

FATIMA COLLEGE (AUTONOMOUS)



**Re-Accredited with “A” Grade by NAAC (3rd Cycle)
74th Rank in India Ranking 2021 (NIRF) by MHRD
Maryland, Madurai- 625 018, Tamil Nadu, India**

NAME OF THE DEPARTMENT: COMPUTER APPLICATIONS

NAME OF THE PROGRAMME : B.C.A

PROGRAMME CODE : USCA

ACADEMIC YEAR : 2021 - 2022

FATIMA COLLEGE (AUTONOMOUS), MADURAI - 625018

THE MINUTES OF THE BOARD OF STUDIES
DEPARTMENT OF COMPUTER APPLICATIONS (BCA & PWDCA)
TO BE IMPLEMENTED FROM 2021-2022 ONWARDS

The board of studies meet for framing the Syllabus for Department of Computer Applications (BCA & PWDCA) was held on 09-04-2021 at 2.00pm

The members of the board were,

UNIVERSITY NOMINEE (BCA) :

DR. MT. RAMAKRISHNAN,
PROFESSOR & HEAD CHAIR PERSON,
DEPARTMENT OF COMPUTER APPLICATIONS,
SCHOOL OF INFORMATION TECHNOLOGY,
MADURAI KAMARAJ UNIVERSITY,
MADURAI.

UNIVERSITY NOMINEE (PWDCA) :

DR. M. RAMASWAMI,
PROFESSOR,
DEPARTMENT OF COMPUTER APPLICATIONS,
SCHOOL OF INFORMATION TECHNOLOGY,
MADURAI KAMARAJ UNIVERSITY,
MADURAI.

MS. S. SELVARANI,
ASSISTANT PROFESSOR & HEAD,
DEPARTMENT OF COMPUTER APPLICATIONS,
FATIMA COLLEGE,
MADURAI - 18

Selvarani

Dr. G. PREETHA
ASSISTANT PROFESSOR,
DEPARTMENT OF COMPUTER APPLICATIONS
FATIMA COLLEGE,
MADURAI - 18

Ms. R. Ramya,
ASSISTANT PROFESSOR,
DEPARTMENT OF COMPUTER APPLICATIONS
FATIMA COLLEGE,
MADURAI - 18.

R. Ramya

MS. J. ARCKIA JACKULINE JONI,
ASSISTANT PROFESSOR,
DEPARTMENT OF COMPUTER APPLICATIONS,
FATIMA COLLEGE
MADURAI - 18

J. Arckia Jackuline Joni

MS. A. PUNITHA ROSLINE
ASSISTANT PROFESSOR
DEPARTMENT OF COMPUTER APPLICATIONS, A. P. Rosline
FATIMA COLLEGE
MADURAI - 18

SUBJECT EXPERT :

DR. S. SHAJUN NISHA,
ASSISTANT PROFESSOR & HEAD,
PG AND RESEARCH DEPARTMENT OF COMPUTER SCIENCE
SADAKATHULLA APPA COLLEGE,
RAHMATH NAGAR,
TIRUNELVELI.

SUBJECT EXPERT :

DR. S. PADMAVATHI,
PROFESSOR,
DEPARTMENT OF INFORMATION TECHNOLOGY,
THIAGARAJAR COLLEGE OF ENGINEERING,
MADURAI - 625 015

INDUSTRIALIST :

MS. A. DIVYA SRI,
SOFTWARE DEVELOPER,
BSE TECH PVT LTD
MADURAI - 16

ALUMNA :

1. MS. R.G. SOBITHA, BUSINESS MANAGER, BSE TECH PVT LTD, MADURAI - 16	MS. S. REENA D/O. P. SATHURU SANKARAN 143, OLD TVS ROAD THENI - 625531
--	---

DEAN OF ACADEMIC AFFAIRS:

MS. A. MABLE JASMINE SHOBA
A. Mable Jasmini Shoba.

In the beginning of the meeting the
of the Department MS. SELVARANI welcomed all
members of the board and briefed them ab
the progress of the Department.

The members of the board expressed
high appreciation of satisfaction about the
Courses.

ACTION TAKEN REPORT FOR 2020 - 2021

S.No	COMINTON SUGGESTIONS OFFERED IN THE PREVIOUS BOARD	ACTION TAKEN FOR THE ACADEMIC YEAR 2020 - 2021
1.	The Skill based Course 19J4SB2 - Financial Accounting Software package Tally Can be replaced with Quantitative Aptitude in order to help them be prepared well for their placements.	Quantitative Aptitude Course was introduced as skill based.
2.	19J6ME6 - Software Testing Can be replaced with Human Computer Interaction.	Human Computer Interaction Course was replaced instead of Software Testing & few components from Software Testing was included along with Software Engineering.
3.	To extend the time duration of the internship program.	The time duration of 10 hours for the Internship program has been extended to one month.

DEAN OF ACADEMIC AFFAIRS:

MS. A. MABLE JASMINE SHOBA

J. Mable Jasmine Shoba.

In the beginning of the meeting the Head of the Department MS. SELVARANI, welcomed all members of the board and briefed them about the progress of the Department.

The members of the board expressed high appreciation of satisfaction about the Courses.

CHANGE OF COURSE TITLE - 2020 - 2021

S-NO	OLD COURSE CODE	NEW COURSE CODE	OLD COURSE TITLE	NEW COURSE TITLE	NEED FOR CHANGE
1.	19J3SB1	19J3SB1	SKILL BASED-II QUANTITATIVE APTITUDE	SKILL BASED-II DATA INTERPRETATION AND REASONING	To make the students concentrate more on data interpretation and reasoning.
2.	19PDB101	21PDB101	COMPUTER FUNDAMENTALS AND OS	COMPUTER FUNDAMENTALS	Suggested by the board members.
3.	19PDB105	21PDB102	LAB-II WEB PROGRAMMING AND PHOTO EDITING TECHNIQUE.	LAB - II WEB PROGRAMMING.	To get more knowledge in web development skills and photo editing techniques can be given as a separate course.

NEW COURSES INTRODUCED - (2020-2021)

S.NO	COURSE CODE	COURSE TITLE	RELEVANCE TO *			SCOPE FOR #				NEED FOR INTRODUCTION
			L	R	N	GT	EMP	ENTRE	SD	
1	19AC3ALJ3	PRINCIPLES OF FINANCIAL ACCOUNTING AND ACCOUNTING PACKAGE				*	#	#	#	To get expertise in Tally.
2	19J3SB1	SKILL BASED-I QUANTITATIVE APTITUDE				*	#		#	To train Students for Competitive examinations.
3	19J4SB2	SKILL BASED - II DATA ANALYSIS USING SPREADSHEETS				*	#		#	To learn advanced Concepts in Spread sheets.
4	19J5SB4	SKILL BASED - IV LAB IN E-CONTENT DEVELOPMENT.				*	#	#	#	To promote Content generation, adaptation and distribution of e-content through electronic media.

NEW COURSES INTRODUCED - (2020-2021)

S.NO	COURSE CODE	COURSE TITLE	RELEVANCE TO *			SCOPE FOR #				NEED FOR INTRODUCTION
			L	R	N	G	EMP	ENTRE	SD	
1	19JBME3	SECURITY PRACTICES				*	#		#	To examine the security issues and practices along with the encryption techniques.
2	19JBME5	INTERNET OF THINGS (IoT)				*	#	#	#	To connect things to the Internet which provide many advantages and also to understand the characteristics of IoT
3	19JBME6	HUMAN COMPUTER INTERACTION				*			#	To provide the most fundamental knowledge about Artificial Intelligence, Fuzzy logic and Virtual Reality.

REVISED COURSES - (2020-2021)

S.No	COURSE CODE	COURSE TITLE	NO & TITLE OF UNITS REVISED WITH THE REVISED CONTENT SPECIFIED IF IT IS NOT THE WHOLE UNIT	% OF REVISION FOR REVISION	NEED FOR RELEVANCE TO *	SCOPE FOR #
					L R N G EMP ENTRE SD	
	NIL					

1. Open Educational Resources are included in the curriculums.

2.

REVISION OF COURSES

[illegible]

3. NEW COURSES INTRODUCED - (2021-2022)

S.NO	COURSE CODE	COURSE TITLE	RELEVANCE TO *				SCOPE FOR #			NEED FOR INTRODUCTION
			L	R	N	G	EMP	ENTRE	SD	
		Non Major Elective -				*	#	#	#	To develop
1.	21JINME	ANIMATION TOOLS AND TECHNIQUES								programming skills and impart animation techniques and motion movies.
		Non major Elective -				*	#	#	#	To develop progra
2.	21J2NME	ANIMATION TOOLS AND TECHNIQUES								-mming skills and impart animation techniques and motion movies.
		Non major Elective -				*	#	#	#	To develop
3.	21JISLI	OPEN SOURCE ANIMATION TOOLS								programming skills and impart animation techniques and motion movies.
		Non major Elective -				*	#	#	#	To create content
4.	21J2SL	CONTENT WRITING Im2 AND VIDEO								while designing web pages and working on videos.
		Non major Elective -				*	#	#	#	To know about R
5.	21J3S	STATISTICS USING LST3 R								language that is widely used among statisticians and data miners for developing statistical software.

S.NO	COURSE CODE	COURSE TITLE	RELEVANCE TO*				SCOPE FOR #			NEED FOR INTRODUCTION
			L	R	N	G	Emp	Entre	SD	
6.	21J4SL ST4	STATISTICAL DATA SCIENCE USING PYTHON				*	#	#	#	To build complex analysis that mix statistics with image analysis or text mining using python which is an invaluable asset.
7.	21J5SL AC5	EMERGING TRENDS AND TECHNOLOGIES				*	#		#	To know about the latest technologies that helps to work on apps and social network.
8.	21J6SL I6	DATA SCIENCE				*	#	#	#	To know about R language that is widely used to do analysis and focus on research.
9.	21PDB 106	LAB-III DESIGN TECHNIQUES				*	#	#	#	To improve employability skills.
10.	21PDB 202	PYTHON PROGRAMMING				*	#			To gain knowledge in real time applications.

4. Introduction of purely Skill - Embedded Certificate / Diploma / Advanced Diploma Value - Added Course other than the Value - Added Course that is already being offered.

S.NO	COURSE CODE	COURSE TITLE	MOU WITH INDUSTRY / ORGANISATION	SKILLS SHARPENED	COURSE OUTCOME
1.	19UBVAJ1	CRASH COURSE ANDROID APPLICATION DEVELOPMENT		Programming Skills, App development and web Embedding	This Course provides knowledge on mobile application & the coding aims at developing applications using Android.
2.	19UBVAJ2	CRASH COURSE E - CONTENT DEVELOPMENT		creating effective and interactive content, use current tools for creating E-content	To identify the multimedia principles and elements for E-learning. To understand the techniques to create customized lessons. To work on the audio and video editing tools.

5. Approval of Ph.D course work Syllabus - NIL

6. Rubrics for Internship / Project

S.No	C1 20 MKS	C2 20 MKS	CIA TOTAL 40 MKS	EXTERNAL 60 MKS
1.	Synopsis & module Description - 10 Demonstration of project - 10	PPT & Document preparation - 10 Testing & Validation - 10	Synopsis & module Description - 10 Demonstration of project - 10 PPT & Document preparation - 10 Testing & validation - 10	PPT presentation - 10 Demonstration - 20 Viva-Voce - 20 Project Document - 10
2.	Internship Daily Report - 20	Attendance - 10 Performance - 10	Internship daily Report - 20 Attendance - 10	Decision of the Company

DETAILS OF PROPOSED / SIGNED MOUS

- L - LOCAL # - EMPLOYABILITY
- R - REGIONAL # - ENTREPRENEURSHIP
- N - NATIONAL # - SKILL DEVELOPMENT
- G - GLOBAL

SUGGESTIONS:

- * For BCA & PWDCA, In web programming latest technologies like JQuery can be included.
- * For Network Security and RDBMS Open Source tools can be used.
- * web programming and photo editing techniques

lab can be given separately.

- * Students can be motivated and encouraged to take Swayam Courses.

COMMENDATIONS :

- * QUANTITATIVE APTITUDE paper can be replaced with DATA INTERPRETATION & LOGICAL REASONING.

- * The title of the paper "Computer Fundamentals and OS" is to be modified as "Computer Fundamentals".

- * Excel and Weka lab can be replaced as Design Techniques lab.

- * Instead of Visual basic theory and practical, Python Programming and Python lab can be introduced.

- * The External Examiners name lists were passed and the board members are satisfied with the name list.

- * The detailed syllabus, textbooks, reference books, and OER to be followed were also discussed with the board members.

- * The meeting ended with vote of thanks by Dr. In. Preetha.

1. Dr. M. RAMAKRISHNAN

2. Dr. M. RAMASWAMI

3. Dr. S. SHAJUN NISHA

4. Dr. S. PADMAVATHI

5. MS. A. DIVYA SRI

6. MS. R. G. SOBITHA

7. MS. S. REENA

8. MS. S. SELVARANI

Selvarani

9. Dr. G. PREETHA

10. MS. R. RAMYA

Ramya

11. MS. J. AROCKIA JACKULINE JONI

Joni

12. MS. A. PUNITHA ROSLINE

A. Punitha Rosline

FATIMA COLLEGE (AUTONOMOUS), MADURAI-18
DEPARTMENT OF COMPUTER APPLICATIONS (BCA)

For those who joined in June 2021 onwards

PROGRAMME CODE :USCA

PART – I – TAMIL / FRENCH / HINDI- 12 CREDITS

PART – I – TAMIL

Offered by The Research Centre of Tamil

S. NO	SEM.	COURSE CODE	COURSE TITLE	HRS	CRE DIT	CIA Mks	ESE Mks	TOT . MK S
1.	I	19TL1C1	Language-Modern Literature nghJj;jkpo; - ,f;fhy ,yf;fpak;	5	3	40	60	100
2.	II	19TL2C2	Language - Bakthi Literature nghJj;jkpo; - gf;jp ,yf;fpak;	5	3	40	60	100
3.	III	19TL3C3	Language- Epic Literature nghJj;jkpo; - fhg;gpa ,yf;fpak;	5	3	40	60	100
4.	IV	19TL4C4	Language-Sangam Literature nghJj;jkpo; - rq;f ,yf;fpak;	5	3	40	60	100
			Total	20	12	160	240	400

PART – I – FRENCH

Offered by The Department of French

S. NO	SEM.	COURSE CODE	COURSE TITLE	HRS	CRE DIT	CIA Mks	ESE Mks	TOT. MKs
1.	I	19RL1C1	PART 1 LANGUAGE FRENCH	5	3	40	60	100
2.	II	19RL2C2	PART 1 LANGUAGE FRENCH	5	3	40	60	100
3.	III	19RL3C3	PART 1 LANGUAGE FRENCH	5	3	40	60	100
4.	IV	19RL4C4	PART 1 LANGUAGE FRENCH	5	3	40	60	100
			Total	20	12	160	240	400

PART – I – HINDI

Offered by The Department of Hindi

S. NO	SEM.	COURSE CODE	COURSE TITLE	HRS	CRE DIT	CIA Mks	ESE Mks	TOT. MKs
1.	I	19DL1C1	PART 1 LANGUAGE HINDI	5	3	40	60	100
2.	II	19DL2C2	PART 1 LANGUAGE HINDI	5	3	40	60	100
3.	III	19DL3C3	PART 1 LANGUAGE HINDI	5	3	40	60	100
4.	IV	19DL4C4	PART 1 LANGUAGE HINDI	5	3	40	60	100
			Total	20	12	160	240	400

PART – II -ENGLISH – 12 CREDITS
Offered by The Research Centre of English

S. NO	SEM.	COURSE CODE	COURSE TITLE	HRS	CRE DIT	CIA Mks	ESE Mks	TOT . MK S
1.	I	19EL1WB	BASIC COMMUNICATIVE ENGLISH	5	3	40	60	100
2.		19EL1WI	INTERMEDIATE COMMUNICATIVE ENGLISH	5	3	40	60	100
3.		19EL1WA	ADVANCED COMMUNICATIVE ENGLISH	5	3	40	60	100
4.	II	19EL2WB	ENGLISH COMMUNICATION SKILLS (BASIC)	5	3	40	60	100
5.		19EL2WI	ENGLISH FOR EMPOWERMENT (INTERMEDIATE)	5	3	40	60	100
6.		19EL2WA	ENGLISH FOR CREATIVE WRITING (ADVANCED)	5	3	40	60	100
7.	III	19EL3WN	ENGLISH FOR DIGITAL ERA	5	3	40	60	100
8.	IV	19EL4WN	ENGLISH FOR INTEGRATED DEVELOPMENT	5	3	40	60	100
			Total	20	12	160	240	400

PART – III -MAJOR, ALLIED & ELECTIVES – 95 CREDITS**MAJOR CORE COURSES INCLUDING PRACTICALS : 60 CREDITS**

S. NO	SE M	COURSE CODE	COURSE TITLE	HRS	CRED IT	CIA Mks	ESE Mks	TOT. Mks
1.	I	19J1CC1	PROGRAMMING IN C	6	4	40	60	100
2.		19J1CC2	LAB IN C PROGRAMMING	6	3	40	60	100
3.	II	19J2CC3	OBJECT ORIENTED PROGRAMMING IN C++	6	4	40	60	100
4.		19J2CC4	LAB IN C++ PROGRAMMING	6	3	40	60	100
5.	III	19J3CC5	OPERATING SYSTEMS	6	4	40	60	100
6.		19J3CC6	LAB IN RELATIONAL DATABASE MANAGEMENT SYSTEMS	6	3	40	60	100
7.	IV	19J4CC7	DATA STRUCTURES AND ALGORITHMS	6	4	40	60	100
8.		19J4CC8	LAB IN WEB PROGRAMMING	6	3	40	60	100
9.	V	19J5CC9	SOFTWARE ENGINEERING	5	5	40	60	100
10.		19J5CC10	JAVA PROGRAMMING	5	5	40	60	100
11.		19J5CC11	LAB IN JAVA PROGRAMMING	5	3	40	60	100
12.		19J5CC12	LAB IN DOT NET PROGRAMMING	5	3	40	60	100
13.	VI	19J6CC13	PYTHON	5	5	40	60	100
14.		19J6CC14	COMPUTER NETWORKS	5	5	40	60	100
15.		19J6CC15	LAB IN PYTHON	5	3	40	60	100
16.		19J6CC16	PROJECT	1	3	40	60	100

ALLIEDCOURSES- 20 CREDITS

S.NO	SEM.	COURSE CODE	COURSE TITLE	HRS	CREDIT	CIA Mks	ESE Mks	TOT. MKs
1.	I	19G1ACJ1	DISCRETE MATHEMATICS	5	5	40	60	100
2.	II	19G2ACJ2	OPERATIONS RESEARCH	5	5	40	60	100
3.	III	19AC3ACJ3	PRINCIPLES OF FINANCIAL ACCOUNTING AND ACCOUNTING PACKAGE	5	5	40	60	100
4.	IV	19P4ACJ4	DIGITAL PRINCIPLES AND COMPUTER ORGANIZATION	5	5	40	60	100

ELECTIVES-15 CREDITS

S. No	SEM	COURSE CODE	COURSE TITLE	HRS	CREDIT	CIA Mks	ESE Mks	TO TM ks
1.	V	19J5ME1 / 19J5ME2	CLOUD COMPUTING / MOBILE COMPUTING	5	5	40	60	100
2.	VI	19J6ME3 / 19J6ME4	SECURITY PRACTICES / DATA MINING	5	5	40	60	100
3.		19J6ME5 / 19J6ME6	INTERNET OF THINGS (IoT) / HUMAN COMPUTER INTERACTION	5	5	40	60	100

PART – IV – 20 CREDITS

- **VALUE EDUCATION**
- **ENVIRONMENTAL AWARENESS**
- **NON MAJOR ELECTIVE**
- **SKILL BASED COURSES**

S. No	SE M	COURSE CODE	COURSE TITLE	HR S	CRE DIT	CIA Mks	ESE Mks	TOT. Mks
1.	I	19G1VE	PERSONAL VALUES	1	1	40	60	100
2.		21J1NME	NON MAJOR ELECTIVE – I ANIMATION TOOLS AND TECHNIQUES	2	2	40	60	100
3.	II	19G2VE	VALUES FOR LIFE	1	1	40	60	100
4.		21J2NME	NON MAJOR ELECTIVE – II ANIMATION TOOLS AND TECHNIQUES	2	2	40	60	100
5.	III	19G3EE	ENVIRONMENTAL EDUCATION	1	1	40	60	100
6.		19J3SB1	SKILL BASED – I LOGICAL REASONING AND DATA INTERPRETATION	2	2	40	60	100
7.	IV	19G4EE	ENVIRONMENTAL EDUCATION	1	1	40	60	100
8.		19J4SB2	SKILL BASED – II DATA ANALYSIS USING SPREADSHEETS	2	2	40	60	100
9.		19J5SB3	SKILL BASED – III LAB IN ANIMATION TECHNIQUES	2	2	40	60	100
10.	V	19J5SB4	SKILL BASED – IV LAB IN E – CONTENT DEVELOPMENT	2	2	40	60	100
11.	VI	19J6SB5	SKILL BASED – V LAB IN PHP	2	2	40	60	100
12.		19J6SB6	SKILL BASED – VI LAB IN LINUX	2	2	40	60	100

PART – V – 1 CREDIT
SHIFT - II (2021 Onwards)

S. No	SEM.	COURSE CODE	COURSE TITLE	HRS	CREDIT	TOT. Mks
1.	I - IV	21S4PED	Physical Education	30/ SEM	1	100
2.		21S4YRC	Youth Red Cross			
3.		21S4NSS	NSS			
4.		21S4RTC	Rotaract			
5.		21S4WEC	Women Empowerment Cell			
6.		21S4ACUF	AICUF			

OFF-CLASS PROGRAMMES
ADD-ON COURSES

COURSE CODE	COURSE TITLE	HRS.	CREDITS	SEMESTER IN WHICH THE COURSE IS OFFERED	CIA Mks	ESE Mks	TOTAL Mks
19UADCA	COMPUTER APPLICATIONS	40	2	I & II	40	60	100
19UADFC	ONLINE SELF LEARNING COURSES- Foundation Course for Arts	40	2	I	40	60	100
	ONLINE SELF	40	2	II	40	60	100

COURSE CODE	COURSE TITLE	HRS.	CR ED IT S	SEMEST ER IN WHICH THE COURSE IS OFFERE D	CIA Mks	ESE Mks	TOT AL Mks
	LEARNING COURSE- Foundation Course for Science						
19UADES	Social & Professional Ethics	15	1	III	40	60	100
	Personality Development	15	1	IV	40	60	100
	Family Life Education	15	1	V	40	60	100
	Life Skills	15	1	VI	40	60	100
19UADHR	HUMAN RIGHTS	15	2	V	100	-	100
19UADRS	OUTREACH PROGRAMME- Reach Out to Society through Action ROSA	100	3	V & VI	100	-	100
19UADPR	PROJECT	30	4	VI	40	60	100
19UADRC	READING CULTURE	10/ Semester	1	II-VI	-	-	-
TOTAL			20				

EXTRA CREDIT COURSES

COURSE CODE	SELF LEARNING COURSES for ADVANCED LEARNERS	HR S.	CRED ITS	SEMESTER IN WHICH THE COURSE IS OFFERED	CIA MK S	ESE MK S	TOTAL MARKS
21J1SL1	OPEN SOURCE ANIMATION TOOLS	-	2	II	40	60	100
21J2SL ST2	STATISTICAL DATA SCIENCE USING PYTHON	-	2	II	40	60	100
21J3SL ST3	STATISTICS USING R	-	2	II	40	60	100
21J4SL JM4	CONTENT WRITING AND VIDEO EDITING	-	2	IV	40	60	100
21J5SL AC5	EMERGING TRENDS AND TECHNOLOGIES	-	2	VI	40	60	100
21J6SLI6	DATA SCIENCE	-	2	VI	40	60	100
	MOOC COURSES / International Certified online Courses (Department Specific Courses/any other courses) * Students can opt other than the listed course from UGC-SWAYAM UGC / CEC	-	Minimum 2 Credits	I – VI	-	-	

OFF CLASS PROGRAMMES

19UGVAJ1 - Value Added Crash Course
Android Application Development

19UGVAJ2 - Crash Course
E-Content Development

19UAD2CA - Value Added Certificate Course
VB.NET – (Only for First Years – Compulsory)

I B.C.A
SEMESTER – I

For those who joined in 2021 onwards

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/ WEEK	CREDITS
USCA	21J1NME/ 21J2NME	NON MAJOR ELECTIVE – I ANIMATION TOOLS AND TECHNIQUES	PRACTICAL	2	2

COURSE DESCRIPTION

This course helps to become familiar with the elements and tools in Alice that is used to create interactive animated media such as scene creation and movie making.

COURSE OBJECTIVES

1. To develop programming skills and impart animation techniques using Alice.
2. To gain knowledge in interactive scene creation.
3. To create motion movies by animating

PROGRAM LIST:

1. Exploring the Alice interface
2. Setting the scene
 - Adding an object
 - Set object properties
 - Set special effects
3. Learning to program through Alice
 - Do in Order
 - Do Together
4. Branching: Conditional execution, Relational Operators, Randomness
5. Looping : Repetition, While loops, Lists
6. Event handling
7. Methods

8. 3D and billboards (Create 3D Text, Billboards)

REFERENCE BOOKS :

1. Wanda Dann, Stephen Cooper, and Randy Pausch; Learning to Program with Alice, Prentice Hall
2. Joel Adams, Alice 3 in Action with Java

OER REFERENCES :

<http://courses.oermn.org/course/view.php?id=224>

COURSE CONTENTS & LECTURE SCHEDULE:

Module No.	Topic	No. of Lectures	Teaching Pedagogy	Teaching Aids
NON MAJOR ELCTIVE-MULTIMEDIA LAB-3D ANIMATION TOOL				
1.1	Exploring the Alice interface	4	Demo & Working in Lab	LCD
1.2	Setting the scene (Adding an object, set object properties, set special effects)	4	Demo & Working in Lab	LCD
1.3	Learning to program through Alice (Do in order , Do together)	4	Demo & Working in Lab	LCD
1.4	Branching: Conditional execution, Relational Operators, Randomness	4	Demo & Working in Lab	LCD
1.5	Looping : Repetition, While loops, Lists	4	Demo & Working in Lab	LCD
1.6	Event handling	4	Demo & Working in Lab	LCD
1.7	Methods	3	Demo & Working in Lab	LCD
1.8	3d and billboards (Create 3D Text, Billboards)	3	Demo & Working in Lab	LCD

CIA

Scholastic	35
Non Scholastic	5
	40

EVALUATION PATTERN

SCHOLASTIC					NON - SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total
10	10	5	5	5	5	40	60	100

UG CIA Components

				Nos				
C1	-	Test (CIA 1)	1	-	10	Mks		
C2	-	Test (CIA 2)	1	-	10	Mks		
C3	-	Assignment	1	-	5	Mks		
C4	-	Open Book Test/PPT	2 *	-	5	Mks		
C5	-	Quiz	2 *	-	5	Mks		
C6	-	Attendance		-	5	Mks		

****The best out of two will be taken into account***

Mapping of COs with POs

CO/ PSO	PO1	PO2	PO3	PO4	PO5
C01	3	1	1	1	1
C02	1	1	3	1	2
C03	1	2	1	3	1
C04	1	1	1	1	1
C05	1	1	1	1	1

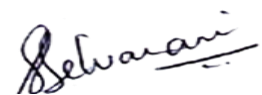
Note:

- φ Strongly Correlated – **3**
- φ Moderately Correlated – **2**
- φ Weakly Correlated -**1**

COURSE DESIGNER:

1. Staff Name : Mrs. RAMYA R

Forwarded By


(S.Selvarani)

I B.C.A
SEMESTER – I

For those who joined in 2021 onwards

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY
USCA	21J1SL1	OPEN SOURCE ANIMATION TOOLS	SELF-LEARNING (DEPT.OF BCA)

COURSE DESCRIPTION:

This course enables the students to develop animation skills using open source animation tool.

COURSE OBJECTIVES:

- To Work with images and its properties.
- To Create, manipulate, and edit text and graphics to obtain desired graphical outcomes.
- To Design, edit and manipulate animation using several animation tools and techniques.

UNITS:

UNIT 1: INTRODUCTION

Installation – Features and Capabilities - Main window- Tool box – Tool Option – Image Window – Layers Dialog – Brushes – Patterns – Gradients – Palettes - Docking Bars – Creating and Saving the File

UNIT 2: SELECTION OF IMAGES

Working with images – Layer Properties – Selection – Feathering - Rectangular Select - Elliptical Select - Free Select - Fuzzy Select - Select by Color - Scissors Select - Foreground Select - Partial Transparent – Free Selection - Paths and Selections – Paths and Text – Text and Fonts – Transforming Paths

UNIT 3 : EDITING PROCESSES

Rotating – Cropping – Unblurring – Softening – Reducing Graininess – Despeckling – Scaling - Flipping - Scissors Tool - Opacity – Alpha Channel – Layer Mask – Sharpening – Compensate the color levels – Adjusting colors - Color Balance – Auto Adjust

UNIT 4 : TEXT AND IMAGE EDITING

Photo Text – Effects – Shear Effect – Patterns – Check Board Effects – Gradient Text – Layers – Transparent Layers – Image crystallization – Mosaic Effects.

UNIT 5 : EASY ANIMATION

Selecting Images – Transition by Opacity - Use Animation option - playback the animation - Save as GIF animation – View in Browsers

WEB REFERENCES:

- www.pencil2d.com
- www.learn.g2.com

COURSE OUTCOMES

On the successful completion of the course, students will be able to:

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Understand the Installation and Windows Setup	K1	PSO1& PSO2
CO 2	Explain the components used for Image Selection	K1, K2	PSO2, PSO3
CO 3	Apply editing techniques and masking	K1 & K3	PSO3, PSO5
CO 4	Understand the different types of Effects	K1, K2 & K3	PSO5, PSO8
CO 5	Create animated videos using Open Source Tools	K3 & K4	PSO8

INTERNAL - UG

Levels	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholastic Marks C6	CIA Total	% of Assess ment
	T1 10 Mks.	T2 10 Mks.	Quiz 5 Mks.	Assig nment 5 Mks	OBT/ PPT 5 Mks	35 Mks.	5 Mks.	40 Mks.	
K1	2	2	-	-	-	4	-	4	10 %
K2	2	2	5	-	-	9	-	9	22.5 %
K3	3	3	-	-	5	11	-	11	27.5 %
K4	3	3	-	5	-	11	-	11	27.5 %
Non Schola stic	-	-	-	-	-		5	5	12.5 %
Total	10	10	5	5	5	35	5	40	100 %

END SEMESTER - UG

Levels	Section A (i) 5 Mks.	Section A (ii) 5 Mks	Section B 8 Mks.	Section C 12 Mks	Section D 20 Mks.	Section E 10 Mks.	Total 60Mks.	
K1	5	5	-	4	-	-	14	23.33 %
K2	-	-	8	4	-	-	12	20 %
K3	-	-	-	-	20	-	20	33.33 %
K4	-	-	-	4	-	10	14	23.34 %
Total	5	5	8	12	20	10	60	100 %

CIA

Scholastic	35
Non Scholastic	5
	40

EVALUATION PATTERN

SCHOLASTIC					NON - SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total
10	10	5	5	5	5	40	60	100

UG CIA Components**Nos**

C1	-	Test (CIA 1)	1	-	10 Mks
C2	-	Test (CIA 2)	1	-	10 Mks
C3	-	Assignment	1	-	5 Mks
C4	-	Open Book Test/PPT	2 *	-	5 Mks
C5	-	Quiz	2 *	-	5 Mks
C6	-	Attendance		-	5 Mks

****The best out of two will be taken into account***

Mapping COs Consistency with PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	3	1	2	2	2	1	1	1	1	1
CO2	1	3	1	2	2	2	2	1	2	1
CO3	1	2	1	1	3	2	2	2	2	2
CO4	1	1	1	3	2	1	2	2	2	2
CO5	1	2	3	1	1	1	1	1	1	1

Mapping of COs with POs

CO/ PSO	PO1	PO2	PO3	PO4	PO5
CO1	1	1	1	1	1
CO2	1	1	1	1	3
CO3	1	3	1	1	1
CO4	1	1	1	1	3
CO5	1	1	1	1	1

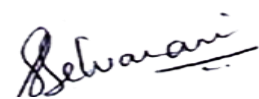
Note:

- φ Strongly Correlated – **3**
- φ Moderately Correlated – **2**
- φ Weakly Correlated -**1**

COURSE DESIGNER:

1. Staff Name : Dr. G. Preetha

Forwarded By


(S.Selvarani)

I B.C.A
SEMESTER – II

For those who joined in 2021 onwards

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY
USCA	21J2SLST2	STATISTICAL DATA SCIENCE USING PYTHON	INTER-DISCIPLINARY SELF-LEARNING (WITH DEPT.OF STATISTICS)

COURSE DESCRIPTION:

This course enables the students to become familiar with data science and its tools using Python.

COURSE OBJECTIVES:

- To understand the concept of data science and scientists
- To implement python for data analysis
- To explore and visualize data using Python programming.

UNITS:

UNIT I: DATA SCIENCE AND DATA SCIENTISTS (6 HRS)

Introduction – Different Sectors of Data Science – Data Scientists
– Skill Sets

UNIT II: PYTHON ENVIRONEMENT (6 HRS)

Installation – Environment Variables – Command Options for Executing

UNIT III: PYTHON LIBRARIES FOR DATA SCIENCE (6 HRS)

Pandas – NumPy – SciPy – Matplotlib – Importing Libraries – Using Data Frames – Analysing Data

UNIT IV: PYTHON DATA PROCESSING (6 HRS)

Data Operations – Data Cleansing – Processing CSV Data – Relational Databases

UNIT V: PYTHON VISUALIZATION (6 HRS)

Line Properties – Plots – Sub Plots – Box Plots – Scatter Plots - Chart Properties
– Chart Styling – Graph Data

REFERENCES:

1. Python for Data Science for Dummies 2nd Edition by John Paul Mueller (Author), Luca Massaron.
2. Data Science Projects with Python: A case study approach to gaining valuable insights from real data with machine learning, 2nd Edition 2nd ed. Edition by Stephen Klosterman.

WEB REFERENCES:

1. https://www.tutorialspoint.com/python_data_science/python_data_science_introduction.htm
2. https://www.w3schools.com/datascience/ds_python.asp

COURSE OUTCOMES

On the successful completion of the course, students will be able to:

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Understand about Data Science & Data Scientists	K1	PSO1& PSO2
CO 2	Work on the installation of Python Environment	K1, K2	PSO2, PSO3
CO 3	Apply and use the Libraries available	K1 & K3	PSO3, PSO5
CO 4	Understand the different types of Data Processing	K1, K2 & K3	PSO5, PSO8
CO 5	Create charts using visualization	K3 & K4	PSO8

INTERNAL - UG

Levels	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholastic Marks C6	CIA Total	% of Assess ment
	T1 10 Mks.	T2 10 Mks.	Quiz 5 Mks.	Assig nment 5 Mks	OBT/ PPT 5 Mks	35 Mks.	5 Mks.	40 Mks.	
K1	2	2	-	-	-	4	-	4	10 %
K2	2	2	5	-	-	9	-	9	22.5 %
K3	3	3	-	-	5	11	-	11	27.5 %
K4	3	3	-	5	-	11	-	11	27.5 %
Non Schola stic	-	-	-	-	-		5	5	12.5 %
Total	10	10	5	5	5	35	5	40	100 %

END SEMESTER - UG

Levels	Section A (i)	Section A (ii)	Section B	Section C	Section D	Section E	Total	
	5 Mks.	5 Mks	8 Mks.	12 Mks	20 Mks.	10 Mks.	60Mks.	
K1	5	5	-	4	-	-	14	23.33 %
K2	-	-	8	4	-	-	12	20 %
K3	-	-	-	-	20	-	20	33.33 %
K4	-	-	-	4	-	10	14	23.34 %
Total	5	5	8	12	20	10	60	100 %

CIA

Scholastic **35**Non Scholastic **5****40**

EVALUATION PATTERN

SCHOLASTIC					NON - SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total
10	10	5	5	5	5	40	60	100

UG CIA Components

				Nos				
C1	-	Test (CIA 1)	1	-	10	Mks		
C2	-	Test (CIA 2)	1	-	10	Mks		
C3	-	Assignment	1	-	5	Mks		
C4	-	Open Book Test/PPT	2 *	-	5	Mks		
C5	-	Quiz	2 *	-	5	Mks		
C6	-	Attendance		-	5	Mks		

**The best out of two will be taken into account*

Mapping COs Consistency with PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	3	1	2	2	2	1	1	1	1	1
CO2	1	3	1	2	2	2	2	1	2	1
CO3	1	2	1	1	3	2	2	2	2	2
CO4	1	1	1	3	2	1	2	2	2	2
CO5	1	2	3	1	1	1	1	1	1	1

Mapping of COs with POs

CO/ PSO	PO1	PO2	PO3	PO4	PO5
CO1	1	1	1	1	1
CO2	1	1	1	1	3
CO3	1	3	1	1	1
CO4	1	1	1	1	3
CO5	1	1	1	1	1

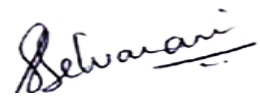
Note:

- φ Strongly Correlated – **3**
- φ Moderately Correlated – **2**
- φ Weakly Correlated -**1**

COURSE DESIGNER:

1. Staff Name : Dr. G. Preetha

Forwarded By


(S.Selvarani)

II B.C.A**SEMESTER – III***For those who joined in 2021 onwards*

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY
USCA	21J3SLST3	STATISTICS USING R	INTER-DISCIPLINARY SELF-LEARNING (WITH DEPT.OF STATISTICS)

COURSE DESCRIPTION:

This course enables the students to become familiar with data science and its tools.

COURSE OBJECTIVES:

- To understand the concept of data science and scientists
- To implement data analysis using different tools
- To disseminate knowledge in R programming.

UNITS:**UNIT I: DATA SCIENCE AND DATA SCIENTISTS****(6 HRS)**

Introduction – Need of Data Science – Business Intelligence Vs Data Analysis – Features – Life Cycle – Discovery – Data Preparation – Model Planning – Model Building – Operationalize – Communicate Results – Who are Data Scientists? – Skills needed for Data Scientists

UNIT II: TOOLS FOR DATA SCIENCE**(6 HRS)**

EXCEL – R Tool - Apache Hadoop – BigML – SaS – MATLAB – WEKA – Tableau – QlikView

UNIT III: R TOOL**(6 HRS)**

Startup – The Workspace – Variable – Constants – Data Types – R Operators

UNIT IV : R STATEMENTS AND FUNCTIONS**(6 HRS)**

Control Statements – If – If... Else – Switch – Looping Statements – Functions – Strings

UNIT V : R INTERFACES AND VISUALIZATION**(6 HRS)**

CSV Files – Excel Files – XML Files – R Database – Pie Chart – Bar Chart – Histograms – Line Graphs – Statistical Display of Results

REFERENCES:

Statistics Using R: An Integrative Approach, Sharon Lawner Weinberg, Daphna Harel, Sarah Knapp Abramowitz, Cambridge University Press, 2020.

WEB REFERENCES:

1. <https://www.geeksforgeeks.org/r-statistics/>
2. https://www.w3schools.com/r/r_stat_intro.asp

COURSE OUTCOMES

On the successful completion of the course, students will be able to:

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Understand about Data Science & Data Scientists	K1	PSO1& PSO2
CO 2	Work on the Tools used for Data Science	K1, K2	PSO2, PSO3
CO 3	Apply and use R Tools	K1 & K3	PSO3, PSO5
CO 4	Understand the different types of Statements and functions	K1, K2 & K3	PSO5, PSO8
CO 5	Create charts using Interfaces and visualization	K3 & K4	PSO8

INTERNAL - UG

Levels	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholastic Marks C6	CIA Total	% of Assess ment
	T1 10 Mks.	T2 10 Mks.	Quiz 5 Mks.	Assig nment 5 Mks	OBT/ PPT 5 Mks	35 Mks.	5 Mks.	40 Mks.	
K1	2	2	-	-	-	4	-	4	10 %
K2	2	2	5	-	-	9	-	9	22.5 %
K3	3	3	-	-	5	11	-	11	27.5 %
K4	3	3	-	5	-	11	-	11	27.5 %
Non Schola stic	-	-	-	-	-		5	5	12.5 %
Total	10	10	5	5	5	35	5	40	100 %

END SEMESTER - UG

Levels	Section A (i) 5 Mks.	Section A (ii) 5 Mks	Section B 8 Mks.	Section C 12 Mks	Section D 20 Mks.	Section E 10 Mks.	Total 60Mks.	
K1	5	5	-	4	-	-	14	23.33 %
K2	-	-	8	4	-	-	12	20 %
K3	-	-	-	-	20	-	20	33.33 %
K4	-	-	-	4	-	10	14	23.34 %
Total	5	5	8	12	20	10	60	100 %

CIA

Scholastic	35
Non Scholastic	5
	40

EVALUATION PATTERN

SCHOLASTIC					NON - SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total
10	10	5	5	5	5	40	60	100

UG CIA Components**Nos**

C1	-	Test (CIA 1)	1	-	10 Mks
C2	-	Test (CIA 2)	1	-	10 Mks
C3	-	Assignment	1	-	5 Mks
C4	-	Open Book Test/PPT	2 *	-	5 Mks
C5	-	Quiz	2 *	-	5 Mks
C6	-	Attendance		-	5 Mks

****The best out of two will be taken into account***

Mapping COs Consistency with PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	3	1	2	2	2	1	1	1	1	1
CO2	1	3	1	2	2	2	2	1	2	1
CO3	1	2	1	1	3	2	2	2	2	2
CO4	1	1	1	3	2	1	2	2	2	2
CO5	1	2	3	1	1	1	1	1	1	1

Mapping of COs with POs

CO/ PSO	PO1	PO2	PO3	PO4	PO5
CO1	1	1	1	1	1
CO2	1	1	1	1	3
CO3	1	3	1	1	1
CO4	1	1	1	1	3
CO5	1	1	1	1	1

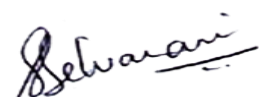
Note:

- φ Strongly Correlated – **3**
- φ Moderately Correlated – **2**
- φ Weakly Correlated -**1**

COURSE DESIGNER:

1. Staff Name : Dr. G. Preetha

Forwarded By


(S.Selvarani)

II B.C.A
SEMESTER – IV

For those who joined in 2021 onwards

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY
USCA	21J4SLJM4	CONTENT WRITING & VIDEO MAKING	INTER-DISCIPLINARYSELF-LEARNING (BCA WITH DEPT.OF JMC)

COURSE DESCRIPTION:

This course enables the students to develop content-writing and video-making skills for media.

COURSE OBJECTIVES:

- To enable students to acquire skills in designing and developing content for the media
- To give the students hand on experience in video-editing, Storyboard creating
- To offer practical knowledge in Animation creation

UNIT-1 - CONTENT WRITING INTRODUCTION

Need and Importance Skills of a content writer &Types of Content-writing - Creative perspective of content Choosing Headlines – Writing Contents Matching with Head Lines Proof Reading - Step by Step Process Writing – Making it Trustworthy Quoting in Social Media.

UNIT-2 - E-CONTENT DEVELOPMENT

Electronic Content Designing -Development E-content–Standards Learning Objects -Re-usability of E-content

UNIT-3 STORY BOARD AND FILMING

Storyboard ideas to plan and organize movies -Techniques for creating film characters -Filming - Learn and use controls for filming and editing - creation

and importing audio tracks and controls - creating loops, changing start and end points -Animation project wrap up -Audio and Video Compression.

UNIT-4 - ANIMATION CREATION

Stop Motion Animation - Principles of Animation -Calculate and Apply appropriate frame rates -Manipulate animation - Characteristics of well-designed Animation -Past and Current Animation Trends -Stop motion Set-up - Animation Execution.

UNIT-5 – VIDEO EDITING

Kine Master – Main View – Options -Ratio Aspects – Project Settings - Loading Videos – Working with Timeline -Layers – Clip Options – Trim and Split Audio, Video – Insert Text – Merge Videos -Export the Videos.

REFERENCES:

1. Joseph Robinson - Content Writing Step-By-Step

2. mark Simon - Storyboards: Motion in Art

3. Giuseppe Cristiano - The Storyboard Artist: A Guide to Freelancing in Film, TV, and Advertising

WEB REFERENCES:

1. <https://backlinko.com/hub/content/writing>

2. <https://www.digitalvidya.com/blog/how-to-start-content-writing/>

3. <https://www.studiobinder.com/blog/storyboard-examples-film/>

COURSE OUTCOMES

On the successful completion of the course, students will be able to:

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDR ESSED
CO 1	Understand Content Writing and Proof Reading	K1	PSO1& PSO2
CO 2	Explain the basics of E-Content Development	K1, K2	PSO2, PSO3
CO 3	Apply the techniques used for story	K1 & K3	PSO3,

	board creation and Filming		PSO5
CO 4	Understand the different types of animations	K1, K2 & K3	PSO5, PSO8
CO 5	Create animated videos	K3 & K4	PSO8

INTERNAL - UG

Levels	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholastic Marks C6	CIA Total	% of Assessment
	T1 10 Mks.	T2 10 Mks.	Quiz 5 Mks.	Assignment 5 Mks	OBT/ PPT 5 Mks	35 Mks.	5 Mks.	40 Mks.	
K1	2	2	-	-	-	4	-	4	10 %
K2	2	2	5	-	-	9	-	9	22.5 %
K3	3	3	-	-	5	11	-	11	27.5 %
K4	3	3	-	5	-	11	-	11	27.5 %
Non Scholastic	-	-	-	-	-		5	5	12.5 %
Total	10	10	5	5	5	35	5	40	100 %

END SEMESTER - UG

Levels	Section A (i) 5 Mks.	Section A (ii) 5 Mks	Section B 8 Mks.	Section C 12 Mks	Section D 20 Mks.	Section E 10 Mks.	Total 60Mks.	
K1	5	5	-	4	-	-	14	23.33 %
K2	-	-	8	4	-	-	12	20 %
K3	-	-	-	-	20	-	20	33.33 %
K4	-	-	-	4	-	10	14	23.34 %
Total	5	5	8	12	20	10	60	100 %

CIA

Scholastic	35
Non Scholastic	5
	40

EVALUATION PATTERN

SCHOLASTIC					NON - SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total
10	10	5	5	5	5	40	60	100

UG CIA Components

				Nos				
C1	-	Test (CIA 1)	1	-	10	Mks		
C2	-	Test (CIA 2)	1	-	10	Mks		
C3	-	Assignment	1	-	5	Mks		
C4	-	Open Book Test/PPT	2 *	-	5	Mks		
C5	-	Quiz	2 *	-	5	Mks		
C6	-	Attendance		-	5	Mks		

**The best out of two will be taken into account*

Mapping COs Consistency with PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	3	1	2	2	2	1	1	1	1	1
CO2	1	3	1	2	2	2	2	1	2	1
CO3	1	2	1	1	3	2	2	2	2	2
CO4	1	1	1	3	2	1	2	2	2	2
CO5	1	2	3	1	1	1	1	1	1	1

Mapping of COs with POs

CO/ PSO	PO1	PO2	PO3	PO4	PO5
CO1	1	1	1	1	1
CO2	1	1	1	1	3
CO3	1	3	1	1	1
CO4	1	1	1	1	3
CO5	1	1	1	1	1

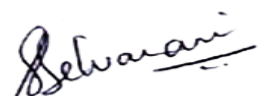
Note:

- φ Strongly Correlated – **3**
- φ Moderately Correlated – **2**
- φ Weakly Correlated -**1**

COURSE DESIGNER:

1. Staff Name : Dr. G. Preetha

Forwarded By


(S.Selvarani)

III B.C.A
SEMESTER – V

For those who joined in 2021 onwards

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY
USCA	21J5SLAC5	EMERGING TRENDS AND TECHNOLOGIES	INTER-DISCIPLINARY SELF-LEARNING (WITH DEPT.OF COM SF)

COURSE DESCRIPTION:

This course enables the students to acquire knowledge on recent trends and technologies.

COURSE OBJECTIVES:

- To gain knowledge in the new technologies used in various fields.
- To learn about blockchain and its uses.
- To understand various web services used and security mechanisms followed in internet.

UNITS:

UNIT I : THE BIRTH OF A NEW PARADIGM

Analyze Interactions – Resource Utilization – Changing Patterns – tracking tools - Healthcare and safety monitors - procure-to-pay (P2P) - real-time updates on goods ordered, delivered

UNIT II : BLOCKCHAIN

History – Versions - BitCoin – Miners - Working - Uses – Need – Building Bitcoin Block Chain – Block Chain- Bit Coin Cash – Wallets

UNIT III : EDGE COMPUTING

AWS (Amazon Web Services) - Microsoft Azure - Google Cloud Platform - Customer Data Platforms (CDP)

UNIT IV : 5G

Mobile gamers - Reliable Telecommunication - Internet-connected 3D printing
 - augmented reality - virtualized copy - Business Benefits of Digital Twins

UNIT V : SECURITY MECHANISMS

General Data Protection Regulation (GDPR) - Thwarting Cyber
 Criminals - Internet of Behaviors (IoB) - Location Tracking - Bigdata - Facial
 Recognition - Digital Security Asset - Privacy and Confidential Computing

COURSE OUTCOMES

On the successful completion of the course, students will be able to:

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Foresee the birth of new paradigms	K1	PSO1& PSO2
CO 2	Compare Bitcoins and Miners	K1, K2	PSO2, PSO3
CO 3	Analyze the Azure & Google Cloud	K1 & K3	PSO3, PSO5
CO 4	Implement the 5G Technological features	K1, K2 & K3	PSO5, PSO8
CO 5	Use the concepts of case study mechanisms	K3 & K4	PSO8

INTERNAL - UG

Levels	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholastic Marks C6	CIA Total	% of Assess ment
	T1 10 Mks.	T2 10 Mks.	Quiz 5 Mks.	Assig nment 5 Mks	OBT/ PPT 5 Mks	35 Mks.	5 Mks.	40 Mks.	
K1	2	2	-	-	-	4	-	4	10 %
K2	2	2	5	-	-	9	-	9	22.5 %
K3	3	3	-	-	5	11	-	11	27.5 %
K4	3	3	-	5	-	11	-	11	27.5 %
Non Schola stic	-	-	-	-	-		5	5	12.5 %
Total	10	10	5	5	5	35	5	40	100 %

END SEMESTER - UG

Levels	Section A (i) 5 Mks.	Section A (ii) 5 Mks	Section B 8 Mks.	Section C 12 Mks	Section D 20 Mks.	Section E 10 Mks.	Total 60Mks.	
K1	5	5	-	4	-	-	14	23.33 %
K2	-	-	8	4	-	-	12	20 %
K3	-	-	-	-	20	-	20	33.33 %
K4	-	-	-	4	-	10	14	23.34 %
Total	5	5	8	12	20	10	60	100 %

CIA

Scholastic	35
Non Scholastic	5
	40

EVALUATION PATTERN

SCHOLASTIC					NON - SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total
10	10	5	5	5	5	40	60	100

UG CIA Components

				Nos				
C1	-	Test (CIA 1)	1	-	10	Mks		
C2	-	Test (CIA 2)	1	-	10	Mks		
C3	-	Assignment	1	-	5	Mks		
C4	-	Open Book Test/PPT	2 *	-	5	Mks		
C5	-	Quiz	2 *	-	5	Mks		
C6	-	Attendance		-	5	Mks		

****The best out of two will be taken into account***

Mapping COs Consistency with PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	3	1	2	2	2	1	1	1	1	1
CO2	1	3	1	2	2	2	2	1	2	1
CO3	1	2	1	1	3	2	2	2	2	2
CO4	1	1	1	3	2	1	2	2	2	2
CO5	1	2	3	1	1	1	1	1	1	1

Mapping of COs with POs

CO/ PSO	PO1	PO2	PO3	PO4	PO5
CO1	1	1	1	1	1
CO2	1	1	1	1	3
CO3	1	3	1	1	1
CO4	1	1	1	1	3
CO5	1	1	1	1	1

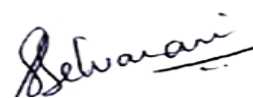
Note:

- φ Strongly Correlated – **3**
- φ Moderately Correlated – **2**
- φ Weakly Correlated – **1**

COURSE DESIGNER:

1. Staff Name : Ms. R. Ramya

Forwarded By


(S.Selvarani)

III BCA SEMESTER – VI

For those who joined in 2021 onwards

PROGRAMM E CODE	COURSE CODE	COURSE TITLE	CATEGORY
USCA	21J6SLI6	DATA SCIENCE	SELF-LEARNING (BCA WITH DEPT.OF IT)

COURSE DESCRIPTION:

This course enables the students to become familiar with data science and its tools.

COURSE OBJECTIVES:

- To understand the concept of data science and scientists
- To implement data science using different tools
- To disseminate knowledge in R programming.

UNITS:

UNIT I : DATA SCIENCE AND DATA SCIENTISTS (6 HRS)

Introduction – Need of Data Science – Business Intelligence Vs Data Analysis – Features – Life Cycle – Discovery – Data Preparation – Model Planning – Model Building – Operationalize – Communicate Results – Who are Data Scientists? – Skills needed for Data Scientists

UNIT II : TOOLS FOR DATA SCIENCE (6 HRS)

EXCEL – R Tool - Apache Hadoop – BigML – SaS – MATLAB – WEKA – Tableau – QlikView

UNIT III : R TOOL (6 HRS)

Startup – The Workspace – Variable – Constants – Data Types – R Operators

UNIT IV : R STATEMENTS AND FUNCTIONS**(6 HRS)**

Control Statements – If – If.. Else – Switch – Looping Statements – Functions

– Strings

UNIT V : R INTERFACES AND VISUALIZATION**(6 HRS)**

CSV Files – Excel Files – XML Files – R Database – Pie Chart – Bar Chart –

Histograms – Line Graphs – Statistical Display of Results

WEB REFERENCES:

- www.simplilearn.com
- www.mygreatlearning.com

COURSE OUTCOMES

On the successful completion of the course, students will be able to:

NO.	COURSE OUTCOMES	KNOWLEDGE LEVEL (ACCORDING TO REVISED BLOOM'S TAXONOMY)	PSOs ADDRESSED
CO 1	Foresee the life cycle of data science and the skills of data scientists.	K1	PSO1& PSO2
CO 2	Compare the pros and cons of the tools of data science	K1, K2	PSO2, PSO3
CO 3	Analyze the methodologies R Tool	K1 & K3	PSO3, PSO5
CO 4	Implement the programming erect of R.	K1, K2 & K3	PSO5, PSO8
CO 5	Design the code for the problems related to data science using R	K3 & K4	PSO8

INTERNAL - UG

Levels	C1	C2	C3	C4	C5	Total Scholastic Marks	Non Scholastic Marks C6	CIA Total	% of Assess ment
	T1 10 Mks.	T2 10 Mks.	Quiz 5 Mks.	Assig nment 5 Mks	OBT/ PPT 5 Mks	35 Mks.	5 Mks.	40 Mks.	
K1	2	2	-	-	-	4	-	4	10 %
K2	2	2	5	-	-	9	-	9	22.5 %
K3	3	3	-	-	5	11	-	11	27.5 %
K4	3	3	-	5	-	11	-	11	27.5 %
Non Schola stic	-	-	-	-	-		5	5	12.5 %
Total	10	10	5	5	5	35	5	40	100 %

END SEMESTER - UG

Levels	Section A (i) 5 Mks.	Section A (ii) 5 Mks	Section B 8 Mks.	Section C 12 Mks	Section D 20 Mks.	Section E 10 Mks.	Total 60Mks.	
K1	5	5	-	4	-	-	14	23.33 %
K2	-	-	8	4	-	-	12	20 %
K3	-	-	-	-	20	-	20	33.33 %
K4	-	-	-	4	-	10	14	23.34 %
Total	5	5	8	12	20	10	60	100 %

CIA

Scholastic	35
Non Scholastic	5
	40

EVALUATION PATTERN

SCHOLASTIC					NON - SCHOLASTIC	MARKS		
C1	C2	C3	C4	C5	C6	CIA	ESE	Total
10	10	5	5	5	5	40	60	100

UG CIA Components

				Nos				
C1	-	Test (CIA 1)		1	-	10	Mks	
C2	-	Test (CIA 2)		1	-	10	Mks	
C3	-	Assignment		1	-	5	Mks	
C4	-	Open Book Test/PPT		2 *	-	5	Mks	
C5	-	Quiz		2 *	-	5	Mks	
C6	-	Attendance			-	5	Mks	

****The best out of two will be taken into account***

Mapping COs Consistency with PSOs

CO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	3	1	2	2	2	1	1	1	1	1
CO2	1	3	1	2	2	2	2	1	2	1
CO3	1	2	1	1	3	2	2	2	2	2
CO4	1	1	1	3	2	1	2	2	2	2
CO5	1	2	3	1	1	1	1	1	1	1

Mapping of COs with POs

CO/ PSO	PO1	PO2	PO3	PO4	PO5
CO1	1	1	1	1	1
CO2	1	1	1	1	3
CO3	1	3	1	1	1
CO4	1	1	1	1	3
CO5	1	1	1	1	1

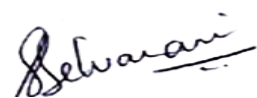
Note:

- φ Strongly Correlated – **3**
- φ Moderately Correlated – **2**
- φ Weakly Correlated – **1**

COURSE DESIGNER:

1. Staff Name : Ms. A. Punitha Rosline

Forwarded By


(S.Selvarani)