

FATIMA COLLEGE (AUTONOMOUS)



**Re-Accredited with “A” Grade by NAAC (3rd Cycle)
74th Rank in India Ranking 2020 (NIRF) by MHRD
Maryland, Madurai- 625 018, Tamil Nadu, India**

NAME OF THE DEPARTMENT : COMPUTER APPLICATIONS

NAME OF THE PROGRAMME : BCA

PROGRAMME CODE : USCA

ACADEMIC YEAR : 2020 - 2021

FATIMA COLLEGE [AUTONOMOUS]

MARY LAND

MAURAI - 625018

BOARD OF STUDIES MEMBERS FOR BCA

The board of studies meet for framing the syllabus for Bachelor of Computer Applications was held on 28.2.2020 at 10:30 am in the Department of BCA.

The members of the board were,

UNIVERSITY NOMINEE :

Dr. G. KARTHIGAI LAKSHMI,
ASSOCIATE PROFESSOR & HEAD,
DEPARTMENT OF COMPUTER SCIENCE,
VVV COLLEGE FOR WOMEN,
VIRUDHUNAGAR - 626001

ABSENT

SUBJECT EXPERT :

1. Dr. S. PADMANATHI,
PROFESSOR, DEPARTMENT OF INFORMATION TECHNOLOGY,
THIAGARAJAR COLLEGE OF ENGINEERING,
MAURAI - 625015

Padmanathi
28/02/2020

2. Dr. S. SHAJUN NISHA,
ASSISTANT PROFESSOR & HEAD,
PGI AND RESEARCH DEPARTMENT OF COMPUTER SCIENCE
SADAKATHULLAH APPA COLLEGE,
RAHMATH NAGAR,
TIRUNELVELI.

[Signature]
28/2/2020

INDUSTRY EXPERT:

MS. L. SENTHIL LAKSHMI,
EXECUTIVE DIRECTOR,
TANDEM INFORMATICS,
MADURAI.

[Signature]

ALUMNAE:

Mrs. R. G. SOBITHA,
BUSINESS MANAGER,
BRICK STEEL TECHNOLOGIES,
NO. 12, PARVATHI PLAZA,
ELLIS NAGAR, MADURAI.

[Signature]
28/2/2020

The University nominee and Subject experts gave their suggestions on Syllabus. Based on their suggestions the following changes were made.

ACTION TAKEN: Slight changes have been carried out in 19J1CC1-programming in C, 19J2CC3 - OOPS in C++, as suggested by subject experts.

I sem - 19J1CC1 - Programming in C
19J1CC2 - LAB in C

* Exceptions can be included in dynamism
- (unit VI)

II Sem :

19J2CC3 - Object Oriented Programming in C++
19J2CC4 - Lab in C++

* Reference books can be updated.

III Sem :

19J3CC5 - Operating Systems

* Kernel programming can be removed from Dynamism and Installation of OS can be included.

19J3CC6 - Lab in Relational Database Management System

* Without Theory RDBMS Lab is not suggested.
- Either Ruby, RAILS, PERL can be used.
- Implement basis of MONGODB.
- Database Connectivity - JSP, ASP can be included.

19J3SB1 - Skill Based Lab - GIMP.

* Can be renamed as Editing and Animation techniques, multimedia photoshop and flash, coreldraw can be given as separate units.

III Sem : 19J3ACAL3 - Principles of Accounting and Accounting package along with TALLY lab

IV Sem :-

19J4CC7 - Data Structures and Algorithm.

- B and B+ trees can be included in Dynamism instead of Splay and RED tree.

19J4SB2 - Data Analysis using Spread Sheets can be introduced as Skill Based.

19J4CC8 - Lab in Web programming

* Server side programming can be included

19J4AC4 - Accounting for Decision Making

* This subject can be replaced with Content writing / Digital principles and computer Organization.

* Account subjects can be taught in one semester alone, instead of two semesters.

V Sem:

19J5CC9 - Software Engineering -

* Last two units can be replaced with the concept of Software Testing.

19J5CC10 - Java programming (J5CC12)

19J5CC11 - Lab in Java programming (J5CC13)

* Frameworks can be added.

* Dot Net programming (J5ME1)

* 19J5CC12 - Lab in Dot Net programming (J5CC14)

* VB and VB.net can be removed and C# with asp.net can be included.

J5ME1 - Cryptography & Network Security

* It was considered as heavy syllabus for UG and security practices can be given as title -

Cryptographic techniques, Security Breaches, Hacking techniques, Cyber Forensics and Security patches can be given as separate units.

J5ME2 - Data Mining

19J5SB3 - Quantitative Aptitude. is suggested.

VI Sem:

19J6C13 - python.

19J6C14 - Lab in python.

19J6C15 - Computer Networks (Interchanged with semester III - DS).

19J6C16 - Project.

J6ME5 - Internet of Things (IoT) -

J6ME6 - Software Testing -

* Instead of software testing Human Computer Interaction course is suggested.

19J5SB4 - E-Content development.

* This course was highly appreciated students should be encouraged to get MOOC, NPTEL Certificates.

- Bridge Course can be planned on basis of computer.

- Guest lectures can be arranged for cyber security and data analytics.

- Career Oriented Programs can be given as a part of curriculum, focus of social media should be given.

1. Dr. G. KARTHIGAI LAKSHMI ABSENT.
2. Dr. S. PADMAVATHI *Adm* 28/2/2020

3. Dr. S. SHAJUN NISHA *Sh* 28/2/2020

4. Ms. L. SENTHIL LAKSHMI *L. Senthil*

5. Mrs. R. G. SOBITHA. *SH*

6. Mrs. S. SELVA RANI *Selva*

7. Mrs. A. PUNITHA ROSLINE *A. P. Rosline*

8. Dr. G. PREETHA. *G. Preetha* 28/2/2020

9. Ms. N. DURGA *Durga*

10. Ms. A. MABLE JASMINE SHOBHA *A. Mable Jasmine Shobha*
DEAN OF ACADEMIC AFFAIRS 28/2/2020

28/02/2020



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SYLLABUS 2020-2021

SEM	SUB.CODE	SUBJECT TITLE	HRS	CREDIT	CIA Mks	ESE Mks	TOT Mks
I		ENGLISH	5	3	40	60	100
		LANGUAGE	5	3	40	60	100
		VALUE EDUCATION	1	1	40	60	100
	19J1CC1	PROGRAMMING IN C	6	4	40	60	100
	19J1ACG1	DISCRETE MATHEMATICS	5	5	40	60	100
	19J1CC2	LAB IN C	6	3	40	60	100
	19J1NME1	NON MAJOR ELECTIVE – I MULTIMEDIA LAB – FLASH	2	2	40	60	100
		TOTAL	30	21			
II		ENGLISH	5	3	40	60	100
		LANGUAGE	5	3	40	60	100
		VALUE EDUCATION	1	1	40	60	100
	19J2CC3	OBJECT ORIENTED PROGRAMMING IN C++	6	4	40	60	100
	19J2ACG2	OPERATIONS RESEARCH	5	5	40	60	100
	19J2CC4	LAB IN C++	6	3	40	60	100
	19J2NME2	NON MAJOR ELECTIVE – II MULTIMEDIA LAB – FLASH	2	2	40	60	100
		TOTAL	30	21			

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SEM	SUB.CODE	SUBJECT TITLE	HRS	CREDIT	CIA Mks	ESE Mks	TOT Mks
III		ENGLISH	5	3	40	60	100
		LANGUAGE	5	3	40	60	100
		VALUE EDUCATION	1	1	40	60	100
	19J3CC5	OPERATING SYSTEMS	6	4	40	60	100
	19J3CC6	LAB IN RELATIONAL DATABASE MANAGEMENT SYSTEMS	5	5	40	60	100
	19AC3ACJ3	PRINCIPLES OF FINANCIAL ACCOUNTING AND ACCOUNTING PACKAGE	6	3	40	60	100
	19J3SB1	SKILL BASED – I QUANTITATIVE APTITUDE	2	2	40	60	100
		TOTAL	30	21			
IV		ENGLISH	5	3	40	60	100
		LANGUAGE	5	3	40	60	100
		VALUE EDUCATION	1	1	40	60	100
	19J4CC7	DATA STRUCTURES AND ALGORITHMS	6	4	40	60	100
	19J4CC8	LAB IN WEB PROGRAMMING	5	5	40	60	100
	19J4AC4	DIGITAL PRINCIPLES AND COMPUTER ORGANIZATION	6	3	40	60	100
	19J4SB2	SKILL BASED – II DATA ANALYSIS USING SPREADSHEETS	2	2	40	60	100
		TOTAL	30	21			

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SEM	SUB. CODE	SUBJECT TITLE	HRS	CREDIT	INTERNAL				EXT.	TOT.
					T	A	Q	AGG.		
V	J5CC11	COMPUTER NETWORKS	5	5	15	5	5	25	75	100
	J5CC12	JAVA PROGRAMMING	5	5	15	5	5	25	75	100
	J5CC13	LAB V – JAVA PROGRAMMING	6	4				40	60	100
	J5CC14	LAB VI – DOT NET PROGRAMMING	5	4				40	60	100
	J5ME1	MAJOR ELECTIVE – I DOT NET PROGRAMMING	5	5	15	5	5	25	75	100
	J5ME2	COMPUTER GRAPHICS								
	J5SB3	SKILL BASED – III CORELDRAW	2	2				50	50	100
	J5SB4	SKILL BASED – IV PHP	2	2				50	50	100
		TOTAL	30	27						700
VI	J6CC15	PYTHON	5	5	15	5	5	25	75	100
	J6CC16	LAB VII – PYTHON LAB	6	4				40	60	100
	J6ME3	MAJOR ELECTIVE – II ARTIFICIAL INTELLIGENCE								
	J6ME4	DATA MINING	5	5	15	5	5	25	75	100
	J6ME5	MAJOR ELECTIVE – III CLOUD COMPUTING	5	5	15	5	5	25	75	100
	J6ME6	MOBILE COMPUTING								
	J6SB5	SKILL BASED – V ANIMATION TECHNIQUE – I – ALICE	2	2				50	50	100
	J6SB6	SKILL BASED – VI LINUX	2	2				50	50	100
	J6CC17	PROJECT	5	4				40	60	100
		TOTAL	30	27						700
		NSS/JUNIOR JAYCEE – PART V		1						
		GRAND TOTAL		140						1400

II B.C.A - SEMESTER – III

For those who joined in 2019 onwards

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS / WEEK	CREDITS
USCA	19J3SB1	SKILL BASED – I QUANTITATIVE APTITUDE	LECTURE	2	2

COURSE DESCRIPTION

To improve aptitude, problem solving skills and reasoning ability that helps to focus on their career development

COURSE OBJECTIVES

1. To judge a candidate's capability in problem solving
2. To analyze and make sense of the data given in various representation
3. To understand statements and making sense of them using logic and establishing theory.
4. To solve critical problems in competitive examinations

LIST OF PROBLEMS

1. Problems on Numbers
2. Problems on Ages
3. Time and Work
4. Time and Distance
5. Simple Interest
6. Permutation and Combination
7. Odd Man Out & Series
8. Logical Sequence of words
9. Blood Relations Test
10. Series Completion
11. Mirror Images.

WEB REFERENCES :

1. <https://www.javatpoint.com/reasoning>
2. <https://www.toppr.com/guides/quantitative-aptitude/>

II B.C.A - SEMESTER – IV

For those who joined in 2019 onwards

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS / WEEK	CREDITS
USCA	19J4SB2	SKILL BASED – II DATA ANALYSIS USING SPREADSHEETS	PRACTICAL	2	2

COURSE DESCRIPTION

To enable the students in crafting professional excel spread sheets and to familiarize the students in preparation of analysis in data and presentations with automation tools.

COURSE OBJECTIVES

1. To use the Ribbon interface and different options the Ribbon offers
2. To understand the formatting features which enhances the overall appearance
3. To create basic charts that helps to help convey the details of analyzed data.
4. To manage spreadsheet data in table format, an excellent feature to administrate large sets of data.

UNIT I : EXCEL TO EXCELLENCE

(6 HRS)

Introduction – What is Excel – Need for excel – Advantages – Ribbon Components – Customization of Ribbons – Important Shortcuts – Managing Windows – Multiple Windows – Splitting Windows – Freezing Panes – Paste Special Techniques – Inserting Page Breaks – Tables – Formatting – Pictures – Smart Arts – Creating Hyperlinks – Adding Files as Links – Bookmarks – Header – Footer.

UNIT II: VISUALIZING DATA USING CHARTS

(6 HRS)

Enhancing a Chart With Titles & Tables – Drawing Tools – Adding Chart Elements – Formatting Charts – Chart Options – Chart Data Selection –

Editing and Moving Data – Creating Charts – Changing Chart Types – Chart Layout – Data tables – Pivot tables – Using Bar and Line Chart together – Using Secondary Axis in Graphs – Sharing Charts to Word, Powerpoint dynamically

UNIT III : ADVANCED FUNCTIONS

(6 HRS)

Conditional expressions – Logical functions – lookup and reference functions – Exact Match, Approximate Match – Date and time functions – Text functions – Power Functions – statistical Functions – Tracking and Evaluating Formulae – New Excel Functions.

UNIT IV : DATA ANALYSIS AND CONSOLIDATION

(6 HRS)

Managing Data – Finding Records Using Criteria – Totals and Subtotals – Row Subtotals – Sorting – Format your data – Sorting tables – Multiple-level sorting – custom sorting – Filtering Data – AutoFilter – Advanced filters – Consolidating Data – Consolidate Data across Sheets – Data Validation – Removing Duplicates – Preparing Sheets for Printing.

UNIT V – PROTECTING SPREADSHEET AND USING MACROS (6 HRS)

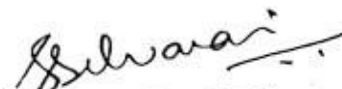
Encrypting Excel Files – Sharing Workbooks – Password Protecting Specific Ranges – Applying Workbook Protection – Applying Worksheet Protection – Merge multiple Files to a Sheet – Recording and Playing Macros – Copying and Deleting Macros – Merge Worksheets using Macros – Importing data from other sources.

REFERENCE BOOKS:

1. Excel 2019 in Easy Steps, Michael.
2. MS Office, C.Nellai Kannan.

WEB REFERENCES :

1. <https://spreadsheeto.com/>
2. https://www.udemy.com/course/excel_quickstart/


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