section D	Total
			MCQs (No Choice)		Short Answers (No Choice)		(Either or Type)	(Open Choice)	
			No. of Questions	K-Level	No. of Questions	K-Level			
1.	CLO1	Up to K 3	1	K1	1	K1	4(K2) & 2(K3) (Each set of questions must be in the same level)	1(K2) & 2(K3)	
2.	CLO2	Up to K 3	1		1				
3.	CLO3	Up to K 3	1		1				
4	CLO4	Up to K 3	1		1				
5	CLO5	Up to K 3	1		1				
No. of Questions to be asked			5		5		6	3	19
No. of Questions to be answered			5		5		3	2	15
Marks for each question			1		2		5	10	
Total Marks for each section			**5**		**10**		**15**	**20**	**50**

Distribution of Marks with K Levels - CIA

CIA	K Levels	Section A MCQ	Section B (Short Answers)	Section C (Either/Or Choice)	Section D (Open Choice)	Total Marks	% of Marks
I	K1	5	10	-	-	15	20
	K2	-	-	20	10	30	40
	K3	-	-	10	20	30	40
	K4	-	-	-	-	-	-
	Marks	**5**	**10**	**30**	**30**	**75**	**100**

.

Annexure - 17

Articulation Mapping - K Levels with Course Learning Outcomes (CLOs) for External Assessment

Sl. No	CLOs	K-Level	Section A		Section B		Section C (Either/or Choice)	Section D (Open Choice)	Total
			MCQs		Short Answers				
			No. of Questions	K-Level	No. of Questions	K-Level			
1	CLO 1	Up to K3	2	K1	1	K1	3(K2) & 2(K3) (Each set of questions must be in the same level)	2(K2) & 3(K3)	
2	CLO 2	Up to K3	2		1				
3	CLO 3	Up to K3	2		1				
4	CLO 4	Up to K 3	2		1				
5	CLO 5	Up to K 3	2		1				
No. of Questions to be asked			10		5		10	5	30
No. of Questions to be answered			10		5		5	3	23
Marks for each question			1		2		5	10	
Total Marks for each section			10		10		25	30	75

Distribution of Section-wise Marks with K Levels for External Assessment

K Levels	Section A (MCQ'S)	Section B (Short Answer)	Section C (Either/or)	Section D (Open Choice)	**Total Marks**	% of Marks without choice
K1	10	10	-	--	**20**	16
K2	-	-	30	20	**50**	42
K3	-	-	20	30	**50**	42
Total Marks	10	10	50	50	**120**	100

Annexure - 17

E.M.G. YADAVA WOMEN'S COLLEGE, MADURAI -14.

(An Autonomous Institution – Affiliated to Madurai Kamaraj University)
(Re –accredited (3rd cycle) with Grade A+ and CGPA 3.51 by NAAC)

DEPARTMENT OF COMPUTER APPLICATIONS – UG
CBCS with OBE
COURSE STRUCTURE
(w.e.f. 2022 – 2023 Batch onwards)

Semester	Part	Course Code	Title of the Course	Teaching hrs (per week)	Duration of Exam (hrs.)	Marks allotted			Credits
						CIA	S.E	Total	
I	I	**22OU1TA1**	Tamil	6	3	25	75	100	3
	II	**22OU2EN1**	English	6	3	25	75	100	3
	III	**22OUCA11**	**Core -** Programming in C	4	3	25	75	100	4
	III	**22OUCA1P**	**Core - Lab** in Programming in C Lab	5	3	40	60	100	3
	III	**22OUCAGECO1**	**GEC** – Commerce – Financial Accounting	5	3	25	75	100	5
	IV	**22OUCASE1P**	**SEC** - Office Automation Lab	2	2	40	60	100	2
	IV	**22OUCAID1**	**IDC -** Working Principles of Internet	2	2	25	75	100	2
II	I	**22OU1TA2**	Tamil	6	3	25	75	100	3
	II	**22OU2EN2**	English	6	3	25	75	100	3
	III	**22OUCA21**	**Core -** Object Oriented Programming with C++	4	3	25	75	100	4
	III	**22OUCA2P**	**Core Lab in** Object Oriented Programming with C++ Lab	5	3	40	60	100	3
	III	**22OUCAGEMA2**	**GEC** –Mathematics - 1-Probability and Statistics	5	3	25	75	100	5
	IV	**22OUCASE2P**	**SEC** - Multimedia Lab	2	2	40	60	100	2
	IV	**22OUCAID2**	**IDC** - Web Designing	2	2	25	75	100	2
III	I	**22OU1TA3**	Tamil	6	3	25	75	100	3
	II	**22OU2EN3**	English	6	3	25	75	100	3
	III	**22OUCA31**	**Core –** Java Programming	4	3	25	75	100	3
	III	**22OUCA32**	**Core –** Relational Database Management System	4	3	25	75	100	4
	III	**22OUCA3P**	**Core** Lab in Java Programming Lab	3	3	40	60	100	3
	III	**22OUCAGEMA3**	**GEC** – Mathematics 2 - Numerical Methods	5	3	25	75	100	5
	IV	**22OUCASE3P**	**SEC -** RDBMS Lab	2	2	40	60	100	2
IV	I	**22OU1TA4**	Tamil	6	3	25	75	100	3
	II	**22OU2EN4**	English	6	3	25	75	100	3
	III	**22OUCA41**	**Core –** Data Structures and Computer Algorithms	4	3	25	75	100	3
	III	**22OUCA42**	**Core -** Data Communication and Computer Networks	3	3	25	75	100	3
	III	**22OUCA4P**	**Core Lab in** Data Structures and Computer Algorithms Lab	4	3	40	60	100	4
	III	**22OUCAGEMA4**	**GEC -** Mathematics – 3- Resource Management Techniques	5	3	25	75	100	5
	IV	**22OUCASE4P**	**SEC** - Networking Lab	2	2	40	60	100	2

V	III	**22OUCA51**	**Core –** Python Programming	5	3	25	75	100	4
	III	**22OUCA52**	**Core –** Operating System	6	3	25	75	100	4
	III	**22OUCA53**	**Core –** Software Engineering	5	3	25	75	100	4
	III	**22OUCA5P**	**Core Lab in** Python Programming Lab	5	3	40	60	100	3
	III		**Elective I**	5	3	25	75	100	5
	IV	**22OUCASE5P**	**SEC -** Dot NET Programming Lab	2	2	40	60	100	2
	IV	**22OUCAECEV5**	**AECC -** Environmental Studies	2	2	25	75	100	2
VI	III	**22OUCA61**	**Core –** Web Technology	6	3	25	75	100	4
	III	**22OUCA62**	**Core -** Big Data Analytics	5	3	25	75	100	4
	III	**22OUCA6P**	**Core –** Web Technology Lab	5	3	40	60	100	3
	III		**Elective II**	5	3	25	75	100	5
	III		**Elective III (Project)**	5	3	20	80	100	5
	IV	**22OUCASE6P**	**SEC -** Data Mining Lab	2	2	40	60	100	2
	IV	**22OUCAECVE6**	**AECC -** Value Education	2	2	25	75	100	2
	PART V	**22OU5NS4 /22OU5PE4**	Extension Activities N.S.S / Phy. Education	-	2	25	75	100	1
			Total	180				-	140

Electives:

Semester - V

DSEC - I - (Choose any one)

1. Computer Graphics **- 22OUCADSE5A**
2. Cloud Computing **- 22OUCADSE5B**

Semester - VI

DSEC – II - (Choose any one)

1. Data Mining **-22OUCADSEGA**
2. Internet of Things **-22OUCADSE6B**

DSEC III

1.Project **- 22OUCADSEPR6**

GEC – Generic Elective Courses
SEC – Skill Enhancement Course
IDC – Inter Disciplinary Course
AECC – Ability Enhancement Compulsory Course
DSEC – Discipline Specific Elective Course

NOTE:

The students are permitted to obtain additional credits (Optional)

1. MOOCs / SWAYAM / NPTEL Courses (Online)

Compulsory Courses:

Year	Semester	Nature of Course	Course code	Title of the Course	Hours	Offered to students of
I	I	Add on Course	22CAAOC 22CAAOCP	1. Open Source Technology 2. Open Source Technology Lab	30 Hrs	I B.C.A
II	III	Certificate Course	22CAC 22CACP	1.Multimedia Technology 2. Multimedia Lab	90 Hrs	II Year students of all other disciplines
III	V	Value Added Course	22CAVAC 22CAVACP	1.Cloud Computing with Microsoft Azure 2. Cloud Computing with Microsoft Azure - Lab	30 Hrs	III B.C.A

Department of Computer Applications				I B.C.A				
Sem	**Category**	**Course Code**	**Course Title**	**Credits**	**Hours/ Week**	**CIA**	**External Exam**	**Total**
I	Core	22OUCA11	Programming in C	4	4	25	75	100

Nature of the Course		
Knowledge and Skill Oriented	**Employability Oriented**	**Entrepreneurship oriented**
✔		

Course Objectives:

1. Understand the basic principles of C Programming
2. Apply the control statements to solve the mathematical problems.
3. Analyze different types of arrays and apply the concepts in Real time applications
4. Studies the concept of functions, types of functions, Union and Structures.
5. Comprehend the file concept and file creation using C.

Course Content:

Unit: I Overview of C: History of C – Importance of C – Sample Programs- Basic Structure of C Programs -Executing a 'C' Program. **Constants, Variables and Data Types:** Introduction – Character Set – C Tokens – Keywords and Identifiers – Constants – Variables – Data Types - Declaration of Variables – Declaration of Storage Class – Assigning Values to Variables. **Operators and Expressions:** Introduction – Arithmetic Operators - Relational Operators - Logical Operators - Assignment Operators – Increment and Decrement Operators - Conditional Operators - Bitwise Operators - Special Operators

Unit: II Decision Making and Branching: Introduction – Decision Making with If Statement – Simple If Statement – The If…. Else statement – Nesting of If …. Else Statements – The Else If Ladder – The Switch Statement – The ?: Operator – The Goto Statement. **Decision Making and Looping:** Introduction - The while Statement – The do Statement – The for Statement – Jumps in Loops.

Unit: III Arrays: Introduction – One-Dimensional Arrays – Declaration of One-Dimensional Arrays – Initialization of One-Dimensional Arrays – Two-Dimensional Arrays – Initializing Two-Dimensional Arrays – Multi-Dimensional Arrays – Dynamic Arrays. **Character Arrays and Strings:** Introduction – Declaring and Initializing String Variables – Reading Strings

from Terminal - Writing Strings to Screen – Arithmetic Operations on Characters – Putting Strings Together – Comparison of Two Strings – String-Handling Functions.

Unit: IV User-Defined Functions: Introduction – Need for User-Defined Functions – A Multi-Function Program – Elements of User-Defined Functions – Definition of Functions – Function Calls – Function Declaration - Category of Functions – No Arguments and No Return Values – Arguments and but No Return Values - Arguments with Return Values – No Arguments and but Returns a Value – Recursion –The Scope, Visibility and Lifetime of Variables. **Structures and Unions:** Introduction - Defining a Structure – Declaring Structure Variables – Accessing Structure Members – Structure Initialization – Arrays of Structures – Arrays within Structures – Structures within Structures – Structures and Functions – Unions

Unit: V Pointers: Introduction – Understanding Pointers - Accessing the Address of a Variable – Declaring Pointer Variables - Initialization of Pointer Variables – Accessing a Variable through its Pointer – Pointers and Arrays. **Managing Input and Output Operations:** Introduction - Reading a Character - Writing a Character – Formatted Input - Formatted Output. **File Management in C:** Introduction – Defining and Opening a File - Closing a File – Input/Output Operations on Files – Error Handling during I/O Operations – Command Line Arguments.

Book for Study:

Balagurusamy.E (2019), Programming in ANSI C, 8th Edition, Tata McGraw Hill Education Pvt. Ltd.

Chapters:

Unit – I : Chapter 1, 2, 3

Unit – II : Chapter 5, 6

Unit – III : Chapter 7, 8

Unit – IV : Chapter 9, 10

Unit – V : Chapter 11, 4, 12

Books for References:

1. Brian Kernighan.W & Dennis Ritchie (2015), *C Programming Language*, 2nd Edition. Pearson Education India.
2. David Griffiths , Dawn Griffiths (2012), *Head First C: A Brain-Friendly Guide,* 1st edition ,Shroff Publicaitons.
3. Herbert Schildt (2017), *C: The Complete Reference,* 4th Edition, McGraw Hill Education.

Web Resources/ E.Books:

1. https://www.tutorialspoint.com/cprogramming/c_quick_guide.html
2. https://www.unf.edu/~wkloster/2220/ppts/cprogramming_tutorial.pdf
3. https://www.vssut.ac.in/lecture_notes/lecture1424354156.pdf

Pedagogy:

Chalk and Talk, PPT, group discussion, quiz, ICT tools and Peer Teaching.

Rationale for nature of Course:

Knowledge and Skill: To make students aware of the role of Programming skill in C Language and improve their program writing in C Language.

Activities to be given: Students shall be allow to write program in many concepts

Course Learning Outcomes (CLO's):

CLO	Course Outcomes Statement	Knowledge According to Bloom's Taxonomy (Up to K level)
CLO1	Understand the Basic concept of C Programs.	K1 to K4
CLO2	Study the Various Control Statements, looping statements in C	K1 to K4
CLO3	Apply knowledge to develop C Programs by implementing Arrays and String manipulation	K1 to K4
CLO4	Identify how Functions, Structures and Unions used in C	K1 to K4
CLO5	Analyze the Content of Pointers and Files	K1 to K4

Mapping of Course Learning Outcomes (CLOs) with Programme Outcomes (POs)

	PO1	PO2	PO3	PO4	PO5	PO6
CLO1	2	1	1	2	2	2
CLO2	3	2	2	3	2	1
CLO3	3	2	2	3	2	2
CLO4	2	3	2	3	2	1
CLO5	2	2	3	3	2	1

1-Basic Level 2- Intermediate Level 3- Advanced Level

LESSON PLAN: TOTAL HOURS (60 HRS)

UNIT	DESCRIPTION	HRS	MODE
I	Overview of C: History of C – Importance of C – Sample Programs- Basic Structure of C Programs -Executing a 'C' Program. Constants, Variables and Data Types: Introduction – Character Set – C Tokens – Keywords and Identifiers – Constants – Variables – Data Types - Declaration of Variables – Declaration of Storage Class – Assigning Values to Variables. Operators and Expressions: Introduction – Arithmetic Operators - Relational Operators - Logical Operators - Assignment Operators – Increment and Decrement Operators - Conditional Operators - Bitwise Operators - Special Operators.	10	Chalk and Talk, PPT, group discussion , quiz, on the spot test
II	Decision Making and Branching: Introduction – Decision Making with If Statement – Simple If Statement – The If…. Else statement – Nesting of If …. Else Statements – The Else If Ladder – The Switch Statement – The ?: Operator – The Goto Statement. Decision Making and Looping: Introduction - The while Statement – The do Statement – The for Statement – Jumps in Loops.	10	Chalk and Talk, PPT, group discussion , quiz, on the spot test
III	Arrays: Introduction – One-Dimensional Arrays – Declaration of One-Dimensional Arrays – Initialization of One-Dimensional	12	

	Arrays – Two-Dimensional Arrays – Initializing Two-Dimensional Arrays – Multi-Dimensional Arrays – Dynamic Arrays. Character Arrays and Strings: Introduction – Declaring and Initializing String Variables – Reading Strings from Terminal - Writing Strings to Screen – Arithmetic Operations on Characters – Putting Strings Together – Comparison of Two Strings – String-Handling Functions.		Chalk and Talk, PPT, group discussion , quiz, on the spot test
IV	User-Defined Functions: Introduction – Need for User-Defined Functions – A Multi-Function Program – Elements of User-Defined Functions – Definition of Functions – Function Calls – Function Declaration - Category of Functions – No Arguments and No Return Values – Arguments and but No Return Values - Arguments with Return Values – No Arguments and but Returns a Value – Recursion –The Scope, Visibility and Lifetime of Variables. Structures and Unions: Introduction - Defining a Structure – Declaring Structure Variables – Accessing Structure Members – Structure Initialization – Arrays of Structures – Arrays within Structures – Structures within Structures – Structures and Functions – Unions	14	Chalk and Talk, PPT, group discussion , quiz, on the spot test

V	Pointers: Introduction – Understanding Pointers - Accessing the Address of a Variable – Declaring Pointer Variables - Initialization of Pointer Variables – Accessing a Variable through its Pointer – Pointers and Arrays. Managing Input and Output Operations: Introduction - Reading a Character - Writing a Character – Formatted Input - Formatted Output. File Management in C: Introduction – Defining and Opening a File - Closing a File – Input/Output Operations on Files – Error Handling during I/O Operations – Command Line Arguments.	14	Chalk and Talk, PPT, group discussion , quiz, on the spot test

Course Designer
Dr.(Mrs.)S.VIJAYASANKARI

Department of Computer Applications				Class : I B.C.A				
Sem	**Category**	**Course Code**	**Course Title**	**Credits**	**Hours/ Week**	**CIA**	**External Exam**	**Total**
I	Core	22OUCA1P	Programming in C Lab	3	5	40	60	100

Nature of the Course		
Knowledge and SkillOriented	**Employability Oriented**	**Entrepreneurship oriented**
✔		

PROGRAM LIST

OPERATORS AND EVALUATION OF EXPRESSIONS

1. Check whether a number is even or odd using ternary operator.
2. Addition of two numbers without using + operator.
3. Evaluate the arithmetic expression ((a + b / c * d - e) * (f – g)).
4. Find the sum of individual digits of a 3 digit number.

CONTROL STRUCTURES

1. Find the sum of individual digits of a positive integer.
2. Fibonacci sequence.
3. Generate all the prime numbers between 1 and n.
4. Find ASCII values for corresponding alphabets.
5. Write a C program to calculate the following sequence

   sum = 1 – x2 /2! + x4 /4! – x6 /6! +x8 /8! – x10/10!

6. Find the roots of a quadratic equation.
7. Check whether a given 3 digit number is Armstrong number or not.
8. Print the numbers in triangular form

   1

   1 2

   1 2 3

   1 2 3 4

ARRAYS

1. Find the second largest integer in a list of integers.
2. Addition and Multiplication of two matrices
3. Count and display positive, negative, odd and even numbers in an array.
4. Merge two sorted arrays into another array in a sorted order.

STRINGS

1. Write a C program that uses functions to perform the following operations:
    i. To insert a sub string into a given main string from a given position.
    ii. To delete n characters from a given position in a given string.
2. Write a C program to determine if the given string is a palindrome or not.

FUNCTIONS

1. Write C programs that use both recursive and non-recursive functions
    a. To find the factorial of a given integer.
    b. To find the greatest common divisor of two given integers.
    c. To print Fibonacci series.
2. Write a C program that uses a function to reverse a given string.

POINTERS

1. Write a C program to concatenate two strings using pointers.
2. Write a C program to find the length of string using pointers.

STRUCTURES AND UNIONS

1. Reading a complex number Using Structures
2. Addition and subtraction of two complex numbers Using Structures
3. Multiplication of two complex numbers Using Structures
4. Write a C program to compute the monthly pay of 100 employees using each employee's name, basic pay. The DA is computed as 52% of the basic pay. Gross-salary (basic pay + DA). Print the employees name and gross salary.

FILES

1. Write a C program to display the contents of a file.
2. Write a C program to copy the contents of one file to another.

COMMAND LINE ARGUMENTS

1. Write a C program to read two numbers at the command line and perform arithmetic operations on it.
2. Write a C program to read a file name at the command line and display its contents.

Books for References:

1. Brian Kernighan.W & Dennis Ritchie (2015), *C Programming Language*, 2nd Edition.,Pearson Education India.
2. David Griffiths , Dawn Griffiths (2012), *Head First C: A Brain-Friendly Guide*, 1st edition. Shroff Publicaitons.
3. Herbert Schildt (2017) , *C: The Complete Reference*, 4th Edition,. McGraw Hill Education.

Web Resources / E.Books:

1. https://wptripura.nic.in/C%20Programming%20Lab.pdf
2. https://www.anits.edu.in/online_tutorials/Programming-with-C-and-Lab.pdf
3. https://mrcet.com/downloads/hs/cp%20MANUAL%20final.pdf

Pedagogy

Practical Test with viva voce, Group Discussion, Interaction, Quiz.

LESSON PLAN FOR PRACTICAL: TOTAL HOURS (75 HRS)

CYCLE	DESCRIPTION	HRS	MODE
OPERATORS AND EVALUATION OF EXPRESSIONS			
I	Check whether a number is even or odd using ternary operator.	12	Writing and executing the program in a system
	Addition of two numbers without using + operator.		
	Evaluate the arithmetic expression ((a + b / c * d - e) * (f – g)).		
	Find the sum of individual digits of a 3 digit number.		
CONTROL STRUCTURES			
	Find the sum of individual digits of a positive integer.		

II	Fibonacci sequence.	12	Writing and executing the program in a system
	Generate all the prime numbers between 1 and n.		
	Find ASCII values for corresponding alphabets.		
	Write a C program to calculate the following sequence sum = 1 – x2 /2! + x4 /4! – x6 /6! +x8 /8! – x10/10!	6	
	Find the roots of a quadratic equation.		
	Check whether a given 3 digit number is Armstrong number or not		
	Print the numbers in triangular form 1 1 2 1 2 3 1 2 3 4		
ARRAYS			
III	Find the second largest integer in a list of integers.	6	Writing and executing the program in a system
	Addition and Multiplication of two matrices		
	Count and display positive, negative, odd and even numbers in an array.		
	Merge two sorted arrays into another array in a sorted order		
STRINGS			

III	Write a C program that uses functions to perform the following operations: i. To insert a sub string into a given main string from a given position. ii. To delete n characters from a given position in a given string.	8	Writing and executing the program in a system
FUNCTIONS			
IV	Write C programs that use both recursive and non-recursive functions To find the factorial of a given integer. a. To find the greatest common divisor of two given integers. b. To print Fibonacci series.	4	Writing and executing the program in a system
	Write a C program that uses a function to reverse a given string.		
POINTERS			
IV	Write a C program to concatenate two strings using pointers. Write a C program to find the length of string using pointers.	10	Writing and executing the program in a system
STRUCTURES AND UNIONS			
IV	Reading a complex number Using Structures Addition and subtraction of two complex numbers Using Structures Multiplication of two complex numbers Using Structures Write a C program to compute the monthly pay of 100 employees using each employee's name, basic pay. The DA is computed as 52% of the basic pay. Gross-salary (basic pay + DA). Print the employees name and gross salary.	8	Writing and executing the program in a system

FILES			
V	Write a C program to display the contents of a file. Write a C program to copy the contents of one file to another.	5	Writing and executing the program in a system
COMMAND LINE ARGUMENTS			
V	Write a C program to read two numbers at the command line and perform arithmetic operations on it. Write a C program to read a file name at the command line and display its contents.	4	Writing and executing the program in a system

Course Designer
MRS P.INDHUJA

EVALUATION (PRACTICAL)
Core Lab / Skill Enhancement Course Lab

Internal (Formative) : 40 marks

External (Summative) : 60 marks

Total :100 marks

Question Paper Pattern for Internal Practical Examination: 40 Marks

- ✓ There will be Two Internal Practical Examination.
- ✓ Duration of Internal Examination will be 2 hours.

S.No	Components	Marks
1.	I – Writing the Program (2x8)	16
2.	II – Test and Debug the Program (2x4)	08
3.	III - Printing the Correct Output (2x4)	08
4.	IV- Viva	03
5.	V –Record book	05
	Total	**40**

Question Paper Pattern for External Practical Examination: 60 Marks

- ✓ Duration of External Examination will be 3 hours.

S.No	Components	Marks
1.	I – Writing the Program (2x10)	20
2.	II – Test and Debug the Program (2x10)	20
3.	III- Printing the Correct Output (2x5)	10
4.	IV – Viva	5
5.	V - Record book	5
	Total	**60**

Annexure - 17

Department of Computer Applications				I B.C.A				
Sem	**Category**	**Course Code**	**Course Title**	**Credits**	**Hours/ Week**	**CIA**	**External Exam**	**Total**
I	Skill Enhancement Course	22OUCASE1P	Office Automation Lab	2	2	40	60	100

Nature of the Course		
Knowledge and Skill Oriented	**Employability Oriented**	**Entrepreneurship Oriented**
✔	✔	

PROGRAM LIST

WORD PROCESSOR

1. i) Create a document, save it and edit the document as follows:

    a. Cut, Copy, Paste options.

    b. Find and Replace options.

    c. Undo and Redo options.

ii) Format the document:

    a. Using Bold, Underline and Italic.

    b. Change Character style and size.

    c. Formatting paragraph: Center, Left aligns & Right align

    d. Changing paragraph and line spacing, Using Bullets and Numbering in Paragraphs.

2. Enhance the documents using Header, Footer, Page Setup, Border, Page number, watermarking, Orientation and Print Preview.

3. Insert tables and pictures in a document as follows

    a. Creating Tables in a document, Selecting Rows & Column sort the record

    b. Insert a picture – edit size and add name of the picture above it.

    c. Also do basic text formatting like – bold, italic, underline, alignments etc in table.,

4. Using mail merge, send an invitation /notice (by creating the invitation/notice) for the following situation (at least 5 addresses to be entered) (Any one of the following)

    a. For opening a new branch

    b. Inauguration function

    c. Informing about new scheme or offer

SPREADSHEET

5. a. Create a worksheet, moving/ copying/ inserting/ deleting rows and columns (usage of cut, paste, commands, copying a single cell, copying a range of data, filling up a cell. Undo command, inserting a row, column, deleting rows and columns).

b. Formatting worksheets Bold, Italic, Font size changing, Auto fill, date format, Currency format

6. Open an excel and create fields as follows

i. Enter S.No, Name, marks for 10 students

ii. Find total and average using formula.

iii. Find Result whether the student is pass or fail and also assign grade as per our university norms.

iv. Insert a column chart showing the comparison of marks in different subjects of different students.

7. i) Creating and running a macro.

ii) Assigning button to a defined macro.

iii) Editing a macro.

PRESENTATION

8. Create a presentation with apply background/Themes, apply custom animation on text, Insert images/word art and animate the images with effects.

9. Create "My album" use photos, audio, and videos with necessary Transition effects.

10. Making an Organization Structure in Power Point Starting an organization chart, Entering names and Titles, Adding Members, Formatting the Boxes, Text and Lines, Rearranging the Org Chart, Finishing the chart.

Books for References:

1. Dr. P. Rizwan Ahamed (2016), Office Automation, Margham Publications.
2. Dr. R. Deepalakshmi (2019), Computer Fundamentals & Office Automation, 2nd Edition., Charulatha Publications.
3. Rimple Pundir (2010), *Computer Fundamentals and Office Automation*, Ist Edition Pragati Prakashan,

Web Resources/ E.Books:

1. https://pkaiet.in/wp-content/uploads/2020/05/Office-Automation-Lab.pdf
2. http://www.ebookbou.edu.bd/Books/Text/SST/DCSA/DCSA_1302_full.pdf

3. https://www.subhartidde.com/slms/Computer%20Fundamental%20&%20Office%20Automation%20(BCA-102).pdf

Pedagogy

Practical Test with viva voce, Group Discussion, Interaction, Quiz.

LESSON PLAN FOR PRACTICAL: TOTAL HOURS (30 HRS)

CYCLE	DESCRIPTION	HRS	MODE
WORD PROCESSOR			
1	i) Create a document, save it and edit the document as follows: a. Cut, Copy, Paste options. b. Find and Replace options. c. Undo and Redo options. ii) Format the document: a. Using Bold, Underline and Italic. b. Change Character style and size. c. Formatting paragraph: Center, Left aligns & Right align d. Changing paragraph and line spacing, Using Bullets and Numbering in Paragraphs.	6	Writing and executing the program in a system
2	Enhance the documents using Header, Footer, Page Setup, Border, Page number, watermarking, Orientation and Print Preview.	6	Writing and executing the program in a system
3	Insert tables and pictures in a document as follows a. Creating Tables in a document, Selecting Rows & Column sort the record b. Insert a picture – edit size and add name of the picture above it.	6	Writing and executing the program in a system

	c. Also do basic text formatting like – bold, italic, underline, alignments etc in table.,		
4	Using mail merge, send an invitation /notice (by creating the invitation/notice) for the following situation (at least 5 addresses to be entered) (Any one of the following) a. For opening a new branch b. Inauguration function c. Informing about new scheme or offer	4	Writing and executing the program in a system
SPREADSHEET			
5	a. Create a worksheet, moving/ copying/ inserting/ deleting rows and columns (usage of cut, paste, commands, copying a single cell, copying a range of data, filling up a cell. Undo command, inserting a row, column, deleting rows and columns). b. Formatting worksheets Bold, Italic, Font size changing, Auto fill, date format, Currency format	6	Writing and executing the program in a system
6	Open an excel and create fields as follows i. Enter S.No, Name, marks for 10 students ii. Find total and average using formula. iii. Find Result whether the student is pass or fail and also assign grade as per our university norms.		Writing and executing the program in a system

	iv. Insert a column chart showing the comparison of marks in different subjects of different students.	4	
7	Creating and running a macro. ii) Assigning button to a defined macro. iii) Editing a macro.		Writing and executing the program in a system
PRESENTATION			
8	Create a presentation with apply background/Themes, apply custom animation on text, Insert images/word art and animate the images with effects.	4	Writing and executing the program in a system
9	Create "My album" use photos, audio, and videos with necessary Transition effects.		
10	Making an Organization Structure in Power Point Starting an organization chart, Entering names and Titles, Adding Members, Formatting the Boxes, Text and Lines, Rearranging the Org Chart, Finishing the chart.		

Course Designer

Mrs. P.INDHUJA

Annexure - 17

EVALUATION (PRACTICAL)
Core Lab / Skill Enhancement Course Lab

Internal (Formative) : 40 marks

External (Summative) : 60 marks

Total :100 marks

Question Paper Pattern for Internal Practical Examination: 40 Marks

- ✓ There will be Two Internal Practical Examination.
- ✓ Duration of Internal Examination will be 2 hours.

S.No	Components	Marks
1.	I – Writing the Program (2x8)	16
2.	II – Test and Debug the Program (2x4)	08
3.	III - Printing the Correct Output (2x4)	08
4.	IV- Viva	03
5.	V –Record book	05
	Total	**40**

Question Paper Pattern for External Practical Examination: 60 Marks

- ✓ Duration of External Examination will be 3 hours.

S.No	Components	Marks
1.	I – Writing the Program (2x10)	20
2.	II – Test and Debug the Program (2x10)	20
3.	III- Printing the Correct Output (2x5)	10
4.	IV – Viva	5
5.	V - Record book	5
	Total	**60**

Department of Computer Applications				Class : I UG				
Sem	**Category**	**Course Code**	**Course Title**	**Credits**	**Hours/ Week**	**CIA**	**External Exam**	**Total**
I	Inter Disciplinary Course	22OUCAID1	Working Principles of Internet	2	2	25	75	100

Nature of the Course		
Knowledge and Skill Oriented	**Employability Oriented**	**Entrepreneurship Oriented**
		✔

Course Objectives

1. Understand the basics Concepts of Internet.
2. The students to access the usage of Web browsers.
3. Analyzes the Concept of internet addressing and Internet protocols.
4. Gain the knowledge of working with E-mail, Websites and Web Pages.
5. To recognize for accessing the usage of Social Networking.

Unit-I Introduction to Internet: Introduction – Some Statistics – What is Internet – How does Internet Work? – What is Special about the Internet? – A Brief History of Internet. **How Internet Works? :** Introduction .**World Wide Web (WWW):** introduction – Internet and Web – How the Web Works? – A Brief History of WWW.

Unit-II Web Browsers and Web Browsing: Web Browsers – Types Browsers – Web Browsing. **Searching the Web:** Introduction – Information Sources – Finding Information on the Internet – Searching the Web – Web Directory – Search Engines – Making your Search – Improving your Searching – Tips for Internet Research.

Unit-III Anonymity, Safety and Privacy: Introduction – Privacy – Anonymity – Encryption – Understanding Security and Privacy. **Internet Addressing: Introduction – IP Address – Domain Names – Domain Name System (DNS) – Uniform Resources Locators (URL) – Electronic mail Address. Internet Protocols:** Introduction – Transmission Control Protocol / Internet Protocol – (TCP/IP) – File Transfer Protocol (FTP) – Hyperext Transfer protocol (HTTP) – Telnet – Gopher – WAIS**.**

Unit-IV E-mail: Introduction – How E-mail works? – Why use E-mail? – E-mail – Names and Address – Mailing Basics – How private is the E-mail? – E-mail Ethics – Spamming – E-mail-

Advantages and Disadvantages – Tips for effective e-mail use – E-mail Safety Tips – Smileys (Emotions) – Free E-mail Providers. **Websites and Web Pages:** Introduction – Web Design – Creating a Website – Web Hosting – Website Promotion.

Unit-V Social Networking: Introduction – Social Networking Timeline – Why Social Networking? – Dangers of Social Networking – Getting Connected – Finally. **Newsgroups, Mailing Lists and Discuss Forums:** Newsgroups – Newsgroup Organization – Mailing Lists – Discuss Forums – Discuss on the Internet. **Chat, Instant Message (IM), Internet Telephony (VoIP) and Videoconferencing:** Internetchat – Instant Messaging – Internet Telephony – Videoconferencing.

Books for Study:

Alexis Leon, Mathews Leon, (2012), *Internet for Everyone*, 15 th Edition, UBS publishers Distributors Private Limited

Chapters:

Unit-I	**:** 1, 2, 4
Unit-II	**:** 5, 6
Unit-III	**:** 7, 8, 9
Unit-IV	**:** 10, 11
Unit-V	**:** 15, 16, 17

Books for References :

1. Dr. Douglas Comer. (2018), *The Internet Book*, Chapman and Hall/CRC,
2. Dr. Douglas Comer (2020), *The Internet Book*, 3rd Edition, Pearson.
3. K.Pandey (2011), *Internet & Web Designing*, ,1st Edition,.S.K. Kataria & Sons.

Web Resources/ E.Books:

1. https://quicklearncomputer.com/applications-of-internet/
2. https://ftms.edu.my/v2/wp-content/uploads/2019/02/csca0101_ch09.pdf
3. https://www.ggu.ac.in/Assets/PDF/LectureNotes/24.9.14-Internet%20Applications%20notes-Miss%20Sushma%20Jaiswal.pdf

Pedagogy:

Chalk and Talk, PPT, group discussion, quiz, on the spot test and Peer teaching

Rationale for nature of Course:

Knowledge and Skill:

- **A**ble to use the basic technology in Internet applications. It can easily connect and share information with them using communication tools.

Activities to be given:

- To understand the basic concepts of internet applications.
- To practice the use of Internet, Search Engines and Social Networking

Course learning Outcomes (CLOs):

CLO	Course Outcomes Statement	Knowledge (According to Bloom's Taxonomy)
CLO1	Understand the basic concepts of Internet and Intranet.	K1 to K3
CLO2	Identify the usage of Web Browsers and Web Browsing.	K1 to K3
CLO3	Apply the knowledge of Anonymity, Safety and Privacy , Internet Addressing	K1 to K3
CLO4	Analyze the concepts of E-mail and Web pages	K1 to K3
CLO5	Examine the role of Social Networking	K1 to K3

K1- Remembering and recalling facts with specific answers

K2- Basic understanding of facts and stating main ideas with general answers

K3- Application oriented, Justifying the statement and deriving inferences

Mapping of Course Learning Outcomes (CLOs) with Programme Outcomes (POs)

(SCIENCE)

	PO1	PO2	PO3	PO4	PO5	PO6
CLO1	1	3	2	3	3	2
CLO2	2	3	1	3	2	2
CLO3	3	2	2	3	2	2
CLO4	2	3	2	2	3	2
CLO5	3	3	1	3	2	2

1-Basic Level 2- Intermediate Level 3- Advanced Level

Mapping of Course Learning Outcomes (CLOs) with Programme Outcomes (POs)

(ARTS)

	PO1	PO2	PO3	PO4	PO5	PO6
CLO1	2	2	2	2	3	1
CLO2	2	3	2	3	2	1
CLO3	2	2	2	2	3	2
CLO4	3	3	2	2	3	2
CLO5	3	2	2	2	3	2

LESSON PLAN: TOTAL HOURS (30 HRS)

UNIT	DESCRIPTION	HRS	MODE
I	Introduction to Internet: Introduction – Some Statistics – What is Internet – How does Internet Work? – What is Special about the Internet? – A Brief History of Internet. How Internet Works? : Introduction .World Wide Web (WWW): introduction – Internet and Web – How the Web Works? – A Brief History of WWW	8	Chalk and Talk, PPT, group discussion, quiz, on the spot test.
II	Web Browsers and Web Browsing: Web Browsers – Types Browsers – Web Browsing. Searching the Web: Introduction – Information Sources – Finding Information on the Internet – Searching the Web – Web Directory – Search Engines – Making your Search – Improving your Searching – Tips for Internet Research.	6	Chalk and Talk, PPT, group discussion, quiz, on the spot test.
	Anonymity, Safety and Privacy: Introduction – Privacy – Anonymity – Encryption – Understanding Security and Privacy. Internet Addressing: Introduction – IP Address –	4	Chalk and Talk, PPT, group discussion, quiz, on the spot test.

III	Domain Names – Domain Name System (DNS) – Uniform Resources Locators (URL) – Electronic mail Address. **Internet Protocols:** Introduction – Transmission Control Protocol / Internet Protocol – (TCP/IP) – File Transfer Protocol (FTP) – Hyperext Transfer protocol (HTTP) – Telnet – Gopher – WAIS**.**		
IV	E-mail: Introduction – How E-mail works? – Why use E-mail? – E-mail – Names and Address – Mailing Basics – How private is the E-mail? – E-mail Ethics – Spamming – E-mail-Advantages and Disadvantages – Tips for effective e-mail use – E-mail Safety Tips – Smileys (Emotions) – Free E-mail Providers. Websites and Web Pages: Introduction – Web Design – Creating a Website – Web Hosting – Website Promotion.	4	Chalk and Talk, PPT, group discussion, quiz, on the spot test.
V	Social Networking: Introduction – Social Networking Timeline – Why Social Networking? – Dangers of Social Networking – Getting Connected – Finally. Newsgroups, Mailing Lists and Discuss Forums: Newsgroups – Newsgroup Organization – Mailing Lists – Discuss Forums – Discuss on the Internet. Chat, Instant Message (IM), Internet Telephony (VoIP) and Videoconferencing: Internetchat – Instant Messaging – Internet Telephony – Videoconferencing.	8	Chalk and Talk, PPT, group discussion , quiz, on the spot test.

Course Designer

Mrs.K.KRISHNAVENI

Department of Computer Applications				I B.C.A				
Sem	**Category**	**Course Code**	**Course Title**	**Credits**	**Hours/ Week**	**CIA**	**External Exam**	**Total**
II	Core	22OUCA21	Object Oriented Programming With C++	4	4	25	75	100

Nature of the Course		
Knowledge and Skill Oriented	**Employability Oriented**	**Entrepreneurship Oriented**
✔	✔	

Course Objectives

1. Understand the programming concept to develop applications
2. Apply the control statements and develop programs using different types of functions
3. Apply the concept of Constructor, destructor, Function Overloading and operator Overloading.
4. Understand the Concept of inheritance and pointers
5. Identify the file, file modes and command line arguments

Course Content:

Unit: I Principles of Object-Oriented Programming: Object – oriented Programming Paradigm - Basic concepts of Object Oriented Programming - Benefits of OOP – Object-Oriented Languages. **Tokens , Expressions and Control Structures :** Introduction - Tokens – Keywords – Identifiers and Constants – Basic Data Types – User –Defined Data Types – Storage Classes - Derived Data Types – Symbolic Constants – Type Compatibility – Declaration of Variables – Dynamic Initialization of Variables – Reference Variables – Operators in C++ - Scope Resolution Operator – Member Dereferencing Operators – Memory Management Operators – Manipulators – Type Cast Operator – Expression and their Types.

Unit: II Functions in C++ : Introduction - The Main Function – Function Prototyping – Call by Reference – Return by Reference – Inline Functions – Default Arguments – Const Arguments – Recursion - Function Overloading – Friend and Virtual Functions – Math Library Functions. **Classes and Objects :** Introduction – Specifying a Class – Defining Member Functions – A C++ Program with Class – Private Member Functions – Arrays within a Class

– Memory Allocation for Objects – Static Data Members – Static Member Functions - Arrays of Objects – Objects as Function Arguments – Friendly Functions – Returning Objects.

Unit: III Constructors and Destructors : Introduction – Constructors – Parameterized Constructors – Multiple Constructors in a Class – Constructors with Default Arguments – Dynamic Initialization of Objects – Copy Constructor – Dynamic Constructors – Constructing Two Dimensional Arrays – Const Objects – Destructors. **Operator Overloading and Type Conversion :** Introduction – Defining Operator Overloading – Overloading Unary Operators – Overloading Binary Operators – Manipulation of Strings using Operators – Rules for Overloading Operators .

Unit: IV Inheritance: Extending Classes: Introduction – Defining Derived Classes – Single Inheritance – Making a Private Member Inheritable – Multilevel Inheritance –Multiple Inheritances - Hierarchical Inheritance – Hybrid Inheritance – Virtual Base Classes. **Pointers, Virtual Functions and Polymorphism:** Introduction – Pointers – Pointers to Objects – this Pointer – Polymorphism - Virtual Functions – Pure Virtual Functions.

Unit: V Managing Console I/O Operations: Introduction – C++ Streams – C++ Stream Classes – Unformatted I/O Operations - Formatted Console I/O Operations – Managing Output with Manipulators . **Working with Files :** Introduction – Classes for File Stream Operations – Opening and Closing a File – Detecting end-of-file – More about Open(): File Modes – File Pointers and their Manipulations – Sequential Input and Output Operations – Updating a File : Random Access – Error Handling during File Operations - Command-line Arguments.

Book for study:

Balagurusamy.E (2017), *Object Oriented Programming with C++* , 7th Edition,. McGraw Hill Education (India) Private Limited , New Delhi ,

Chapters:

Unit – I : 1.5 - 1.8 , 3.1 – 3.19

Unit – II : 4.1 – 4.12, 5.1 , 5.3 – 5.15

Unit – III : 6.1 - 6.11, 7.1 -7.4 , 7.6 , 7.8

Unit – IV : 8.1 – 8.9, 9.1 – 9.4 , 9.6 , 9.7

Unit – V : 10.1 – 10.6, 11.1 – 11.10

Books for Reference:

1. Herbert Schildt (2017), *C++:The complete Reference* , 4th Edition, TMH Publications,New Delhi.
2. Mike McGrath(2017), *C++ Programming in easy steps*, 5th Edition,.Dreamtech Press,New Delhi.
3. Debasish jana.P (2014) , *C++ And Object-Oriented Programming Paradigm* , 3rd Edition, PHI Learning Pvt. Ltd, New Delhi.

Web Resources / E.Books:

1. https://www.tutorialspoint.com/cplusplus/cpp_tutorial.pdf
2. https://thatchna.weebly.com
3. https://www.geeksforgeeks.org/c-plus-plus/

Pedagogy:

Chalk and Talk, PPT, Group discussion, Quiz.

Rationale for nature of Course:

Knowledge and Skill: To make students aware of the role of Programming skill in C++ Language and improve their program writing in C++ Language.

Activities to be given: Students shall be allowed to write program in many concepts.

Course learning Outcomes (CLO's):

CLO	Course learning Outcomes (CLO's)	Knowledge (According to Bloom's Taxonomy)
CLO1	Understand to Examine the Basic Concepts of C++ Language.	K1 to K3
CLO2	Identify how functions, Classes and Objects used in C++	K1 to K3
CLO3	Apply the Knowledge to Develop C++ Programs by implementing Constructor, Destructor and Overloading Concepts.	K1 to K3
CLO4	Apply the Knowledge to Construct C++ Programs using Inheritance, Pointers, Polymorphism and Virtual Functions	K1 to K3
CLO5	Analyze the Concept of Files and Exception Handling	K1 to K3

Mapping of Course Learning Outcomes (CLOs) with Programme Outcomes (POs)

	PO1	PO2	PO3	PO4	PO5	PO6
CLO1	2	2	3	2	2	1
CLO2	2	3	3	2	2	2
CLO3	1	2	3	2	3	2
CLO4	3	3	2	2	3	2
CLO5	2	3	3	2	3	2

1-Basic Level 2- Intermediate Level 3- Advanced Level

Annexure - 17

LESSON PLAN: TOTAL HOURS (60 HRS)

UNIT	DESCRIPTION	HRS	MODE
I	Principles of Object-Oriented Programming: Object – oriented Programming Paradigm - Basic concepts of Object Oriented Programming - Benefits of OOP – Object-Oriented Languages. Tokens , Expressions and Control Structures : Introduction - Tokens – Keywords – Identifiers and Constants – Basic Data Types – User –Defined Data Types – Storage Classes - Derived Data Types – Symbolic Constants – Type Compatibility – Declaration of Variables – Dynamic Initialization of Variables – Reference Variables – Operators in C++ - Scope Resolution Operator – Member Dereferencing Operators – Memory Management Operators – Manipulators – Type Cast Operator – Expression and their Types.	12	Chalk and Talk, PPT, group discussion , OHP presentations, quiz, on the spot test and Virtual Labs.
II	Functions in C++ : Introduction - The Main Function – Function Prototyping – Call by Reference – Return by Reference – Inline Functions – Default Arguments – Const Arguments – Recursion - Function Overloading – Friend and Virtual Functions – Math Library Functions. Classes and Objects : Introduction – Specifying a Class – Defining Member Functions – A C++ Program with Class – Private Member Functions – Arrays within	10	Chalk and Talk, PPT, group discussion , OHP presentations, quiz, on the spot test and

	a Class – Memory Allocation for Objects – Static Data Members – Static Member Functions - Arrays of Objects – Objects as Function Arguments – Friendly Functions – Returning Objects.		Virtual Labs.
III	Constructors and Destructors : Introduction – Constructors – Parameterized Constructors – Multiple Constructors in a Class – Constructors with Default Arguments – Dynamic Initialization of Objects – Copy Constructor – Dynamic Constructors – Constructing Two Dimensional Arrays – Const Objects – Destructors. Operator Overloading and Type Conversion : Introduction – Defining Operator Overloading – Overloading Unary Operators – Overloading Binary Operators – Manipulation of Strings using Operators – Rules for Overloading Operators .	10	Chalk and Talk, PPT, group discussion , OHP presentations, quiz, on the spot test and Virtual Labs
IV	Inheritance: Extending Classes: Introduction – Defining Derived Classes – Single Inheritance – Making a Private Member Inheritable – Multilevel Inheritance –Multiple Inheritances - Hierarchical Inheritance – Hybrid Inheritance – Virtual Base Classes. Pointers, Virtual Functions and Polymorphism: Introduction – Pointers – Pointers to Objects – this Pointer – Polymorphism - Virtual Functions – Pure Virtual Functions.	14	Chalk and Talk, PPT, group discussion , OHP presentations, quiz, on the spot test and Virtual Labs

V	Managing Console I/O Operations: Introduction – C++ Streams – C++ Stream Classes – Unformatted I/O Operations - Formatted Console I/O Operations – Managing Output with Manipulators . Working with Files : Introduction – Classes for File Stream Operations – Opening and Closing a File – Detecting end-of-file – More about Open(): File Modes – File Pointers and their Manipulations – Sequential Input and Output Operations – Updating a File : Random Access – Error Handling during File Operations - Command-line Arguments.	14	Chalk and Talk, PPT, group discussion , OHP presentations, quiz, on the spot test and Virtual Labs

COURSE DESIGNER

G.ALAMELU

Annexure - 17

Department of Computer Applications				Class : I B.C.A				
Sem	**Category**	**Course Code**	**Course Title**	**Credits**	**Hours/ Week**	**CIA**	**External Exam**	**Total**
II	Core	22OUCA2P	Object Oriented Programming with C++ Lab	3	5	40	60	100

Nature of the Course		
Knowledge and Skill Oriented	**Employability Oriented**	**Entrepreneurship oriented**
✔	✔	

PROGRAM LIST

1. Printing Prime numbers between two given numbers.
2. Printing 3 digit numbers as a series of words. (Ex. 543 should be printed out as Five Four Three).
3. Finding area of geometric shapes using function overloading.
4. Inline functions for simple arithmetic operations.
5. Demonstrating the use of Pre-defined Manipulators.
6. Demonstrating the use of friend function.
7. Creating student mark list using array of objects,
8. Demonstrating constructor overloading.
9. Overloading the unary – operator.
10. Demonstrating single inheritance.
11. Demonstrating the use of “this” pointer.
12. Designing our own manipulator.
13. Illustrating function templates.
14. Illustrating class templates
15. Overloading the binary + operator.

16.Demonstrating Multiple inheritance.

17.Demonstrating Multilevel inheritance.

18.Demonstrating Hierarchical inheritance.

19.Demonstrating Virtual functions.

20.Processing mark list using binary file.

21. Print current date and time

22. Copy elision in C++.

23. Array of sets in C++

24. Smart pointers in C++

25. Types of polymorphism in C++

26. Scope Resolution Operator in C++

27. Static Member Function in C++

28. Const keyword in C++

29. Memset in C++

30. Type Casting in C++

Books for References:

1. Ravichandran.D(2002), Programming with C++ , 2nd Edition, TMH Publications, New Delhi,

2. Robert Laffore (2002), Object Oriented Programming using C++,4th Edition.Sams Publishing,

3. Bjarne Stroustrup (2013), "The C++ Programming language", Addison-Wesley.

Web Resources/ E.Books:

1. https://www.cplusplus.com/files/tutorial.pdf
2. https://www.tutorialspoint.com/cplusplus/cpp_tutorial.pdf
3. http://www.lmpt.univ-tours.fr/~volkov/C++.pdf

Pedagogy

Practical Test with viva voce, Group Discussion, Interaction, Quiz.

Annexure - 17

LESSON PLAN FOR PRATICAL: TOTAL HOURS (75 HRS)

CYCLE	DESCRIPTION	HRS	MODE
1	Printing Prime numbers between two given numbers. Printing 3 digit numbers as a series of words. (Ex. 543 should be printed out as Five Four Three). Finding area of geometric shapes using function overloading. Inline functions for simple arithmetic operations. Demonstrating the use of Pre-defined Manipulators Demonstrating the use of Pre-defined Manipulators. Demonstrating the use of friend function.	15	Writing and executing the program in a system
2	Creating student mark list using array of objects, Demonstrating constructor overloading. Overloading the unary – operator. Demonstrating single inheritance. Demonstrating the use of "this" pointer. Designing our own manipulator.	15	Writing and executing the program in a system
3	Illustrating function templates. Illustrating class templates Overloading the binary + operator. Demonstrating Multiple inheritance. Demonstrating Multilevel inheritance. Demonstrating Hierarchical inheritance.	15	Writing and executing the program in a system
4	Demonstrating Virtual functions. Processing mark list using binary file. Print current date and time Copy elision in C++. Array of sets in c++ Smart pointers in C++	13	Writing and executing the program in a system
5	Types of polymorphism in C++ Scope Resolution Operator in C++ Static Member Function in C++ Const keyword in C++ Memset in C++ Type Casting in C++	17	Writing and executing the program in a system

Course Designer

Mrs. G. ALAMELU

Annexure - 17

EVALUATION (PRACTICAL)

Core Lab / Skill Enhancement Course Lab

Internal (Formative) : 40 marks

External (Summative) : 60 marks

Total :100 marks

Question Paper Pattern for Internal Practical Examination: 40 Marks

- ✓ There will be Two Internal Practical Examination.
- ✓ Duration of Internal Examination will be 2 hours.

S.No	Components	Marks
1.	I – Writing the Program (2x8)	16
2.	II – Test and Debug the Program (2x4)	08
3.	III - Printing the Correct Output (2x4)	08
4.	IV- Viva	03
5.	V –Record book	05
	Total	**40**

Question Paper Pattern for External Practical Examination: 60 Marks

- ✓ Duration of External Examination will be 3 hours.

S.No	Components	Marks
1.	I – Writing the Program (2x10)	20
2.	II – Test and Debug the Program (2x10)	20
3.	III- Printing the Correct Output (2x5)	10
4.	IV – Viva	5
5.	V - Record book	5
	Total	**60**

Annexure - 17

Department of Computer Applications				Class : I B.C.A				
Sem	**Category**	**Course Code**	**Course Title**	**Credits**	**Hours/ Week**	**CIA**	**External Exam**	**Total**
II	Skill Enhancement Course	22OUCASE2P	Multimedia Lab	2	2	40	60	100

Nature of the Course		
Knowledge and Skill Oriented	**Employability Oriented**	**Entrepreneurship Oriented**
✔	✔	✔

PROGRAM LIST

Flash:

1. Basic tools used in Flash.

2. Develop a Flash application using motion tween.

3. Develop a Flash application using shape tween.

4. Develop a Flash application for ball bouncing using motion guide path.

5. Develop a Flash application for masking effect.

6. Develop a Flash application using layer based animation.

7. Develop a Flash application to represent the growing moon

8. Write action script to play and stop an animation.

9. Create an appealing animation movie of your choice combining both Motion tweening and Shape tweening. Also add appropriate sound effects.

Understanding Flash Environment (Stage, Tools, Movie, Timeline)

10.Working with Movie using flash

11. Working with Tools and its Properties

12. Drawing Pictures from Scratch

13. Importing Pictures, Morphing, Masking

14. Animation (Key Frame, Straight Line, User Defined Path)

15. Creating Buttons, Images & Movie Clips (Adding it to Library)

Books for Reference:

1.Kumar Bittu, “Adobe Photoshop”, ISBN: 978-9350570166, V&S Publishers.

2. Photoshop 7 Complete reference , ISBN 978-0072223118 – Greenberg – McGraw Hill Publicationrs.

3.Robert shufflebotham (2012)“photoshop CS6” McGraw Hill Education (India) Private Limited,

Web Resources / E.Books:

1. https://www.entheosweb.com/tutorials/coreldraw/liquid_lext/default
2. https://helpx.adobe.com/in/photoshop/tutorials.html
3. https://www.scranton.edu/academics/ctle/tutorials/technology/flash.shtml

Pedagogy

Practical Test with viva voce, Group Discussion, Interaction, Quiz.

Annexure - 17

LESSON PLAN FOR PRACTICAL: TOTAL HOURS (30 HRS)

CYCLE	DESCRIPTION	HRS	MODE
1	Basic tools used in Flash. Develop a Flash application using motion tween. Develop a Flash application using shape tween. Develop a Flash application for ball bouncing using motion guide path. Develop a Flash application for masking effect.	6	Writing and executing the program in a system
2	Develop a Flash application using layer based animation. Develop a Flash application to represent the growing moon Write action script to play and stop an animation.	5	
3	Create an appealing animation movie of your choice combining both Motion tweening and Shape tweening. Also add appropriate sound effects.Understanding Flash Environment (Stage, Tools, Movie, Timeline) Working with Movie using flash	6	Writing and executing the program in a system
4	Working with Tools and its Properties Drawing Pictures from Scratc	5	
5	Working with Tools and its Properties Drawing Pictures from Scratch Importing Pictures, Morphing, Masking Animation (Key Frame, Straight Line, User Defined Path) Creating Buttons, Images & Movie Clips (Adding it to Library)	6	Writing and executing the program in a system

Course Designer

Mrs. K.KRISHNAVENI

Annexure - 17

EVALUATION (PRACTICAL)
Core Lab / Skill Enhancement Course Lab

Internal (Formative) : 40 marks

External (Summative) : 60 marks

Total :100 marks

Question Paper Pattern for Internal Practical Examination: 40 Marks

- ✓ There will be Two Internal Practical Examination.
- ✓ Duration of Internal Examination will be 2 hours.

S.No	Components	Marks
1.	I – Writing the Program (2x8)	16
2.	II – Test and Debug the Program (2x4)	08
3.	III - Printing the Correct Output (2x4)	08
4.	IV- Viva	03
5.	V –Record book	05
	Total	**40**

Question Paper Pattern for External Practical Examination: 60 Marks

- ✓ Duration of External Examination will be 3 hours.

S.No	Components	Marks
1.	I – Writing the Program (2x10)	20
2.	II – Test and Debug the Program (2x10)	20
3.	III- Printing the Correct Output (2x5)	10
4.	IV – Viva	5
5.	V - Record book	5
	Total	**60**

Annexure - 17

Department of Computer Applications				Class : I UG				
Sem	**Category**	**Course Code**	**Course Title**	**Credits**	**Hours/ Week**	**CIA**	**External Exam**	**Total**
II	Inter Disciplinary Course	22OUCAID2	Web Designing	2	2	25	75	100

Nature of the Course		
Knowledge and Skill Oriented	**Employability Oriented**	**Entrepreneurship oriented**
✔		

Course Objectives

1. Insight the students knowledge with basics of HTML.

2. Equip the students to create a web page using Lists.

3.Gain the knowledge of working with Table , Stylesheets .

4.Make the students to design a web page using frames and forms.

5.Toequip the students with Internet technologies.

Course Content:

Unit-I Introduction to HTML: Designing a Home Page – History of HTML – HTML Generations – HTML Documents – Anchor Tag – Hyper Links. **Head and Body Sections:** Header Section – Title – Prologue – Links – Colorful Web Page – Comment Lines.

Unit-II Designing the Body Section: Heading Printing – Aligning the Headings – Horizontal Rule – Paragraph. **Ordered and Unordered Lists:** Lists – Unordered Lists – Headings in a List - Ordered Lists-Nested List.

Unit-III Table Handling: Tables – Table Creation in HTML – Width of the Table and Cells – Cells Spanning Multiple Rows/Columns – Coloring Cells-Coloumn Specification **DHTML and Style Sheets:** Defining Styles – Elements of Styles – Linking a Style Sheet to an HTML Document – In-Line Style – External Style Sheets – Internal Style Sheets.

Unit-IV Frames: Frameset Definition – Frame Definition – Nested Framesets. **Forms:** Action Attribute – Method Attribute – Enctype Attribute – Drop Down List.

Unit-V Introduction to the Internet: Computers in Business – Networking – Internet – Electronic Mail (E-Mail) – Resources Sharing – Gopher – World Wide Web – Usenet – Telnet- Bulletin Board Service. **Internet Technologies:** Modem – Internet Addressing – Physical Connections – Telephone Lines.

Book for Study:

C.Xavier (2015), *World Wide Web design with HTML,* 5 th Edition TMH Publications, New Delhi.

Chapters:

Unit I **:** 4.1 – 4.6, 5.1 – 5.6

Unit II **:** 6.1 – 6.4, 7.1 – 7.5

Unit III **:** 8.1 – 8.6, 9.1 – 9.6

Unit IV **:** 10.1 – 10.3, 12.1 – 12.4

Unit V **:** 1.1 – 1.10, 2.1 – 2.4

Books for Reference:

1. Dr. Vaka Murali Mohan,S.Pratap Singh (2013),*The Modern Approach to Web Technologies* , Scirech Publication ,1st Edition ,.
2. Akilandeswari.J & Gopalan.NP (2014), *TCP/IP to Internet Application Architecture, PHI Publications,* New Delhi,2nd Edition,.
3. Ivan Bayross,(2012) *Web Technologies part II,* BPB publications, NewDelhi, 2nd Edition.

Web Resources/ E.Books:

1.https://mrcet.com/downloads/digital_notes/IT/(R18A0517)%20Web%20Technologies.pdf

2. https://www.jbiet.edu.in/pdffls/IT-coursematerial/Web-Technology-notes.pdf

3. https://www.smartzworld.com/notes/web-technologies-pdf-notes-wt-pdf-notes/

Pedagogy:

Chalk and Talk, PPT, group discussion , quiz, on the spot test.

Rationale for nature of Course:

Knowledge and Skill:

- HTML/CSS skills. Having knowledge of HTML and CSS is imperative to become a web developer. ...
- Understanding HTML, design skills, and analytical knowledge are all important Front-end Web Developer skills.

Activities to be given:

- To understand the basic concepts of Hypertext Markup Language.
- To apply the HTML has special codes called tags to structure the text.
- To study the concept table handling and style sheet.
- To design a web page using frames and forms.
- To practice the use of Internet and its technology.

Course learning Outcomes (CLOs):

CLO	**Course Outcomes Statement**	**Knowledge (According to Bloom's Taxonomy)**
CLO1	To Understand the basic concepts of Hypertext Markup Language.	K1 to K3
CLO2	To apply the HTML has special codes called tags to structure the text.	K1 to K3
CLO3	To study the concept table handling and style sheet.	K1 to K3
CLO4	To design a web page using frames and forms.	K1 to K3
CLO5	To practice the use of Internet and its technology.	K1 to K3

K1- Remembering and recalling facts with specific answers

K2- Basic understanding of facts and stating main ideas with general answers

K3- Application oriented, Justifying the statement and deriving inferences

Mapping of Course Learning Outcomes (CLOs) with Programme Outcomes (POs)

(SCIENCE)

	PO1	PO2	PO3	PO4	PO5	PO6
CLO1	2	1	2	1	2	2
CLO2	2	3	2	2	2	1
CLO3	3	2	2	3	2	2
CLO4	2	2	3	2	2	2
CLO5	3	2	1	2	3	2

1-Basic Level 2- Intermediate Level 3- Advanced Level

Mapping of Course Learning Outcomes (CLOs) with Programme Outcomes (POs)

(ARTS)

	PO1	PO2	PO3	PO4	PO5	PO6
CLO1	2	2	1	1	2	1
CLO2	3	2	2	2	2	2
CLO3	2	2	1	3	2	2
CLO4	3	3	2	2	3	2
CLO5	2	2	1	2	3	2

Annexure - 17

LESSON PLAN: TOTAL HOURS (30 HRS)

UNIT	DESCRIPTION	HRS	MODE
I	Introduction to HTML: Designing a Home Page – History of HTML – HTML Generations – HTML Documents – Anchor Tag – Hyper Links. Head and Body Sections: Header Section – Title – Prologue – Links – Colorful Web Page – Comment Lines.	8	Chalk and Talk, PPT, group discussion , OHP presentations, quiz, on the spot test and Virtual Labs.
II	Designing the Body Section: Heading Printing – Aligning the Headings – Horizontal Rule – Paragraph. Ordered and Unordered Lists: Lists – Unordered Lists – Headings in a List - Ordered Lists-Nested List.	6	Chalk and Talk, PPT, group discussion , OHP presentations, quiz, on the spot test and Virtual Labs.
III	Table Handling: Tables – Table Creation in HTML – Width of the Table and Cells – Cells Spanning Multiple Rows/Columns – Coloring Cells-Coloumn Specification DHTML and Style Sheets: Defining Styles – Elements of Styles – Linking a Style Sheet to an HTML Document – In-Line Style – External Style Sheets – Internal Style Sheets.	4	Chalk and Talk, PPT, group discussion , OHP presentations, quiz, on the spot test and Virtual Labs
IV	Frames: Frameset Definition – Frame Definition – Nested Framesets. Forms: Action Attribute – Method Attribute – Enctype Attribute – Drop Down List.	4	Chalk and Talk, PPT, group discussion , OHP presentations, quiz, on the spot test and Virtual Labs
V	Introduction to the Internet: Computers in Business – Networking – Internet – Electronic Mail (E-Mail) – Resources	8	Chalk and Talk, PPT, group discussion , OHP

	Sharing – Gopher – World Wide Web – Usenet – Telnet-Bulletin Board Service. Internet Technologies: Modem – Internet Addressing – Physical Connections – Telephone Lines.		presentations, quiz, on the spot test and Virtual Labs

Course Designer

COURSE STRUCTURE

Mrs. P. INDHUJA