

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 SCIENCE

NAME OF THE PROGRAMME : B.Sc. COMPUTER SCIENCE

PROGRAMME CODE : UACS

ACADEMIC YEAR : 2021 - 2022

Fatima College (Autonomous), Madurai
The Minutes of the Board of Studies meeting

Name of the Department : Computer Science
Programme : B.Sc

To be implemented from the Academic year 2021-2022 onwards.

Convened on 15.4.2021 at 11 a.m online.

Members present :

1. Dr. G. Geminine Mary . chairperson
Head, Dept. of Computer Science ~~Geminine Mary~~
Fatima College
2. Dr. C. Suresh Kumar University Nominee
Associate Prof. & Head - online
Dept. of Computer Science
MKV College, Madurai
3. Dr. M. Thangaraj Subject Expert
Professor & Head - online
Dept. of Computer Science
MKV, Madurai
4. Dr. Sr. Shanthi Mary Joshita Subject Expert
Asst. Prof & Head - online
Dept. of Computer Science
JA College, Periyakulam
5. Dr. S. Vimala Subject Expert
Associate Prof in Computer Science - online
MTW University, Kodaikanal

6. P. Graceson Tony Industrialist.
Founder & CEO - online
Seven Atara Marketers
Koodal Nagar, Madurai

7. Mrs. K. Sudharani Alumna
Associate Prof. & Head - online
Dept. of Computer Science
MSN College, Srivangamai

8. Dr. N. Malathy Dean of Academic
Asst. Prof. in Zoology Affairs.
Fatima College

Members of the Board: The faculty of the
Department of Computer Science, Fatima
College.

9. Dr. S. Vidya, Smidye
Associate Prof.

10. Dr. K. Rosemary Euphrasia K. Rangupri
Associate Prof.

11. Dr. A. Vinimala Arimala
Associate Prof.

12. Dr. P. Meenakshi Sundari P. Meendesh
Asst. Prof.

13. Dr. S. Arul Jothi S. Arunesh
Asst. Prof.

14. Mrs. N. Muthulakshmi N. Muthulakshmi
Asst. Prof.

15. Dr. T. Vasantha
Asst. Prof.

T. Vasanthan

AGENDA:

1. Presentation of the Action taken report of the previous board.
2. Updation and addition of open educational resources in the list of references of courses wherever possible (already passed in the previous board)
3. To pass the syllabus for the New courses to be introduced
 - * one paper added in the list of electives offered in the V semester to the Physics Dept. to provide more choice to students
 - * Interdisciplinary self-learning extra credit course - offered to advanced learners of UG.
 - * Self learning extra credit course offered by the department for advanced learners of UG & PG.
 - * Skill embedded value added certificate course offered.
4. Rubrics to be followed for Project evaluation.
5. To pass the syllabus of the Computer Science courses offered by the other departments mentioned below
 - * History
 - * Mathematics
 - * Sociology and social work.

1. Action taken report

Industrial expert of the board suggested to encourage the students to enroll on relevant developer forum and to form a full stack team. As per the suggestion the final year students were encouraged and they have enrolled in forums like Stackoverflow and Oracle Java Forum. The knowledge gained through these helped two students of III B.Sc Computer Science to acquire Programmer Trainee post in an American startup company CorpHox with a monthly stipend of Rs. 1500/- while still pursuing their degree.

2. Updation of open educational resources (Web references) in the list of references for all the courses already passed in board.

S.NO	Course Code	Title	Details
1.	19B1CC1	Programming in C	
2.	19B2CC3	Programming in C++	
3.	19B3CC5	Data Structure & Algo- rithms	
4.	19B4CC7	Relational Database system concepts	
5.	19B5CC9	Programming in JAVA	
6.	19B5CC10	Operating System Concepts	
7.	19B6CC13	J2EE Programming	
8.	19B3SB1	Introduction to Internet	
9.	19B4SB2	Web designing using HTML and Wordpress	
10.	19B5SB3	Client side programming using JAVA Script & CSS	
11.	19B5SB4	Server side programming using ASP.NET	
12.	19B6SB5	Server side programming using PHP	
13.	19B6SB6	Web services development using XML	

3. Syllabus passed for the new courses to be introduced.

- * A course on "Web Development" is introduced as elective paper for B.Sc. Physics in the V Semester.

Course Code	Course Title	Has Global relevance	Has scope for Employment Entrepreneurship Skill Development
21B5ELP2	Web Development		

Need to Introduce —

- * To open more choice
- * To facilitate students acquire knowledge to keep in trend
- * To open vistas of employability.

* 3 interdisciplinary self-learning extra credit courses are offered to advanced learners of UG.

1. Fundamentals and Programming of Microprocessor 8085 in collaboration with the Dept. of Physics
2. "அறிவு இயல்பு" (Tamilum Enaiyamum) with the Dept. of Tamil
3. "Chemistry problem solving using C Programming" with the Dept. of Chemistry.

* Self learning extra credit course offered for advanced learners of UG

1. Principles of Cryptography.

2. Web App with Spring Boot
3. Content Management System

* Skill embedded Value added certificate course offered to UG students.

Course Code	Course Title	MOU signed with	Skill acquired will be
	Cyber Security for Beginners	Seven Atara Marketers, Chennai.	ethics of handling internet with caution.

Course outcome :-

- Understands the broad set of technical and social aspects of Computer security.
- the fundamentals of cryptography.
- understands to identify the various cybercrimes.

4. Rubrics to be followed in Project evaluation

Internal	
Metric	Marks
Analysis & Design Review	10
Coding & Testing Review	10
Model Presentation	20
Total	40

External

Metric	Marks
Documentation	20
Presentation	20
Viva - Voce	20
Total	60

5. Syllabus passed for Computer Science courses offered by other Departments as mentioned below.

- * History
- * Mathematic
- * Sociology and social work.

SUGGESTIONS BY BOARD MEMBERS

1. For UG Project, emphasis should be given to presentation and domain specification. So modification made in the rubrics in internal evaluation.
2. To provide relevant titles to the Computer related courses offered by other Departments. So, the following changes carried out.
 - * "Computer for Tourism" changed to "Tourism Informatic"
 - * "Computer for Sociologists" changed to "Sociology Informatic".
3. Suggested that Dept. of Mathematic can offer Matlab or Mathematical Softwares like Latex, instead of courses like C/C++, which will be useful to students.
4. Suggested to move towards full fledged CBCs like cross majoring for electives.

It was resolved by the board, to pass all the syllabus that was presented and the rubrics for project evaluation.

Name	Signature
1. Dr. G. Germaine Mary, Chairperson	<u>germaine</u>
2. Dr. C. Suresh Kumar	Absent
3. Dr. M. Thangaraj	- online
4. Dr. Sr. Shantha Mary Jositta	- online
5. Dr. S. Vimala	- online
6. Mr. P. Graceon Tony	- online
7. Ms. K. Sudharani	- online
8. Dr. N. Malathy	<u>Malathy</u>
9. Dr. S. Vidya	<u>Sridya</u>
10. Dr. K. Rosemary Euphrasia	K. Remya
11. Dr. A. Vimala	<u>Arimala</u>
12. Dr. P. Meenakshi Sundari	P. Meenakshi
13. Ms. N. Muthulakshmi	N. Muthulakshmi
14. Dr. S. Aruljothi	S. Aruljothi
15. Dr. T. Vasantha	T. Vasantha

15/04/2021

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

S. NO	SEM .	COURSE CODE	COURSE TITLE	HRS	CRED ITS	CIA Mks	ESE Mks	TOT. Mks
1.	I	19B1CC1	PROGRAMMING IN C	6	4	40	60	100
2.		19B1CC2	LAB IN PROGRAMMING IN C	6	3	40	60	100
3.	II	19B2CC3	PROGRAMMING IN C++	6	4	40	60	100
4.		19B2CC4	LAB IN PROGRAMMING IN C++	6	3	40	60	100
5.	III	19B3CC5	DATA STRUCTURES AND ALGORITHMS	6	4	40	60	100
6.		19B3CC6	LAB IN DATA STRUCTURES IN C++	6	3	40	60	100
7.	IV	19B4CC7	RELATIONAL DATABASE SYSTEM CONCEPTS	6	4	40	60	100
8.		19B4CC8	LAB IN VISUAL PROGRAMMING	6	3	40	60	100
9.	V	19B5CC9	PROGRAMMING IN JAVA	5	5	40	60	100
10.		19B5CC10	OPERATING SYSTEM CONCEPTS	5	5	40	60	100
11.		19B5CC11	LAB IN PROGRAMMING IN JAVA	6	3	40	60	100
12.		19B5PR1	PROJECT - I	4	3	40	60	100
13.	VI	19B6CC12	J2EE PROGRAMMING	5	5	40	60	100

S. NO	SEM .	COURSE CODE	COURSE TITLE	HRS	CRED ITS	CIA Mks	ESE Mks	TOT. Mks
14.		19B6CC13	DATA COMMUNICATIONS AND NETWORKING	5	5	40	60	100
15.		19B6CC14	LAB IN J2EE PROGRAMMING	6	3	40	60	100
16.		19B6PR2	PROJECT - II	-	3	40	60	100
Total				84	60			

ALLIED COURSES- 20 CREDITS

S.NO	SEM.	COURSE CODE	COURSE TITLE	HRS	CREDIT	CIA Mks	ESE Mks	TOT. MKs
1.	I	19P1ACB1	DIGITAL PRINCIPLES & APPLICATIONS (ALLIED - I - OFFERED BY PHYSICS)	5	5	40	60	100
2.	II	19B2AC2	COMPUTER SYSTEM ARCHITECTURE	5	5	40	60	100
3.	III	19B3ACM1	LINEAR PROGRAMMING (ALLIED – III - OFFERED BY MATHS)	5	5	40	60	100
4.	IV	19B4ACM2	ALGEBRA AND GRAPH THEORY (ALLIED- IV – OFFERED BY MATHS)	5	5	40	60	100

ELECTIVES-15 CREDITS

S.No	SEM.	COURSECODE	COURSE TITLE	HRS	CREDIT	CIA Mks	ESE Mks	TOT. Mks
1.	V	19B5ME1	Software Engineering	5	5	40	60	100
2.	V	19B5ME2	Python Programming	5	5	40	60	100
3.	V	19B5ME3	Data Mining And Data Warehousing	5	5	40	60	100
4.	V	19B5MEP1	Programming With C (ELECTIVE-OFFERED TO PHYSICS)	5	5	40	60	100
5.	V	19B5MEP2	Web Development (ELECTIVE-OFFERED TO PHYSICS)	5	5	40	60	100
6.	VI	19B6ME4	Computer Graphics	5	5	40	60	100
7.	VI	19B6ME5	Software Testing	5	5	40	60	100
8.	VI	19B6ME6	Cloud Computing	5	5	40	60	100
9.	VI	19B6ME7	Introduction To Artificial Intelligence	5	5	40	60	100
10.	VI	19B6ME8	Mobile Computing Using Android	5	5	40	60	100
11.	VI	19B6ME9	Big Data Fundamentals	5	5	40	60	100

PART – IV – 20 CREDITS

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

S.No	SEM.	COURSE CODE	COURSE TITLE	HRS	CREDITS	CIA Mks	ESE Mks	TOT. Mks
1.	I	21G1VE1	PERSONAL VALUES	1	1	40	60	100
2.		19B1NME	ANIMATION TECHNIQUES (NME)	2	2	40	60	100
3.	II	21G2VE2	VALUES FOR LIFE	1	1	40	60	100
4.		19B2NME	ANIMATION TECHNIQUES (NME)	2	2	40	60	100
5.	III	19G3EE1	ENVIRONMENTAL EDUCATION	1	1	40	60	100
6.		19B3SB1	SKILL BASED ELECTIVE- INTERNET PROGRAMMING PAPER: I INTRODUCTION TO INTERNET	2	2	40	60	100
7.	IV	19G4EE2	GENDER STUDIES	1	1	40	60	100
8.		19B4SB2	SKILL BASED ELECTIVE- INTERNET PROGRAMMING PAPER: II - WEB DESIGNING USING HTML AND WORDPRESS	2	2	40	60	100
9.	V	19B5SB3	SKILL BASED ELECTIVE- INTERNET PROGRAMMING PAPER: III – CLIENT SIDE PROGRAMMING USING JAVA SCRIPT & CSS	2	2	40	60	100
10.		19B5SB4	SKILL BASED ELECTIVE- INTERNET PROGRAMMING PAPER: IV – SERVER SIDE PROGRAMMING USING ASP.NET	2	2	40	60	100
11.	VI	19B6SB5	SKILL BASED ELECTIVE- INTERNET PROGRAMMING PAPER: V - SERVER SIDE PROGRAMMING USING PHP	2	2	40	60	100

12.		19B6SB6	SKILL BASED ELECTIVE- INTERNET PROGRAMMING PAPER:VI -WEB SERVICES DEVELOPMENT USING XML	2	2	40	60	100
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**OFF-CLASS PROGRAMMES
ADD-ON COURSES**

COURSE CODE	COURSE TITLE	HRS .	CRE DITS	SEMES TER IN WHICH THE COURS E IS OFFER ED	CIA Mks	ESE Mks	TOT AL Mks
19UADCA	COMPUTER APPLICATIONS (offered by the department of PGDCA for Shift I)	40	2	I & II	40	60	100
19UADFC1	ONLINE SELF LEARNING COURSES- Basic Multidisciplinary Course - Arts	-	2	I	-	-	50
19UADFC2	ONLINE SELF LEARNING COURSE- Basic Multidisciplinary Course - Science	-	2	II	-	-	50
21UAD3ES	Professional Ethics	15	1	III	40	60	100
21UAD4ES	Personality Development	15	1	IV	40	60	100
21UAD5ES	Family Life Education	15	1	V	40	60	100
21UAD6ES	Life Skills	15	1	VI	40	60	100
19UAD5HR	HUMAN RIGHTS	15	2	V	100	-	100

COURSE CODE	COURSE TITLE	HRS .	CRE DITS	SEMESTER IN WHICH THE COURSE IS OFFERED	CIA Mks	ESE Mks	TOTAL Mks
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/ Sem ester	1	II-VI	-	-	-
TOTAL			20				

SELF LEARNING EXTRA CREDIT COURSES

COURSE CODE	COURSE	HR S.	CRE DITS	SEMESTER IN WHICH THE COURSE IS OFFERED	CI A M KS	ESE MK S	TOTAL MARK S
20UGSLB1	SELF LEARNING COURSE for ADVANCED LEARNERS DIGITAL IMAGE PROCESSING	-	2	ANY SEMESTER	40	60	100
21UGSLB2	SELF LEARNING COURSE for ADVANCED LEARNERS PRINCIPLES OF CRYPTOGRAPHY	-	2	ANY SEMESTER	40	60	100
21UGSLB3	SELF LEARNING COURSE for ADVANCED LEARNERS WEB APP WITH SPRING BOOT	-	2	ANY SEMESTER	40	60	100
21UGSLB4	SELF LEARNING COURSE for ADVANCED LEARNERS CONTENT MANAGEMENT SYSTEMS	-	2	ANY SEMESTER	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	-	Mini mum 2 Credi ts	I – VI	-	-	

IV-B INTERDISCIPLINARY SELF-LEARNING EXTRA CREDIT COURSES

COURSE CODE	COURSE	HRS.	CREDITS	SEMESTER IN WHICH THE COURSE IS OFFERED	CIA MKS	ESE MKS	TOTAL MARKS
21UGIDBP1	FUNDAMENTALS & PROGRAMMING OF MICROPROCESSOR 8085	-	2	ANY SEMESTER	40	60	100
21UGIDBT1	TAMILUM INAIYAMUM	-	2	ANY SEMESTER	40	60	100
21UGIDBC1	Chemistry Problem Solving using C Programming		2	ANY SEMESTER	40	60	100

OFF CLASS PROGRAMMES

COURSE CODE	COURSE	HR S.	CREDIT S	SEMESTER IN WHICH THE COURSE IS OFFERED	CIA MK S	ESE MK S	TOTAL MARK S
21UGVAON B1	ONLINE COURSES for ADVANCED LEARNERS PHOTO EDITING TECHNIQUES	-	2	ANY SEMESTER	40	60	100
21UGVAON B2	ONLINE COURSE for ADVANCED LEARNERS WEB DESIGNING USING HTML	-	2	ANY SEMESTER	40	60	100
21UGSEB1	SKILL EMBEDDED COURSE IN CYBER SECURITY FOR BEGINNERS	-	2	ANY SEMESTER	40	60	100

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
UACS	20UGSLB 1	DIGITAL IMAGE PROCESSING	EXTRA CREDIT	-	2

COURSE DESCRIPTION

The course helps to learn the fundamental concepts of digital image processing

COURSE OBJECTIVES

- To inculcate ideas and create interest in processing images techniques.
- To expose students to current applications in the field of digital image processing.

SYLLABUS

UNIT I : Introduction

Introduction- Definition of Digital Image Processing- The Origins of Digital Image Processing – Examples of Fields that Use Digital Image Processing – Fundamental Steps in Digital Image Processing – Components of an Image Processing System.

UNITII :Digital Image Fundamentals

Image Sensing and Acquisition – Image Sampling and Quantization – image interpolation - Some Basic Relationships between Pixels – An Introduction to the Mathematical Tools Used in Digital Image Processing.

UNITIII:Intensity Transformations And Spatial Filtering

Background-Some Basic Intensity Transformation Functions – Fundamentals of Spatial Filtering – Smoothing Spatial Filters – Sharpening Spatial Filters.

UNIT IV:Image Restoration And Reconstruction

A Model of the Image Degradation/Restoration Process-Noise Models - Restoration in the Presence of Noise Only-Spatial Filtering.

UNITV:Image Segmentation

Segmentation Fundamentals -Point,Line and Edge Detection.

TEXT BOOK

Digital Image Processing, Rafael.C.Gonzalez and Richard E.Woods,3rdEdition, Pearson Publications, 2014.

REFERENCE BOOKS

1. *Fundamentals of Digital image processing*, Anil Jain, PHI Learning Pvt Ltd. 2011.
 2. *Digital Image Processing & Analysis*, B.Chanda, D.DuttaMajumder, 2nd Edition, PHI Learning Pvt Ltd. 2013.
 3. *Digital Image Processing*, Chaturvedi, 1st Edition, Vayu Education India Publisher, 2013.
- Digital Image Processing: Principles and Applications*, Wilhelm Burger and Mark J. Burge, 2nd Edition, Springer

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
UACS	21UGSLB 2	PRINCIPLES OF CRYPTOGRAPHY	EXTRA CREDIT	-	2

COURSE DESCRIPTION

To understand and use different cryptographic algorithm to ensure information security

COURSE OBJECTIVE/S

- To gain knowledge about the mathematics of the cryptographic algorithms
- To get an insight into the working of different existing cryptographic algorithms
- To learn how to use cryptographic algorithms in security

UNITS

UNIT I: NUMBER THEORY

Number Theory: Fermat's theorem, Cauchy's theorem, Chinese remainder theorem, Primality testing algorithm, Euclid's algorithm for integers, quadratic residues, Legendre symbol, Jacobi symbol

UNIT II: CRYPTOGRAPHY AND CRYPTANALYSIS

Cryptography and cryptanalysis, Classical Cryptography, different type of attack: CMA, CPA, CCA etc., Shannon perfect secrecy, OTP, Pseudo random bit generators, stream ciphers and RC4.

UNIT III: BLOCK CIPHERS

Block ciphers: Modes of operation, DES and its variants, finite fields (2^n), AES, linear and differential cryptanalysis

UNIT IV: PUBLIC KEY CRYPTOGRAPHY

One-way function, trapdoor one-way function, Public key cryptography, RSA cryptosystem, Diffie-Hellman key exchange algorithm, ElGamal Cryptosystem

UNIT V: CRYPTOGRAPHIC HASH FUNCTIONS

Cryptographic hash functions, secure hash algorithm, Message authentication, digital signature, RSA digital signature

TEXT BOOKS

1. Cryptography: Theory and Practice, Stinson. D., 4th edition, Chapman & Hall/CRC Press, 2018

REFERENCE

1. ***Cryptography and Network Security Principles and practice***, W. Stallings, 6TH Edition, Pearson Education Asia, 2014
2. Behrouz A. Forouzan and Debdeep Mukhopadhyay, “Cryptography and Network Security”, 3rd edition, Tata McGraw Hill, 2015
3. Thomas Koshy, “Elementary Number Theory with Applications”, Elsevier India, 2005

DIGITAL OPEN EDUCATIONAL RESOURCE

Online course: course on cryptography by Dan Boneh

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
UACS	21UGSLB3	WEB APP WITH SPRING BOOT	EXTRA CREDIT	-	2

COURSE DESCRIPTION

This course provide a platform to develop a stand-alone web application with Spring framework.

COURSE OBJECTIVE/S

- To gain knowledge about project management tool, Maven
- To get an insight into spring MVC
- To build a complete application with database connectivity

UNITS

Unit I: Create and Setup Spring Web Project using Maven

Maven Project Creation – POM.xml – Plugins – Coordinates – Repositories – Aspects related to project structure

Unit II: Introduction to Spring MVC

Spring – IOC Container – Dependency Injection – Spring MVC flow – Model – View – Controller

Unit III: Build Spring MVC Application

Dispatcher Servlet – Form Backing Object – Spring Form Tags – Spring MVC Annotations – Map Web Requests

Unit IV: Introduction to Spring Boot

Spring Boot – Architecture – @SpringBootApplication – run Method – Spring Annotations – Autowiring

Unit V: Database Connectivity

Application Context – JdbcTemplate – Data Access Layer

References:

1. <https://www.javatpoint.com/spring-boot-tutorial>
2. https://www.tutorialspoint.com/spring/spring_web_mvc_framework.htm
3. <https://www.javatpoint.com/spring-mvc-tutorial>
4. <https://howtodoinjava.com/spring-mvc-tutorial/>

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
UACS	21UGSLB4	CONTENT MANAGEMENT SYSTEMS	EXTRA CREDIT	-	2

COURSE DESCRIPTION

Basic concepts and techniques of web development using Content Management System

COURSE OBJECTIVE/S

- To understand the basic role of CMS
- To understand the WordPress Environment
- To develop web sites using CMS software.

UNITS**UNIT I: CONTENT MANAGEMENT SYSTEMS**

Introduction, Components of content management, Features of cms, Advantage of cms, Disadvantages of cms, Choosing cms.

UNIT II: INTRODUCTION TO WORDPRESS

Introduction, Installation, Preparation, Step by step installation, Web host with a pre-installed version of WordPress, Updating WordPress, Getting to know the dashboard , Front end / back end, Log in (to get access to the back end) , Configuring WordPress (Settings), General Settings, Writing Settings, Reading Settings, Discussion Settings, Default Article Settings

UNIT III: PAGES, POSTS, MENUS

The Basics Of WordPress, The WYSIWYG editor, Hyperlinks , Handling media, Inserting an image, Editing an image, Deleting an image, Creating a gallery, Editing or deleting a gallery, Documents (pdf, doc, xls,...)

Pages : Overview, add a new page, edit an existing page, delete a page

Posts: Overview, add a new post, edit an existing post, delete a post, categories & tags, Post categories, Post tags,

Custom menus, Introduction, Create a custom menu, Add custom links, Change the order of the menu items, creating a submenu, Remove a menu item

UNIT IV: THEME, WIDGETS, PLUGINS

User management : Introduction, Different roles in WordPress, add a Themes: Working of theme, Widgets , activate a widget, Plugins-What's a plugin?, Find a plugin, How to install a plugin?, How to configure a plugin, My favourite plugins.

UNIT V: Other CMS Web Site Development

Joomla, Drupal : introduction, Creating Web Site

References:

- **Professional WordPress: Design and Development** , Book by Brad Williams, David Damstra, and Hal Stern, Wiley Publisher March 2010.
- **Wordpress Complete, Karol Krol (Author), Sixth Edition Paperback, 2017**

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
UACS	21UGIDB P1	FUNDAMENTALS & PROGRAMMING OF MICROPROCESSOR 8085MS	EXTRA CREDIT	-	2

COURSE DESCRIPTION

The course provides an exposure assembly language programs of Intel 8085

COURSE OBJECTIVE/S

This course deals with organization of microprocessor, its important signals, instruction cycle, fetch cycle, execute cycle, timing diagrams, registers and flags of Intel 8085 and assembly language programs of Intel 805

UNITS

Unit I: Introduction to Microprocessors

Word Length of a Computer or Microprocessor-Evolution of Microprocessors-Evolution of Digital Computers-Computer Generation-Single Chip Microcomputers-Embedded Microprocessor-Hardware, Software and Firmware-CPU-Buses

Unit II: Microprocessor Architecture

Introduction-Intel 8085-ALU-Timing and control unit-Registers-Pin Configuration-Intel 8085 Instructions-Instruction Cycle-Fetch operation-Execute operation-Instruction and Data flow

Unit III: Instruction set of 8085

Introduction-Instruction and Data formats-Addressing modes-Direct Addressing-Register Addressing - Register Indirect Addressing - Immediate Addressing-Implicit Addressing - Status flags- Symbols and Abbreviations- Intel 8085 instructions- Data transfer group-Arithmetic Group-Logical group-Branch Group-Stack I/O and Machine Control Group

Unit IV: Assembly language programming

Introduction to programming -Program development using Mnemonics - converting mnemonic code into Assemble code - Entering the code - Editing and Executing the Assemble language programs -Programs to do arithmetic operations - Data transfer operations - Logical operations - Relational operations - Rotation operations -

Unit V: Program Control instructions

Programs using looping statements - operations on 16-bit data - Programs using timer control - Seven segment Display control programs

DYNAMISM:

UNIT IV: Simple program development UNIT V: Designing display control

TEXT BOOKS:

1. Fundamentals of MicroProcessors and Microcomputers by B. Ram, Sixth Revised and Enlarged Edition, Dhanpat Rai Publications Ltd.

2. Microprocessor Architecture, Programming and Applications with 8085 by Ramesh Goankar – Sixth Edition , Penram International Publishing Private Ltd, India

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
UACS	21UGIDBT1	TAMILUM INAIYAMUM	EXTRA CREDIT	-	2

HRS/WEEK: 6**CREDITS: 2****COURSE DESCRIPTION**

இணைய அறிமுகம், இணையத்தின் வரலாறு, இணையத்தின் பயன்பாடு, இணையவழி தமிழ் கற்றல் முதலியவற்றை அறிதல்.

COURSE OBJECTIVE/S

இணையத்தமிழ் உத்திகளைப் பிழையின்றிக் கற்றுக்கொள்ளுதல். அரசுப்பணிவாய்ப்புப் பெறுதல்.

COURSE OUTCOMES (CO)

No.	Course Outcome	Knowledge Level (According to Bloom's Taxonomy)
CO 1	இணைய அறிமுகமும் இணையப் பயன்பாடும் அறிவர்.	K1
CO 2	இணையவழித் தமிழ் கற்றல் முறையை இனம் காண்பர்.	K2
CO 3	கல்விசார் இணையதளங்களை அறிந்து வேலைவாய்ப்பைப் பெறுவர்.	K2,K3

அலகு 1 : இணையம் - அறிமுகமும் வரலாறும் - செய்திகளைத் தேடிப் பெறுதல் - இணையம் - சொற்பொருள் - தொலைபேசிக் கம்பி வழித் தகவலறியும் சேவை - வலைப்பின்னல் - முதல் இணையதளம் - தமிழில் முதல் இணையதளம் - இணையமுகவரி - இணையத்தின் பயன்கள் - இணைய மாநாடுகள்.

அலகு 2 : இணையவழித் தமிழ் கற்றலும் கற்பித்தலும் - மரபுசார் கற்பித்தல் முறைகள் - ஆசிரியரை மையமாகக் கொண்ட கல்விமுறை - மாணவரை மையமாகக் கொண்ட கல்வி முறை - இணையவழிக் கற்றலும் கற்பித்தலும் - பயன்கள் - இணையவழி தமிழ் கற்றல் - கற்பித்தல் - தமிழ் இணையப் பல்கலைக்கழகம் -

அலகு 3 : தமிழ்ப் பல்கலைக்கழகங்கள் - கல்விசார் இணைய தளங்கள் - கற்பிப்பவை - நூலகங்கள் - தகவல்களை வழங்குபவை - விகிப்பீடியா - தமிழ்விக்கிப்பீடியா - மனிதவள மேம்பாட்டுத்துறை தமிழ்நாடு மாநில உயர்கல்வி மன்றம் - தமிழ்நாடு அறிவியல் மற்றும் தொழில்நுட்ப மன்றம் - உயர்கல்வித்துறை - தமிழ் வளர்ச்சித்துறை - வலைவாய்ப்பு இணைய தளங்கள் - தமிழ்நாடு அரசுப் பணியாளர் தேர்வாணையம் - மத்திய அரசுப் பணியாளர் தேர்வாணையம் - இந்திய ஆட்சிப்பணி - ஆசிரியர் தேர்வு வாரியம் -

இணைய வேலை வாய்ப்பு மையங்கள் வேலை

வாய்ப்பகத் தகவல்கள்.

UNIT IV: INTRODUCTION TO INTERNET

Introduction to Internet – What is Internet – How does Internet works – What is special about the Internet – A brief history of Internet. How Internet Works – People and Organizations – Hardware. World Wide Web (WWW) – Internet and Web – How the web works – A brief history of WWW. Web Browsers and Web Browsing : Web Browsers – Types of Browser – Web Browsing Tips.

UNIT V : E-MAIL

E-mail – How E-mail Works – Why use E-mail – E-mail – Names and Addresses – Mailing Basics – E-mail Ethics – Spamming – E-mail – Advantages and disadvantages – Smileys – Free e-mail Providers. Anonymity, Safety and Privacy – Privacy – Anonymity – Encryption – Understanding Safety and Privacy – Viruses – Virus from E-mails – Virus from Websites.

Text Books:

பாடநூல் : இணையமும் இனிய தமிழும்,

முனைவர் க. துரையாசன், இணைப்பேராசிரியர் தமிழ்த்துறை, அரசினர் கலைக்கல்லூரி (தன்னாட்சி), கும்பகோணம்-1. இசை பதிப்பகம், 24,சபரிநகர், டாக்டர் குருமூர்த்தி சாலை, கும்பகோணம் - 1, அலைபேசி : 9442426552, தொலைபேசி : 0435 – 2402501.

2. *Internet for Everyone*, Alexis Leon, Mathew Leon, Leon Tech World Publication, 2012.

பார்வை நூல்கள் : References

1. முனைவர் மு. இளங்கோவன் : இணையம் கற்போம், வயல்வெளிப் பதிப்பகம், இடைக்கட்டு உள்கோட்டை (அஞ்சல்), கங்கைகொண்ட சோழபுரம் (வழி), அரியலூர் மாவட்டம் - 612 901.

2. மு. பழனியப்பன் : கணினியும் இணையமும், மீனாட்சி நூலக வெளியீடு, புதுக்கோட்டை – 622 003.

3. மு. பழனியப்பன் : இணைய உலகம், எஸ்.ரவிச்சந்திரன் பாமா பதிப்பகம், சென்னை – 24.

4. பவானி : இன்றைய வாழ்க்கையின் இணையம், ஜெய்சங்கர் பப்ளிகேஷன்ஸ், 38, நடேச அய்யர் தெரு, தி.நகர், சென்னை – 17.

5. *How the Internet works*, Preston Gralla, Pearson Education Publication, 2012.

6. *The Internet Book*, Douglas E.Comer, Pearson Education Publication, 2015.

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/WEEK	CREDITS
UACS	21UGIDBC1	Chemistry Problem Solving using C Programming	EXTRA CREDIT	-	2

COURSE DESCRIPTION

This paper focuses on all the important aspects of theory and applications of C-programming to solve problems in CHEMISTRY.

COURSE OBJECTIVES

This paper deals with programming in C language and its applications to solve problems in chemistry.

UNIT –I INTRODUCTION TO C LANGUAGE

History of C, Importance of C, Introduction, Character set in C, C Tokens, Style of C Language – Identifiers and Key words – Constants, Variables and Data types, Declaration of Variables, Defining Symbolic constants, Declaring a variable as Constant.

UNIT –II PROGRAMMING IN C LANGUAGE

Operators in C, Input and Output in C, Control statements in C, Storage classes in C, Decision making and Branching, Decision Making and Looping, Functions in C, Arrays , Preprocessors in C, The type def statement and Files in C language.

UNIT –III APPLICATIONS OF C LANGUAGE IN INORGANIC CHEMISTRY

Writing the Program using the various features of C language –Determination of mass number of any atom-Determination of electronegativity of an atom from bond energy data using pauling's relation-Determination of electronegativity of an

atom from bond energy data using Mulliken's relation

UNIT –IV APPLICATIONS OF C LANGUAGE IN GENERAL CHEMISTRY

Determination of RMS, MPV and Average Velocity-Calculation of ionic strength,
Determination of lattice energy of a crystal using Born-Lande equation,
Determination of Shapes of molecules or ions using VSEPR Theory

UNIT –V APPLICATIONS OF C LANGUAGE IN PHYSICAL CHEMISTRY

Calculation of Partition Co-efficient, Calculation of Heat of the solution,
Determination of Normality, Molarity and Molality of solutions, Determination of
half life of a radioactive nucleus.

REFERENCES:

1. Balagurusamy E, Programming in ANSI C, 8th Edition, McGraw Hill Education, 2019
2. Raman KV, Computers in Chemistry, Tata McGraw Hill Publications, 2013

PROGRAMME CODE	COURSE CODE	COURSE TITLE	CATEGORY	HRS/ WEEK	CREDITS
UACS	21UGSEB1	CYBER SECURITY FOR BEGINNERS	SKILL EMBEDDED COURSE	-	2

COURSE DESCRIPTION

This course is intended to create awareness by promoting information, techniques and suggestions among students to safeguard themselves against cyber crimes.

COURSE OBJECTIVES

- Understand the broad set of technical, social aspects of Computer Security.
- Understood the fundamentals of cryptography
- Understand the various aspects of cybercrime

UNITS

UNIT I : Introduction to Security

Basic Terminologies – Computer Security – Loss caused due to Security attacks – Elements of Security – Layers of Security – Risks Pertaining to Domestic users – Elements to be secured – What makes your system vulnerable- Making your system Secure – Basic security guidelines

UNIT II: Internet Security

Introduction – Understand Cookies – Security Issues with Instant Messaging – Security Measures for Instant Messaging – Online Gaming Risks – Risks with Social Networking Sites – Checklist for Internet Security

UNIT III: Identity Theft

Introduction – Information at risk – Different Ways of attack – Types of Fraud – Social Engineering – Types of Social Engineering – Combating Identity Theft.

Encryption : Basic Terminologies – Encryption – Key objectives – Primary uses of Encryption – Encryption Types – Digital Signature .

UNIT IV: Secure Shopping

Introduction – Banking Online – Paying via Credit Cards – Credit Card Frauds – Secure Practices – Transacting Securely – Secure Transaction Checklist.

Securing E-Mails : How do E-Mail work – E-Mail Security – Threats – Malicious Attachments – Counter Measures – Spamming – Counter Measures – Hoax mails – Procedure for E-Mail Security.

UNIT V: Security Setting

Configuring Chrome Security Setting - Configuring Firefox Security Setting - Configuring Internet Explorer Security Setting – Scanning virus using online tools.

Antivirus : Introduction – Why use an Antivirus program – How does Antivirus work – Some of the well known Antiviruses – How to choose the best Antivirus

application – Antivirus Security Checklist – Configuring an Antivirus

References:

1. **<https://www.udemy.com/course/certified-secure-netizen/learn/lecture/6553346#content>**
2. William Stallings, Cryptography and Network Security Principles and Practices, Seventh Edition, Pearson
3. <https://www.newhorizons.com/promotions/cybersecurity-ebooks>