Semester - 1 Course Code: 101 Course Title: COMMUNICATION SKILLS

Course Code	101
Course Title	Communication Skills
	[Title of the course will be the one selected by the student from courses offered by college/institute out of the
	course basket offered by the University under the Ability Enhancement courses (AEC) basket.]
Credits	2
Course Category	Ability Enhancement Course (AEC-01)
	[Modern Indian Language (MIL) & English language focused on language and communication skills.]
Level of Course	100-199 (Foundation / Introductory)
Teaching per Week	2 Hrs
Minimum weeks per	15 (Including class work, examination, preparation etc.)
Semester	
Review / Revision	2022-2023
Implementation Year:	A.Y. 2023-2024
Purpose of Course	Effective communication is vital for the success in various situations. This course will help students develop and improve English Communication skills.
	To be offered to students to achieve competency in a Modern Indian Language
	and English Language focused on language and communication skills.
	The course will be selected by the institute from basket of courses under category AEC (Ability
	Enhancement Course) offered by the university.
~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	[Modern Indian Language (MIL) & English language focused on language and communication skills.]
Course Objective	The course aim at enabling the students to acquire and demonstrate the core linguistic skills, including critical reading and expository and academic writing skills that help students articulate their arguments and present their thinking clearly and coherently and recognize the importance of language as a mediator of knowledge and identity. They would also enable students to acquaint themselves with the cultural and intellectual heritage of the chosen MIL and English language, as well as to provide a reflective understanding of the structure and complexity of the language/literature related to both the MIL and English language. The courses will also emphasize the development and enhancement of skills such as communication, and the ability to participate/conduct discussion and debate.
Pre-requisite	Knowledge of English at H.Sc.(12 ⁴⁴) Level
Course Outcomes	CO1: To make students understand the importance of effective communication
	skills in personal and professional life.
	CO2: student's will be able to enhance their ability in reading, writing, listening
	and speaking as per the demand of corporate world.
	CO3 : To develop students individual as well as team work efficiency
	CO4; To enhance the inquisitiveness in students for updating knowledge to solve
	problems, and lead to build a successful professional career.
	COS; Students will be able to understand the importance of digital
	communication.

Mapping between Course Outcomes(CO) with Program Specific Outcomes(PSO)	PSO PSO
Course Outcome	After studying the course, students will be able to Implement their skills at
	their workplace on varied roles such as computeroperator and programmer.
Course Content	 Unit: 1: Fundamentals of Communication 1.1 Definition and Meaning, Overview 1.2 Process of Communication 1.3 Features and Process of Professional communication 1.4 Role of creative and critical thinking in communication 1.5 Different forms of communication 1.6 Communication Network in an Organization 1.7 Barriers to communication
	Unit : 2 :Developing Listening skills2.1Listening Vs Hearing2.2Effective Listening2.3Process of Listening2.4Types of Listening2.5Barriers to effective listening
	 Unit : 3 : Speaking Skills 3.1 Non-verbal Communication 3.2 Group –discussions- Conducting G.D on giventopics(Oral Practical) 3.3 Dynamics of Professional presentation/DraftingPresentation on given topics 3.4 Public speaking 3.5 Conversations and Dialogue writing
	Unit : 4 Reading Skills4.1Need for Developing Efficient Reading4.2Benefits of Effective Reading4.3Basic steps To Effective Reading4.4Types of Reading4.5Reading Comprehension
Reference Books	Unit : 5 Writing Skills5.1Resume writing5.2The art of Condensation5.3Business Reports5.4E-mail writing5.5Blog Writing.1.Handbook of practical Communication skills – Chrisle W. JAICO2.Basic Managerial Skills for all – S. J. McGrath - PHI3.Reading to learn – Sheila Smith & Thomas M. Methuen (London)4.Communication conversation Practice _ Tata McGraw Hill5. Communication in English – R. P. Bhatnagar & R. T. Bell – Orient Longman
	6. Good English – G. H. Vallins – Rups & Co 7. Let's talk English – M. I. Joshi

	8. Essentials of Business Communications – Pat & Sons, S. Chand
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	30% Internal assessment.70% External assessment.

Course Code: 102 **Course Title:** MATHEMATICS

Course Code	102								
Course Title	Mathematics								
	(Multi-Disciplinary Course – 01)								
	[Title of the course will be the one selected by the student from courses offered by college/institute								
	out of the course basket offered by the University under the Multi-Disciplinary courses or Inter-								
	disciplinary courses.]								
Credits	4								
Course Category	Multidisciplinary Course (MC-01)								
Level of Course	100-199 (Foundation / Introductory)								
Teaching per Week	4 Hrs.								
Minimum weeks per Semester	15 (Including class work, examination, preparation etc.)								
Review / Revision	2022-2023								
Implementation Year:	A.Y. 2023-2024								
Purpose of Course	To impart fundamental knowledge and develop mathematical abilities relevant								
	to applications relevant to Computer Applications.								
	In lieu of this course, Student can opt any one course of multi-disciplinary/inter-disciplinary from other than the computer Science and Application feaulty. The course will be offered by the								
	institute/college passed by the Board of Studies of University faculties other than the computer								
	science and application faculty.]								
Course Objective	To Provide a foundation in mathematical concepts and methods that are relevant								
	Computer Applications and develop the ability to apply mathematical								
	knowledge and techniques to solve problems in computing.								
Pre-requisite	Knowledge of Fundamentals of Mathematics of 10 th Grade Level								
Course Outcomes	CO1: Define and explain the fundamental concepts of Mathematical Abilities in								
	organizations.								
	CO2: Students can apply set theory concepts to real-world scenario, such as								
	analyzing survey data.								
	CO3: Enhance student's logical reasoning to solve problems in various contexts,								
	such as puzzles or legal arguments by learning Truth table.								
	CO4: Course aims to equip students with the knowledge and skills to define and								
	operate matrices, compute solutions to business problems through the use of								
	mathematical concepts and techniques.								
	CO5: Course aims to develop students' ability to think logically and critically, as								
	well as to apply mathematical concepts and techniques to real-world problems.								
	CO6: Develop independent learning skills, including the ability to research and								
	explore mathematical concept.								
Mapping between	PSO1 PSO2 PSO3 PSO4 PSO5 PSO6 PSO7 PSO8								
Course	C01								
Outcomes(CO) with	CO2								
Program Specific	CO3								
Outcomes(PSO)	CO4								
	CO5								
	CO6								
Course Outcome	After studying the course, students will be able to Implement acquired skills in								
	writing codes using programming languages.								

Course Content	Unit 1. Set Theory
	1.1.Introduction
	1.2.Representation
	1.3. Operation and its properties
	1.4.Venn Diagram
	1.5.Cartesian product and graph
	Unit 2. Functions
	2.1.Definition
	2.2.Types – Domain and Range
	2.3.Construction and functions
	Unit 3. Mathematical Logic
	3.1.Introduction to logic
	3.2.Truth Table
	Unit 4. Boolean Algebra
	4.1Definition & Examples of Boolean Algebra
	4.2Boolean Functions
	4.3Representation and minimization of Boolean Functions
	4.4Design example using Boolean algebra
	Unit 5. Matrices and Determinants
	5.1.Matrices of order M * N
	5.2.Row and Column transformation
	5.3.Addition, Subtraction and multiplication of Matrices
	5.4.Computation of Inverse
	5.5.Cramer's Rule
	5.6.Business Application of Matrices
Reference Books	1. Co-ordinate Geometry – Shanti Narayan
	2. Linear Algebra – SushomaVerma
	3. Advanced Mathematics – B.S. Shah & Co.
	4. Schaum's Outline of Boolean algebra and switching circuits – Elliot
	Mendelson
	5. Digital Computer Fundamentals - Tata McGraw Hill, 6th Edition, Thomas C.
	Bartee
	6. Business Mathematics - QaziZameeruddin, V. K. Khanna and S. K. Bhambri,
	Vikas Publishing House Pvt. Ltd.
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	30% Internal assessment
	70% External assessment
	1070 External assessment.

Course Code: 103 **Course Title:** Introduction to Computers

Course Code	103									
Course Title	Introduction to Computers									
Credits	4	4								
Course Category	Minor Cou	Minor Course								
Level of Course	100-199 (I	100-199 (Foundation / Introductory)								
Teaching per Week	4 Hrs.			•						
Minimum weeks per	15 (Includi	5 (Including class work, examination, preparation etc.)								
Semester		e					,			
Review / Revision	2022-2023	.022-2023								
Implementation Year:	A.Y. 2023-	A.Y. 2023-2024								
Purpose of Course	- Concepts	and typ	es of coi	nputer a	nd vario	us hardv	ware tecl	nnologie	s relevai	nt to
	computer a	omputer as well as some important peripherals will be covered.								
	- Introducti	Introduction of computer internal memories, number systems and conversions								
	from decin	hal to bin	nary.				11		C T .	
	- Exposure	of vario	ous input	and out	put devi	ces as w	ell as co	ncepts o	of Interne	et
Course Objective	To provide	lt gauge	ts and the	inctiona	cation	umbar (System	Davicas	and mar	norv
Course Objective	& its storage	KIIUWIC Je	uge of h	incuona	i units, i		system,	Devices	and mer	nory
Pre-requisite	-	,0.								
Course Outcomes	CO1: 5	tudents	will be	e able to	develo	n intere	est in us	ing com	puters t	for
course outcomes	profess	ional w	ork.		uu v u v	P meere	50 III U 5		ip accis i	
	CO2: S	tudents	will be	able to	learn fu	Inctiona	l units c	of comp	uters, ho	w
	they pro	ocess in	formati	on with	other c	omputi	ng syste	ems and	devices	s
	CO3: 5	Student	s will h	e able t	to unde	rstand 1	pasic co	mputer	hardwa	are
	compor	components								
	CO4 :	CO4: Students will be able to express the major concepts of								
	Applica	Application software and System Software.								
	CO5: S	CO5: Student will be able to learn how the computer represents and								
	stores i	stores information using binary number system, and will be able to								
	convert	betwee	en binar	v and d	ecimal	number	system			
	CO6: S	CO6: Students will be able to understand the functions of input output								
	devices	devices, know the different types of I/O Devices, and assess new								
	technology used for I/O devices.									
	CO7: Students will be able to understand types of internet services,									
	internet	conne	ctions, a	und also	able to	learn th	ne conce	ept of cl	oud	,
	applicat	tions, e	ssential	web bro	owser to	echnolo	gies.	1		
Mapping between		PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	
Course										
Outcomes(CO) with	CO1									
Program										
Outcomes(PSO)	CO2									
	CO3									
	005									
	CO4									
	CO5									
	CO6									
	CO7									

Course Outcome	On completion of this course, students will get knowledge about functional units, number System, devices and memory and storage.
Course Content	UNIT-1: Introduction
	1.1 Introduction of Computer
	1.2 Applications of Computer
	1.3 Types of Computers – Super Computers, Mainframes, Mini Computers,
	Micro computers(Desktop, Laptop, Notebook, Tablet, Smart Phones)
	1.4 Block Diagram and functional units of computer
	UNIT-2: Basic Computer Architecture
	2.1 Concepts of Address Bus and Data Bus
	2.2 Concept of virtual memory and cache memory
	2.3. Hardware Components
	2.3.1. Motherboard
	2.3.2. Types of Processor (CPU and GPU)
	2.3.3. Understanding processor speed
	2.3.4. Memory – RAM(SRAM, DRAM, SDRAM), ROM, FPROM, FFPROM
	2.3.5. Storage Devices – Hard Disk, CD, DVD, USB flash memory
	2.4. Introduction to Software
	2.4.1. Purpose and significance of Operating System
	2.4.2. Concept of System Software and Application Software
	UNIT-3: Number System
	3.1. Introduction of Decimal, Binary, Octal and Hexadecimal number Systems.
	3.2 Conversion of Decimal to Binary and Binary to Decimal
	3.3 Binary addition & subtraction
	3.4 ASCII and ANSI character code
	Unit – 4: Input & Output Devices
	4.1. Introduction of Input Devices
	4.1.1. Pointing Devices – Mouse, Trackball, Joystick, Touch Screen, Light Pen
	4 1.2. Keyboard
	4.1.3. RFID concepts and application in FastTag
	4.2. Introduction and purpose of Scanning Devices
	4.2.1. Optical Scanner
	4.2.2. Bar Code Reader
	4.2.3. Web Camera
	4.3. Introduction and comparisons of Output Devices
	4.3.1. Monitors – LED, LCD, TFT, OLED, TouchScreen Monitor
	4.3.2. Printers – Dot Matrix Printer, Laser Printer, Inkiet Printer
	Unit - 5: Concepts of Internet
	5.1. Concepts of Internet and WWW
	5.1.1 Types of Internet Services
	5.1.2 Hardware – Modem, Router, Blue tooth, Fire-Stick
	5.1.3 Internet connections using Hotspot, WiFi, cable
	5.2 Introduction of Cloud
	5.2.1 Concepts of cloud
	5.2.2 Purpose and application of Cloud (Example of GoogleDoc)
	5.2.3 Concepts of Online Data Backup
	5.3 Introduction of Web Browser and relevant terminologies :
	5.3.1 URL, Address bar, Domain, Links, Navigation Buttons
	5.3.2 Tabbed browsing, Bookmarks, History
Reference Books	1. How computer work: Ron White – Tech media
	2. Introduction to computers: 4th Edition – Peter Norton
	3. Fundamentals of Computers: V. Rajaraman
	4. Computer Fundamentals: Pradeep K. Sinha & Priti Sinha (BPB)
	5. Introduction to Networking RechardMcMohan Tata McGraw Hill Publication
	6. HTML Black Book – Steven Holzner – Dreamtech Press

	7. Computer Network Fundamentals and application – R S Rajesh Vikas Publication
	8. HTML for the World Wide Web, Fifth Edition, with XHTML and CSS- Peachpit Press
Teaching Methodology	Class Work, Discussion, Self-Study, Seminars and/or Assignments
Evaluation Method	30% Internal assessment.
	70% External assessment.

Course Code: 104 Course Title: Computer Programming & Programming Methodology (CPPM)

	1									
Course Code	104									
Course Title	Computer Programming & Programming Methodology (CPPM)									
Credits	4	4								
Course Category	Major C	ourse								
Level of Course	200-299	(Interm	ediate L	evel)						
Teaching per Week	4 Hrs. (2	2 Hours '	Theory -	+ 4 Hour	s Practic	al work)			
Minimum weeks per	15 (Inclu	15 (Including class work, examination, preparation etc.)								
Semester	, , , , , , , , , , , , , , , , , , ,	e				•	,			
Review / Revision	2022-202	23								
Implementation Year:	A.Y. 202	23-2024								
Purpose of Course	- Compu	- Computer programming is a process that leads from an original formulation of								
	a compu	ting proł	olem to e	executab	le comp	uter prog	grams.			
	- Program	nming ii	volves a	activities	s such as	analysi	s, develoj	ping, und	erstandin	g,
	generatio	ng algori	thms, ve	rificatio	n of requ	irement	ts of algo	rithms in	cluding th	neir
	correctno	ess, and i	mpleme	ntation ((commoi	nly refer	red to as	coding)	of algorith	hms
	in a targe	et progra	mming I	anguage). 	1	·	. 1		
	- 10 emp	onasis on	concept	IS OI COI	npiler ba	asea pro	grammin	g languag	ge, structi	lac
	and decl	argonun aration n	ns, now	m of dif	ferent de	sorving	simple I	Oncepts	OI Vallau	nes
	condition	nal stater	nents lo	ons cor	npound i	iteration	s strings	and certs	ain inhuil [.]	t
	function	s header	files co	oncents (of arrays	and one	dimensi	onal num	eric array	J
	operation	ns. nume	ric inbui	ilt functi	ons and	concept	s of point	ters	erre urray	,
Course Objective	To intro	luce stuc	lents the	essentia	ls of cor	nputer F	Programm	ning and		
	program	ming me	thodolog	gy using	C Progr	amming	languag	e.		
Pre-requisite	-	U			0		00			
Course Outcomes	CO1: St	udents w	vill be at	ole to lea	arn prog	ramming	g concept	t of comp	iler base	d
	pr	programming language.								
	CO2: St	CO2: Students will be proficient working on conditional statements, iterative								
	Sta	Statements and fundamentals of programming concepts using C and								
	Py Record	thon.								1
	CO3: S	CO3: Students will be able to understand and implement conditional								
	Sta	tements	and imp	rove the	ir logica	I and rea	asoning a	bilities.		L.a.
	CO4: Su	CO4: Students will be able to develop understanding about iterative statements								
	$CO5 \cdot Sti$	u inen p idents w	ill learn	about ar	rave and	nointer	e			
Manning botwoon	005.50	PSO1	PSO2	PSO3	PSO/	PSO5	PSO6	PSO7	PSO8	1
Course	C01	1501	1502	1505	1504	1505	1500	1507	1500	-
Outcomes(CO) with	CO^2								+	-
Duccomes(CO) with	CO3			-						-
Program Specific	CO4									
Outcomes(PSO)	C05									-
Course Content	UNIT-1	L: Introd	uction							
	1.1 Co	ncepts o	f Prograi	mming L	anguage	2				
	1.1.1	Introdu	ction of	Source (Code, Ob	ject Cod	de and ex	ecutable	code	
	1.1.2	Algorith	m and F	lowchar	t					
	1.1.3	Concep	ts of Stru	uctured	Program	ming La	nguage			
	1.2 Concepts of Editor. Interpreter and Compiler									
	1.2.1 Introduction of C program body structure									
	1.2.2 Character Set, concepts of variables and constants									

1.2.3 Identifiers, literals, Key words
1.2.4 Data types (signed and unsigned) (Numeric : int, short int, long, float,
double) , (Character type: char, string) and void.
1.2.5 Concepts of source code, object code and executable code.
UNIT-2: Input/Output Statements and Operators:
2.1 Input/Output statements:
2.1.1 Concepts of Header files (STDIO,CONIO)
2.1.1.1 Concepts of pre-compiler directives.
2.1.1.2 Use of #inlcude and #define
2.2 Input/Output Statements:
<pre>2.2.1 Input statements : scanf(), getc(), getch(), gets(), getchar()</pre>
2.2.2 Output Statements: printf(), putc(),puts(), putchar()
2.2.3 Type specifiers (formatting strings) : %d, %ld, %f, %c, %s, %lf
2.3 Operators :
2.3.1 Arithmetic operators (+, -, *, /, %, ++,,)
2.3.2 Logical Operators (&&, , !)
2.3.3 Relational Operators (>, =, <=, !=)
2.3.4 Bit-wise operators (&, , ^ , <>)
2.3.5 Assignment operators (=, +=, -=, *=, /=, %=)
2.3.6 Ternary Operator and use of sizeof() function.
2.4 Important Built-in functions:
2.4.1 Use of : (strlen, strcmp, strcpy, strcat, strrev)
2.4.2 Use of : (abs(), floor(), round(), ceil(), sqrt(), exp(), log(), sin(), cos(),
tan(), pow() and trunc())
UNIT-3: Decision Making statements :
3.1 if statements :
3.1.1 simple if statements
3.1.2 ifelse statements
3.1.3 ifelse ifelse statements
3.1.4 Nested if statements.
3.2 Switchcase statements
3.2.1 Use of break and default
3.2.2 Difference between switch and if statements.
UNIT-4: Iterative statements :
4.1 Use of goto statement for iteration
4.2 while loop
4.3 dowhile loop
4.4 for loop
4.5 Nested while, dowhile and for loops
4.6 Jumping statement: (break and continue)
UNIT-5: Concepts of Arrays and pointer
5.1 Concepts of Single-dimensional Array
5.1.1 Numeric single dimensional Array
5.1.2 Numeric single dimensional array operations:
5.1.2.1 Sorting array in ascending or descending. (Bubble and selection)
5.1.2.2 Searching element from array (Linear Search)
5.1.3 Character Single dimensional Array
5.1.3.1 Character Single dimensional array operations:
5.1.3.2 Use of \0, \n and \t
5.2 Pointers:
5.2.1 Concepts of Pointers
5.2.2 Declaring and initializing int, float, char and void pointers
j 5.2.3 Pointer to single almensional numeric array.

Reference Books	1. Programming in C, Balaguruswami – TMH						
	2. C: How to Program, Deitel & Deitel - PHI						
	3. C Programming Language, Kernigham & Ritchie - TMH						
	 Programming in C, Stephan Kochan - CBS 						
	5. Mastering Turbo C, Kelly & Bootle - BPB						
	6. C Language Programming – Byron Gottfried - TMH						
	7. Let us C, Yashwant Kanetkar - BPB Publication						
	8. Magnifying C, Arpita Gopal - PHI						
	9. Problem Solving with C, Somashekara - PHI						
	10.Programming in C, Pradip Dey & Manas Ghosh – Oxford						
Teaching Methodology	Class Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments						
Evaluation Method	30% Internal assessment.						
	70% External assessment.						

Course Code: 105 **Course Title:** Data Processing and Analysis (DPA)

Course Code	105					
Course Title	Data Processing and Analysis (DPA)					
Credits	4					
Course Category	Major Course					
Level of Course	200-299 (Intermediate Level)					
Teaching per Week	4 Hrs. (2 Hours Theory + 4 Hours Practical)					
Minimum weeks per	5 (Including class work examination preparation etc.)					
Semester						
Review / Revision	022-2023					
Implementation Year:	A.Y. 2023-2024					
Purpose of Course	Understand concepts of Data and storage of data. This course is aimed to impart knowledge about storing data, concepts of database, retrieval of data and manipulation of data. It is aimed to cover effective storage of data, statistical analysis of data and graphical presentation of data. It also covers concepts of database and fundamental of query languages to insert, access, and manipulate data. This course is not spreadsheet or database specific. The course is not software specific. Any open source software can be used for practical.					
Course Objective	To learn and obtain the skills related to					
	 i) Concepts of data, data storage and statistical manipulation of data. ii) Introduction of spreadsheet and data manipulation using spreadsheet. 					
	11) Concepts of database, storage and manipulation of data using query					
Dro roquisito	language.					
Course Outcomes	- CO1 Students will learn the concent of data and storage of data using					
Course Outcomes	worksheet					
	CO2- Learn the Concept of Spreadsheet, Using the spreadsheet students will able to learn data manipulation, Statistical analysis of data and graphical presentation of data. CO3-Learn the concept of database and data storage in database CO4-To understand the concept of data storage through the concept of fundamental of query language by learning DDL and DML Statements. CO5- To Learn the concept of Queries to manipulate data and handling of database using SOL					
Mapping between	PSO1 PSO2 PSO3 PSO4 PSO5 PSO6 PSO7 PSO8					
Course	CO1					
Outcomes(CO) with	CO2					
Program Specific	CO3					
Outcomes(PSO)	CO4					
	CO5					
Course Content	1.1 Eurodamontals of Workshoot: (IVIAX. Weightage: 15%)					
	1.1 Fundamentals of workbook adding worksheet cell address formula har					
	column rows cells insert delete format cells cell size (row-height column					
	weight) rename sheet, protect sheet, lock cell.					
	1.1.2 Cut, copy, paste, paste special, format painter, font size, font face, fill					
	color, font color, font alignment					
	1.2 Alignment, indent, Number format, percent style, coma style,					
	increase/decrease decimal					
	1.2.1 Insert picture, shapes					
	1.2.2 Insert Textbox, Header & Footer, Symbols					

1.2.3 Save, save as, save file as csv, spell check, p	rotect sheet and Workbook,
Linking spread sheets.	
1.2.4 Print, Quick print, Print preview	
1.2.5 Split, Hide and freeze panes in worksheet.	
UNIT-2: Formulas. Chart and Data:	(Max.Weightage: 15%)
2 1 Charts :	(
2.1.1 Creating 2D and 3D charts (Columns Line	Pie Bar Scatter)
2.1.1 Creating 2D and 5D charts (Columns, Line,	Pie, Bai, Scatter)
2.1.2 Difference among columns, Life and Dar Ci	iai is.
2.2 Formulas:	
2.2.1 sum, average, count, max, min, sumif, pmt	, stådev
2.2.2 Logical (if, AND, OR, NOT, TRUE, FALSE)	
2.2.3 Date and Day function : Date, day, time, r	now, Hour, Minute, Second,
Month, Days360, weekday	
2.3 Data :	
2.3.1 Sort Data, Filter Data	
2.3.2 Text to columns, Remove Duplication	
2.3.3 Consolidated Data (sum, count, max, min,	average)
UNIT-3: Concepts of Database:	(Max.Weightage: 25%)
3.1 Database characteristics:	
3.1.1 Data Independence (Logical and Physical)	
3.1.2 Components of Database (User, Applicatio	n . DBMS. Database)
3.1.3 Database Architecture (1-tier, 2-tier, 3-tier))
3 1 3 1 Comparison, advantages and disadvant	ages
3 2 Database Models (Hierarchical Network F/R	Relational)
3.2.1 E/B model : Entity Relationship Attribute	nelationaly
3.2.2 E/R Diagram : One to one one to many m	any to one many to many
2.2.2 Ern Diagram . One to one, one to many, m	any to one, many to many
2.2.4 key attribute, derived attribute. Multi valu	ad attribute
2.2 Types of keys :	
3.3 Types of Keys :	emperite key Fereige key
3.3.1 Super key, Candidate key, Primary key, C	omposite key, Foreign key,
Unique key.	
UNIT-4: Normalization and Concepts of SQL:	(IVIAX.Weightage: 25%)
4.1 Why normalization (Insertion, Updating, Delet	tion anomalies)
4.2 Normalization Rules:	
4.2.1 Concepts of Dependency, Transitive Depen	idency
4.2.2 Armstrong Axioms	
4.2.3 1st Normal Form, 2nd Normal Form, 3rd No	ormal Form, B.C.N.F.
4.3 Concepts of Structure Query Language (SQL)	
4.3.1 SQL datatypes : int, float, double, char,	varchar, number, varchar2,
Text, date	
4.4 DDL Statements :	
4.4.1 Create , Drop, Truncate, Rename, Alter	
4.5 DML and DQL(Data Query Language) Statemer	nts :
4.5.1 Insert, Update, Delete	
4.5.2 select	
UNIT-5: Queries (Single Table only)	(Max.Weightage: 20%)
5.1 Using where clause and operators with where	clause:
5.1.1 In, between , like, not in, =, !=, >, =, <=, wild	dcard operators
5.1.2 Order by, Group by, Distinct	
5.1.3 AND. OR operators. Exists and not Exists	
5.1.4 Use of Alias	
5.2 Constraints (Table level and Attribute Level)	
5.2.1 NOT NULL CHECK DEFAULT	
5.2.2 [INIO] F. Primary Key, Foreign Key	
5.2.2 On Delete Cascade	
J.Z.J UII DEIELE CASCAUE	

5.3.1 Aggregate Functions: avg(), max(), min(), sum(), count(), first(), last().5.3.2 Scalar Functions: ucase(), lcase(), round(), mid().5.4 Creating sequence5.5 Views :5.5.1 Creating simple view, updating view, dropping view.5.5.2 Difference between View and Table.Reference Books1. OpenOffice.org For Dummies - Gurdy Leete, Ellen Finkelstein, Mary Leete - Wiley Pub.2. Beginning OpenOffice 3: From Novice to Professional - Andy Channellle - Apress Pub.3. The OpenOffice.org 2 Guidebook - Solveig Haugland4. Taming Apache OpenOffice: Getting Started - Jean Hollis Weber - Friends of OpenDocument Inc.5. Open Office Basic: An Introduction - James Steinberg - Gold Turtle Pub.6. Database System Concepts: - Henry F. Korth & Abrahim Silberschatz - McGraw Hill Education7. Introduction to Database Management System- Bipin C. Desai - Galgotia Publication8. Principles of database systems - Jeffery Ullman - Galgotia Publication9. An introduction to Database Systems - C. J. Date - Addison Wesley 10. Introduction to database Management - Navin Prakash -TMH 11. Learn Open Office 3.1 Base - AZIMUTH 12. OpenOffice 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker- Quantum Scientific Publishing 13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWrox Publication14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book)Teaching Methodology		5.3 SQL Functions :
5.3.2 Scalar Functions: ucase(), lcase(), round(), mid().5.4 Creating sequence5.5 Views :5.5.2 Difference between View and Table.Reference Books1. OpenOffice.org For Dummies - Gurdy Leete, Ellen Finkelstein, Mary Leete - Wiley Pub.2. Beginning OpenOffice 3: From Novice to Professional - Andy Channellle - Apress Pub.3. The OpenOffice.org 2 Guidebook - Solveig Haugland4. Taming Apache OpenOffice: Getting Started - Jean Hollis Weber - Friends of OpenDocument Inc.5. Open Office Basic: An Introduction - James Steinberg - Gold Turtle Pub.6. Database System Concepts: - Henry F. Korth & Abrahim Silberschatz - McGraw Hill Education7. Introduction to Database Management System - Bipin C. Desai - Galgotia Publication8. Principles of database systems - Leffery Ullman - Galgotia Publication9. An introduction to Database Management - Navin Prakash -TMH 11. Learn Open Office 3.1 Base - AZIMUTH 12. OpenOffice 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker- Quantum Scientific Publishing13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWrox Publication14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book)Teaching MethodologyClass Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments		5.3.1 Aggregate Functions: avg(), max(), min(), sum(), count(), first(), last().
5.4 Creating sequence5.5 Views :5.5.1 Creating simple view, updating view, dropping view.5.5.2 Difference between View and Table.Reference Books1. OpenOffice.org For Dummies - Gurdy Leete, Ellen Finkelstein, Mary Leete - Wiley Pub.2. Beginning OpenOffice 3: From Novice to Professional - Andy Channellle - Apress Pub.3. The OpenOffice.org 2 Guidebook - Solveig Haugland4. Taming Apache OpenOffice: Getting Started - Jean Hollis Weber - Friends of OpenDocument Inc.5. Open Office Basic: An Introduction - James Steinberg - Gold Turtle Pub.6. Database System Concepts: - Henry F. Korth & Abrahim Silberschatz - McGraw Hill Education7. Introduction to Database Management System- Bipin C. Desai - Galgotia Publication8. Principles of database systems - Jeffery Ullman - Galgotia Publication9. An introduction to Database Management - Navin Prakash -TMH 11. Learn Open Office 3.1 Base - AZIMUTH 12. OpenOffice 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker- Quantum Scientific Publishing 13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWrox Publication14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book)Teaching MethodologyClass Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments		5.3.2 Scalar Functions: ucase(), lcase(), round(), mid().
5.5 Views : 5.5.1 Creating simple view, updating view, dropping view. 5.5.2 Difference between View and Table. Reference Books 1. OpenOffice.org For Dummies - Gurdy Leete, Ellen Finkelstein, Mary Leete - Wiley Pub. 2. Beginning OpenOffice 3: From Novice to Professional - Andy Channellle - Apress Pub. 3. The OpenOffice.org 2 Guidebook - Solveig Haugland 4. Taming Apache OpenOffice: Getting Started - Jean Hollis Weber - Friends of OpenDocument Inc. 5. Open Office Basic: An Introduction - James Steinberg - Gold Turtle Pub. 6. Database System Concepts: - Henry F. Korth & Abrahim Silberschatz - McGraw Hill Education 7. Introduction to Database Management System- Bipin C. Desai - Galgotia Publication 8. Principles of database systems - Jeffery Ullman - Galgotia Publication 9. An introduction to Database Systems - C. J. Date - Addison Wesley 10. Introduction to database Management - Navin Prakash -TMH 11. Learn Open Office 3.1 Base - AZIMUTH 12. OpenOffice 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker-Quantum Scientific Publishing 13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWrox Publication 14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book) Class Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments		5.4 Creating sequence
5.5.1 Creating simple view, updating view, dropping view. 5.5.2 Difference between View and Table.Reference Books1. OpenOffice.org For Dummies - Gurdy Leete, Ellen Finkelstein, Mary Leete - Wiley Pub. 2. Beginning OpenOffice 3: From Novice to Professional - Andy Channellle - Apress Pub. 3. The OpenOffice.org 2 Guidebook - Solveig Haugland 4. Taming Apache OpenOffice: Getting Started - Jean Hollis Weber - Friends of OpenDocument Inc. 5. Open Office Basic: An Introduction - James Steinberg - Gold Turtle Pub. 6. Database System Concepts: - Henry F. Korth & Abrahim Silberschatz - McGraw Hill Education 7. Introduction to Database Management System- Bipin C. Desai - Galgotia Publication 8. Principles of database systems - Jeffery Ullman - Galgotia Publication 9. An introduction to Database Management - Navin Prakash -TMH 11. Learn Open Office 3.1 Base - AZIMUTH 12. OpenOffice 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker- Quantum Scientific Publishing 13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWrox PublicationTeaching MethodologyClass Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments		5.5 Views :
5.5.2 Difference between View and Table.Reference Books1. OpenOffice.org For Dummies - Gurdy Leete, Ellen Finkelstein, Mary Leete - Wiley Pub. 2. Beginning OpenOffice 3: From Novice to Professional - Andy Channellle - Apress Pub. 3. The OpenOffice.org 2 Guidebook - Solveig Haugland 4. Taming Apache OpenOffice: Getting Started - Jean Hollis Weber - Friends of OpenDocument Inc. 5. Open Office Basic: An Introduction - James Steinberg - Gold Turtle Pub. 6. Database System Concepts: - Henry F. Korth & Abrahim Silberschatz - McGraw Hill Education 7. Introduction to Database Management System - Bipin C. Desai - Galgotia Publication 8. Principles of database systems - Jeffery Ullman - Galgotia Publication 9. An introduction to Database Management - Navin Prakash -TMH 11. Learn Open Office 3.1 Base - AZIMUTH 12. OpenOffice 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker- Quantum Scientific Publishing 13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWrox PublicationTeaching MethodologyClass Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments		5.5.1 Creating simple view, updating view, dropping view.
Reference Books1. OpenOffice.org For Dummies - Gurdy Leete, Ellen Finkelstein, Mary Leete - Wiley Pub. 2. Beginning OpenOffice 3: From Novice to Professional - Andy Channellle - Apress Pub. 3. The OpenOffice.org 2 Guidebook - Solveig Haugland 4. Taming Apache OpenOffice: Getting Started - Jean Hollis Weber - Friends of OpenDocument Inc. 5. Open Office Basic: An Introduction - James Steinberg - Gold Turtle Pub. 6. Database System Concepts: - Henry F. Korth & Abrahim Silberschatz - McGraw Hill Education 7. Introduction to Database Management System- Bipin C. Desai - Galgotia Publication 8. Principles of database systems - Jeffery Ullman - Galgotia Publication 9. An introduction to Database Management - Navin Prakash -TMH 11. Learn Open Office 3.1 Base - AZIMUTH 12. OpenOffice 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker- Quantum Scientific Publishing 13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWrox Publication 14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book)Teaching MethodologyClass Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments		5.5.2 Difference between View and Table.
 Wiley Pub. 2. Beginning OpenOffice 3: From Novice to Professional - Andy Channellle - Apress Pub. 3. The OpenOffice.org 2 Guidebook - Solveig Haugland 4. Taming Apache OpenOffice: Getting Started - Jean Hollis Weber - Friends of OpenDocument Inc. 5. Open Office Basic: An Introduction - James Steinberg - Gold Turtle Pub. 6. Database System Concepts: - Henry F. Korth & Abrahim Silberschatz - McGraw Hill Education 7. Introduction to Database Management System - Bipin C. Desai - Galgotia Publication 8. Principles of database systems - Jeffery Ullman - Galgotia Publication 9. An introduction to Database Management - Navin Prakash -TMH 11. Learn Open Office 3.1 Base - AZIMUTH 12. OpenOffice 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker- Quantum Scientific Publishing 13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWrox Publication 14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book) 	Reference Books	1. OpenOffice.org For Dummies - Gurdy Leete, Ellen Finkelstein, Mary Leete -
 2. Beginning OpenOffice 3: From Novice to Professional - Andy Channellle - Apress Pub. 3. The OpenOffice.org 2 Guidebook - Solveig Haugland 4. Taming Apache OpenOffice: Getting Started - Jean Hollis Weber - Friends of OpenDocument Inc. 5. Open Office Basic: An Introduction - James Steinberg - Gold Turtle Pub. 6. Database System Concepts: - Henry F. Korth & Abrahim Silberschatz - McGraw Hill Education 7. Introduction to Database Management System- Bipin C. Desai - Galgotia Publication 8. Principles of database systems - Jeffery Ullman - Galgotia Publication 9. An introduction to Database Management - Navin Prakash -TMH 11. Learn Open Office 3.1 Base - AZIMUTH 12. OpenOffice 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker- Quantum Scientific Publishing 13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWrox Publication 14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book) Class Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments 		Wiley Pub.
Apress Pub.3. The OpenOffice.org 2 Guidebook - Solveig Haugland4. Taming Apache OpenOffice: Getting Started - Jean Hollis Weber - Friends of OpenDocument Inc.5. Open Office Basic: An Introduction - James Steinberg - Gold Turtle Pub.6. Database System Concepts: - Henry F. Korth & Abrahim Silberschatz - McGraw Hill Education7. Introduction to Database Management System- Bipin C. Desai - Galgotia Publication8. Principles of database systems - Jeffery Ullman - Galgotia Publication9. An introduction to Database Management - Navin Prakash -TMH 11. Learn Open Office 3.1 Base - AZIMUTH12. OpenOffice 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker- Quantum Scientific Publishing13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWrox Publication14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book)Class Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments		2. Beginning OpenOffice 3: From Novice to Professional - Andy Channellle -
 3. The OpenOffice.org 2 Guidebook - Solveig Haugland 4. Taming Apache OpenOffice: Getting Started - Jean Hollis Weber - Friends of OpenDocument Inc. 5. Open Office Basic: An Introduction - James Steinberg - Gold Turtle Pub. 6. Database System Concepts: - Henry F. Korth & Abrahim Silberschatz - McGraw Hill Education 7. Introduction to Database Management System - Bipin C. Desai - Galgotia Publication 8. Principles of database systems - Jeffery Ullman - Galgotia Publication 9. An introduction to Database Management - Navin Prakash -TMH 11. Learn Open Office 3.1 Base - AZIMUTH 12. OpenOffice 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker- Quantum Scientific Publishing 13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWrox Publication 14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book) Class Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments 		Apress Pub.
4. Taming Apache OpenOffice: Getting Started - Jean Hollis Weber - Friends of OpenDocument Inc.5. Open Office Basic: An Introduction - James Steinberg - Gold Turtle Pub. 6. Database System Concepts: - Henry F. Korth & Abrahim Silberschatz - McGraw Hill Education7. Introduction to Database Management System - Bipin C. Desai - Galgotia Publication8. Principles of database systems - Jeffery Ullman - Galgotia Publication9. An introduction to Database Management - Navin Prakash -TMH 11. Learn Open Office 3.1 Base - AZIMUTH 12. OpenOffice 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker- Quantum Scientific Publishing 13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWrox Publication14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book)Teaching MethodologyClass Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments		3. The OpenOffice.org 2 Guidebook - Solveig Haugland
OpenDocument Inc.5. Open Office Basic: An Introduction - James Steinberg - Gold Turtle Pub.6. Database System Concepts: - Henry F. Korth & Abrahim Silberschatz - McGraw Hill Education7. Introduction to Database Management System- Bipin C. Desai - Galgotia Publication8. Principles of database systems - Jeffery Ullman - Galgotia Publication9. An introduction to Database Systems - C. J. Date - Addison Wesley 10. Introduction to database Management - Navin Prakash -TMH 11. Learn Open Office 3.1 Base - AZIMUTH 12. OpenOffice 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker- Quantum Scientific Publishing 		4. Taming Apache OpenOffice: Getting Started - Jean Hollis Weber - Friends of
 5. Open Office Basic: An Introduction - James Steinberg - Gold Turtle Pub. 6. Database System Concepts: - Henry F. Korth & Abrahim Silberschatz - McGraw Hill Education 7. Introduction to Database Management System- Bipin C. Desai - Galgotia Publication 8. Principles of database systems - Jeffery Ullman - Galgotia Publication 9. An introduction to Database Management - Navin Prakash -TMH 11. Learn Open Office 3.1 Base - AZIMUTH 12. OpenOffice 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker-Quantum Scientific Publishing 13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWrox Publication 14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book) Class Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments 		OpenDocument Inc.
6. Database System Concepts: - Henry F. Korth & Abrahim Silberschatz - McGraw Hill Education7. Introduction to Database Management System- Bipin C. Desai - Galgotia Publication8. Principles of database systems - Jeffery Ullman - Galgotia Publication9. An introduction to Database Systems - C. J. Date - Addison Wesley 10. Introduction to database Management - Navin Prakash -TMH 11. Learn Open Office 3.1 Base - AZIMUTH 12. OpenOffice 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker- Quantum Scientific Publishing 13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWrox Publication 14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book)Teaching MethodologyClass Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments		5. Open Office Basic: An Introduction - James Steinberg - Gold Turtle Pub.
McGraw Hill Education7. Introduction to Database Management System- Bipin C. Desai - Galgotia Publication8. Principles of database systems - Jeffery Ullman - Galgotia Publication9. An introduction to Database Systems - C. J. Date - Addison Wesley 10. Introduction to database Management - Navin Prakash -TMH 11. Learn Open Office 3.1 Base - AZIMUTH 12. OpenOffice 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker- Quantum Scientific Publishing 13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWrox Publication 14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book)Teaching MethodologyClass Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments		6. Database System Concepts: – Henry F. Korth & Abrahim Silberschatz –
 7. Introduction to Database Management System– Bipin C. Desai – Galgotia Publication 8. Principles of database systems – Jeffery Ullman – Galgotia Publication 9. An introduction to Database Systems – C. J. Date – Addison Wesley 10. Introduction to database Management – Navin Prakash -TMH 11. Learn Open Office 3.1 Base – AZIMUTH 12. OpenOffice 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker- Quantum Scientific Publishing 13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWrox Publication 14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book) Teaching Methodology 		McGraw Hill Education
8. Principles of database systems – Jeffery Ullman – Galgotia Publication9. An introduction to Database Systems – C. J. Date – Addison Wesley10. Introduction to database Management – Navin Prakash -TMH11. Learn Open Office 3.1 Base – AZIMUTH12. OpenOffice 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker-Quantum Scientific Publishing13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWroxPublication14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book)Teaching MethodologyClass Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments		7. Introduction to Database Management System– Bipin C. Desai – Galgotia
 9. An introduction to Database Systems – C. J. Date – Addison Wesley 10. Introduction to database Management – Navin Prakash -TMH 11. Learn Open Office 3.1 Base – AZIMUTH 12. OpenOffice 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker-Quantum Scientific Publishing 13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWrox Publication 14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book) Teaching Methodology Class Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments 		8 Principles of database systems – leffery Illiman – Galgotia Publication
10. Introduction to Database Systems – C. S. Date – Addison Wesley10. Introduction to database Management – Navin Prakash -TMH11. Learn Open Office 3.1 Base – AZIMUTH12. OpenOffice 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker- Quantum Scientific Publishing13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWrox Publication14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book)Teaching MethodologyClass Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments		0. An introduction to Database Systems – C. I. Date – Addison Wesley
10. Introduction to database initial generit – Navin Prakash – Num11. Learn Open Office 3.1 Base – AZIMUTH12. OpenOffice 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker- Quantum Scientific Publishing13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWrox Publication14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book)Teaching MethodologyClass Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments		10 Introduction to database Management – Navin Prakash -TMH
11. Learn Open Office 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker- Quantum Scientific Publishing 13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWrox Publication 14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book)Teaching MethodologyClass Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments		11 Learn Onen Office 3.1 Base – AZIMLITH
Quantum Scientific Publishing 13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWrox Publication 14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book) Class Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments		12 OpenOffice 3.4 Volume III: Base-Christopher N. Cain, Riley W. Walker-
13. Discovering SQL-A Hands-on Guide for Beginner-Alex KriegelWrox Publication 14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book)Teaching MethodologyClass Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments		Quantum Scientific Publishing
Publication 14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book) Teaching Methodology Class Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments		13. Discovering SOI - A Hands-on Guide for Beginner-Alex KriegelWrox
14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book)Teaching MethodologyClass Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments		Publication
Teaching Methodology Class Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments		14. A Conceptual Guide to OpenOffice.org 3-R. Gabriel Gurley (Free E-book)
	Teaching Methodology	Class Work, Discussion, Lab work, Self-Study, Seminars and/or Assignments
Evaluation Method 30% Internal assessment.	Evaluation Method	30% Internal assessment.
70% External assessment.		70% External assessment.

Course code: 106 Course Title: Skill Enhancement Course (SEC-01)

0 0 1	102	
Course Code		
Course Title	Skill Enhancement Course - I (SEC – 01)	
Credit	2	
Category of Course	Skill Enhancement Course	
Level of Course	100-199 (Foundation / Introductory)	
Teaching per Week	2 Hrs (Any or Combination of Theory/Practical/Fieldwork/Internship/Project)	
Minimum weeks per	15 (Including class work, examination, preparation etc.)	
Semester		
Review / Revision	2022-2023	
Implementation Year:	A.Y. 2023-2024	
Purpose of Course	 As per NEP(National Education Policy-2020), it is mandatory for students to select a 2 credit Skill Enhancement Course out of the choices given by the college/institute. It will be mandatory for the student to opt minimum one 2-credit Skill Enhancement Course out of the list of offered courses recognised by the University during semester-1 to semester-5. The student can start an alternative career in the field by obtaining higher degree of knowledge in the area. 	
	- It's aimed at imparting practical skills, embedded internship, hands-on training, soft skills, life skills, such approved online courses etc. to enhance the employability of students. This may also include courses as per the need of new evolving technology.	
Course Objective	Obtaining skill in particular field along with the regular curriculum of the selected program is essential. It not only enhance the skill but also provide an opportunity to develop skill in particular area where one can pursue career in future. Skill enhancement provides the opportunity and knowledge for an individual to develop and strengthen the necessary skills to gain, maintain, and advance in a chosen area. Skill enhancement programs are focused around training that combines the best practices from varieties of areas. Skill enhancement or training typically uses a combination of cognitive and behaviour problem solving approaches, both of which are used to strengthen a person's positive skill develop.	
Pre-requisite	-	
Course outcome	CO1: Student select the area of skill as per his/her interest. The choices will be given by the institute/department. CO2: The student acquire basic and fundamental level of knowledge in the field that the student opted. CO3: Understand the insight of the area and possibility of to explore more in the field. CO4: Understand effective representation of problems in terms addressing the problems. CO5: Learn to upskill and upgrade the knowledge in the area of selected subject	
Course Content and	(i) University has categorised and prenared the basket of the courses	
Implementation road- map.	 (i) Oniversity has categorised and prepared the basket of the courses including approved online courses that can be offered as Skill Enhancement Course. (ii) The institute/college/department can design and implement skill enhancement course by getting approval from the relevant apex body of the university considering the SOP of the certificate course policies of the University. 	
	(iii) The institutes/college/departments can select more than one course out of the given sets of courses and offer them to their students.	

	(in) The students can calcul any of the courses offered by the	
	(iv) The students can select any of the courses offered by the	
	institute/college/department from the given choices and enrol for the	
	course.	
	(v) The institute/college/department will arrange appropriate resource	
	person(s) for the course.	
	(vi) The course evaluation will be taken place at the	
	college/institute/department level based on the nature of the course.	
	(vii) The institute/college/department will assess the student based on the	
	nature of the course. The student will be granted the credits on	
	successful completion of the course.	
Reference Books	- The reference materials and books will be decided by the	
	Institutes/Colleges/Departments based on the selected Courses.	
	- Minimum five copies of relevant topics are recommended to keep in the	
	librory	
	norary.	
Teaching	Class Work/ Discussion/ Self-Study/ Seminars/ field works/ practical training/	
Methodology	field work and/or Assignments.	
Evaluation Method	30% Internal assessment.	
	70% External assessment.	
	Maximum Marks: 50	
	(Evaluation and Assessment will be carried out at institute level. On successful	
	completion of the course, the student will be granted 2 credits. However, the	
	obtained score will not be considered for S.G.P.A./C.G.P.A.)	

Course code: 107 Course Title: Value Addition Course-I (VAC-01)

Course Code	107	
Course Title	Value Addition Course - I (VAC – 01)	
Credit	2	
Category of Course	Value Addition Course	
Level of Course	100-199 (Foundation / Introductory)	
Teaching per Week	2 Hrs (Any or Combination of Theory/Practical/Fieldwork/Internship/Project)	
Minimum weeks per	15 (Including class work, examination, preparation etc.)	
Semester		
Review / Revision	2022-2023	
Implementation Year:	A.Y. 2023-2024	
Purpose of Course	As per NEP(National Education Policy-2020), it is mandatory for students to	
	select a 2 credit Value Addition Course out of the choices given by the	
	college/institute. It will be mandatory for the student to opt minimum one 2-credit	
	Value Addition Course out of the list of offered courses recognised by the	
	University during semester-1 to semester-4. The student can start an alternative	
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	career in the field by obtaining higher degree of knowledge in the area.	
Course Objective	Obtaining knowledge in all or any of the components/fields like (i) Understanding	
	India (11) Environmental Science/Education (111) Digital/Technological solutions	
	(iv) Health & Wellness, Yoga education, sports, and fitness are essential for	
	nonstic development (V) Indian Knowledge system(IKS). The course components	
	Framework for Undergraduate Programmes of the UCC (Page 22 of the	
	document) The purpose is to import knowledge and understand the pacessities of	
	these aspects in life to make the healthy society and nation. It help in development	
	of a dedicated and responsible citizen of the country by adding value to the life	
Pre-requisite	-	
Tre requisite		
Course outcome	CO1: Student select the area of Value addition as per his/her interest. The choices	
	Will be given by the institute/department.	
	CO2: The student acquire basic and fundamental level of knowledge in the field	
	that the student opted.	
	field	
	CO4: Understand effective representation of problems, solutions and insights of	
	the challenges and problems of the peer subject relevant to value addition	
	CO5: Learn to unskill and ungrade the knowledge in the area of selected subject.	
Course Content and	(i) The university has categorised and prepared the list of the courses that can	
Implementation road-	be offered as Value Addition Course.	
map.	(ii) The institute/college/department can design and implement skill	
	enhancement course by getting approval from the relevant apex body of	
	the university considering the SOP of the certificate course policies of the	
	University.	
	(iii) The institutes/college/departments can select more than one course out of	
	the given sets of courses and offer them to their students.	
	(iv) The students can select any of the courses offered by the	
	institute/college/department from the given choices and enrol for the	
	course.	
	(v) The institute/college/department will arrange appropriate resource	
	person(s) for the course.	

	<ul> <li>(vi) The evaluation will be taken place at the college/institute/department based on the nature of the course.</li> <li>(vii) The institute/college/department will assess the student based on the nature of the course. The student will be granted the credits on successful completion of the course.</li> </ul>
Reference Books	<ul> <li>The reference materials and books will be decided by the Institutes/Colleges/Departments or as per the university guidelines based on the selected Courses.</li> <li>Minimum five copies of relevant topics are recommended to keep in the library.</li> </ul>
Teaching	Class Work/ Discussion/ Self-Study/ Seminars/ field works/ practical training/
Methodology	field work and/or Assignments.
<b>Evaluation Method</b>	30% Internal assessment.
	70% External assessment.
	Maximum Marks: 50
	(Evaluation and Assessment will be carried out at institute level. On successful
	completion of the course, the student will be granted 2 credits. Obtained score will not be considered for S.G.P.A./C.G.P.A.)

**Internship:** Student willing to exit the program at the end of the two semesters and to avail the Certificate in Computer Application or exit the program at the end of the first four semesters and to avail the Diploma in Computer Application, it is essential to acquire four credits from internship. A key aspect of the internship is induction into actual work situations. Internships involve working with local industry, government or private organizations, business organizations, artists, crafts persons, and similar entities to provide opportunities for students to actively engage in on-site experiential learning. In option to these internships, the student can avail such four credits by availing two 2-credit university approved courses during any of these semesters. The student is required to enroll and avail these 4-credits and produce the evidence in process to opt the multi-level exit option after successfully completion of first year ( two semester ) or second year(four semesters).