BACHELOR OF TECHNOLOGY IN

INFORMATION TECHNOLOGY

(As per National Education Policy 2020)

Scheme & Syllabus



G H RAISONI COLLEGE OF ENGINEERING AND MANAGEMENT

Department of Information Technology

Course Code	Name of Course	Course Category	Teaching Scheme				Credits	Evaluation Scheme					
								Theory			Practical		Total Marks
			L	T	P	Total Hours		TAE	CAE	ESE	INT	EXT	
SEMESTER-III													
23BTSHL201IT	Discrete Mathematics and Graph Theory	PCC2	3	1	-	4	**4**	10	15	50	-	-	75
23BTCSL201IT/ 23BTCSP201IT	Data Structure and Algorithms	PCC3	3	-	2	5	**4**	10	15	50	25	25	125
23BTITL202IT	Multi-disciplinary Minor-I (Computer Architecture)	MDM1	2	-	-	2	**2**	10	15	50	-	-	75
23BTITL211	Open Elective-I (Introduction to Scripting Languages)	OE I	4	-	-	4	**4**	10	15	50	-	-	75
23BTMBL201IT	Engineering Economics and Industrial Management	EEMC 1	2	-	-	2	**2**	10	15	50	-	-	75
23BTSHL228 23BTSHL229 23BTSHL227	Humanities Elective: 1)Content Designing and Media fundamentals 2)Cyber ethics and Moral responsibilities 3)Applied life Skills for progressive excellence	VEC1	2	-	-	2	**2**	10	15	50	-	-	75
23BTITP205	Minor Project	CEP	-	-	4	4	**2**	-	-	-	50	-	50
TOTAL			**16**	**1**	**6**	**23**	**20**	**60**	**90**	**300**	**75**	**25**	**550**

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Course Title: **Discrete Mathematics and Graph Theory**										
Semester	III	Teaching Scheme				Evaluation Scheme				
						Theory			Practical	
Term	ODD	Th	Tu	Pr	Credits	TAE	CAE	ESE	INT	EXT
Course	PCC2	3 Hrs.	1 Hr.	--	4	10	15	50	--	--
Course Code	23BTSHL201IT									
Teaching	Offline	4 Hrs.			Total	75			--	
Duration of	3 Hrs.					75				

Course Objectives	This course introduces size and kind of objects.
	It also skills to analyze objects meeting the criteria, finding "largest", "smallest", or "optimal" objects.
	It also introduces combinatorial structures and apply algebraic techniques to combinatorial problems
Course Outcomes	**CO1**: Know grouping of objects and operation, Relation, ordering of objects.
	CO2: Understand and use concepts of Groups.
	CO3: Apply the concept of Boolean algebra in computer science engineering.
	CO4: Solve problems using basic graph theory.
	CO5: Understand combinatorial structure and develop algebraic technique to solve combinatorial problems.
	CO6: Solve applications problems on number theory.

Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:

Course Outcomes	Program Outcomes and Program Specific Outcomes														
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO 3
CO1	3	3	--	--	--	--	--	--	--	--	--	3	--	--	--
CO2	3	3	--	--	--	--	--	--	--	--	--	3	--	--	--
CO3	3	3	--	--	--	--	--	--	--	--	--	3	--	--	--
CO4	3	3	--	--	--	--	--	--	--	--	--	3	--	--	--
CO5	3	3	--	--	--	--	--	--	--	--	--	3	--	--	--
CO6	3	3	--	--	--	--	--	--	--	--	--	3	--	--	--

Course Consents:

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Unit	Contents	Hours
I	**Set Theory** Operations on sets, Laws of algebra of sets, Representation of sets on computer in terms of 0's & 1's. Partition & covering of a set, ordered pair, Product set, Relation–Different types of relations, Graph of relation, Matrix of relation, Transitive closure of relation, Properties of relations, Compatible relation. Functions, Partial ordering & partially ordered set, Hasse diagram of Poset, totally ordered set, Peano axioms & Mathematical Induction.	8
II	**Group** Algebra or Algebraic systems like semigroup, monoid and examples. Homomorphism, Isomorphism of semigroup & monoid. Groups, properties of algebraic groups. Permutations groups, Subgroups, Cosets, Lagrange's theorem, properties of cyclic groups, generator of group, kernel of Homorphism, quotient group, Rings, types of rings, Fields, subring, Integral domain.	8
III	**Lattices and Boolean algebra** Lattice as Poset & as algebraic system, Types of lattices, Hasse diagrams, Sublattice, direct product of Lattices, Lattice Homomorphism, complement of elements of lattices, Various lattices, composition tables, Lattice, Boolean algebra; Boolean Expressions, Equivalence of Boolean Expression by tables, Simplification of circuit & equivalent circuit by truth tables.	8
IV	**Graph Theory** Graphs and its types, Sub graph, Quotient graph, Euler path, complete path, indegree, outdegree, reachability, cycle, matrix representation of graph. Transitive closure of graph, Adjacency matrix, Trees, Venn diagram, Representation of trees, binary trees, spanning trees, Prim's algorithm.	8
V	**Combinatorics** Definition of generating functions and examples, proof of simple combinatorial identities. Recursive relations: definitions & examples, explicitly formula for sequence, back tracking to find explicit formula of sequence, solving recurrence relations. Counting Theorem and application, multiplication principle of counting. Permutation & Combination with examples. The pigeon hole principle & extended pigeon hole principle and application of pigeon hole principle in solving simple problems.	8
VI	**Number theory** Continued fractions, The study of continued fractions. Alpha has Infinite continued fraction if alpha is irrational. Alpha has periodic continued fractions if alpha is quadratic irrational. Application to approximation of irrationals by rationals. Hurwitz's theorem, Advanced topic on Combinatorial Theory.	8

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Text Books	1.	Discrete Mathematical structure with application to computer science by Trembley & Manohar (Mc. Graw Hill)
	2.	Discrete Mathematical Structure by Kolmann , Busby & Ross (PHI)
	3.	Discrete mathematics by Lipschutz & Lipson, Schaum's outline, TMH
Reference Books	1.	Discrete Mathematics by Liu
	2.	Discrete Mathematics by John Truss (Addison Wesley, 2000)
	3.	Foundations of Discrete Mathematical by K. D. Joshi (Willey Eastern).

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Course Title: **Data Structure and Algorithms**										
Semester	III	Teaching Scheme				Evaluation Scheme				
						Theory			Practical	
Term	ODD	Th	Tu	Pr	Credits	TAE	CAE	ESE	INT	EXT
Course Category	PCC3	3Hrs	-	2Hrs	3	10	15	50	25	25
Course Code	23BTCSL201IT/23BTCSP201IT									
Teaching Mode	Online	5 Hrs			Total	75			50	
Duration of ESE	2 Hrs					125				

Course Objectives	This course introduces basic idea of data structure while making aware of methods and structure used to organize large amount of data.
	It's also aimed at developing skill to implement methods to solve specific problems using basic data structures.
	The course also provides career opportunities in design of data, implementation of data, technique to sort and searching the data.
Course Outcomes	Up on successful completion of this course, student will be able to:
	CO1: Illustrate various technique to for searching, Sorting and hashing
	CO2: Explain the significance of dynamic memory management Techniques
	CO3: Design and analyze different linear data structure techniques to solve real
	CO4: Implement non-linear data structure to find solution for given engineering
	CO5: Summarize different categories of data Structures

Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:

Course Outcomes	Program Outcomes and Program Specific Outcomes													
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO2
CO1	1	3	2	3	--	--	--	--	--	--	--	--	2	--
CO2	--	2	3	3	--	--	--	--	--	--	1	--	2	--
CO3	--	3	3	3	1	--	--	--	--	--	--	--	3	--
CO4	--	3	3	3	--	--	--	--	--	--	1	--	3	--
CO5	--	3	3	2	--	--	--	--	--	--	--	1	--	1

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Course Contents:

Unit	Contents	Hours
I	Introduction –Algorithms, Common operations on data structures, Types of data structures, Data structures & Programming, Program Design, Complexities, Time Complexity, Step Count Method, order of Growth, Asymptotic Notation. Sorting and Searching Introduction, Sorting, Insertion Sort, Selection Sort, Merging, Merge-Sort, Shell Sort, Radix Sort, Searching and Data Modification, Hashing	7
II	Arrays: Introduction, Linear Arrays, Arrays as ADT, Representation of Linear array in Memory, Traversing Linear Arrays, Inserting and deleting, Sorting; Bubble Sort, Searching; Linear Search, Binary Search Stacks, Queue and Recursion- Introduction, Stacks, Array Representation of Stacks, Linked Representation of Stacks, Stack as ADT, Arithmetic Expression; Polish Notation, Application of Stacks, Recursion, Towers of Hanoi, Implementation of Recursive Procedures by Stacks, Queue, Linked Representation of Queues, Queues as ADT, Circular Queues, Deques, Priority Queues, Applications of Queues	8
III	Introduction: Linked List- Representation of Linked Lists in Memory, Traversing a Linked List, Searching a Linked List, Memory Allocation; Garbage Collection, Insertion into a Linked List, Deletion from a Linked List, Header Linked List, Circularly Linked Lists, Two-Way Lists (or Doubly Linked Lists).	7
IV	.Trees and Binary Trees -Binary Trees • Representation, Operations: Insert, Delete, Traversal: Preorder, Inorder, Postorder, Traversal Algorithms Using Stacks, Header Nodes; Threads,Threaded Binary Trees, Binary Search Trees ,Searching and Inserting in Binary Search Trees,Deleting in a Binary Search Tree, Balanced Binary Trees,AVL Search Trees, Insertion in an AVL Search Tree, Deletion in an AVL Search Tree, m-way Search Trees ,Searching, Insertion and Deletion in an m-way Search tree, B-Trees ,Searching, Insertion and Deletion in a B-tree,B+-Trees Graph Algorithms	7
V	Graphs and their Applications- Introduction, Graph Theory Terminology, Sequential Representation of Graphs, Adjacency Matrix; Path Matrix, Linked Representation of a Graph, Operations on Graphs, Traversing a Graph,Posets; Topological Sorting, Spanning Trees	6

Text Books	1.	AVAho, J Hopcroft, JD Ullman, Data Structures and Algorithms, Addison-Wesley, 1983.
	2.	THCormen, CF Leiserson, RL Rivest, C Stein, Introduction to Algorithms, 3rd Ed., MIT Press, 2009.
	3.	Sahni, S., "Data Structures, Algorithms, and Applications in C++", WCB/McGraw-Hill.
E--Books	1.	https://apps2.mdp.ac.id/perpustakaan/ebook/Karya%20Umum/Dsa.pdf
	1.	Data Structures & Algorithms, 1e, Alfred V.Aho, Jeffery D. Ullman , Person.

Reference Books	2.	MT Goodrich, R Tamassia, DM Mount, Data Structures and Algorithms in Java, 5th Ed., Wiley, 2010. (Equivalent book in C also exists.)
	3.	Wirth, N., "Algorithms and Data Structures", Prentice-Hall of India.
online TL Material	1.	https://nptel.ac.in/courses/106/102/106102064/
	2.	http://cse01-iiith.vlabs.ac.in/
	3.	https://ds2-iiith.vlabs.ac.in/data-structures-2/

Sr. No.	**Name of Experiments / Mini Projects/ Case Studies**
1	Implement Searching Algorithms
2	Implement Sorting Algorithms
3	Implement the concept Stack
4	Implement the concept of Queues
5	Implement the concept of Linked List
6	Implement the concept of Doubly Linked List
7	Implement the concept of B Trees
8	Create a Binary Search Tree & perform tree traversals
9	Implement the concept of DFS and BFS in Graph
10	Design, Develop and Implement a Program in C for operations on AVL Trees and Splay Trees
Open Ended Experiments / New Experiments	
1	https://www.cs.usfca.edu/~galles/visualization/OpenHash.html
2	https://www.cs.usfca.edu/~galles/visualization/ClosedHash.html
Details of online Laboratory Resource Material Instruction / Operating Manuals	
1.	https://ds1-iiith.vlabs.ac.in/data-structures-1/
2.	https://ds2-iiith.vlabs.ac.in/data-structures-2/

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Course Title: **Computer Architecture**										
Semester	III	Teaching Scheme				Evaluation Scheme				
						Theory			Practical	
Term	ODD	Th	Tu	Pr	Credits	TAE	CAE	ESE	INT	EXT
Course Category	MDM1	3 Hrs.	--	--	3	10	15	50	--	--
Course Code	23BTITL202									
Teaching Mode	Online	3 Hrs.			Total	75			--	
Duration of ESE	2 Hrs.					75				

Course Objectives	To understand the design principles of digital computing systems
	To provide essential understanding of different subsystems of modern computer system and design aspects these subsystems3
	To provide overview on performance enhancement methods in instruction execution
Course Outcomes	**CO1**: To describe the basic components and design of a computer system
	CO2: To examine the issues involved in the instruction execution and various stages of instruction life stage
	CO3: To apply the concept of various memories and interfacing technologies
	CO4: To analyze the different parallel processing technique
	CO5: To design different high performance computing architecture

Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:

Course Outcomes	Program Outcomes and Program Specific Outcomes														
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO1	3	--	--	--	--	--	--	--	--	--	--	--	3	--	--
CO2	--	3	--	--	--	--	--	--	--	--	--	--	2	--	--
CO3	--	3	--	--	--	--	--	--	--	--	--	--	2	--	--
CO4	--	--	3	--	--	--	--	--	--	--	--	--	3	--	--
CO5	--	--	3	--	--	--	--	--	--	--	--	--	--	3	--

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Course Contents:

Unit	Contents	Hours
I	Basic functional blocks of a computer: CPU, memory, input-output subsystems, control unit. Instruction set architecture of a CPU –registers, instruction execution cycle, RTL interpretation of instructions, addressing modes, instruction set, Instruction set architecture CISC, RISC, Case study –instruction sets of common CPUs	8
II	Fixed point Addition, Subtraction, Multiplication and Division. Floating Point arithmetic, High performance arithmetic, Booth's algorithm, integer division Data representation method Booths multiplication, division algorithm and example IEEE standard single and double precision format and examples	8
III	Memory hierarchy, Memory Chip Organization, Cache memory, Virtual memory. Parallel Bus Architectures, Internal Communication Methodologies, Serial Bus Architectures, Mass storage, Input and Output Devices, Segmentation, TLB, Page replacement algorithms	8
IV	Pipelining: Basic concepts of pipelining, Arithmetic and Instruction Pipeline, throughput and speedup, pipeline hazards, Introduction, Logic Design Conventions, Building a Datapath – A Simple Implementation scheme – An Overview of Pipelining – Pipelined Datapath and Control. Data Hazards: Forwarding versus Stalling, Control Hazards, Exceptions, Parallelism via Instructions.	8
V	CPU control unit design: hardwired and micro-programmed design approaches, Case study - design of a simple hypothetical CPU. Multicore processors architecture, Advanced topics & its Application.	8

Text Books	1.	Computer Organization and Architecture by Carl Hamacher 4th Edition
	2.	Advance computer Architecture by Kai Hwang under Tata McGraw Hill publications
EBooks	1.	Computer Architecture and Organization by William Stalling http://home.ustc.edu.cn/~leedsong/reference_books_tools/Computer%20Organization%20and%20Architecture%2010th%20-%20William%20Stallings.pdf
Reference Books	1.	Introduction to Parallel Processing by P. Ravi Prakash, M. Sasikumar, Dinesh Shikhare By PHI Publications
	2.	Fundamentals of Parallel Processing by Jordan Harry, Alaghband Gita, PHI Publication
	3	Parallel Computers – Architecture and Programming by V. Rajaraman And C. Siva Ram Murthy.
	4.	Introduction to Parallel Programming by Steven Brawer
Online TL Material	1.	NPTL https://nptel.ac.in/courses/106/105/106105163/

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Course Title: **INTRODUCTION TO SCRIPTING LANGUAGES**										
Semester	III	Teaching Scheme				Evaluation Scheme				
						Theory			Practical	
Term	ODD	Th	Tu	Pr	Credits	TAE	CAE	ESE	INT	EXT
Course Category	OE-I	4 Hrs.	-	-	4	10	15	50	--	--
Course Code	23BTITL211									
Teaching Mode	Offline	4 Hrs.			Total	75		-		
Duration of ESE	3 Hrs.					75				

Course Objectives	The objectives of the course is to introduce students to the basic scripting mechanism applied to computer applications, the requirements of Scripting Languages and the use of scripting languages.
	To understand nature of the problem and apply suitable scripting validation to make the software bug free and convenient for the user.
Course Outcomes	**CO1**: Comprehend the differences between typical scripting languages, typical system and application programming languages.
	CO2: Implement the design of programs for simple applications.
	CO3: Write and apply Python scripts.
	CO4: Gain knowledge of the strengths and weakness of PHP.
	CO5: Implement Bash Shell Scripting.

Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:

Course Outcomes	Program Outcomes and Program Specific Outcomes													
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1	2	2	--	--	--	--	--	--	--	--	--	--	--	--
CO2	--	--	3	3	3	--	--	--	--	--	--	--	2	--
CO3	--	--	--	--	--	--	--	--	2	2	--	--	3	3
CO4	--	--	--	--	--	2	--	--	--	--	3	3	--	--
CO5	--	--	--	--	--	--	2	--	3	--	3	3	--	3

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Course Contents:

Unit	Contents	Hours
I	**Introduction to Scripts and Scripting Languages**–Scripts and Programs, Uses for Scripting Languages, Web Scripting. Java Script: Variables, Data Types, Operators, Conditional statements, Loops, Arrays, Functions, Objects-Predefined objects, accessing objects, object Methods.	8
II	**JavaScript programming of reactive web pages elements:** JavaScript Events-Mouse events, Keyboard events, Form events, window events, Event handlers, Frames, Form object, JavaScript Form Validation.	8
III	**Python**: variables, Operators, loops, Organizing python codes using functions, Packages, Lambda function, Reading Config files in python, read functions, read(), readline() and readlines(),write () and writelines(),Concept of class, object and instances, Inheritance, overlapping and overloading operators	8
IV	**PHP**: Data Types, Variables, Operators, Conditional statements, Loops, Arrays-Indexed Array, Associative Array, String Functions, Functions- Parameterized Function, Call by Value, Call by Reference, File Handling, PHP Form handling.	8
V	**Bash Shell Scripting**: Bash Introduction, using Variables and Comments, Read User Input, Pass Arguments to a Bash-Script, Functions, Decision Making, String and Numeric Comparisons.	8

Text Books	1.	The World of Scripting Languages, David Barron, Wiley Publications.
	2.	Learning PHP, MySQL, JavaScript, CSS&HTML5: A Step by Step Guide to Creating Dynamic Websites 3rdEdition, O'Reilly Publications.
	3.	Python: The Complete Reference, 1st Edition.
	4.	Bash Guide for Beginners, Machtelt Garrels, 2004

Reference Books	1.	The Ruby Programming Language, David Flanagan and Yukihiro Matsumoto, O'Reilly Publications
	2.	Beginning JavaScript with Dom scripting and AJAX, Russ Ferguson, Christian Heilmann, Apress.
	3.	Programming Perl, Larry Wall, T. Christiansen and J. Orwant, O'Reilly, SPD.
	4.	Open-source Web Development with LAMP using Linux Apache, MySQL, Perl and PHP, J. Lee and B. Ware (Addison Wesley) Pearson Education.
	5.	Python Distilled, David M. Beazley, 2021
	6.	Bash Pocket Reference: Help for Power Users and Sys Admins Arnold Robbins, 2016

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Course Title: **Engineering Economics and Industrial Management**										
Semester	III	Teaching Scheme				Evaluation Scheme				
						Theor			Practical	
Term	ODD	Th	Tu	Pr	Credits	TAE	CAE	ESE	INT	
Course Category	EEMC1	2	--	--	2	10	15	50	--	--
Course Code	23BTMBL201IT									
Teaching Mode	Offline	2 Hrs.			Total	75			-	
Duration of ESE	3 Hrs.					75				

Course Objectives	1. Understanding of basic knowledge of Economics and its application.
	2. Understanding of Management as discipline and its practices.
	3. Strengthening knowledge of management in the functional area of Marketing and
Course Outcomes	**CO1**: The students should be able to understand the basic concepts of Micro- Economics, which shall be helpful in their Engineering career.
	CO2: The students should be able to understand the basics concepts of Macro- Economics and its applications.
	CO3: The student should be able to understand different functions of Management and its importance in managing an organization.
	CO4: The student should be able to understand the relevance of Marketing of Product or Services and its applicability in profit maximization.
	C05: The student should be able to understand the importance of Financial Management and its applicability in Industrial scenario.

Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:

Course Outcomes	Program Outcomes and Program Specific Outcomes														
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PS O	PS O
CO1			**1**				**2**								
CO2				**1**			**2**								
CO3						**2**			**2**	**3**	**3**				
CO4			**2**								**2**				
CO5											**3**				

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Course Contents:

Unit	Contents	Hours
I	Demand, Utility and Indifference curves, approach to Analysis of demand, Elasticity of demand, Measure of demand elasticity, Factors of Production, Advertising elasticity. Market and Market Structures: Price and output determination under perfect competition, monopolistic competition, oligopoly & monopoly, Depreciation and methods for its determination.	7
II	Functions of central and commercial banks, Inflation, Deflation, Stagflation, Direct and Indirect Taxes, New economic policy, Liberalization, Globalization, Privatization, Monetary & Fiscal policies of the government, Meaning and phases of business cycles.	6
III	Definition, nature and scope of Management, Functions of management - Planning, rganizing, Directing, Controlling, Principles of management, Communication.	5
IV	Meaning of Marketing management, concepts of marketing, Marketing Mix, Service Marketing, Product Life Cycle, New Product Development, Pricing strategies, Channels of distribution, Promotion Mix	7
V	Meaning, nature and scope of Financial Management, Sources of Financing, Ratio Analysis. Time value of money.	5

Text Books	1.	Modern Economics Theory, by K.K. Dewett, S. Chand & company ltd., 3rd Edition, 2006
	2.	Essentials of Management by Harold Koontz & Hein & Weihrich Tata McGraw Hill Publishing, 7th Edition, 2008.
	3.	Marketing Management by Philip Kotler, Kevin Keller, 14th Edition, 2016.
	4.	Financial Management by M.Y. Khan & P.K. Jain, Tata McGraw Hill Publishing, 5th Edition, 2008.
E--Books	1.	http://164.100.133.129:81/econtent/Uploads/Managerial_Economics%20(1).pd f [Economics]
	2.	http://164.100.133.129:81/econtent/Uploads/Financial_Management.pdf [Financial Management]
Reference Books	1.	Management by Stephen P. Robbins Mary A. Coulter, 14th Edition.
	2.	Marketing Management by Ramaswamy V S and Namakumari, Macmillan India Ltd
	3.	Financial Management by I M Pandey, Vikas Publishing House, New Delhi.

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Course Title: **Content Designing and Media fundamentals**										
Semester	III	Teaching Scheme				Evaluation Scheme				
						Theory			Practical	
Term	ODD	Th	Tu	Pr	Credits	TAE	CAE	ESE	INT	EXT
Course Category	HE1/VEC1	2	--	--	2	10	15	50	--	--
Course Code	23BTSHL228									
Teaching Mode	Offline	2 Hrs.			Total	75			-	
Duration of ESE	3 Hrs.					75				

Course Objectives	1. To introduce students to the basics of Content Writing, the writing styles with relevant
	2. To nourish their creative content writing with appropriate methods and practices.
	3. To develop an overall understanding of digital marketing / online marketing platforms.
	4. To demonstrate the emerging trends in digital marketing &; the use of digital marketing Tools.
	5. To introduce students to the Social Media related content writing and also to critically assess the choice of visual aids
Course Outcomes	**CO1**: The skills to implement the concepts of Content Writing in their writing styles
	CO2: The knowledge of various styles and techniques of writing and editing
	CO3: The understanding of various online platforms and exploring the digital marketing strategies
	CO4: The evolving styles in digital marketing and its associated tools
	CO5: The prime choice of visual aids and the in par content writing via Social

Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:

Course Outcomes	Program Outcomes and Program Specific Outcomes														
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PS O	PS O
CO1									1	2					
CO2									1	3					
CO3										2	1				
CO4										2	1				
CO5									1	2	1				

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Course Contents:

Unit	Contents	Hours
I	The Fundamentals of Content Writing: 1 The concept of content writing and its significance- Types of Content Writing Principles and Process of Content Writing- Traits of a content writer- Print and Web content Writing	8
II	The Content Writing Theory: 2 The Method: Brief/ Conceive/Research/Structure/Format - Editing & Proof reading- Writing styles- Corporate Communication: B2B/B2C/Press Release/Newsletters- Formal & Informal Language	9
III	Basics of Digital Marketing: 3 Introduction to Digital Marketing- Website planning and Creation- Search Engine Optimization- Social Media Marketing- Web Analytics- Web Marketing and Remarketing- Design Essentials	8
IV	Social Media and Visual Aids: 4 Basics of Social Media and its related content writing- Public relations Infographics- Importance and relevance- Images and Screenshots- Videos, Memes, Gifs- Product demonstration	5
V	Plagiarism in Content Writing: What is Plagiarism- Importance of plagiarism free content writing- Plagiarism detection tools- Techniques to avoid plagiarism	5

Text Books	1.	Content Writing Step-By-Step by Joseph Robinson published in 2020-KDP Print US
	2.	Content Writing Handbook by Kounal Gupta published in 2021 – Henry Harvin
Reference Books	1.	The No-Fluff Guide to Writing Web Content by Alina Bradford Published in 2019- KDP Print US
	2.	Blog Writing: The Content Creation Blueprint by Anthony James Published in 2018- KDP Print US
E-Learning	1.	C IS FOR CONTENT by Fuzia

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Course Title: Cyber Ethics and Moral Responsibility										
Semester	III	Teaching Scheme				Evaluation Scheme				
						Theory			Practical	
Term	ODD	Th	Tu	Pr	Credits	TAE	CAE	ESE	INT	EXT
Course Category	HE1/VEC1	2	--	--	2	10	15	50	--	--
Course Code	3BTSHL229									
Teaching Mode	Offline	2 Hrs.			Total	75			--	
Duration of ESE	3 Hrs.					75				

Course Objectives	1. Define cyber ethics and Morality with how classic ethical frameworks relate to it.
	2. Apply critical thought to a wide variety of topics pertaining to cyber ethics.
	3. Clearly articulate arguments both for and against various cyber ethical cases and bullying.
	4. Demonstrate the ability to include ethical considerations in their decision-making.
	5. Examine the scope of intellectual property issues and the available protection measures.
Course Outcomes	**After the completion of the course, students shall be equipped with**
	CO1: Cyber Ethics and Morality with its related frameworks.
	CO2: Critical thinking in a varied cyber ethics topics.
	CO3: Articulate arguments and arrive clarity for and against cyber ethical cases. Being vocal and firm on the concern of Cyber bullying.
	CO4: Decision making skills by considering ethical scenarios and its relevant consequences.
	CO5: A better understanding of intellectual property issues and the protective measures.

Mapping of Course Outcomes with Program Outcomes and Program Specific Outcomes:

Course Outcome	Program Outcomes and Program Specific Outcomes														
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PS O 1	PS O 2	PS O 3
CO1						**1**		**3**	**1**			**1**			
CO2								**1**							
CO3								**3**		**2**					
CO4						**1**	**1**	**2**							
CO5							**1**		**1**						

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Course Contents:

Unit	Contents	Hours
1	**Introduction to the course:** Introduction to Cyber Ethics and Morality- The need of Cyber Ethics in current era- Ethical Concepts and Theories- Netiquettes-Developing Ethical Analytical skills and Values	7
2	**Ethical Perspectives as a User:** Freedom of Expression-Criminal Liability vs. Accountability- Code of Conduct- Moral Responsibility and Trust- Content Reliability- Decision Making and Reasoning Skills -Online Communities and its usages- Free speech and content control- Plagiarism and Email spam- Cyber-bullying	12
3	**Regulating Internet Privacy:** Personal Information on the Internet- Consumer Privacy on the Internet- Professional Ethics- Surveillance and Cyberspace – The Digital Divide- Emerging and converging technologies- Regulating commerce in cyberspace	7
4	**Intellectual Property:** Respecting Intellectual Property online- The domain of intellectual Property- Justifications and critiques- Trends of Intellectual property rights	4
5	**Cyber Ethics as a practice with case studies**	5

Text Books	1.	Cyber Ethics 4.0- Serving Humanity with values edited by Global Ethics.net in 2018
	2.	Raising Humans in a Digital World by Diana Graber- An Imprint of Hapercollins in 2019
Reference Books	1.	Cyber ethics: Social & Moral Issues in the Computer Age edited by Robert M Baird, Reagan Ramsower-Stuart E Rosenbaum in 2000
E-Learning	1.	Cyber Ethics for students and Youth-Education Beaureau- Online Site with Resources

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Course Title: Applied life skills for Progressive Excellence										
Semester	III	Teaching Scheme				Evaluation Scheme				
						Theory			Practical	
Term	ODD	Th	Tu	Pr	Credits	TAE	CAE	ESE	INT	EXT
Course Category	HE1/VEC1	2	--	--	2	10	15	50	--	--
Course Code	23BTSHL227									
Teaching Mode	Offline	2 Hrs.			Total	75			--	
Duration of ESE	3 Hrs.					75				

Course Objectives	1. To develop understanding of the fundamentals of life skills in students.
	2. To improve self-awareness and develop ways to face demands and challenges of life.
	3. To provide social-psychological and emotional foundations for the understanding of life skills.
	4. To foster social responsibility in students and enhance their positive and healthy behaviour.
	5. To carve the students with the opportunity to become active members of their community and has a lasting, positive impact on society at large.
Course Outcomes	**After the completion of the course, students shall be equipped with**
	CO1: The basic life skills towards self and Community as a whole and its varied approaches.
	CO2: The exposure to Self-awareness and face challenges based on life situations.
	CO3: A better understanding of life skills with social-psychological and emotional foundations.
	CO4: Social responsibility and exhibit enhancement in their positive and healthy behaviour.
	CO5: A deep sense of active membership of their community and a lasting, positive impact on

Mapping of Course Outcomes with Program Outcomes:

Course Outcome	Program Outcomes and Program Specific Outcomes														
	PO 1	PO 2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO1						**2**	**1**								
CO2								**1**	**2**			**2**			
CO3						**2**			**1**						
CO4						**1**	**1**	**2**		**1**					
CO5						**2**	**1**			**1**		**1**			

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Course Contents:

Unit	Contents	Hours
1	**Life skills for Individuals:** Self- Realization and managing self in different social context- Self- Direction -Introspection- Attitudes & Behavior- Expectation Management and capability Approach- Justifications Vs. Reasons-Learn to Struggle and Bounce Back	8
2	**Life skills for Relationships:** Pro-social Behavior and Aggression- Handling Parenting- Jealousy Negotiation and Refusal Skills - Networking with a purpose-Balancing Negative Human Traits – Confess and Confront-Developing Positive relationships- Conflict Management	8
3	**Life Skills for Youth** Peer Pressure- Substance abuse and Alcoholism- Depression and consequence handling- Suicide and skills to avoid ideation-Preparedness for life disasters- Thinking Skills- Approach towards Practical Living	7
4	**Deconstructing Life skills as a whole:** Emotion and Coping: Identifying and Managing Emotions/ Techniques to deal with Emotions – Risk and Resilience- Perspective & Challenges- Stress Management- Decision Making- Accepting Criticism	7
5	**Life skills for Society:** Community Service Volunteering- Evading Social Exclusion-Human Trafficking- Women and Social inclusion-Service Learning- Responsible Citizenship	5

Text Books	1.	Life skills by Dr. Usha Jain and Dr. Rajiv Kumar Jain Publisher: Vayu Education of India in 2014
	2.	Life skills for Teenagers by Dr. Rinita Jain Publisher: Notion Press in 2014
Reference Books	1.	The first book of Life Skills by Larry James Publisher: Embassy Books in 2006
	2.	Fundamentals of Management and Life Skills by Sunil B Rao, Manjunatha M K , Buela D, Sheema Shaheen by Vision Book House in 2020
E Learning	1.	Conover Resources- Life Skills

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Course Title: Minor Project										
Semester	III	Teaching Scheme				Evaluation Scheme				
						Theory			Practical	
Term	ODD	Th	Tu	Pr	Credits	TAE	CAE	ESE	INT	EXT
Course Category	CEP	--	--	4	2	--	--	--	50	--
Course Code	23BTITP205									
Teaching Mode	Offline	4 Hrs.			Total	-			50	
Duration of ESE	--					50				