

Department	Computational Studies			Programme: B.Sc Data Science and Analytics						
Semester	First			Course Category Code: MJD		*End Semester Exam Type: TE				
Course Code	A24CPT101C			Periods / Week		Credit	Maximum Marks			
				L	T	P	C	CAM	ESE	TM
Course Name	Digital Logic Fundamentals			4	0	0	4	25	75	100
Common to B.Sc (CS) , BCA , B.Sc Data Science and Analytics										
Prerequisite	Basic Digital Logic knowledge									
Course Objectives	- Understanding Digital Systems and Binary Numbers - Design and Analysis of Combinational Logic Circuits - Analysis of clocked sequential circuits and state machines - Explore advanced counters and HDL-based designs for registers and counters - Providing practical applications in digital system design.									
Course Outcome	On completion of the course, the students will be able to									BT Mapping (Highest Level)
	CO1	Understanding the postulates of Boolean algebra and to minimize Combinational functions.								K3
	CO2	Gaining knowledge to design and analyze Map Concepts.								K3
	CO3	Learning techniques for the design of Combinational Logic.								K3
	CO4	Learning techniques for the design of Synchronous Sequential Logic.								K3
	CO5	Learning techniques for the design of digital Register and Counters.								K3
UNIT-I	DIGITAL SYSTEMS AND BINARY NUMBERS						Periods: 12			
Digital Systems - Binary Numbers - Number-Base Conversions – Octal and Hexadecimal Numbers Complements of Numbers - Signed Binary Numbers - Binary Codes - Binary Storage and Registers - Binary Logic -Axiomatic Definition of Boolean Algebra - Basic Theorems and Properties of Boolean Algebra - Boolean Functions										CO1
Canonical and Standard Forms - Other Logic Operations - Digital Logic Gates - Integrated Circuits										
UNIT-II	GATE-LEVEL MINIMIZATION						Periods: 12			
Introduction - The Map Method - Four-Variable K-Map - Product-of- Sums Simplification - Don't-Care Conditions - NAND and NOR Implementation - Other Two-Level Implementations - Exclusive-OR Function - Hardware Description Language										CO2
UNIT-III	COMBINATIONAL LOGIC						Periods: 12			
Introduction - Combinational Circuits - Analysis Procedure – Design Procedure - Binary Adder–Subtractor - Decimal Adder – Binary Multiplier - Magnitude Comparator – Decoders – Encoders –Multiplexers - HDL Models of Combinational Circuits.										CO3
UNIT-IV	SYNCHRONOUS SEQUENTIAL LOGIC						Periods: 12			
Introduction - Sequential Circuits - Storage Elements: Latches – Storage Elements: Flip-Flops - Analysis of Clocked Sequential Circuits - Synthesizable HDL Models of Sequential Circuits - State Reduction and Assignment - Design Procedure										CO4
UNIT-V	REGISTERS AND COUNTERS						Periods: 12			
Registers - Shift Registers - Ripple Counters - Synchronous Counters - Other Counters - HDL for Registers and Counters										CO5
Lecture Periods: 60		Tutorial Periods: -		Practical Periods: -			Total Periods: 60			
Text Books										
1. M. Morris Mano, Michael D. Ciletti, Digital design With an Introduction to the Verilog HDL, Pearson, Fifth Edition,2019.										
2. M. Rafiquzzaman, Fundamentals of Digital Logic and Microcomputer Design, John Wiley & Sons, Inc., Fifth Edition, 2020.										
Web References										
1. 1http://nptel.ac.in/courses/111107063										

R.D. Manjunath

5X

2. <http://nptel.ac.in/courses/122102009>
3. <http://nptel.ac.in/courses/111/107/11110710>.

* TE – Theory Exam, LE – Lab Exam

COs/POs/PSOs Mapping

Cos	Program Outcomes (POs)					Program Specific Outcomes (PSOs)		
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
1	2	2	3	2	3	2	3	2
2	3	2	3	3	2	3	3	2
3	3	2	2	3	3	2	3	3
4	2	3	2	3	3	2	2	2
5	3	2	3	3	3	3	2	1

Correlation Level: 1 - Low, 2 - Medium, 3 – High

Evaluation Method

Assessment	Continuous Assessment Marks (CAM)					End Semester Examination (ESE) Marks	Total Marks
	CAT1	CAT 2	Model Exam	Assignment*	Attendance		
Marks	10	5	5	5	5	75	100

* Application oriented / Problem solving / Design / Analytical in content beyond the syllabus

R.D. Muralidhar

54

Department	Computational Studies		Programme: B.Sc Data Science and Analytics						
Semester	First		Course Category Code: MJD *End Semester Exam Type: TE						
Course Code	A24CPT102C		Periods / Week			Credit	Maximum Marks		
			L	T	P	C	CAM	ESE	TM
Course Name	PYTHON PROGRAMMING		4	0	0	4	25	75	100
(Common to B.Sc (CS) , BCA, B.Sc Data Science and Analytics)									
Prerequisite	Basic knowledge about PYTHON								
Course Objectives	• Introduce to Python as a general-purpose programming language • Enable students to understand and use control flow mechanisms like conditional statements • Provide a deep understanding of Python’s advanced data structures • Introduce error handling and exceptions in Python • Design and implement Python programs using OOP concepts								
Course Outcome	After the completion of this course, the students will be able to:								BT Mapping (Highest Level)
	CO1	Define the structure and components of a python program							K2
	CO2	Illustrate the concepts of Python decision statements.							K3
	CO3	Use list, tuple, Set and dictionary in python program.							K3
	CO4	Read / write data from/to files and structure a program using Exceptions and Modules.CO5 – Knowing the basic oops concepts.							K4
	CO5	Illustrate the concepts of Python decision statements.							K4
UNIT-I	INTRODUCTION TO PYTHON PROGRAMMING LANGUAGE					Periods: 12			
Introduction to Python Language – Strengths and Weaknesses – IDLE – Operators – Data Types – Introduction List, Tuple, Set, Dictionary. String : Slicing, Basic operations on strings- Built in methods -								CO1	
UNIT-II	DECISION MAKING ,LOOPING & FUNCTIONS					Periods: 12			
Control Flow: Introduction – Control Flow and Syntax – Indenting – Relational Expressions – Logical Expressions – If Statement – If else – else if – Nested if. Loop: The while Loop– Nested while Loop – For Loop – Nested for Loop- – Break and continue Functions: parameters – Return values – Local and global scope – Function composition – Recursion and lambda functions.								CO2	
UNIT-III	LIST, TUPLE, SET, DICTIONARY AND ARRAYS					Periods: 12			
Lists: List operations – List slices – List methods – List loop – Mutability – Aliasing – Cloning lists – List parameters – Tuples: Tuple assignment – Tuple as return value – Advanced list processing – List comprehension – Sets – Dictionaries: Operations and methods – Arrays								CO3	
UNIT-IV	FILES, EXCEPTIONS, MODULES AND PACKAGES					Periods: 12			
Built In Functions. Files and Exception: Text Files – Reading and writing files – Format operator – Command line arguments – Errors and exceptions – Handling exceptions – Modules – Standard modules – Packages.								CO4	
UNIT-V	OBJECT ORIENTED PROGRAMMING					Periods: 12			
Classes and Objects Constructors Inheritance Abstraction Polymorphism Encapsulations Dynamic Binding.								CO5	
Lecture Periods: 60			Tutorial Periods: -		Practical Periods: -			Total Periods: 60	
Text Books									
1. Martin C Brown, “Python The Complete Reference”, McGraw-Hill Education, 4th Edition,2018									
2. Allen B. Downey, “Think Python: How to Think Like a Computer Scientist, Shroff/O„Reilly Publishers, 2nd edition, 2019.									
3. Reema Thareja, “Python Programming Using Problem Solving Approach”, Oxford University Press, First edition, 2019.									

Dr. D. Manjunath

5X

Reference Books

1. Robert Sedgewick, "Kevin Wayne, Robert Dondero – Introduction to Programming in Python: An Inter-disciplinary Approach", Pearson India Education Services Pvt. 2019.
2. Timothy A. Budd, "Exploring Python", Mc-Graw Hill Education (India) Private Ltd., 2018.
3. Ben Stephenson, "The Python Workbook A Brief Introduction with Exercises and Solutions", Springer International Publishing, Switzerland 2020.

Web References

1. <https://www.learnpython.org/>
2. <https://pythonprogramming.net/introduction-learn-python-3-tutorials/>
3. <https://www.codecademy.com/learn/learn-python>
4. <https://nptel.ac.in/courses/106/106/106106182/>

* TE – Theory Exam, LE – Lab Exam

COs/POs/PSOs Mapping

Cos	Program Outcomes (POs)					Program Specific Outcomes (PSOs)		
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
1	2	2	3	2	3	2	3	2
2	3	2	3	3	2	3	3	2
3	3	2	2	3	3	2	3	3
4	2	3	2	3	3	2	2	2
5	3	2	3	3	3	3	2	1

Correlation Level: 1 - Low, 2 - Medium, 3 – High

Evaluation Method

Assessment	Continuous Assessment Marks (CAM)					End Semester Examination (ESE) Marks	Total Marks
	CAT 1	CAT 2	Model Exam	Assignment*	Attendance		
Marks	10	5	5	5	5	75	100

* Application oriented / Problem solving / Design / Analytical in content beyond the syllabus

Dr. D. Manjunath

54

Department	Computational Studies	Programme: B.Sc Data Science And Analytics							
Semester	First	Course Category Code: MID				End Semester Exam Type: TE			
Course Code	A24DAD101D	Periods / Week			Cred it	Maximum Marks			
		L	T	P		C	CAM	ESE	TM
Course Name	Foundations of Data Science-I	4	0	0	4	25	75	100	
Prerequisite	Basic knowledge about C++ with OOPs Concepts								
Course Objectives	- Understand the Fundamentals of Data Science. - Grasp Probability and Statistical Concepts. - Apply Linear Algebra in Data Science - Utilize Databases for Data Science. - Implement Data Science Methodologies.								
Course Outcome	After the completion of this course, the students will be able to:						BT Mapping (Highest Level)		
	CO1	Demonstrate an understanding of the need for Data Science, the Data Science Process, and its application in Business Intelligence.						K2	
	CO2	Apply data analysis tools in exploring and understanding datasets.						K3	
	CO3	Apply probability and statistics concepts to analyze random variables, probability distributions, and sample statistics for hypothesis testing						K4	
	CO4	Demonstrate proficiency in linear algebraic operations, matrix decomposition, and their application in representing relationships between data.						K2	
	CO5	Apply database querying and management in a Data Science context.						K3	
UNIT-I	INTRODUCTION				Periods: 12				
Need for Data Science – Data Science Process – Business Intelligence and Data Science – Prerequisites for a Data Scientist. Exploratory Data Analysis - Statistical measures, Basic tools (plots, graphs, and summary statistics) of EDA, Data Analytics Lifecycle, Preparing Data, Data Visualization, Uni-variant, Multi variant Analysis							CO1		
UNIT-II	PROBABILITY AND STATISTICS				Periods: 12				
Probability: Probability, Random Variables and Their Probability distribution, Multiple random variables, Sample statistics and their distribution. Statistics: Developing Initial Hypotheses, Identifying Potential Data Sources, and Testing hypotheses on means, proportions, and variances.							CO2		
UNIT-III	LINEAR ALGEBRA				Periods: 12				
Matrices to represent relations between data, Linear algebraic operations on matrices – Matrix Decomposition – Singular Value Decomposition – Principal Component Analysis.							CO3		
UNIT-IV	DATABASES FOR DATA SCIENCE				Periods: 12				
Structured Query Language (SQL): Data Munging, Filtering, Joins, Aggregation, Window Functions, Ordered Data, No-SQL, Document Databases, Wide-column Databases and Graphical Databases. Unstructured data: MongoDB, JSON.							CO4		
UNIT-V	DATA SCIENCE METHODOLOGY				Periods: 12				

Dr. D. Manjunath

5X

Analytics for Data Science – Examples of Data Analytics – Data Analytics Lifecycle: Data Discovery, Data Preparation, Model Planning, Model Building.			CO5
Lecture Periods: 60	Tutorial Periods: -	Practical Periods: -	Total Periods: 60
Text Books			
1.Sanjeev Wagh, Manisha Bhende, Anuradha Thakare, ‘Fundamentals of Data Science, CRC Press, 1st Edition, 2022.			
2. Avrim Blum, John Hopcroft, Ravindran Kannan, “Foundations of Data Science”, Cambridge University Press, 1st Edition, 2020.			
Reference Books			
1.Jure Leskovek, Anand Rajaraman and Jefrey Ullman., Mining of Massive Datasets. v2.1, Cambridge University Press, 2019.			
2.Ani Adhikari and John DeNero, ‘Computational and Inferential Thinking: The Foundations of Data Science’, GitBook, 2019			
3.Seema Acharya, Subhasini Chellappan, Big Data Analytics, 2nd Edition, Wiley, 2019.			
Web References			
1. https://www.analytixlabs.co.in/blog/what-is-the-syllabus-of-data-science/			
2. https://www.khanacademy.org/math/statistics-probability/significance-tests-one-sample			
3. https://www.ibm.com/topics/nosql-databases			
4. https://onlinecourses.swayam2.ac.in/imb23_mg64/preview			
5. https://www.kdnuggets.com/2018/05/top-7-data-science-use-cases-finance.html			

* TE – Theory Exam, LE – Lab Exam

COs/POs/PSOs Mapping

Cos	Program Outcomes (POs)					Program Specific Outcomes (PSOs)		
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
1	2	2	3	2	3	2	3	2
2	3	2	3	3	2	3	3	2
3	3	2	2	3	3	2	3	3
4	2	3	2	3	3	2	2	2
5	3	2	3	3	3	3	2	1

Correlation Level: 1 - Low, 2 - Medium, 3 – High

Evaluation Method

Assessment	Continuous Assessment Marks (CAM)					End Semester Examination (ESE) Marks	Total Marks
	CAT 1	CAT 2	Model Exam	Assignment*	Attendance		
Marks	10		5	5	5	75	100

* Application oriented / Problem solving / Design / Analytical in content beyond the syllabus

Dr. D. Manjunath

5X

Department	Computational Studies			Programme: B.Sc Data Science and Analytics							
Semester	First			Course Category Code: SEC			*End Semester Exam Type: LE				
Course Code	A24CPS101C			Periods/Week			Credit	Maximum Marks			
				L	T	P	C	I M	ESE	TM	
Course Name	PYTHON PROGRAMMING LAB			0	0	6	3	50	50	100	
(Common to B.Sc (CS) , BCA, B.Sc Data Science and Analytics)											
Prerequisite	Basic Knowledge in python										
Course Objectives	• To implement Python programs to compute the area of fundamental geometrical shapes • Enable to write Python programs that determine whether a given number is prime or not • Provide a thorough understanding of defining, using, and managing user-defined functions • Implementation of Inheritance in Python • To write Python programs that send alerts and notifications via email based on predefined network events.										
Course Outcome	<i>After completion of the course, the students will be able to</i>								BT Mapping (Highest Level)		
	CO1	Apply and practice logical formulations to solve simple problems leading to specific applications.								K3	
	CO2	Develop python programs for simple applications making use of basic constructs, arrays and strings.								K3	
	CO3	Develop the networking programs using IP.								K3	
	CO4	Design the module for Client and Server.								K4	
	CO5	Construct the network specializations								K4	
List of Experiment											
1. Finding Area of a Triangle, Rectangle and Square. 2. Checking whether a given number is Prime or not. 3. Implementation of User defined functions. 4. Various operations on List and Tuples. 5. Various operations on string and dictionary. 6. Various types of inheritance using python.. 7. Detect Network Changes Automatically. 8. Log Management with Python and Network Monitoring with Cacti. 9. NetFlow and sFlow Based Monitoring. 10. Alerting and Email Notification.											
Lecture Periods:-			Tutorial Periods:-			Practical Periods:30			Total Periods:30		
Reference Books											
1. Stallings, W., “Data and Computer Communications”, 10th Ed., Prentice Hall Int. Ed., 2013.											
2. John V Guttag, “Introduction to Computation and Programming Using Python””, MIT Press, Revised and expanded Edition, 2013.											

Dr. D. Manikumar

5/4

Web Reference:

1. <https://pythonprogramming.net/introduction-learn-python-3-tutorials/>
2. <https://www2.mvcc.edu/users/faculty/jfiore/CP/labs/LaboratoryManualForComputerProgramming.pdf>
3. <https://www.codecademy.com/learn/learn-python>
4. <https://www.geeksforgeeks.org/last-minute-notes-computer-network/>
5. <https://lecturenotes.in>

***LE – Lab Exam**

COs/POs/PSOs Mapping

COs	Program Outcomes (POs)					Program Specific Outcomes (PSOs)		
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
1	3	2	3	3	2	2	2	2
2	2	2	2	3	2	3	2	2
3	2	2	2	2	2	3	3	2
4	3	3	2	2	2	2	2	2
5	3	2	2	2	3	3	3	3

Correlation Level: 1 - Low, 2 - Medium, 3 – High

Evaluation Method

Assessment	Internal Marks			End Semester Examination (ESE) Marks	Total Marks
	Model Exam	Record	Attendance		
Marks	30	10	10	50	100

R.D. Muralidhar

54

Department	Computational Studies		Programme: B.Sc Data Science and Analytics							
Semester	First		Course Category Code: VAC *End Semester Exam Type: TE							
Course Code	A24VAC101C		Periods / Week			Credit	Maximum Marks			
			L	T	P	C	CAM	ESE	TM	
Course Name	Understanding India		2	0	0	2	25	75	100	
(Common to B.Sc (CS) ,(BCA),B.Sc Computer Science										
Course Objectives	- Understanding the Geography of India Social Structure - Provide an introduction to Indian knowledge systems, showcasing the intellectual, scientific, and cultural contributions of ancient - Explore the Indian Constitution as a living document - Interpret India’s political system through different lenses—traditional, modern, and contemporary.									
Course Outcome	After the completion of this course, the students will be able to:							BT Mapping (Highest Level)		
	CO1	The course aims at making the students understand India from global, national and local perspectives.							K2	
	CO2	A student would be able to understand India in geographical, historical, social, cultural and political settings.							K3	
	CO3	At the end of the semester, the students will be able to appreciate the multicultural and multifaceted nature of India.							K3	
	CO4	To expose the students to our social, economic and cultural heritage							K4	
	CO5	To Acquire knowledge about Understanding Indian Polity							K4	
UNIT-I	Geography of India					Periods: 6				
India on the map of the world and its neighboring countries -Geographical diversities								CO1		
UNIT-II	History of India					Periods: 6				
India’s Freedom Struggle -An introduction to Indian knowledge systems								CO2		
UNIT-III	Communicating Culture					Periods: 6				
Oral narratives: Myths, tales and folklore-Introduction to the Tribal Cultures of India								CO3		
UNIT-IV	Indian Social Structure					Periods:6				
Continuity and change of the Indian Social Structure: Caste, Community, Class and Gender								CO4		
UNIT-V	Understanding Indian Polity					Periods:6				
The evolution of State in India: Nature and origin-Interpretating India: Traditional, Modern and Contemporary-Constitution as a living document								CO5		
Lecture Periods: 30			Tutorial Periods: -		Practical Periods: -			Total Periods: 30		
Text Books										
1.Ramesh Dutta Dikshit, Political Geography: Politics of Place and Spatiality of Politics, Macmillan Education, 2020. 2. Mohanta, Basant Kumar and Vipin Kumar Singh ed. (2012), Traditional Knowledge System and Technology in India, Pratibha Prakashan. 3.House India Private Limited, 25 Oct. 2021. 4.J Sai Deepak. India That Is Bharat: Coloniality, Civilization, Constitution. New Delhi, Bloomsbury, 2021.										
Web References										
1. https://iksindia.org 2. https://doi.org/10.1177/0038022919680205										

R.D. Mahalingam

5X

* TE – Theory Exam

COs/POs/PSOs Mapping

Cos	Program Outcomes (POs)					Program Specific Outcomes (PSOs)		
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO3
1	2	2	3	2	3	2	3	2
2	3	2	3	3	2	3	3	2
3	3	2	2	3	3	2	3	3
4	2	3	2	3	3	2	2	2
5	3	2	3	3	3	3	2	1

Correlation Level: 1 - Low, 2 - Medium, 3 – High

Evaluation Method

Assessment	Continuous Assessment Marks (CAM)					End Semester Examination (ESE) Marks	Total Marks
	CAT 1	CAT 2	Model Exam	Assignment*	Attendance		
Marks	10		5	5	5	75	100

P. D. M. S. S. S.

54

Department	TAMIL			Programme: B.Sc Data Science and Analytics							
Semester	FIRST			Course Category Code: AEC		*End Semester Exam Type: TE					
CourseCode	A24TAT101C			Periods/Week		Credit	MaximumMarks				
				L	T	P	C	CAM	ESE	TM	
Course Name	Tamil – I			2	0	0	2	25	75	100	
(Common to B.A, B.Sc., BBA., B.COM., BCA., B.COM CS.,)											
Prerequisite	பன்னிரெண்டாம் tFg;gpy; jkpio xU ghமடாகப் பயின்றிருக்க Ntz;Lk;.										
Course Objectives	nrt;tpyf;fpa jd;ik nfhz;l jkpo;nkhopapd; rpwg;gpid vLj;Jiug;gjh f ,g;ghlj;jpl;l; mikf;fg;gl;Ls;sJ.										
	,uz;lhapuk; Mz;Lfhyj; jkpopd; njhd;ikiaAk; tuyhw;iwAk; mjd; tpOkpaq;fisAk; gz;ghl;ilAk; vLj;Jiug;gjh f ,g;ghlj;jpl;l; mikf;fg;gl;Ls;sJ.										
	jkpo; ,yf;fpak; cs;slf;fj;jpYk;> tbtj;jpYk; ngw;wkhw;wq;fs;> mjd; rpe;jidfs;> milahsq;fs; Mfpatw;iwf; fhye;NjhWk; vOjg;gl;l ,f;fpaq;fspd; topahff; \$Wtjw;F ,g;ghlj;jpl;l; mikf;fg;gl;Ls;sJ.										
	tho;tpay; rpe;jidfs;> xOf;ftpay; Nfhlg;hLfs;> rkj;Jtk;> #oypay; vdg; gy \$Wfis khztHfSf;F vLj;Jiuf;Fk; tpjj;jpy; ,g;ghlj;jpl;l; cUthf;fg;gl;Ls;sJ.										
	rpe;jid Mw;wiyg; ngUf;Ftjw;Fj; jha;nkhopapd; gq;fspg;gpid czHj;j ,g;ghlj;jpl;l; mikf;fg;gl;Ls;sJ.										
Course Outcome	On completion of the course, the students will be able to								BT Mapping (Highest Level)		
	CO1	,yf;fpaq;fs; czHj;Jk; tho;tpay; newpKiwfisg; Ngzpelj;jy;.								K3	
	CO2	ekJ vz;zj;ij ntspg;gLj;Jk; fUtpahfj; jha;nkhopiag; gad;gLj;Jjy;.								K3	
	CO3	jfty; njlHGf;Fj; jha;nkhopapd; Kf;fpaj;Jtj;ij czHjy;.								K2	
	CO4	jha;nkhopapd; rpwg;ig mwpjy;.								K2	
	CO5	,yf;fpa ,d;gq;fis EfUk; jpwd;fis tsHj;jy;.								K3	
UNIT-I	,f;fhy ,yf;fpak;- kuGf;ftpijfs;- GJf;ftpijfs;- rpWfij					Periods: 09					
kuGf;ftpijfs;- ghujpahH-nts;spg; gdpkiyapd; kPJyhTNthk;... (13 ghly;fs;)- ghujpjhrd;-Gul;rpf;ftp (Ngud;Gf; nfhz;ltNu...Kjy; - ftpQDf;Fk; fhjypf;Fk; kPl;rpje;jhH tiu) jq;fg;gh - gdpq;ghiw Edpfs; - tho;f;if Xtpak;. GJf;ftpijfs;- mg;Jy; uFkhd; - tIY}Uk; thHjhTk;- Afp - capHg;G (,aw;ifapd; vYk;G Kwpg;G) – rpWfij -MH.#lhkzp - rhk;gYf;Fs;.										CO1	
UNIT-II	ehlfk; -ciueil- ehty;					Periods: 09					
ehlfk; - gpugQ;rd; - Kl;il - ciueil - ,uh.Ntq;flhrygjp - me;jf; fhjy;jpy; fhg;gp ,y;iy –ehty; - ,uh.KUfNts; - kpspHfy;										CO2	
UNIT-III	gf;jp ,yf;fpak; -irtk;- itztzk; - fpwpj;Jtk; - ,j;yhk;					Periods: 09					
gf;jp ,yf;fpak; -irtk;-jpUQhdrk;ge;Jh - Kjy; jpUKiw - NjhLilanrtpad;...ghly; kl;Lk; - jpUehTf;furH - ehd;fhk; jpUKiw - \$w;whapdthW...ghly; kl;Lk;- Re;juH - Vohk; jpUKiw - gpj;jhgpiw#B...ghly; kl;Lk;- khzpf;fthrfH - jpUthrfk; - Gy;yha; GOtha;...ghly; kl;Lk;- jpU%yH - jpUke;jpuk; - MHf;Fk; ,Lkpd;...ghly; kl;Lk;- fhiuf;fhyk;ikahH-jpUtpul;il kzpkhiy - md;ghy; miltnjt;thW...ghly; kl;Lk;. itztzk; - ngha;ifaho;thH - itak; jfspaha;...ghly; kl;Lk;- -G+jj;jho;thH - md;Ng jfspaha;...ghly; kl;Lk;- Ngaho;thH - jpUf;fz;Nld; nghd;Nkdp...ghly; kl;Lk;- ek;kho;thH - jpUtha;nkhop - csd; vdpd;...ghly; kl;Lk;- nghpaho;thH - nghpaho;thH jpUnkhop - thf;Fj; J}a;ik...ghly; kl;Lk;- -Mz;lhs; - ehr;rpahH jpUnkhop– vd;G cUfp ,dNty;...ghly; kl;Lk;- fpwpj;Jtk; - ,ul;rz;a kNdhfuk; - Mtpf;FWnte;JaH...Kjy; ciday;yJ gw;WNjh tiu - ,j;yhk; - Fzq;Fb kJ;jhd; rhfpG– uFkhd; fz;zp -milj;j kdf;Nfhil;il...Kjy; vd;fz; tiu										CO3	
UNIT-IV	rpw;wpyf;fpak; - Kj;njhs;shapuk; - cyh- fyk;gfk;- gs;S-,ilf;fhyg; GytHfs;					Periods: 09					

Dr. M. S. S. S.

5X

rpw;wpyf;fpak; - Kj;njhs;shapuk; - 1.NtuWifgk;gpr; Riuaha;...2.khiy tpiygfHthH... 3.vd;id ciuay; ...vdj; njhlq;Fk; ghly;fs; kl;Lk; - cyh - FNYhj;Jq;fNrhod; cyh - jhis mutpe;jr; rhjp...Kjy; epyntd;whs; tiu - fyk;gfk; -jpUtuq;ff;fyk;gfk; - cUkhwpq; gygpgw;Gk;...Kjy; MBH thry; tiu - gs;S - Kf;\$lw;gs;S - ehl;Ltsk; - fiwgl;Ls;sJ...vdj;njhlq;Fk; ghly; kl;Lk; - JJJ-mofH fps;istpL JJJ - ,d;nrhy;iy.....Kjy; cgNjrkhf ciug;gha; tiu ,ilf;fhyg; GytHfs; - ,uhkypq;f mbfs; - k`hNjtkhiy-gbj;Njd;...Kjy; ngha; cyfpay; tiu - tPukhKdptH jpUf;fhtY}Hf; fyk;gfk; - jio-Nghjtpo;g;...vdj;njhlq;Fk; ghly; kl;Lk; - K.K`k;kJj`h - /nfsJK`pa;apj;jPd; gps;isj; jkpo; - tapWGilf;f cz;fpd;wPH...ghly; kl;Lk;.				CO4
UNIT-V	nkhopg;gapw;rp-,yf;fpa tuyhW	Periods: 09		
nkhopg;gapw;rp - 1.typkpFk; ,lq;fs; >typkpfh ,lq;fs;- 2.mfuthpirg;gLj;Jjy;-3.NeHfhzy; - ,yf;fpa tuyhW - ,f;fhy ,yf;fpak;> gf;jp ,yf;fpak;> rpw;wpyf;fpak; Fwpj;j ghlg;gFjpia xl;bal.				CO5
Lecture Periods: 45	Tutorial Periods:-	Practical Periods:-	TotalPeriods:45	
Text Books				
1. ghujpahH – ghujpahH ftpijfs;> Kindle Edition > Published June 2, 2020. 2. rptFkhH. v];.> - nfhq;FNjH tho;f;if> ghly; njhFg;G E}y; - njhFjp -1 Aidnll; iul;IH];> nrd;id -86. Kjw;gjpg;G 2003. 3. #lhkzp.MH. - jdpikj; jspH> NjHe;njLj;j rpWfijfs;> fhYr;RtL gjpg;gfk;> Kjy; gjpg;G: nrg;lk;gH 2013. 4. gpugQ;rd; - [Ptejp (ehlq;fs;) – ftpjh gg;spNf\> 8> khrpyhkzp njU> ghz;bg[hH> jp.efH> nrd;id -600 017 5. KUfNts;. ,uh.> - kpspHfy;> lk;ngcopy; gjpg;gfk;> jpUg;G+H> ,uz;lhk; gjpg;G> 2014.				
Reference Books				
1. ty;ypf;fz;zd;> GJf;ftpijapd; Njhw;wKk; tsh;r;rpAk;> =nrz;gfh gjpg;gfk;> [dthp>1> 2020. 2. rpw;gpgghyRg;gpukzpak; kw;Wk; ePygj;kehgd; (g.Mrp.) – Gjpa jkpo; ,yf;fpa tuyhW> njhFjp-1>2>3> rhfpj;jpa mfhnjkp> GJnly;yp> 2013. 3. ghf;fpaNkhp> tifik Nehf;fpy; jkpo; ,yf;fpa tuyhW (nrk;ik kw;Wk; tphpTg; gjpg;G)> ghhepiyak;. nrd;id> 4. Mde;jd;> KidtH.R.> - jkpo; ,yf;fpa tuyhW> fz;kzp gjpg;gfk;> jpUr;rp-2. ,Ugj;jp %d;whk; gjpg;G– 2015. 5. gue;jhkdhH> m.fp.> - ey;y jkpo; vOj Ntz;Lkh> ghhp epiyak;> nrd;id> 1998.				
Web References				
1. http://www.tamilvu.org 2. http://www.tamilweb.com 3. http://www.tamilkodal.com 4. www.store.tamillexican.com 5. www.kala.tamilforu.blogspot.com 6. www.noolagam.com				

* TE – Theory Exam, LE – Lab Exam

COs/POs/PSOs Mapping

[Signature]

[Signature]

COs	Program Outcomes (POs)					Program Specific Outcomes (PSOs)		
	PO1	PO2	PO3	PO4	PO5	PSO1	PSO2	PSO 3
1	3	3	3	3	3	3	3	3
2	3	3	3	3	3	3	3	3
3	3	2	3	3	2	3	3	3
4	2	3	2	1	2	2	3	2
5	3	3	3	3	3	3	3	3

Correlation Level: 1: Low, 2: Moderate, 3: High

Evaluation Method

Assessment	Continuous Assessment Marks (CAM)					End Semester Examination (ESE) Marks	Total Marks
	CAT 1	CAT 2	Model Exam	Assignment*	Attendance		
Marks	10		5	5	5	75	100

Department	Computational Studies	Programme: B.Sc Data Science and Analytics
Semester	First	Course Category Code: MLD *End Semester Exam Type: TE

Dr. D. Manikumar

5/5

Course Code	A24ENM101C		Periods / Week			Credit	Maximum Marks		
			L	T	P	C	CAM	ESE	TM
Course Name	ENGLISH FOR COMPETITIVE EXAMS		3	0	0	3	25	75	100
(Common to B.Sc (CS) ,(BCA),B.Sc Computer Science									
Course Objectives	- This course prepares students for competitive exams like UGC-NET, SLET, UPSC Civil Services by developing English proficiency. - To Enhance their knowledge of grammar and stylistics to write better answers - To enhance comprehension skills and analyze complex texts - To Refine language through improved vocabulary - To have comprehend knowledge of the language								
Course Outcomes	CO1	Demonstrate strong reading comprehension skills and analyse complex texts effectively.						K3	
	CO2	Write well-structured essays, precise answers, reports, and letters using clear language and grammatical structure.						K3	
	CO3	Translate passages accurately from English to native language and vice versa.						K3	
	CO4	Use a wide range of vocabulary and understand idioms, phrases, and figures of speech						K3	
	CO5	Apply grammar rules and concepts like synonyms, antonyms, concord, and error spotting to produce linguistically sound written work.						K3	
UNIT-I	READING COMPREHENSION					Periods: 09			
Reading for main idea and details; strategies; Types of reading - skimming, scanning, intensive and extensive reading; Reading comprehension practice using different types of passages								CO1	
UNIT-II	FUNCTIONAL GRAMMAR					Periods: 09			
Parts of speech; Articles; Prepositions; Subject-verb Agreement; Active/Passive Voice; Idioms and Phrases; Synonyms and Antonyms								CO2	
UNIT-III	WRITTEN COMMUNICATION					Periods: 09			
Report Writing; Formal and Informal Letters; Summarizing and Paraphrasing; Precis Writing; Notice; Poster making								CO3	
UNIT-IV	LISTENING AND SPEAKING SKILL					Periods: 09			
Listening and Hearing; Importance of listening skills; Features of effective speech; Simple social exchanges; Dialogue practice; Making persuasive arguments; Elocution								CO4	
UNIT-V	STUDY SKILL					Periods: 09			
Expanding vocabulary - Note-making; Summarizing; Quoting; Making a references list; Answering exam questions; Understanding the question; Planning the answer; Evaluating the answer.								CO5	
Lecture Periods: 45			Tutorial Periods: 0		Practical Periods: 0			Total Periods: 45	
Text Books									
1. Aggarwal, R.S. <i>Objective General English</i> . S. Chand Publishing, 2022.									
2. Bhatnagar, R.P and Bhargava, Rajul. <i>English for Competitive Examinations</i> . Macmillan India Ltd.									
3. Green, David. <i>Contemporary English Grammar: Structures & Composition</i> . Trinity Press, 2018.									
4. Narayanaswami, V. R. <i>Strengthen Your Writing</i> . Orient Blackswan, 2009.									
Sadanand,Kamlesh and Susheela Punitha. <i>Spoken English; A Foundation Course Part I</i> .Orient Blackswan; 2011.									

R.D. Narayanaswami

SK

Reference Books

1. Swan, Michael. *Practical English Usage*. Oxford University Press, 2013
2. Thorpe, E. and Thorpe, S. *English for Competitive Examinations*. Pearson, 2012.
3. Wallace, Michael J. *Study Skills in English*. Cambridge University Press, 2004.

Web References

1. <https://www.readingrockets.org/blogs>
2. <https://www.taylorfrancis.com/books/assets/icon/share.svg>
3. <https://www.shortform.com/summaries>
4. <https://www.duarte.com/resources/>
5. <https://www.memorize.academy/>

COs/POs/PSOs Mapping

COs	Program Outcomes (POs)					Program Specific Outcomes (PSOs)		
	PO 1	PO 2	PO 3	PO 4	PO 5	PSO 1	PSO 2	PSO 3
1	1	2	2	2	1	2	1	2
2	1	2	1	1	2	1	2	2
3	1	2	1	1	2	2	1	2
4	2	2	2	2	2	1	1	2
5	1	2	1	1	2	2	1	1

Correlation Level

High	Moderate	Low
3	2	1

Evaluation Method

Assessment	Continuous Assessment Marks (CAM)					End Semester Examination (ESE) Marks	Total Marks
	CAT 1	CAT 2	Model Exam	Assignment*	Attendance		
Marks	10		5	5	5	75	100

* Application oriented / Problem solving / Design / Analytical in content beyond the syllabus

Dr. D. Manjunath

5/4