THE MADURA COLLEGE

An Autonomous Institution affiliated to Madurai Kamaraj University
Re-accredited (3rd cycle) with 'A' grade by NAAC
Vidya Nagar, T.P.K. Road, Madurai – 625 011

DEPARTMENT OF COMPUTER SCIENCE

Course Outcomes mapped with POs

PROGRAMME : B.Sc. (Computer Science)

Course Code	Course Title	CLO	Mapping of CO with PO				
			PO1	PO2	PO3	PO4	PO5
20U1TLA1	இக்கால இலக்கியம்	கவிதைகள் வெளிப்படுத்தும் மனித அன்பு, பெண்நிலைகள், மொழியின்சிறப்பு, தொழிலாளர் நிலை போன்றவற்றை அறியச் செய்தல்.	-	1	1	2	2
		கவிதைகளின் கருத்துப் பரிமாற்றம், உயர்மனிதச் செயல்பாடுகளை ஊக்குவித்து நடைமுறையில் பின்பற்றல்.	-	2	2	3	2
		கதையின் உள்ளடக்கம்,வடிவம் -மாந்தர் எண்ணம், உணர்வு, நடத்தை, சமூகப் பண்பாட்டுச் செயல்பாட்டில்- ஈடுபடுதல்.	-	3	1	-	2
		இலக்கிய வரலாற்றை நிரல்படுத்திப் படைப்பாளிகளின் அறிவுத்திறத்தில் ஈடுபடச்செய்தல்.	3	-	1	-	2
		மொழியின் சிறப்புகளைத் தொகுத்தல். படைப்பூக்கத்துடன் பிழை நீக்கித் தனித்துவமாக எழுதத் தூண்டல்.	-	-	3	-	2
20U1HLA1	Hindi 1	Use of singular, plural, numbers	-	1	1	2	2
		Use of sentences and choosing the right answer	-	2	2	3	2
		Able to translate and correct the sentences	-	3	1	-	2
		Able to write answers questions from prose	3	-	1	-	2
		Able to identify directions and seasons	-	-	3	-	2
20U1SLA1	Sanskrit I	Gain basic knowledge about Devanagari Script and understand Male/ Female/ Neuter Gender Words	-	1	1	2	2
		Identify Person/Number/Tense	-	2	2	3	2
		Know to substitute word without affecting Number / Tense/ Grammar and to enhance students attitude towards good behaviour through Subhashitani (Good says)	-	3	1	-	2

Code	Course	Course Outcome					
		Understand the Sanskrit Literature like Vedas, Vedangas and Epic Literature	3	-	1	-	2
		Translate from Sanskrit to English in Present / Future Tense	-	-	3	-	2
20U1NEN1	English-I	Use proper Parts of Speech while framing simple sentences	-	2	3	2	-
		Express practical skills of various types of writing dialogues and comprehend content in English	-	2	3	3	-
		Use proper tense forms in sentences and Classify kinds of sentences; convert from one type to another.	-	2	2	2	-
		Fill different challans , issue cheques, fill railway form in real life contexts and prepare advertisements on their own.	-	2	2	2	-
		Appreciate a literary work for its genre and evaluating ideas. To use language skills necessary for social,academic and professional purposes	-	2	3	3	-
20U1VEN1	Value Education and Professional Ethics	Describe the various value system and its familiarity	3	-	2	2	3
		List forty virtues and eighty values	3	-	2	2	3
		Outline the foundations on value oriented moral values	3	-	2	2	3
		Focus on relevance of various religion values and its similarities	2	-	2	2	3
		Build a value system and ethics in Education, Business and Teaching	3	2	2	2	3
20U1DMC1	Programming in C	Know the knowledge of the structured programming and basic syntax of „C"language.	3	2	2	1	1
		Identify the fundamental operators, data types and all library functions	3	1	1	1	2
		Identify and design the various features such as Flow control and controlstructures.	3	2	3	1	1
		Analyse and construct the programs for Bitwise operators, Union and Structure concept	3	3	3	2	1
		Design C programs with the concept of pointers, pointers & Arrays, Pointers& Files.	3	3	3	1	1
20U1DMC2	Digital Computer Fundamentals	Build simple logic circuits using basic gates and universal logic gates.	2	3	1	1	1
		Illustrate the basic idea about number systems and to learn conversion fromone number system to another number system	2	2	1	1	2
		Discuss about various data processing circuits	3	2	2	1	1
		Identify the operations and characteristics of clocks and timer circuits.	2	3	2	1	1
		Analyse and construct various flip-flops and counters.	3	2	2	1	1
20U1DAT1	Discrete Mathematics	Use And illustrate the concepts of proposition disjunction, conjunction andconditional statements and their use in problem	3	2	1	1	2

Course Code	Course Name	Course Outcome					
		solving.					
		Explain and illustrate the concepts of mathematical induction and its use .	3	2	1	1	2
		Explain and illustrate the algebraic systems, semi groups, monoids andhomomorphism	2	2	1	1	1
		solve the concepts of lattices and Boolean algebra	3	2	2	1	1
		Solve and explain the concepts of permutations and combinations andrecurrence relations.	3	2	2	1	1
20U1DMCP1	C Programming Lab	Construct the logic using algorithms for a given problem and develop programs using conditional and control statements.	3	3	3	1	2
		Develop programs with implementation of arrays and function.	3	3	3	1	2
		Construct programs string handling and memory related operations.	3	3	3	1	2
		Compose programs with structures and unions.	3	3	3	1	2
		Develop programs to perform file related operations	3	3	3	1	2
20U2TLA2	இடைக்கால இலக்கியமும் உரைநடையும்	சிற்றிலக்கியங்கள் குறித்த அடிப்படைக் கருத்துகளைப் பெறுவர்.	1	-	3	-	2
		பக்தி இலக்கியங்கள் வெளிப்படுத்தும் சமயம் சார்ந்த செய்திகளைப் புரிவர்.	-	-	2	-	3
		சைவ வைணவ சித்தாந்த இறை தத்துவக் கருத்துகளைத் தெரிந்து நடைமுறைப்படுத்திக்கொள்வர்.	1	-	3	1	2
		இலக்கிய வரலாறு தரும் வாழ்வியல் கருத்துகளைப் பொருத்திப் பார்க்கும் திறன் பெறுவர்.	2	1	3	1	3
		மொழியின் நுட்பங்களின் மூலமாக ஆளுமைத் திறனை வளர்த்துக் கொள்வர்.	-	-	3	1	1
20U2HLA2	Hindi 2	Write stories and draft letter	1	-	3	-	2
		Use of proverbs and phrases in communication	-	-	2	-	3
		Learning morals from great Indian leaders	1	-	3	1	2
		Writing esssays with creativity	2	1	3	1	3
		Using proverbs in speech and having knowledge of days in Hindi	-	-	3	1	1
20U2SLA2	Sanskrit II	Gain basic knowledge about the origin of Sanskrit Kavya Literature	1	-	3	-	2
		Understand Sanskrit Poetic Literature and Style of Writing Poems	-	-	2	-	3
		Compare Poetic Literature with Modern Life and to classify and discuss the importance of early literature	1	-	3	1	2
		Practice creativity and demonstrate different aspects of life as portrayed in Sanskrit Literature	2	1	3	1	3
		Learn Sanskrit Bhakti Literature and Tamil Chemmozhi Literature at basic levels	-	-	3	1	1
20U2NENH2	English-II	Use linkers to compose a coherent paragraph and to examine language skills through core subjects	-	2	3	2	-

Code	Course	Course Outcome					
		Use singular, plural, present and past tenses.'will' and 'going to' to engage in meaningful conversations and writing tasks	-	2	3	3	-
		Classify appropriate pronunciation for "c" as "s","k" and "ch"and classify letters / sound "p, b, th, v, w, tion" appropriately.	-	2	2	2	-
		Demonstrate practical skills of various types of media writing and reports Use appropriate expressions, ask for favor, offer suggestions and engage in meaningful telephonic conversations	-	2	2	2	-
		Appreciate a literary work for its genre and evaluating ideas.	-	2	3	3	-
20U2EVS1	**Environmental Science & Gender studies**	Able to list out various ecosystems and their interactions	2	-	-	1	3
		To appreciate the nuances behind food webs and food chains	2	-	2	1	3
		Able to differentiate the importance of Hotspots and mega diversity centres.	2	3	-	1	3
		Able to identify different types of pollutions and provide solutions	2	-	-	3	3
		To analyze and identify the behavioral problems among student community with reference to gender.	2	3	-	3	3
20U2DMC3	**Data Structures & Algorithms**	Describe various algorithms and construction of Stack and Queue.	3	3	2	1	2
		Explain the concepts of Linked lists and construct the linked list relatedapplications.	3	3	2	1	2
		Illustrate the ideas about binary trees, tree traversals and graphs.	3	3	3	1	2
		Describe the concepts related with symbol tables, hashing functions andstorage devices.	3	3	2	1	2
		Construct the algorithms for various sorting techniques and files with itsvarious queries and indexing techniques.	3	3	2	1	2
20U2DMC4	**Computer Organization &Architecture**	Design & simplify the combinational circuits using basic building blocks,boolean algebra and Karnaugh map	3	2	1	1	1
		Explain the organization of basic computer, control units and its design	3	3	2	1	1
		Describe the working of the CPU	3	2	2	1	1
		Describe the operation of registers, micro-instructions and Input/Output units	3	3	2	1	1
		Explain the organization of memory and memory related operations andadvanced computer architecture	3	3	2	1	1
20U2DAT2	**Microprocessors8086/88**	Illustrate the basic idea about internal architecture of the microprocessor.	3	3	2	1	1
		Identify the instruction sets and operations of arithmetic , relational andconditional statements.	3	3	2	1	1
		Discuss about the interface cycles with read ,write and fetch cycles	3	3	2	1	1
		Identify the instructions about data transfer between I / O blocks	3	3	2	1	1

		Discuss about an interrupt , its types, hardware and software interrupts.	3	3	2	1	1
20U2NCC1	Introduction to NCC	Understand the structure, organization of NCC and armed forces.	2	1	1	2	2
		Develop leadership qualities and general knowledge from current affairs.	2	1	1	1	2
		Involve in social service activities and act in the emergency situation.	2	1	1	2	1
		Develop qualities like character, comradeship and discipline through regular training and field work.	2	1	1	1	2
		Improve secular outlook, spirit of adventure, ethics and ideals of selfless service.	2	1	1	1	2
20U2NPN	Introduction to National Service Scheme	To understand the aims and principles of NSS , the duties and responsibilities of an NSS volunteer to the society.	2	1	2	3	3
		To know the administrative structure of NSS, its plans and its execution.	2	1	2	3	3
		To acquire leadership qualities and democratic attitudes through the participation in various social activities	2	1	2	3	3
		To aid in character building and develop qualities like comradeship and discipline through regular training and field work.	2	1	2	3	3
		To develop the spirit of humanity and ideals of selfless service.	2	1	2	3	3
20U2YRC1	Introduction to Youth Red Cross	Equip to conduct social and health awareness programmes.	2	1	1	2	3
		Making awareness regarding red cross service and social activities	2	1	1	2	3
		Encourage and to youth members and other students to contribute in red cross activities.	2	1	1	2	3
		Develop qualities like compassion, kindness and caring sense through regular training and field work.	2	1	1	2	3
		Improve kind heartedness, spirit of humanity and ideals of selfless red cross service	2	1	1	2	3
20U2PED1	History of Physical Education	Know physical education in national and international level.	2	1	1	2	2
		Understand ancient Olympics, modern Olympics, first aid and yoga	2	1	1	1	2
		Comprehend games rules and ground measurements	2	1	1	2	1
		Develop their physique in good shape through regular work outs and exercises.	2	1	1	1	2
		Realize the need of physical education.	2	1	1	1	2
20U2DMCP2	Data Structures Lab Using C	Construct programs to sort numbers and strings and searching theelementsusing sequential and binary search.	3	3	3	1	2
		Describe and Design programs with recursion and pointers relatedapplications.	3	3	3	1	2
		Construct programs on stack and queue and explain its operations.	3	3	3	1	2

Course Code	Course Name	Course Outcome					
		Construct and explain about linked list data structure and its operations	3	3	3	1	2
		Design programs on binary trees and tree traversals.	3	3	3	1	2
20U3TLA3	காப்பிய இலக்கியமும் நாவலும்	மனித அறம், அன்பு, செய்ந்நன்றி போன்றவற்றை அறியச் செய்தல்.	-	1	1	2	2
		அற மனப்பாங்கினை ஊக்குவித்துப் பின்பற்றல்.	-	2	2	3	2
		மனித அறம், பத்தி, உதவி செய்யும் மனப்பான்மை போன்றவற்றில் ஈடுபடுதல்.	-	3	1	-	2
		காவிய ஆசிரியர்களின் படைப்புதிறனை வெளிப்படுத்த வடிவ அமைப்பினை விளக்கி ஈடுபடச் செய்தல்.	3	-	1	-	2
		படைப்பின் பல் வடிவங்களை விளக்கிப் படைப்பாக்கத்தினை வெளிக் கொணரல்.	-	-	3	-	2
20U3HLA3	**Hindi 3**	Identify noun, pronoun and adjective in sentences	-	1	1	2	2
		Examine how a text interacts with a reader in the reading process for meaning and interpretation	-	2	2	3	2
		Classify rhymes, beats, sound pattern in a poem	-	3	1	-	2
		Explain various aspects of storytelling in terms of plot, character and form in One Act play	3	-	1	-	2
		Write simple sentences without committing errors of spelling and grammar	-	-	3	-	2
20U3SLA3	**Sanskrit III**	Gain knowledge of Indian Tradition through the origin of Popular Sanskrit Tales and Fables	-	1	1	2	2
		Achieve Moral Values through Sanskrit Fables – Pancatantra	-	2	2	3	2
		Comprehend Sanskrit Poetic Literature, Style of Writing Poems and Know the deepness of Indian Sanskrit Prose Literature	-	3	1	-	2
		Understand the Sanskrit Prosody through Alankaras	3	-	1	-	2
		Learn Sanskrit Prose Literature and Style of Writing Prose	-	-	3	-	2
20U3NENH3	**English-III**	Discover the deviant use of English both in written and spoken forms	-	2	3	2	-
		Explain the need for reference/study skills Make/take notes systematically in an organized manner	-	2	3	3	-
		Choose language for speaking with confidence in an intelligible and acceptable manner	-	2	2	2	-
		Develop an interest for reading and read independently unfamiliar texts with comprehension	-	2	2	2	-
		Examine and analyze a genre on their own	-	2	3	3	-
20U3DMC5	**Operating Systems**	Understand the basic structures of Modern operating system and its functions and applications.	3	3	2	1	1

		Understand the concepts of Multi-process ,multiprogramming, threads andscheduling methods	3	3	2	1	1
		Acquire the knowledge of synchronization, dead lock and preventionn ethods.	3	3	2	1	1
		Demonstrate the design and management concepts of main memory, virtualmemory along with issues and challenges.	3	3	2	1	1
		Understand the various types of I/O management and resourcem anagement techniques.	3	3	2	1	1
20U3DSE1	**Visual Programming**	Understand the basic concept of visual and front-end tool application	3	3	3	2	2
		Understand the concepts of MDI forms , Menu and frame controls	3	3	3	2	2
		Acquire the knowledge and creation of tool bars and its properties.	3	3	3	2	2
		Demonstrate the design and management of tables with ADO – DAOdatacontrols.	3	3	3	2	2
		Understand the concepts and usage of Active-X ,its controls and testing ofActive-x documents.	3	3	3	2	2
20U3DAT3	**Numerical Methods**	Understand the ideas related with computer arithmetic using numericalmethod concepts.	3	2	1	1	1
		Understand the concepts of iterative method and algorithm	3	3	2	1	1
		Demonstrate the concepts of interpolation and regression	3	3	2	1	1
		Demonstrate the concepts of Simpson's rule and integration formulae	3	3	2	1	1
		Acquire the knowledge related with numerical differentiation and integration.	3	3	2	1	1
20U3DMCP3	**Visual Programming Lab**	Construct the logic using algorithms for a given problem and develop programs using the commands and available functions in VB	3	3	3	2	2
		Develop programs to demonstrate the creation of status bar, tool bar andprogress bar	3	3	3	2	2
		Construct programs to process specific application programs using datacontrol	3	3	3	2	2
		Compose programs to generate reports using report writer	3	3	3	2	2
		Develop programs to perform file related operations.	3	3	3	2	2
20U4TLA4	பண்டைய இலக்கியமும் நாடகமும்	பண்டையகால மக்களின் அகம் மற்றும் புறம் சார்ந்த வாழ்வியல் நிலைகளை அறியச்செய்தல்.	-	1	1	2	2
		தனிமனித அறம், பொது அறம் ஆகியவற்றை நீதிநூல்களின் வாயிலாக அறியச்செய்தல்.	-	2	2	3	2

Course Code	Course	Course Outcome					
		நாடகம் தொடர்புடைய சிந்தனைகள், உணர்வுகள், உள்ளடக்கம், நடை போன்றவற்றைப் புரியவைத்தல். நாடகம் நடிக்கப் பழக்குதல்.	-	3	1	-	2
		தமிழ் இலக்கிய வரலாற்றையும் பண்பாட்டையும் அறியச்செய்தல்.	3	-	1	-	2
		மொழியின் சிறப்புகளுடன், அகப்பொருள் மற்றும் புறப்பொருள்களின் திணை, துறைகளை அறியச்செய்தல்.	-	-	3	-	2
20U4HLA4	Hindi 4	Apply speak, read and write Hindi at the basic level.	-	1	1	2	2
		Identify rhyme, beats, sound pattern in a poem.	-	2	2	3	2
		Analyse novel closely, paying attention to linguistic and stylistic variations.	-	3	1	-	2
		Use language for speaking with confidence in an Acceptable manner	3	-	1	-	2
		Write simple sentences without committing errors of grammar	-	-	3	-	2
20U4SLA4	Sanskrit IV	Learn about the Origin of Indian Sanskrit Drama Literature	-	1	1	2	2
		Achieve Moral Values through Indian Sanskrit Drama Literature – Karnabharam	-	2	2	3	2
		Realize Sanskrit drama Literature, method of Writing Dramas and the depth of Indian Sanskrit Drama Literature	-	3	1	-	2
		Understand the importance and role of Sanskrit drama Literature and know great Dramatists	3	-	1	-	2
		Learn Ethical Values of Human Life through Various Authors and their Dramas	-	-	3	-	2
20U4NEN4	English-IV	Examine their own ability to improve their own competence in using the language and Show their learnt useful interpersonal soft skills.	-	2	3	2	-
		Re-state a piece of text either orally or in writing with learnt soft skills	-	2	3	3	-
		Apply their useful creative skill in writing like CVs, drafting and reading	-	2	2	2	-
		Investigate the importance of writing in academic life, analyze graphs,charts,grids and other visual supports to understand a text.	-	2	2	2	-
		Apply connecting ideas to continue discussions and apply diagrammatic information – interpretations maps, graphs, pie- charts and note-taking. Communicate with others effectively.	-	2	3	3	-
20U4DMC6	Linux & Shell Programming	Understand the structure of LINUX operating system and the editors usedf or developing shell programs.	3	3	3	2	2
		Understand the concepts of shell process and management, control ofcompiler and interpreters.	3	3	3	2	2
		Demonstrate the development of text formatting and filtering tools relatedprograms.	3	3	3	2	2

		Demonstrate the debugging and file handling operations of Linux OS.	3	3	3	2	2
		Acquire the knowledge related with functions ,control loops etc.	3	3	3	2	2
20U4DSE2	**Office Automation**	Understand the concepts of word processing and related software platform	3	2	2	1	1
		Explore the commands related with formatting text ,exporting and importingmessages into the word document	3	2	3	1	1
		Know the procedures to use the various fonts and change the font colours.	3	2	2	1	1
		Understand the concepts of spread sheet and related menus and commandused for creating various sheets.	3	2	1	1	1
		Know the procedures to format the cells and cell related operations. Understand the procedures to create the PowerPoint slides and its relatedfunctions and animated picture insertion	3	2	1	1	1
20U4DAT4	**Resource Management Techniques**	Understand the theoretical workings of the simple method for linearprogramming	3	3	2	1	2
		Know the relationship between a linear program and its dual, includingstrong duality and complementary slackness	3	3	2	1	2
		Solve specialized linear programming problems like thetransportation andassignment problems	3	3	2	1	2
		Solve network models like the shortest path, minimum spanning tree, andmaximum flow problems	3	3	2	1	2
		Understand the applications of, basic methods for, and challenges in integerprogramming	3	3	2	1	2
20U4DMCP4	**Linux Lab**	Know the algorithms to develop shell program using the LINUX commandsand procedure.	3	2	3	1	1
		Develop programs to demonstrate the usage of various set and builtinfunction commands.	3	2	3	1	1
		Construct the shell program to provide the solution for various applications.	3	2	3	1	1
		Know the concept of shells and its kernel operations by developing variouslogical algorithms.	3	3	2	1	1
		Develop programs to perform file related operations.	3	2	2	1	1
20U4NCC2	**Field Training in NCC**	Understand the geography, important world organizations and will do various drills with & without arms.	2	2	1	2	2
		Read maps and related sign systems.	2	1	1	2	1
		Comprehend the types of weapons, field crafts and battle crafts.	2	1	1	2	2

Code	Course	Outcome					
		Develop qualities like character, comradeship and discipline through regular training and field work.	2	1	1	1	2
		Improve secular outlook, spirit of adventure, ethics and ideals of selfless service.	2	1	1	1	2
20U4NPN	**Community Services**	To provide an opportunity to become responsible members of the society by taking part in community service.	2	2	1	3	2
		To enable students acquire life skills and knowledge, through the involvement in environmental awareness activities	2	2	1	3	2
		To understand gender difference and learn to give equal respect to members of the opposite gender, develop service spirit and participate collectively in community programmes.	2	2	1	3	2
		To develop qualities like compassion, kindness and caring sense through regular training and field work in health awareness programmes.	2	2	1	3	2
		To become responsible citizens with a sound knowledge of the Indian Constitution and Fundamental Rights and be prepared for selfless service to the community.	2	2	1	3	2
20U4YRC4	**Introduction to Youth Red Cross**	Equip to conduct social and health awareness programmes.	2	1	1	2	3
		Making awareness regarding red cross service and social activities	2	1	1	2	3
		Encourage and to youth members and other students to contribute in red cross activities.	2	1	1	2	3
		Develop qualities like compassion, kindness and caring sense through regular training and field work.	2	1	1	2	3
		Improve kind heartedness, spirit of humanity and ideals of selfless red cross service	2	1	1	2	3
20U4PED2	**Physical Education and Games**	Understand the meaning, benefits and essentials of yoga and meditation.	2	1	1	2	2
		Maintain good physical and mental health by doing exercises, yoga and by taking nutritive foods.	2	1	1	1	2
		Know the rules and regulations of games like boxing, fencing, judo, basketball, cricket, hockey.	2	1	1	2	1
		Develop their physique in good shape through regular work outs and exercises.	2	1	1	1	2
		Realize the need of physical education.	2	1	1	1	2
20U5DMC7	**Programming in Java**	Demonstrate the principles of object oriented programming and Use simpledatastructures like arrays in a Java program	3	1	1	1	1
		Understand the concepts of Class, objects and constructors	1	2	3	1	1
		Acquire the knowledge of overloading and nesting of classes	2	1	1	1	1

		Demonstrate the design of interfacing ,exception handling and multithreading.	2	1	1	3	1
		Understand the AWT classes and the process about working with AWTcontrols	2	2	2	3	2
20U5DMC8	Relational Database Management Systems	Understand the concepts of DB structure, data models and relational algebra	3	1	2	1	1
		Understand the basic knowledge about structured query language and itsvariousoperations	1	2	3	1	1
		Integrate the concepts of domain and SQL authorizations.	2	1	1	2	1
		Understand the concepts of normalizations and DB design process	2	1	1	3	1
		Analyse the concepts of transaction and locking and lock handling	2	2	2	3	2
20U5DMC9	Computer Networks	Understand the basics of network and its theoretical basis of datacommunication	3	1	1	1	1
		Analyse the various switching methods and its usage and process of errordetectionand correction process	1	2	3	1	1
		Understand the usage of protocols used in various layers of the networkstructure andits algorithm.	2	1	1	2	1
		Understand the design issues of various layers and routing methods	2	1	1	3	1
		Understand the concepts of network security and cryptography	2	2	2	3	2
20U5DMDC	E-Commerce Applications & Management	Understand the basic idea and evolution of e-commerce	1	1	2	-	-
		Understand the various business models for ecommerce and their relationships	-	2	2	-	-
		Identify the technologies of the ecommerce activities and their goals	2	1	-	1	-
		Analyse the online commercial and management activities	2	-	-	1	1
		Understand the information systems and decision making on various applications of e-commerce.	2	1	-	1	2
20U5DME1(A)	Data mining and data warehouse	Identify the scope and necessity of Data Mining and Warehousing	3	-	-	2	-
		Understand data quality and methods and techniques for pre-processing of data	-	2	3	-	-
		Analyse the patterns that can be discovered by classification and clustering	2	-	-	2	-
		Understand data mining techniques clustering and association rule mining	2	-	-	2	-
		Identify complex cluster data analysis methods	2	2	3	3	2
20U5DME1(B)	Programming in ASP	Understand the basic concept of server side scripting language.	1	1	-	2	3
		Identify the importance and full usage of various objects	-	2	2	-	-
		Understand the components of ASP and its scripting models	2	-	-	1	3
		Develop the procedures for error handling and stored procedures	2	-	2	1	-

Code	Course	Course Outcome					
		Understand the concepts of stream object and its options	2	2	2	1	2
20U5DME1(C)	**Client/Server Computing**	Understand the overview and evolution of Client server computing	1	-	-	2	3
		Understand the client server components and its requirement while creating its architecture	-	2	2	-	-
		Analyse the server hardware and environment and server operating systems	2	-	-	1	
		Understand the overview of networking and LAN hardware and software	2	-	-	1	2
		Describe the applications of c/s and future trends of C/S	2	1	2	1	2
20U5DSE3	**Android Programming**	Understand the history and implementation of Android program and itslayouts.	3	-	-	2	-
		Impart the knowledge of various intent and transfer from one to anotherdialogs.	-	3	2	-	-
		Understand the android activity life cycle and synchronous task	2	-	-	3	-
		Identify the importance of SQLite and android services	2	-	-	2	-
		Develop the activity related with publishing and details about publishing App.	2	2	3	3	2
20U5DMCP5	**Programming in Java Lab**	understand the basics of JAVA and its operators	3	-	-	2	-
		Demonstrate the thread concepts and familiarize about thread class		2	3	-	-
		Familiarize java interface programmes	2	-	-	3	-
		Demonstrate java inheritance using the keywords	2	-	-	2	-
		Understand the concepts of event handling.	2	2	2	3	3
20U5DMCP6	**SQL & PL SQL Lab**	Design database schema with normalization and relationships between the tables	3	-	-	3	-
		Write SQL queries to user specifications	-	2	3	-	-
		Develop triggers , procedures in PL/SQL programs in oracle.	2	-	-	3	-
		Prepare the report with various options described in the database using queries.	2	-	3	3	-
		Develop programme with various business related application.	2	2	2	3	3
20U6DMC10	**Web Technology**	Understand operators, identifiers, variables, arrays, control structures,functions andobjects in XHTML	3			2	-
		Understand the concepts of forms control and tables.	-	3	2	-	-
		Develop hands on experience using HTML	2	-	-	3	-
		Understand arrays, control structures, functions and objects in JavaScript.	2	-	-	3	-
		Analyse the fundamentals of browsers objects and JavaScript libraries	2	2	3	3	2
	Software Engineering	Understand principles and practices of software engineering	3	-	-	2	-

Course Code	Course Title	Course Outcome					
20U6DMC11		Identify software models for different nature of projects	-	2	3	-	-
		Familiarize tools for software design process. Understand the concepts ofprocessplanning and scheduling	2	-	-	3	-
		Develop strategies for testing.	2	-	-	2	-
		Understand the concepts of Software Reliability and Quality Management	2	2	2	3	2
20U6DMC12	**Open Source Technology**	Understand the concepts of Open Source, Free Software, Free Softwarevs. OpenSource software, Public Domain Software,	3	-	-	2	-
		Describe the Open Source History, Initiatives, Principle and methodologies.	-	2	2	-	-
		Identify maintenance of open source project methods	2	-	-	3	-
		Understand the procedures of Apache and WAMP server interfacing	2	-	-	3	-
		Analyse the procedures for shared software and shared sources	2	2	2	3	2
20U6DME2(D)	**Multimedia Systems**	Understand the basic needs of multimedia systems	3	-	-	2	-
		Identify the components of multimedia technology	-	2	3	-	-
		Creating the projects with the multimedia components	2	-	-	3	-
		Understand the stages of multimedia projects and streaming.	2	-	-	3	-
		Analyse the idea about costing and scheduling of multimedia projects.	3	2	3	3	2
20U6DME2(E)	**Programming in PHP**	Understand the basic development concepts of PHP and creating scripts	3	-	-	3	-
		Identify the conditional and control statements in PHP	-	2	2	-	-
		Understand the concepts of Data in Arrays and Processing Arrays withLoops andIterations	2	-	-	3	-
		Describe the procedures for Working with Files and Directories in PHP	2	-	-	3	-
		Understand the basics of XML ,Simple XML and DOM Extension	2	3	3	3	2
20U6DME2(F)	**Information Security**	Understand the concepts of OSI security architecture, attacks andprofessional ethicsissues	3	-	-	2	-
		Describe the principles of various cryptography methods	-	2	2	-	-
		Identify the methods used for authentication issues and methods	2	-	-	2	-
		Understand the concepts of firewall security systems used in thecommunicationprotocols	2	-	-	3	-
		Describe about the SSH , SSL and process of encryption methods	2	2	3	3	2
20U6DME3(G)	**Programming in Python**	Understand the concepts of python programming and various statements	3	-	-	2	1
		Identify the arguments ,data structures and tuples and exception handling ofpythonprogramming	-	3	2	-	-

		Describe the idea about file handling and interacting with databases musingMySQL	2	-	-	3	-
		Analyse the development of Graphics programming and GUI applicationsusingpyGTK	2	-	-	3	-
		Understand the procedures for creating documents to open source projects andversion control systems.	2	2	3	3	2
20U6DME3(H)	Software Testing	Understand the basic concepts and processes that leads to software testing	3	-	-	2	-
		Identify the test cases from various testing technologies	-	2	2	-	-
		Know about the user acceptance testing and generate test cases for it.	3	-	-	3	-
		Understand importance of testing techniques in software qualitymanagement andassurance	2	-	-	3	-
		Create test case scenarios for different application software usingvarious testingtechniques.	2	2	3	3	2
20U6DME3(I)	Internet Programming	Understand the concepts of WWW ,its backgrounds and internet protocols	3	-	-	2	-
		Identify the methods and function files in javascript	-	2	2	-	-
		Describe the concepts of Servlets and Apache web server	3	-	-	3	-
		Understand the concepts of PHP, XML schema and XSLT transformation	2	-	-	3	-
		Analyse the architecture of AJAX architecture and java web services.	3	2	2	3	2
20U6DSE4	Distributed Programming	Understand the basic concepts of distributed computing in real time	3			2	1
		Analyse the data access in ADO and dot net technologies	-	2	3	-	-
		Understand the advanced ASP and dot net programming	2	-	-	3	-
		Identify the advantages and features of ASP NET and dot net technologies.	2	-	-	3	-
		Understand the concepts of Web services ,Role of Web services in DistributedComputing and WSDL, UDDI, SOAP concepts involvedin Web Services.	2	3	2	3	2
20U6DMCP7	Web Technology Lab	Understand the concepts of identifiers, variables, arrays, control structures,functionsand objects in JavaScript.	3	-	-	2	-
		Develop hands on experience using HTML	-	2	3	-	-
		Identify the creation of basic animation techniques	3	-	-	3	-
		Understand the concepts of creating web pages for the customizedapplications.	2	-	-	3	-
		Describe the concepts of creating the forms and integrating the	2	2	3	3	2

		database withforms.					
20U6DMCP8	**Open Source Technology Lab**	Understand the installation of various packages in open source operating systems	3	-	-	2	-
		Create simple GUI applications using PHP	-	-	-	-	-
		Understand the usage of control and conditional statement of PHP	2	-	-	3	-
		Implement various applications using build systems	3	-	-	3	-
		Understand procedures for developing php scripts for various application problems.	3	2	2	3	2

Chairman / Bos