Annai Hajira Women's College

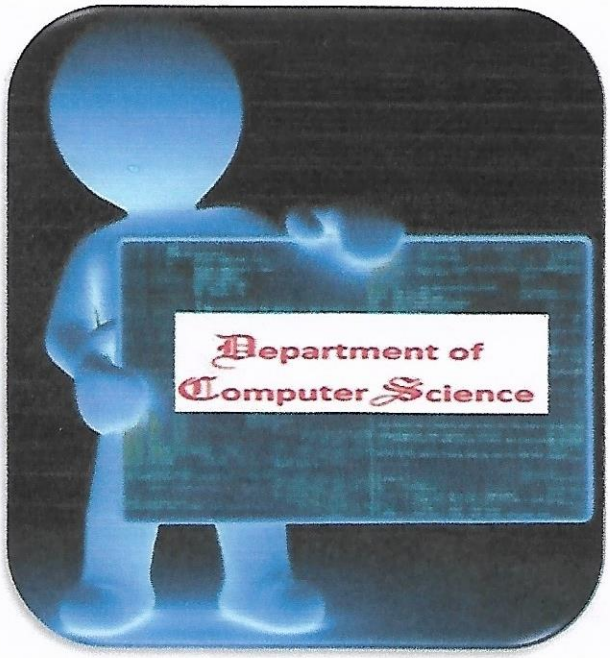
Department of Computer Science

Syllabus 2021 - 2024

PO, PSO & CO's of Computer Science

UG-Programme – CBCS – SEMESTER PATTERN

Course Code: CS



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UG - Programme - Course Structure under CBCS

B. Sc - Computer Science

(Applicable to the candidates admitted from the academic year 2021-2024 onwards)

FIRST SEMESTER

Sub - Code	Subject Title	Lecture Hours	LAB Hours	Credits
C1TL11	Part – I Language : Tamil	6	---	4
C2EN11	Part – II Language : Communicative English	6	---	4
CMCS11	Part III Core 1 : Programming in C	4	---	4
CMCSP1	Major Practical – I : Programming in C	---	4	2
CPPS11	Add on Major : Professional English for Physical Sciences - I	4	---	4
CACS11	Allied 1 : Theory Discrete Mathematics	4	---	3
CEVS11	Part IV : Environmental Studies	2	---	2
Total	(6T + 1P Courses)	26	4	23

SECOND SEMESTER

Sub - Code	Subject Title	Lecture Hours	LAB Hours	Credits
C1TL21	Part – I Language : Tamil	6	---	4
C2EN21	Part – II Language : Communicative English	6	---	4
CMCS21	Part III Core 2 : Theory Object Oriented Programming in C++	4	---	4
CMCSP2	Major Practical – II : Programming in C++	---	4	2
CPPS21	Add on Major : Professional English for Physical Sciences - II	4	---	4
CACSP1	Allied 2 : Practical Linux	---	4	2
CVBE21	Part IV : Value Based Education	2	---	2
Total	(6T + 2P Courses)	22	8	22

Programme Outcomes

Programme Outcomes	
PO1	To impart theoretical and practical knowledge that underpins the various areas of computer science.
PO2	To impart basic computing skills and a selected set of skills that is currently in demand in IT field.
PO3	To impart the selected set of skills that are requires for a computer professional in the global area.
PO4	To stimulate interest in humanities and thereby encourage an inter-disciplinary interest.
PO5	To create awareness on social, ethical and professional issues related to computers.
PO6	Manage the hardware and software components in a computer system independently and bloom either as a programmer in software industries.
PO7	Have sound skills in designing databases and managing them.
PO8	Have sound skills in designing web-based applications.
PO9	Have a good command of the English language for professional communication.
PO10	Have a variety of soft skills like technical documentation, presentation, quality awareness, team work, global outlook etc.
PO11	Be aware of professional, ethical and social issues in the IT field.

Programme Specific Outcome

The strategy precise upshot for students after crowning a Bachelor of Science degree in Computer Science are that they will be:	
PSO1	Able to reckon vital knowledge, learn, adapt and successfully bring to bear analytical and computational approaches on changing societal and technological challenges.
PSO2	Work as a team leader and a responsible citizen whose strengths come from an ability to extract and contribute to divergent teams, skill and experiences.
PSO3	Propels scientific and State-of-the- Art technologies through technological innovation and industrialism.

Course Outcome

FIRST SEMESTER

The Students are able to:

CMCS11	**Part III Core 1:** Programming in C	**CO1** Obtain knowledge about the structure of the programming language C and to develop the program writing and logical thinking skill **CO2** Develop basic understanding of computers, the concept of algorithm and algorithmic thinking **CO3** Develop the ability to analyse a problem, develops an algorithm to solve it **CO4** Develop the use of the C programming language to implement various algorithms, and develops the basic concepts and terminology of programming in general **CO5** Introduce the more advanced features of the C Language
CMCSP1	**Major Practical – I** Programming in C	**CO1** Develop skills in implementing algorithms through the programming Language C and to explore the features of C by applying sample problems **CO2** Acquire logical thinking, Implement the algorithms and analyse their complexity, Identify the correct and efficient ways of solving problems **CO3** Implement real time applications using the power of C language features
CPPS11	**Add on Major** Professional English for Physical Sciences - I	**CO1** Recognise their own ability to improve their own competence in using the language. **CO2** Use language for speaking with confidence in an intelligence and acceptable manner. **CO3** Understand the importance of reading for life. **CO4** Read independently unfamiliar texts with comprehension. **CO5** Understand the importance of writing in academic life.
CACS11	**Allied 1 : Theory** Discrete Mathematics	**CO1** Apply basic concepts for clear understanding of mathematical principles and to solve practical problems. **CO2** Construct simple mathematical proofs and possess the ability to verify them. **CO3** Skilfully expresses mathematical properties formally via the formal language of propositional logic and predicate logic. **CO4** Specify and manipulate basic mathematical objects such as functions and relations and is able to verify simple mathematical properties that these objects possess.
CEVS11	**Part IV:** Environmental Studies	**CO1** Understand concepts and methods from ecological and physical sciences and their application in environmental problem solving **CO2** Appreciate the ethical, cross-cultural and historical context of environmental issues and the links between human and natural systems **CO3** Understand the transnational character of environmental problems and ways of addressing those including interactions across local to global scales

SECOND SEMESTER

The Students are able to:

CMCS21	**Part III Core 2: Theory** Object Oriented Programming in C++	**CO1** Gain the basic knowledge of object oriented programming concepts and to understand the detail idea of C++ streams, Inheritance, Overloading of operators, functions, constructors, File Handling and templates concepts of C++ programming. **CO2** Identify importance of object oriented programming and difference between structured oriented and object oriented programming features. **CO3** Able to make use of objects and classes for developing programs. **CO4** Able to use various object oriented concepts to solve different problems.
CMCSP2	**Major Practical - II** Programming in C++	**CO1** Gain knowledge about the object oriented programming concepts and C++ streams, Inheritance, Overloading of operators, functions, constructors, File Handling and templates concepts of C++ programming by implementing sample programs. **CO2** Creating simple programs using classes and objects in C++ **CO3** Implement Object Oriented Programming Concepts in C++ **CO4** Develop applications using stream I/O and file I/O
CPPS21	**Add on Major** Professional English for Physical Sciences - II	**CO1** Recognise their own ability to improve their own competence in using the language. **CO2** Use language for speaking with confidence in an intelligence and acceptable manner. **CO3** Understand the importance of reading for life. **CO4** Read independently unfamiliar texts with comprehension. **CO5** Understand the importance of writing in academic life.
CACSP1	**Allied : Practical - II** Linux	**CO1** Understand and make effective use of Linux utilities and Shell scripting language to solve problems. **CO2** Able to understand the basic commands of Linux operating system and can write shell scripts. **CO3** Able to create file systems and directories and operate them.
CVBE21	**Part IV:** Value Based Education	**CO1** Enable the students to understand the social realities and to inculcate an essential value system towards building a healthy society. **CO2** Understand the importance of value based living. **CO3** Gain deeper understanding about the purpose of their life. **CO4** Understand and start applying the essential steps to become good leaders. **CO5** Emerge as responsible citizens with clear conviction to practise values and ethics in life. **CO6** Become a value based professional.

P. S. 15/9/2024

HOD Signature

Head of the Department of Computer Science
Annai Hajira Women's College,
Melapalayam.

Principal Signature

15/09/24

PRINCIPAL
ANNAI HAJIRA WOMEN'S COLLEGE
MELAPALAYAM - 627 005.

மனோன்மணியம் சுந்தரனார் பல்கலைக்கழகம்
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Phone:0462-2338632, Fax:0462-2334363
e-mail: registrar@msuniv.ac.in; Website: www.msuniv.ac.in

Dr.G. ANNADURAI
REGISTRAR-in-charge

Ref. No.MSU/BoS/U.G./Meeting/ 2022 / O- 2039 29.09.2022

To

The Principals of all affiliated colleges of M.S.University

Sub: : (1) Letter No: 162, received from Government Chief Secretary, Higher Education (K2) Department, Chennai dated 22.08.2022
(2) Letter No: 189, received from Government Chief Secretary, Higher Education (K2) Department, Chennai dated 23.09.2022

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I am by direction to inform that, in the pre-discussion meeting had with the principals of all affiliated colleges (non Autonomous and Autonomous) and all UG Board chairpersons regarding the implementation of the government letters cited under references, it is resolved to implement Part I and Part II languages in second year also for all U.G Programmes for the students those who joined the programme from the academic year 2021-22 onwards.

Moreover, it is found that, the following U.G. programmes are not having Part I & Part II languages in the second year (ie) III & IV semesters.

Sl. No.	Board	Courses
1	Computer Science /SE	B.Sc. Computer Science
2		B.Sc. Software Engineering
3	Computer Application	B.C.A
4	Costume	B.Sc. Costume Design & Fashion Design
5		B.Sc. Fashion Designing & Apparel Making
6		B.Sc. Fashion Technology
7	Information Technology	B.Sc. Computer & Information Technology
8		B.Sc. Information Technology
9	Electronics	B.Sc. Electronics
10		B.Sc. Electronics & Communication
11	Home Science	B.Sc. Hotel Management and catering science
12	Commerce	B.Com
13		B.Com (Corporate)
14		B.Com (Honours)
15		B.Com (Professional Accounting)
16		B.Com (Banking & Finance)
17		B.Com (Banking & Ecommerce)
18	B.B.A	B.B.A
19		B.B.A Shipping & Logistics

30/09/22

In order to induct the PartI & Part II language courses in the above programmes for III & IV semesters, Board of Studies meetings were conducted and they have revised the programme structure for the above programmes and are sent herewith for your ready reference and immediate implementation. The existing Part I & Part II language syllabus for III &IV semesters for other U.G programmes are to be followed for all the above programmes too. The revised syllabus of the above programmes by including Part I & Part II in III & IV semesters with effect from the academic year 2021-22 will be uploaded in the university website shortly.

Hence, all the principals of non autonomous affiliated colleges offering the above programmes are requested to reschedule the workload time table for the III semester (ie) current semester and inform the same to the staff and students accordingly. I once again request you to send the action taken in this regard to the undersigned at the earliest.

Yours faithfully,

Registrar i/c

MANONMANIAM SUNDARANAR UNIVERSITY, TIRUNELVELI

B.Sc. Computer Science / B.Sc. Software Engineering / B.C.A/
B.Sc. Costume Design & Fashion Design / B.Sc. Fashion Designing & Apparel Making /
B.Sc. Fashion Technology / B.Sc. Computer & Information Technology/
B.Sc. Information Technology/ B.Sc. Electronics / B.Sc. Electronics & Communication /
B.Sc. Food Science & Nutrition / B.Sc. Hotel Management and Catering Science /
(Choice Based Credit System)
(Effective from the academic year 2021-2022 onwards)
Programme Structure

Semester – III 2022 - 23

Part I/II/II I/IV/V	Sub. No	Subject Status	Subject Title	Contact hrs/ week	L hrs/ week	T hrs/ week	P hrs/ week	C Credits
I	17	Language	Tamil/Other Languages	6 4	6	0	0	4
II	18	Language	English	6 4	6	0	0	4
III	19	Core-3	Java	4	4	0	0	4
III	20	Major Practical – 3	Java Lab	3+2	0	0	3	2
III	21	Allied II - 1	Scripting	3+1	3	0	0	3
III	22	Allied II - Practical 1	Scripting Lab	2+1	0	0	2	2
III	23	Skill Based Core	Digital Design	4	4	0	0	4
IV	24	Non-Major Elective		2	2	0	0	2
IV	25	Common	Yoga*	2*	2	0	0	2*
			Subtotal	36	27	0	5	27

*Excluding the hours & credit for Yoga

Semester – IV								
I	26	Language	Tamil/Other Languages	6 4	6	0	0	4
II	27	Language	English	6 4	6	0	0	4
III	28	Core-4	DS	4	4	0	0	4
III	29	Major Practical – 4	DS lab	3+2	0	0	3	2
III	30	Allied II - 2	Machine Learning	3+1	3	0	0	3
III	31	Allied II - Practical 2	Python	2+1	0	0	2	2
III	32	Skill Based Core	Comp. Architecture	4	4	0	0	4
IV	33	Non-Major Elective		2	2	0	0	2
IV	34	Common	Computer for Digital Era*	2*	2	0	0	2*
V	35	Extension Activity	NCC/NSS/YRC/YWF	-	-	-	-	1
			Subtotal	30	27	0	5	28

* Excluding the hours & credit for Computer for Digital Era

THIRD SEMESTER

Sub - Code	Subject Title	Lecture Hours	LAB Hours	Credits
C1TL31	Part – I Language : Tamil	6	---	4
C2EN31	Part – II Language : General English	6	---	4
CMCS31	Part III Core 3 : Theory Java Programming	4	---	4
CMCSP3	Major Practical – III : Java Programming	---	3	2
CACS31	Allied III : Theory Scripting Languages	3	---	3
CACSP3	Allied III : Practical Scripting Languages Lab	---	2	2
CSCS31	Skilled Based Core – I : Theory Digital Design	4	---	4
CNCS32	Part IV Non-Major Elective : Theory Basic Programming Design	2	---	2
CYOG31	Part IV Common : Yoga	2	---	2
Total	(6T + 2P Courses)	27	5	27

FOURTH SEMESTER

Sub - Code	Subject Title	Lecture Hours	LAB Hours	Credits
C1TL41	Part – I Language : Tamil	6	---	4
C2EN41	Part – II Language : General English	6	---	4
CMCS41	Part III Core 4 : Theory Data Structures	4	---	4
CMCSP4	Major Practical – IV : Data Structure Lab	---	3	2
CACS41	Allied IV : Theory Machine Learning Techniques	3	---	3
CACSP4	Allied IV : Practical Python	---	2	2
CSCSP3	Skilled Based Core – II : Theory Computer Architecture	4	---	4
CNCS41	Part IV Non-Major Elective : Theory HTML	2	---	2
CCDE41	Part IV Common : Computers for Digital Era	2	---	2
Total	(5T + 3P Courses)	27	5	27

Program Educational Objectives (PEO's)

The B.Sc Computer Science Program will enable the student to

Program Educational Objectives (PEO's)	
PEO1	Provide with the educational experiences that will enable them to cope with the rapidly changing subject of computer science
PEO2	Provide with up - to - date training in the discipline so as to prepare them to take On entry level positions in the local Information Technology sector, (with the exception of hardware engineer and technician) and to grow into other positions with one or two years working experience
PEO3	Provide with a sufficiently broad range of courses to enable them to be successful in postgraduate programmes anywhere in the world.
PEO4	Stimulate interest in humanities and thereby encourage an inter – disciplinary interest
PEO5	Create awareness on social, ethical and professional issues related to computers.

Program Outcomes (POS)

Upon Completion of B.Sc the general intended learning outcomes are that students will:

Program Outcomes (POS)	
PO1	Be aware of the history of the discipline of latest technology and understand the conceptual underpinnings of the subject.
PO2	Illustrate the nature of the software development process, including the need to provide appropriate documentation.
PO3	Be able to develop program in one or two programming languages
PO4	Be able to analyze a technique for a specific problem to meet a particular objective.
PO5	Compare the basic theory of computer architectures, including computer hardware and networking
PO6	Construct new information technology applicable to the society, business and the individual, both from a technical and from an ethical and legal point of view.

Program Specific Outcomes (PSOs)

Upon Completion of B.Sc Computer Science the student will be able to

Program Specific Outcomes (PSOs)	
PSO1	Define Fundamental principles and methods of Computer Science to a wide range of applications.
PSO2	Demonstrate and document solutions to significant computational problems.
PSO3	Apply design, programming skills and develop principles in the construction of software systems.
PSO4	Decide for continued professional Development.
PSO5	Design new technologies in web development.

POTHU TAMIL

On Successful completion of the course, the student will be able to

எதிர்பார்க்கும் படிப்பின் முடிவுகள் (Expected Course Outcome		
1	இக்கால இலக்கியப் படைப்பாளிகள் மற்றும் படைப்புகளை அறிந்து. புதிய படைப்புகளைப் படைத்தல்	K_1, K_2, K_4,
2	மொழியின் அடிப்படைத் தன்மைகளைப் புரிந்து கொள்ளுதல்	K_1, K_2
3	செவ்வியல் மொழியின் பழமை. பண்பாடு. பழக்க வழக்கங்களைத் தெரிதல்	K_2, K_3, K_4
4	சமுகச் சிக்கல்கள் மற்றும் சிக்கல்களுக்கான தீர்வுகளை அனுமானித்தல்	K_2, K_5
5	புத்திலக்கிய வகைமைகளின் தோற்றம் வளர்ச்சியை அறிந்து கொள்ளுதல்	K_1, K_2
K1 –நினைவில் கொள்ளுதல் (Remember) K2 – புரிந்து கொள்ளுதல் (understand) K3- விண்ணப்பித்தல் (Apply) K4 – பகுத்தாய்தல் (analyze) K5 – மதிப்பிடு செய்தல் (Evaluate) K6 – உருவாக்குதல் (Create)		

Mapping with Programme Outcomes

CO_S	PO1	PO2	PO3	PO4	PO5
CO_1	S	S	M	S	S
CO_2	S	M	M	S	M
CO_3	M	S	S	M	S
CO_4	M	M	S	M	S
CO_5	S	M	S	S	M

S- மிகையான (Strong) M- நடுநிலையான (Medium) L- குறைவான (Low)

COMMUNICATIVE ENGLISH

On Successful completion of the course, the student will be able to

	Course Outcomes	Cognitive Level
CO1	Enhance competence in the four skills – Writing, Speaking, Reading and Listening	K2, K3, K5
CO2	Provide ability to enrich their communicative skills.	K1, K2, K3
CO3	Study the usage of dictionaries, thesaurus and encyclopedias.	K1, K2, K3
CO4	Learn Internet as a resource for learning	K2, K3
CO5	Develop the habit of reading newspapers.	K2, K3, K4

K1 – Remember, K2 - Understand, K3 - Apply, K4 - Analyse, K5 - Evaluate, K6 - Create.

MAPPING OF COURSE OUTCOMES

S – Strongly correlated, M – Moderately Correlated, w- weakly correlated, No Correlation - 0

CO/ PO/ POS	PO1	PO2	PO3	PO4	PO5	POS1	POS2	POS3	POS4	POS5
CO1	S	M	S	S	S	M	S	S	S	M
CO2	M	S	M	M	M	S	M	S	S	S
CO3	M	S	M	S	M	S	M	M	M	S
CO4	S	M	S	M	M	M	M	M	S	S
CO5	M	M	M	S	M	S	M	M	M	S

PROGRAMMING IN C

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Obtain knowledge about the structure of the programming language C
CO2	Develop the program writing and logical thinking skill.
CO3	Summarize statements and arrays
CO4	Make use of defined functions
CO5	Explain pointers and files

LOCF MAPPING

Course code and title : C PROGRAMMING											
CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	3	2	2	2	3	3	2	2	2	2.4
CO2	3	3	3	2	2	3	3	2	3	3	2.7
CO3	2	3	2	2	2	2	3	3	3	2	2.4
CO4	2	3	2	3	2	2	2	3	3	3	2.5
CO5	2	2	3	3	3	2	2	2	3	2	2.4
										Average of CO's = 2.48(high)	

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

PROGRAMMING IN C LAB

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Define the features of C by applying sample problems
CO2	Explore skills in implementing algorithms through the programming Language C
CO3	Develop array of elements
CO4	Evaluate matrices
CO5	Develop the programs using pointers and functions

LOCF MAPPING

Course code and title : C PROGRAMMING LAB											
CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	2	2	2	2	2	2	3	2	2	3	2.2
CO2	2	3	2	3	3	2	3	2	3	3	2.6
CO3	2	2	3	3	3	2	2	3	3	3	2.6
CO4	2	3	2	3	2	2	2	3	3	3	2.5
CO5	2	3	3	3	3	2	2	2	3	3	2.6
Average of CO's = 2.5(high)											

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

DISCRETE MATHEMATICS

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Recall basic concepts for clear understanding of mathematical principles
CO2	Develop the program writing and logical thinking skill
CO3	Construct matrices using discrete mathematics
CO4	Analyze techniques to draw graph using mathematics
CO5	Design graphs using the representations

LOCF MAPPING

Course code and title : DISCRETE MATHEMATICS

CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	2	2	2	2	3	3	2	2	2	2.3
CO2	2	3	2	2	2	2	3	2	3	3	2.2
CO3	2	2	3	2	2	2	2	3	3	3	2.4
CO4	2	3	2	3	3	2	2	3	3	3	2.6
CO5	2	3	3	3	3	2	2	2	3	3	2.5
											Average of CO's = 2.4(high)

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

OBJECT ORIENTED PROGRAMMING IN C++

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Define the basic knowledge of object oriented programming concepts
CO2	Relate the idea of classes and objects
CO3	Analyze and develop constructors and destructors
CO4	Design C++ streams, Inheritance, Overloading of operators, functions, constructors, File Handling and templates concepts of C++ programming.
CO5	Develop the knowledge about how to work on files

LOCF MAPPING

Course code and title : OBJECT ORIENTED PROGRAMMING IN C++

CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co`s
CO1	3	2	2	2	2	3	3	2	2	2	2.3
CO2	2	3	2	2	2	2	3	2	3	2	2.2
CO3	2	2	3	2	2	2	2	3	3	3	2.4
CO4	2	3	2	3	3	2	2	3	2	3	2.5
CO5	2	3	3	3	3	2	2	2	3	3	2.6
											Average of CO`s = 2.4(high)

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

POTHU TAMIL

On Successful completion of the course, the student will be able to

எதிர்பார்க்கும் படிப்பின் முடிவுகள் (Expected Course Outcomes)		
1.	சமய இலக்கியங்கள் வழி, பக்தி நெறிகளை அறிவித்தல்	K_1, K_2, K_5
2.	நீதி நூல்கள் வாயிலாக ஒழுக்கச் சிந்தனைகளை எடுத்துரைத்தல்	$K_1, , K_5$
3.	மொழி அமைப்பினை உணர்த்தி கடிதங்கள் எழுதப் பழக்குவித்தல்	K_3, K_4, K_6
4.	சான்றோர் வாழ்க்கை வரலாற்றினைப் போதித்து நல்வழிப்படுத்துதல்	K_4, K_6
5.	சமயங்களால் படைக்கப்பட்ட இலக்கியங்களை அறிமுகம் செய்தல்	K_2, K_5
K1 – நினைவில் கொள்ளுதல் (Remember) K2 – புரிந்து கொள்ளுதல் (understand) K3 – விண்ணப்பித்தல் (Apply) K4 – பகுத்தாய்தல் (Analyze) K5 – மதிப்பிடு செய்தல் (Evaluate) K6 – உருவாக்குதல் (Create)		

Mapping With Programme Outcomes

CO_S	PO1	PO2	PO3	PO4	PO5
CO1	M	S	S	S	S
CO2	M	M	S	S	S
CO3	S	S	M	S	M
CO4	S	S	S	S	S
CO5	S	M	M	S	M

S- மிகையான (Strong) M- நடுநிலையான (Medium) L- குறைவான (Low)

COMMUNICATIVE ENGLISH

On Successful completion of the course, the student will be able to

CO	Course Outcomes	Cognitive Level
CO1	Apply the expressions at various life situation	K1, K2, K3
CO2	Memorise and practise the use of Word Power	K1, K2, K3, K4
CO3	Identify and use the different forms of figures of speech in poetry.	K1, K2, K3, K4
CO4	Practise and produce short speeches.	K3, K4
CO5	Develop writing skills	K2, K3, K4

K1- Remember, K2- Understand, K3- Application, K4- Analyse , k5 – Evaluate, K5 - Create

MAPPING OF COURSE OUTCOMES

S – Strongly correlated, M – Moderately Correlated, w- weakly correlated, No Correlation - 0

CO/ PO/ POS	PO1	PO2	PO3	PO4	PO5	POS1	POS2	POS3	POS4	POS5
CO1	M	S	M	M	S	M	S	M	S	S
CO2	M	M	M	M	S	S	M	M	M	S
CO3	S	M	S	M	M	M	S	S	S	M
CO4	S	S	M	S	S	M	S	S	M	M
CO5	S	S	S	S	M	S	M	S	S	S

PROGRAMMING IN C++ LAB

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Define object oriented programming concepts using class and member functions
CO2	Develop overloading operators
CO3	Analyze friend function
CO4	Gain the knowledge about the importance of constructor
CO5	Design C++ virtual functions

LOCF MAPPING

Course code and title : PROGRAMMING IN C++											
CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	2	2	3	3	3	3	2	3	3	2.7
CO2	2	3	2	3	3	2	3	2	3	3	2.6
CO3	2	2	3	2	2	2	2	3	3	3	2.4
CO4	2	3	2	3	3	2	2	3	3	3	2.6
CO5	2	3	3	3	3	2	2	2	3	3	2.6
											Average of CO's = 2.6(high)

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

LINUX LAB

On Successful completion of the course, the student will be able to

	COURSE OUTCOMES (COs)
CO1	Find various Linux commands
CO2	Interpret and make effective use of Linux utilities
CO3	Construct Shell scripting language to solve problems
CO4	List shell scripting conditions
CO5	Develop Linux communication oriented commands

LOCF MAPPING

Course code and title : LINUX LAB

CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	2	2	3	3	2	2	2	3	3	2.5
CO2	2	3	2	3	3	2	3	2	3	3	2.6
CO3	2	2	3	3	3	2	2	3	3	3	2.6
CO4	2	3	2	3	3	2	2	3	3	3	2.6
CO5	2	3	3	3	3	2	2	2	3	3	2.6
											Average of CO's = 2.58(high)

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

POTHU TAMIL

On Successful completion of the course, the student will be able to

எதிர்பார்க்கும் படிப்பின் முடிவுகள் (Expected Course Outcomes)		
1.	காப்பியங்கள் மூலம் பண்டைத் தமிழரின் வாழ்வியலை அறியச் செய்தல்	K_1, K_2, K_5
2.	யாப்பு, பா, அணி இவற்றின் இலக்கணத்தைக் கற்றுத் தந்து செய்யுள் இயற்றும் திறனை ஊக்குவித்தல்	K_2, K_4
3.	இலக்கிய ஆய்வுத்திறனை மாணவர் மனதில் விதைத்தல்.	K_2, K_3, K_4
4.	நேர்மையான வழியில் வாழ அறிவுறுத்தல்.	K_2, K_5
5.	காப்பியங்கள் மற்றும் சிற்றிலக்கியங்களின் வரலாற்றை அறியச் செய்தல்.	K_1, K_2, K_4

K1 – நினைவில் கொள்ளுதல் **(Remember) K2 –** புரிந்து கொள்ளுதல் **(understand) K3 –** விண்ணப்பித்தல் **(Apply) K4 –** பகுத்தாய்தல் **(Analyze) K5 –** மதிப்பிடு செய்தல் **(Evaluate) K6 –** உருவாக்குதல் **(Create)**

Mapping with Programme Outcomes

CO_s	PO1	PO2	PO3	PO4	PO5
CO1	M	S	S	S	S
CO2	S	M	M	S	M
CO3	S	S	M	S	M
CO4	M	S	S	S	S
CO5	M	M	S	S	S

S- மிகையான **(Strong) M-** நடுநிலையான **(Medium) L-** குறைவான **(Low)**

GENERAL ENGLISH

On Successful completion of the course, the student will be able to

CO	Course Outcomes	Cognitive Level
CO1	Enable the students to critically summarise prose	K1, K2, K4
CO2	Enrich the students through various perspectives reading in poetry	K1, K2, K3, K4
CO3	Familiarise the cultural diversity through reading fiction	K1, K2, K4
CO4	Grasp meaning of words and sentences ssss and use	K1, K2. K3
	appropriate vocabulary	
CO5	Spell English correctly	K2, K3

MAPPING OF COURSE OUTCOMES

S – Strongly correlated, M – Moderately Correlated, w- weakly correlated, No Correlation - 0

CO/ PO/ POS	PO1	PO2	PO3	PO4	PO5	POS1	POS2	POS3	POS4	POS5
CO1	M	M	S	M	S	S	S	S	M	M
CO2	S	S	S	M	M	M	M	M	S	S
CO3	M	S	M	S	M	S	M	S	M	S
CO4	M	M	S	M	S	S	M	S	M	S
CO5	M	S	M	S	M	M	S	M	M	M

JAVA PROGRAMMING

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Recall the basic concepts of Object Oriented Programming.
CO2	Apply the tools of Object – Oriented Paradigm in Java programming.
CO3	Understand the fundamentals of applet, event – driven programming.
CO4	Analyze the ability to develop Applet programs with tools of Java.
CO5	Design the skills to develop software.

LOCF Mapping

Course code and title : JAVA PROGRAMMING											
CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	3	2	2	2	3	3	2	2	2	2.4
CO2	3	3	3	2	2	3	3	2	3	3	2.7
CO3	2	3	3	2	2	2	3	3	3	2	2.5
CO4	2	3	3	3	2	2	2	3	3	3	2.6
CO5	2	3	3	3	3	2	2	3	3	3	2.7
Average of CO's = 2.58(high)											

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

DIGITAL DESIGN

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Recall the concept of digital systems, to operate on various number systems and simplify Boolean functions and to distinguish logical and combinational circuits.
CO2	Illustrate the concept of digital and binary systems develop combinational logic circuits.
CO3	Design and analyze sequential logic circuits.
CO4	Construct and implementation of digital circuits and systems.

LOCF MAPPING

Course code and title : DIGITAL DESIGN											
CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	3	3	2	2	3	3	2	2	2	2.5
CO2	3	3	3	2	2	3	3	3	3	2	2.7
CO3	2	3	3	2	2	2	3	3	3	2	2.5
CO4	2	3	3	3	2	2	2	3	3	3	2.6
CO5	2	3	3	3	3	2	2	3	3	3	2.7
											Average of CO's = 2.6(high)

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

JAVA PROGRAMMING LAB

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Illustrate and make effective use of Java Programming to develop software.
CO2	Develop Java application programs using OOP principles.
CO3	Apply Constructors and Overriding methods.
CO4	Develop Multithreaded programs.
C05	Implement error handling techniques using exception handling.

LOCF MAPPING

Course code and title : JAVA PROGRAMMING LAB

CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	2	2	3	3	2	3	2	2	3	2.5
CO2	2	3	2	3	3	2	3	2	3	3	2.6
CO3	2	2	3	3	3	2	2	3	3	3	2.6
CO4	2	3	2	3	2	2	2	3	3	3	2.5
CO5	2	3	3	3	3	2	2	2	3	3	2.6
											Average of CO's = 2.5(high)

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

SCRIPTING LANGUAGES

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Understand the basic concepts of HTML and web programming.
CO2	Demonstrate the concepts of scripting languages for developing web-based projects.
CO3	Ability to compare the differences between Scripting languages and programming languages.
CO4	Understand CSS files HTML Multimedia.
C05	Develop projects using HTML and Web pages.

LOCF MAPPINGS

Course code and title : SCRIPTING LANGUAGES											
CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	3	2	2	2	3	3	2	3	2	2.5
CO2	2	3	2	3	3	2	3	2	3	3	2.6
CO3	2	2	3	2	2	2	2	3	3	3	2.4
CO4	2	3	2	3	3	2	2	3	3	3	2.6
CO5	2	3	3	3	3	2	2	2	3	3	2.6
											Average of CO's = 2.54(high)

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

SCRIPTING LANGUAGES LAB

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Develop knowledge in web-based projects.
CO2	Demonstrate programming skills in scripting languages.
CO3	Construct the skill of designing GUI in scripting languages.
CO4	Categorize CSS files.
C05	Design JavaScript programs.

LOCF MAPPING

Course code and title : SCRIPTING LANGUAGES LAB

CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	2	2	3	3	2	2	3	3	3	2	2.5
CO2	2	3	3	2	2	3	3	3	3	2	2.6
CO3	2	3	3	2	2	2	3	3	3	3	2.6
CO4	2	3	3	3	3	2	2	3	3	3	2.7
CO5	2	3	3	3	3	2	2	3	3	2	2.6
											Average of CO's = 2.6(high)

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

BASIC PROGRAMMING DESIGN

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Define the basic design in programming.
CO2	Summarize various techniques in program testing.
CO3	Develop and evaluate Programming Languages.
CO4	Analyze computer hardware and software programs.
C05	Evaluate the Internet Applications.

LOCF MAPPING

Course code and title : BASIC PROGRAMMING DESIGN

CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	2	3	2	2	2	3	3	3	2	2.5
CO2	3	3	3	2	2	3	3	3	3	2	2.7
CO3	2	3	3	2	2	2	3	3	2	2	2.4
CO4	2	2	2	3	3	2	2	3	3	3	2.5
CO5	2	2	3	3	3	2	2	3	3	2	2.5
											Average of CO's = 2.52(high)

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

POTHU TAMIL

On Successful completion of the course, the student will be able to

எதிர்பார்க்கும் படிப்பின் முடிவுகள் (Expected Course Outcomes)		
1.	பண்டைத் தமிழரின் பண்பாட்டினை அறியச் செய்தல்.	K_1, K_4, K_6
2.	வாழ்வியலுக்கான பொருள் இலக்கணத்தைக் கற்றுத் தருதல்	K_2, K_5
3.	இலக்கியங்கள் வாயிலாக வாழ்வியல் அறங்களைப் போதித்தல்.	K_1, K_3, K_5
4.	வரலாற்றுப் பின்புலங்களை மையமாகக் கொண்டு நாடகங்கள் படைக்க உந்துதலை ஏற்படுத்துதல்.	K_2, K_6
5.	சங்க இலக்கியங்களின் வரலாற்றையும், தனிச்சிறப்புகளையும் அறியச் செய்தல்.	K_2, K_5

K1 – நினைவில் கொள்ளுதல் **(Remember) K2 –** புரிந்து கொள்ளுதல் **(understand) K3 –** விண்ணப்பித்தல்**(Appiy) K4 –** பகுத்தாய்தல் **(Anaiyze) K5 –** மதிப்பிடு செய்தல்**(Evaluate) K6 –** உருவாக்குதல் **(Create)**

Mapping with Programme Outcomes

CO_S	PO1	PO2	PO3	PO4	PO5
CO1	S	M	S	M	S
CO2	M	S	M	M	M
CO3	S	M	S	S	M
CO4	S	M	M	S	S
CO5	M	S	S	M	M

S- மிகையான **(Strong) M-** நடுநிலையான **(Medium) L-** குறைவான **(Low)**

GENERAL ENGLISH

On Successful completion of the course, the student will be able to

	Course Outcomes	Cognitive level
CO1	Use English accurately across the curriculum	K1, K2, K3
CO2	Attained enhanced vocabulary and improved language skills	K2, K3, K4
CO3	Analyse and interpret prescribed text	K2, K4
CO4	Conceptualize the Shakeapearean drama in the prescribed text	K2, K4
CO5	Gain proficiency in LSRW skills	K1, K2, K3, K4, K6

K1- Remember, K2- Understand, K3- Apply ,K4- Analyse , K5- Evaluate,K6- Create

MAPPING OF COURSE OUTCOMES WITH PROGRAMME OUTCOMES

S – Strongly correlated, M – Moderately Correlated, w- weakly correlated, No Correlation - 0

CO/ PO	PO1	PO2	PO3	PO4	PO5	POS1	POS2	POS3	POS4	POS5
CO1	S	M	S	S	S	S	M	S	M	S
CO2	M	S	M	M	M	M	M	M	S	M
CO3	M	S	M	S	M	S	M	S	M	S
CO4	S	M	S	M	M	S	S	M	S	M
CO5	M	M	M	S	M	S	S	M	S	M

DATA STRUCTURES

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Understand the concepts of basic data structures.
CO2	Acquire the knowledge about stack, Queues and Linked list.
CO3	Understanding of the network structures through trees and graph.
CO4	Understand the basic algorithms for sorting.
C05	Define data structure Algorithms.

LOCF MAPPING

Course code and title : DATA STRUCTURES											
CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co`s
CO1	3	2	3	2	2	2	3	3	2	2	2.4
CO2	3	3	3	2	2	3	3	3	2	2	2.6
CO3	2	3	3	2	2	2	3	3	2	2	2.4
CO4	2	2	2	3	3	2	2	2	3	3	2.4
CO5	2	2	3	3	3	2	2	3	3	2	2.5
											Average of CO`s = 2.46(high)

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

DATA STRUCTURE LAB

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Develop skills in implementing sort and search data structure algorithms.
CO2	Implement queue and stack techniques.
CO3	Design tree traversals.
CO4	Implement binary search tree.
C05	Compile sorting algorithms.

LOCF MAPPING

Course code and title : DATA STRUCTURES LAB											
CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co`s
CO1	3	2	2	3	3	2	3	2	2	3	2.5
CO2	2	3	2	3	3	2	3	2	3	3	2.6
CO3	2	2	3	3	3	2	2	3	3	3	2.6
CO4	2	3	2	3	2	2	2	3	3	3	2.5
CO5	2	3	3	3	3	2	2	2	3	3	2.6
Average of CO's = 2.5(high)											

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

MACHINE LEARNING TECHNIQUES

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Understand the basic concepts of Machine Learning.
CO2	Acquire various techniques in Machine learning.
CO3	Understanding of the Supervised and Unsupervised learning techniques
CO4	Study the probability based learning techniques.
C05	Understand graphical models of machine learning algorithms.

LOCF MAPPING

Course code and title : MACHINE LEARNING TEQUNIQUES											
CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	2	3	2	2	2	3	3	3	2	2.5
CO2	3	3	3	2	2	3	3	3	2	2	2.6
CO3	2	3	3	2	2	2	3	3	2	2	2.4
CO4	2	2	2	3	3	2	2	2	3	3	2.4
CO5	2	2	3	3	3	2	2	3	3	2	2.5
											Average of CO's = 2.48(high)

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

COMPUTER ARCHITECTURE

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Understand the basics of Computers and its Organization.
CO2	Know the various Technologies behind the Computer Architecture.
CO3	Ability to apply knowledge about hardware implementation and algorithms.
CO4	Evaluate various input output organisations.
CO5	Develop the architecture using various memories.

LOCF MAPPING

Course code and title : COMPUTER ARCHITECTURE											
CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	2	3	2	2	2	3	3	3	2	2.5
CO2	3	3	3	2	2	3	3	3	2	2	2.6
CO3	2	3	3	2	2	2	3	3	2	2	2.4
CO4	2	2	2	3	3	2	2	3	3	3	2.5
CO5	2	2	3	3	3	2	2	3	3	2	2.5
											Average of CO's = 2.5(high)

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

PYTHON LAB

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Understand the basic concepts in python.
CO2	Understand the concepts and develop python programs.
CO3	Acquire the knowledge about menu driven programs.
CO4	Improve the knowledge in CSV files.
C05	Understand the functions of python.

LOCF MAPPING

Course code and title : PYTHON LAB											
CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co`s
CO1	2	2	3	2	3	2	2	3	3	3	2.4
CO2	2	3	3	2	2	2	3	3	3	2	2.5
CO3	2	2	3	2	3	2	3	3	2	2	2.4
CO4	2	2	2	3	3	2	2	3	3	3	2.5
CO5	2	2	3	3	3	2	2	3	3	2	2.5
Average of CO's = 2.52(high)											

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

HTML

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Recall the basic concepts of Web design using HTML.
CO2	Learn the various tags used in HTML.
CO3	Make use of Dynamic HTML.
CO4	Compare the lists in HTML.
C05	Build Frames.

LOCF MAPPING

Course code and title : HTML											
CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	2	2	2	2	2	3	2	2	2	2.2
CO2	2	3	2	3	3	2	3	2	2	2	2.4
CO3	2	2	3	3	3	2	2	3	3	3	2.6
CO4	2	3	2	3	2	2	2	3	3	3	2.5
CO5	2	2	2	3	3	2	2	2	3	3	2.4
											Average of CO's = 2.42(high)

Strongly correlated -3 Moderately correlated -2 weakly correlated-1
No correlation -0

P. S. 6/10/22

HOD Signature
Head of the Department of
Computer Science
Annai Hajira Women's College,
Melapalayam.

Principal Signature
6/10/22
PRINCIPAL
ANNAI HAJIRA WOMEN'S COLLEGE
MELAPALAYAM - 627 005.

FIFTH SEMESTER

Sub - Code	Subject Title	Lecture Hours	LAB Hours	Credits
CMCS51	Part III Core 5 : Theory Relational Database Management Systems	5	---	4
CMCS52	Part III Core 6 : Theory Data Communication and Computer Networks	4	---	4
CMCS53	Part III Core 7 : Theory PHP and MySQL	4	---	4
CMCSP5	Major V : Practical PHP Lab	---	4	2
CMCSP6	Major VI : Practical Machine Learning Lab	---	4	2
CMCSP7	Major VII : Practical Green Foot Lab	---	3	2
CECS53	Major Elective I : Theory Cloud Computing	4	---	4
CCSB51	Part III Skilled Based Common : Personality Development	2	---	2
Total	(5T + 3P Courses)	19	11	24

SIXTH SEMESTER

Sub - Code	Subject Title	Lecture Hours	LAB Hours	Credits
CMCS61	Part III Core 8 : Theory Operating System	4	---	4
CMCS62	Part III Core 9 : Theory Software Engineering and Testing	4	---	4
CMCS63	Part III Core 10 : Theory Computer Graphics and Visualization	4	---	4
CMCSP8	Major VIII : Practical Computer Graphics Lab	---	4	2
CMCSP9	Major IX : Practical MySQL Lab	---	4	2
CECS62	Major Elective II : Theory Introduction to Digital Image Processing	4	---	4
CMCS6P	Part III Project : Digital Image Processing using SciLab	---	6	6
Total	(4T + 3P Courses)	16	14	26

RELATIONAL DATABASE MANAGEMENT SYSTEMS

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Outline relational database concepts
CO2	Relate transaction management concepts in database system.
CO3	Utilize Normalizations techniques.
CO4	Write SQL programs that use: procedure, function, package, cursor and Exceptions.
CO5	Use current techniques and tools necessary for complex computing practices.

LOCF MAPPING

Course code and title : RELATIONAL DATABASE MANAGEMENT SYSTEM											
CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	2	3	2	2	2	3	3	2	2	2.4
CO2	3	3	2	2	2	3	3	3	2	2	2.5
CO3	2	3	3	2	2	2	3	3	2	2	2.4
CO4	2	2	2	3	3	2	2	3	3	3	2.5
CO5	2	2	3	3	3	2	2	3	3	2	2.5
										Average of CO's = 2.46(high)	

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

DATA COMMUNICATION AND COMMUNICATION NETWORKS

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	To define the concepts in Computer Network and Data Communication
CO2	To outline the various protocols used in network
CO3	To compare OSI Layers in Computer networks
CO4	To list about Switching Techniques
CO5	To discuss wireless LAN's

LOCF MAPPING

Course code and title : DATA COMMUNICATION AND COMPUTER NETWORKS											
CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	2	3	2	2	3	3	3	2	2	2.5
CO2	3	3	2	2	2	3	3	3	3	2	2.6
CO3	2	3	3	2	2	2	3	3	2	2	2.4
CO4	2	2	2	3	3	2	2	3	3	3	2.5
CO5	2	2	3	3	3	2	2	2	3	2	2.4
										Average of CO's = 2.48(high)	

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

PHP AND MYSQL

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	To define and use open source database management system MySQL
CO2	To explain dynamic web pages and websites.
CO3	To identify web pages with database.
CO4	To compare the concepts of open sources
CO5	To assess the knowledge about Arrays

L OCF MAPPING

Course code and title : PHP and mySQL											
CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	2	3	2	2	2	3	3	3	2	2.5
CO2	3	3	2	2	2	3	3	3	2	2	2.5
CO3	2	3	3	2	2	2	3	3	2	2	2.4
CO4	2	2	2	3	3	2	2	2	3	3	2.4
CO5	2	2	3	3	3	2	2	3	3	2	2.5
											Average of CO's = 2.46(high)

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

PHP LAB

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	To develop knowledge about basic PHP Programs.
CO2	To evaluate PHP scripts and functions
CO3	To develop arrays in PHP
CO4	To design loops in PHP
CO5	To compare the scripts and functions in PHP

LOCF MAPPING

Course code and title : PHP Lab											
CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	2	3	2	2	2	3	3	3	2	2.5
CO2	3	3	2	2	2	3	3	2	2	2	2.4
CO3	2	3	3	2	2	2	3	3	2	2	2.4
CO4	2	2	2	3	3	2	2	3	3	3	2.5
CO5	2	2	3	3	3	2	2	2	3	3	2.5
Average of CO's = 2.46(high)											

Strongly correlated -3 Moderately correlated

-2 weakly correlated-1 No correlation -0

MACHINE LEARNING LAB

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Apply the concepts and practical knowledge in analysis, design and Development of computing systems
CO2	Make use of applications to multidisciplinary problems.
CO3	Discuss the knowledge about various algorithms
CO4	Interpret the knowledge about various datasets
CO5	Develop data frames in Machine Leaning

LOCF MAPPING

Course code and title : Machine learning LAB											
CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	2	3	2	2	2	3	3	3	2	2.5
CO2	3	3	2	2	2	3	3	3	2	2	2.5
CO3	2	3	3	2	2	2	3	3	2	2	2.4
CO4	2	2	2	3	3	2	2	3	3	3	2.5
CO5	2	2	3	3	3	2	2	3	3	3	2.6
Average of CO's = 2.5(high)											

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

GREEN FOOT LAB

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Know about the various Applications of Multimedia.
CO2	Develop two- dimensional graphical applications
CO3	Design multimedia animations
CO4	Know the knowledge about video works in multimedia applications
CO5	To implement interactive games

LOCF MAPPING

Course code and title : GREEN FOOT LAB											
CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	2	2	2	2	2	3	2	2	2	2.2
CO2	2	3	2	3	3	2	3	2	3	3	2.6
CO3	2	2	3	3	3	2	2	3	3	3	2.6
CO4	2	3	2	3	2	2	2	3	3	3	2.5
CO5	2	3	3	3	3	2	2	2	3	3	2.6
Average of CO's = 2.5(high)											

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

CLOUD COMPUTING

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Understand the History of cloud computing
CO2	Know in detail about the various Cloud Computing concepts
CO3	Enquire cloud computing Architecture
CO4	Understand SOA components
CO5	Know about cloud security and privacy

LOCF MAPPING

Course code and title : CLOUD COMPUTING											
CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	2	3	2	2	2	3	3	2	2	2.4
CO2	3	3	3	2	2	3	3	2	2	2	2.5
CO3	2	3	3	2	2	2	3	3	3	2	2.5
CO4	2	2	2	3	3	2	2	2	3	3	2.4
CO5	2	2	2	3	3	2	2	3	3	2	2.4
											Average of CO's = 2.44(high)

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

OPERATING SYSTEM

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	To acquire the fundamental knowledge of the operating system architecture and components and to know the various operations performed by the operating system.
CO2	Understand the basic working process of an operating system.
CO3	Understand the importance of process and scheduling.
CO4	To explain the issues in synchronization and memory management.
CO5	To discuss about mass storage structures

LOCF MAPPING

Course code and title : OPERATING SYSTEM											
CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	2	3	2	2	2	3	3	2	2	2.5
CO2	3	3	2	2	2	3	3	3	3	2	2.6
CO3	2	3	3	2	2	2	3	3	2	2	2.4
CO4	2	2	2	3	3	2	2	3	3	3	2.5
CO5	2	2	3	3	2	2	2	3	3	2	2.4
											Average of CO's = 2.48(high)

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

SOFTWARE ENGINEERING AND TESTING

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Define the fundamental knowledge of Software Engineering
CO2	Classify the various testing methods.
CO3	Analyze various software life cycle models
CO4	Interpret User Interface design
CO5	Select software project managements

LOCF MAPPING

Course code and title : SOFTWARE ENGINEERING AND TESTING											
CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	2	3	2	2	2	3	3	3	2	2.5
CO2	3	3	2	2	2	3	3	2	2	2	2.4
CO3	2	3	2	2	2	2	3	3	2	2	2.3
CO4	2	2	2	3	3	2	2	3	3	3	2.5
CO5	2	2	3	3	3	2	2	3	3	2	2.5
Average of CO's = 2.34(high)											

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

COMPUTER GRAPHICS AND VISUALIZATION

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Understand the overview of the graphics visualization
CO2	Acquire the fundamental knowledge of Computer Graphics and Visualization.
CO3	Understand the Algorithms in Computer Graphics
CO4	Acquire the transformation technique in Graphics
CO5	Understand the Interactive methods easily

LOCF MAPPING

Course code and title : COMPUTER GRAPHICS AND VISUALIZATION											
CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	2	3	2	2	2	3	3	2	2	2.4
CO2	3	3	2	2	2	3	3	3	2	2	2.5
CO3	2	3	3	2	2	2	3	3	2	2	2.4
CO4	2	2	2	3	3	2	2	3	3	3	2.5
CO5	2	2	2	3	3	2	2	3	3	2	2.4
										Average of CO's = 2.44(high)	

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

COMPUTER GRAPHICS LAB

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Illustrate skills in programming computer graphics
CO2	Apply multimedia concepts
CO3	Compile the algorithms to draw line,circle etc
CO4	Develop image using Scaling, Rotating and translation technique
CO5	Demonstrate the image using random and bouncing balls

LOCF MAPPING

Course code and title : COMPUTER GRAPHICS LAB

CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co`s
CO1	3	2	3	2	3	2	3	3	3	2	2.6
CO2	3	3	3	2	2	3	2	2	3	3	2.6
CO3	2	3	3	2	3	2	3	3	2	2	2.5
CO4	2	2	2	3	3	2	2	3	3	3	2.5
CO5	2	2	3	3	3	2	2	3	3	3	2.6
											Average of CO`s = 2.56(high)

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

MYSQL LAB

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Illustrate skills in database
CO2	Apply database concepts
CO3	Create database and operate update, remove etc.,
CO4	Develop various query functions
CO5	Demonstrate the security by setting password and its privileges.

LOCF MAPPING

Course code and title : My SQL LAB

CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	2	3	2	3	2	3	3	3	2	2.6
CO2	3	3	3	2	2	3	2	2	3	3	2.6
CO3	2	3	3	2	3	2	3	3	2	2	2.5
CO4	2	2	2	3	3	2	2	3	3	3	2.5
CO5	2	2	3	3	3	2	2	3	3	3	2.6
											Average of CO's = 2.56(high)

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

INTRODUCTION TO DIGITAL IMAGE PROCESSING

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Define the fundamental knowledge of introduction to Digital Image Processing.
CO2	Explain the features present in Digital Image Processing.
CO3	Outline the enhancement of spatial domain
CO4	Analyze the color Image processing
CO5	Interpret the image using compression

LOCF MAPPING

Course code and title : INTRODUCTION TO DIGITAL IMAGE PROCESSING

CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co`s
CO1	3	2	3	2	2	3	3	2	2	2	2.4
CO2	3	3	2	2	2	3	3	3	2	2	2.5
CO3	2	3	3	2	2	2	3	3	2	2	2.4
CO4	2	2	2	3	3	2	2	3	3	2	2.4
CO5	2	2	3	3	3	2	2	3	3	2	2.5
											Average of CO`s = 2.44(high)

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

DIGITAL IMAGE PROCESSING USING SCILAB

On Successful completion of the course, the student will be able to

COURSE OUTCOMES (COs)	
CO1	Get knowledge about the basic programs on Digital Image Processing
CO2	Acquire the knowledge from Thresholding Technique
CO3	Read the colour image and separate the planes
CO4	Perform the brightness of the image
CO5	Manipulate the contrast image.

LOCF MAPPING

Course code and title : DIGITAL IMAGE PROCESSING USING SCILAB											
CO/PO	PO					PSO					
	1	2	3	4	5	1	2	3	4	5	% of co's
CO1	3	2	3	2	2	2	3	3	3	2	2.5
CO2	3	3	3	2	2	3	3	3	2	2	2.6
CO3	2	3	3	2	3	2	3	3	2	2	2.5
CO4	2	2	2	3	3	2	2	3	3	3	2.5
CO5	2	2	3	3	3	2	2	3	3	3	2.6
											Average of CO's = 2.54(high)

Strongly correlated -3 Moderately correlated -2 weakly correlated-1 No correlation -0

P.S. 19/06/2023

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Rajal Akth 19/06/23

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