



SRI KRISHNA INSTITUTE OF TECHNOLOGY

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#57, Chimney Hills, Hesaraghatta Main Road, Chikkabanavara Post, Bengaluru- 560090

Department of Computer science and engineering

Academic Year	: 2025-26	Course Name	: Essentials of Information Technology
Semester	: 2 nd "civil"	Course Code	: BESC104E/204E
Scheme	: 2025	L: T: P: S:C credits	: 3:0:0:0 2
Total Contact hours	: 40	CIE Marks	: 50
Course Plan Author	: PREMA C R	SEE Marks	: 50
Date	: 25/02/2026	Total Marks	: 100

Course Prerequisites:

- BASIC knowledge about computer and usage

Learning Objectives:

- Gain foundational knowledge of computer systems, software, networking, and data management.
- Develop skills in problem-solving, communication, and ethical IT practices.
- To know the concepts of HTML and design the Webpage's

Course Outcomes:

CO	At the end of the course, student should be able to . . .	Blooms' Level
CO1	: Illustrate different information representation and manipulation schemes.	L2
CO2	: Make use of Information Technology (IT) infrastructure for information exchange.	L2
CO3	: Apply basic software engineering concepts for Website and application development.	L3
CO4	: Develop queries for quick insert, access and updating of structured information.	L3
CO5	: Identify role of cybersecurity and ethics issues in Information Technology (IT).	L2

Blooms' Taxonomy:

L1	L2	L3	L4	L5	L6
Remembering	Understanding	Applying	Analyzing	Evaluating	Creating



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Program Outcomes:

PO1	:	Engineering knowledge	PO7	:	Ethics
PO2	:	Problem analysis	PO8	:	Individual and Collaborative Team work
PO3	:	Design/development of solutions	PO9	:	Communication
PO4	:	Conduct investigations of complex problems	PO10	:	Project management and finance
PO5	:	Modern tool usage	PO11	:	Life-long learning
PO6	:	The engineer and the world	PO12	:	

Program Specific Outcomes:

PSO1:	Enhancing the employ ability skills by making the students capable of qualifying national level competitive examinations
PSO2:	Inculcating in student's technical competencies to deal with practical aspects of civil engineering
PSO3:	Cognizance of social awareness and environmental necessity along with ethical responsibility to have a successful career and to become an entrepreneur.

CO-PO-PSO Mapping:

CO	Program Outcomes													
	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 12	PSO 1	PSO 2	PSO 3
CO1	2	1	2	-	-	-	-	-	-	-	-	2	-	-
CO2	2	1	2	-	-	-	-	-	-	-	-	-	-	-
CO3	2	1	2	-	-	-	-	-	-	-	-	-	2	-
CO4	2	1	2	-	-	-	-	-	-	-	-	-	-	-
CO5	2	2	2	-	-	1	2	-	-	-	1	-	-	2
Target														

CO	PO/ PSO	Correlation Weightage	Justification
CO1	PO1	2	Moderately mapped as it provides basic knowledge of the different way of data representation and manipulation
	PO2	1	Weakly mapped as it gives analysis of various methods of representation



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	PO3	2	Moderately correlated as it enables design and development of Solutions to the various way of data representation
CO2	PO1	2	Moderately mapped as it applies engineering and mathematical principles in information infra and exchange
	PO2	1	Weakly mapped as it develops problem analysis skills to select appropriate way of information exchange
	PO3	2	Moderately correlated as it provides design and development of Infrastructure and exchange solutions.
CO3	PO1	2	Moderately correlated as it applies SE knowledge to in various software developments models.
	PO2	1	Weakly mapped as it depicts the problem analysis regarding various SDLC models
	PO3	2	Moderately correlated as it provides design and development of Website and various SDLC models for software development
CO4	PO1	2	Moderately mapped as it applies engineering and mathematical principles in data base in management system
	PO2	1	Weakly mapped as it provides problem analysis in the data storage and retrieval in structured manner
	PO3	2	Moderately correlated as it provides design and development of Of relational database
CO5	PO1	2	Moderately mapped as it provides basic knowledge regarding cyber security
	PO2	2	Moderately mapped as it provides problem analysis regarding cyber security and ethics
	PO3	2	Moderately correlated as it provides design and development of some ethical issues.



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PO6	1	Weakly mapped as it provides necessity to follow The ethics in engineer and society
PO7	2	Moderately correlated as it provides various ethics issues in Information Technology (IT).
PO12	1	Weakly mapped as its need of lifelong learning about ethics in various phases

Course Content (Syllabus)

Module 1	CH
Data Storage: Bits and Their Storage, Main Memory, Mass Storage, Representing Information as Bit Patterns, The Binary System, Storing Integers, Storing Fractions. Data Manipulation: Computer Architecture, Machine Language, Program Execution, Arithmetic/Logic Instructions, Communicating with Other Devices. Textbook 1: Chapter-1 (1.1-1.7), Chapter-2 (2.1-2.5) RBT: L1, L2	08
Module 2	
Operating Systems: The History of Operating Systems, Operating System Architecture, Coordinating the Machine's Activities, Handling Competition Among Processes, Security. Algorithms: The Concept of an Algorithm, Algorithm Representation, Algorithm Discovery. Textbook 1: Chapter-3, Chapter-5 (5.1-5.3) RBT: L1, L2	08
Module 3	
Networking and the Internet: Network Fundamentals, The Internet, The World Wide Web, Internet Protocols, Security. Cybersecurity: Overview—What is Cybersecurity? Brief History of Cybersecurity Events, The Basic Information Security Model, Cyber Hygiene, Teams in Cybersecurity. Ethical Issues in Information Technology: Overview, Ownership Rules, Ethics and Online Content. Textbook 1: Chapter-4, Textbook 2: Chapter-16, Chapter-17 RBT: L1, L2	08
Module 4	



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Software Engineering: The Software Engineering Discipline, The Software Life Cycle, Software Engineering Methodologies, Modularity, Tools of the Trade.

Database Systems: Database Fundamentals, The Relational Model.

Textbook 1: Chapter-7 (7.1-7.5), Chapter-9 (9.1-9.2)

RBT: L1, L2

08

Module 5

Introduction to HTML and Website Development: What is HTML? Cascading Style Sheets (CSS), Website, Design and Storyboarding, Structure of a Website.

Computer Graphics: The Scope of Computer Graphics, Overview of 3D Graphics, Modeling, Rendering.

Textbook 2: Chapter-12.

Textbook 1: Chapter-10 (10.1-10.4)

L2

RBT: L1,

08



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Schedule of Instruction:

Class No	Topic	Date	RB T	CO	Mode
Module-1		Chapter Name			
1.	Introduction to the course handouts, brief of syllabus	26/2/2026	L1	CO1	L
2.	Data Storage: Bits and Their Storage, Main Memory	2/3/2026	L1	CO1	L
3.	Mass Storage, Representing Information as Bit Patterns	3/3/2026	L1	CO1	L
4.	The Binary System	5/3/2026	L1	CO1	L
5.	Storing Integers, Storing Fractions	9/3/2026	L1	CO1	L
6.	Data Manipulation: Computer Architecture	10/3/2026	L1	CO1	PPT / L
7.	Machine Language, Program Execution	12/3/2026	L1	CO1	PPT / L
8.	Arithmetic/Logic Instructions	16/3/2026	L2	CO1	PPT / L
9.	Communicating with Other Devices.	17/3/2026	L2	CO1	PPT / L
10.	Revision of concepts	23/3/2026			Quizzes / model qp
Module-2		Chapter Name			
11.	Operating Systems: The History of Operating Systems	24/3/2026	L2	CO2	PPT / L
12.	Operating System Architecture	26/3/2026	L2	CO2	PPT / L
13.	Operating System Architecture	30/3/2026	L2	CO2	PPT / L
14.	Coordinating the Machine's Activities	2/4/2026	L2	CO2	PPT / L
15.	Handling Competition Among Processes, Security	6/4/2026	L2	CO2	PPT / L
16.	Algorithms: The Concept of an Algorithm	7/4/2026	L2	CO2	L
17.	The Concept of an Algorithm	9/4/2026	L2	CO2	L
18.	Algorithm Representation, Algorithm Discovery	13/4/2026	L2	CO2	L
Module-3		Chapter Name			



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Class No	Topic	Date	RB T	CO	Mode
19.	Networking and the Internet: Network Fundamentals	16/4/2026	L2	CO2	FC
20.	The Internet, The World Wide Web,	27/4/2026	L2	CO2	FC
21.	Internet Protocols, Security	28/4/2026	L2	CO2	PPT / L
22.	Cyber security: Overview – What is Cyber security?	30/4/2026	L2	CO5	PPT / L
23.	Brief History of Cyber security Events,	4/5/2026	L2	CO5	PPT / L
24.	The Basic Information Security Model, Cyber Hygiene, Teams in Cyber security	5/5/2026	L2	CO5	PPT / L
25.	Ethical Issues in Information Technology: Overview	7/5/2026	L2	CO5	PPT / L
26.	Ownership Rules,	11/5/2026	L2	CO5	PPT / L
27.	Ethics and Online Content	12/5/2026	L2	CO5	PPT / L
Module-4 Chapter Name					
28.	Software Engineering: The Software Engineering Discipline,	14/5/2026	L3	CO3	PPT / L
29.	The Software Life Cycle	18/5/2026	L3	CO3	PPT / L
30.	Software Engineering Methodologies,	19/5/2026	L3	CO3	PPT / L
31.	Modularity, Tools of the Trade	19/5/2026	L3	CO3	PPT / L
32.	Database Systems: Database Fundamentals,	21/5/2026	L4	CO4	L
33.	The Significance of Database Systems, The Role of Schemas	25/5/2026	L4	CO4	L
34.	Database Management Systems, Database Models	25/5/2026	L4	CO4	L
35.	The Relational Mode	28/5/2026	L4	CO4	PPT / L
36.	Issues of Relational Design, Relational Operations	28/5/2026	L4	CO4	PPT / L



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Class No	Topic	Date	RB T	CO	Mode
Module-5		Chapter Name			
37.	Introduction to HTML and Website Development: Introduction to HTML	01/6/2026	L3	CO3	PPT / L
38.	Cascading Style Sheets (CSS)	01/6/2026	L3	CO3	PPT / L
39.	Website Design and Storyboarding	02/6/2026	L3	CO3	PPT / L
40.	Structure of a Website	02/6/2026	L3	CO3	PPT / L
41.	Computer Graphics: The Scope of Computer Graphics	04/6/2026	L3	CO3	PPT / L
42.	Overview of 3D Graphics	04/6/2026	L3	CO3	PPT / L
43.	Modeling	11/6/2026	L3	CO3	PPT / L
44.	Rendering, Introduction to full stack	11/6/2026	L3	CO3	PPT / L

Learning Activity -1: (Marks- 25) Practical Assignment (Individual)

1. Students must demonstrate the solutions to the course instructor and submit the record containing method (steps), program (if applicable), document (if applicable) and results/output.

Problem Description:

Lab	Topic
1.	Create files of specific types, changing file properties & permissions, search files based on criteria. Creating hierarchy of folders, folder paths, changing folder properties and related operations on folders. File compressions, file backup and cloud-based file management.
2.	Create word file with suitable content and performs various operations related to document Revision, Proofreading and references (As listed in the Textbook).
3.	Locate the templates available for a word processing application that you have access to. Search the templates for a "Resume." Review the "Resume" template of your choice. Identify all the word processing features used in the "Resume" template. Use the "Resume" template to create your own resume. As you fill out the template, be sure to use the application to check your spelling and grammar. Verify the print layout of your resume. Save the resume and print a copy
4.	Consider the following data: Student First Name, Student Last Name, Student Age, Student Grade, Student School, Telephone Number, Sport (Volleyball, Basketball, Softball, Baseball, Soccer, or Football). Considering the data required in the list above, create a spreadsheet in a



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Lab	Topic
	spreadsheet application you have access to. Add at least 10 rows of data to your spreadsheet. Once you add all the data to the spreadsheet, what is the average age for all the students? What formula did you use to calculate the average age?
5.	Add a chart to the above spreadsheet that illustrates the total number of students for each sport. Which sport has the highest number of students? What formula did you use to count the total number of students for each sport?
6.	Use the above spreadsheet to Analysing and Organizing Data with suitable filters, sorting, conditional formatting and pivot tables.
7.	Create a presentation (power point) using a presentation application you have access to that meets the requirements of marketing of brand-new product. Apply a theme, background, and professional layout for chosen product.
8.	Create a Web page with basic HTML elements (tags). Insert lists, images, drop down lists and tables
9.	Create a Personal Website and host it on a free cloud-based Web hosting. Personal Web site should cover your complete biodata and your social activities.
10.	Create a relational database model (MS Access or any other) for storing information about courses taken by students. Develop suitable queries to insert data onto tables, update fields, delete rows and query relevant information from the database model

Textbooks:

T1	1. J. Glenn Brookshear and Dennis Brylow, Computer Science: An Overview, 12th Edition, Pearson Education Limited, 2017. 2. Roy, Shambhavi; Daniel, Clinton; and Agrawal, Manish, "Fundamentals of Information Technology", Digital Commons at The University of South Florida (2023). https://digitalcommons.usf.edu/dit_tb_eng/19
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Reference books:

R1	V. Rajaraman, "Introduction to Information Technology", Third Edition, PHI Learning, 2018.
R2	Pelin Aksoy, Information Technology in Theory, First Edition, Cengage.

Web links and Video Lectures (e-Resources):

1.	WEBSITE LINK : https://sites.google.com/skit.org.in/1besc104e/course-hand-out
2.	Information Technology: https://onlinecourses.swayam2.ac.in/cec20_cs05/preview
3.	Computer Organization and Architecture: https://nptel.ac.in/courses/106103068
4.	Introduction To Internet: https://nptel.ac.in/courses/106105084



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Assessment Schedule:

S.N	Assessment Type	Content	CO	Duration	Marks	Date
1.	CIE 1 (Theory)	M1 , M2, M3(half)	CO1, CO2, CO5	1.5 hr	50(scaled down to 25)	21/4/26
2.	CIE 2 (Theory)	M3(half), M4, M5	CO3, CO4, CO5	1.5 hr		3/6/26
3.	Practical Assignment on computer application activities.	M1-M5 (Activity 1 to 11)	CO1 to CO5		25	
4.	Semester End Examination	M1 to M5	CO1 to CO5	3hr	100(scaled down to 50)	

RB – Text Book/Reference Book, ***L** – Lecture, **V**- Videos or any other mode, ***RBT** – Revised Blooms' Taxonomy, **L: T: P: C** – Theory/Lecture: Tutorial: Practical/Drawing: Credits, **SEE**: Semester End Examination, **CIE**: Continuous Internal Evaluation, **Seminar**: Group of 6-8 students, **Module** 1,2,3,4 & 5,

The weightage of Continuous Internal Evaluation (**CIE**) is 50% and for Semester End Exam (**SEE**) is 50%. The minimum passing mark for the CIE is 40% of the maximum marks (20 marks out of 50) and for the SEE minimum passing mark is 35% of the maximum marks (18 out of 50 marks). A student shall be deemed to have satisfied the academic requirements and earned the credits allotted to each subject/ course if the student secures a **minimum of 40% (40 marks out of 100)** in the **sum total** of the CIE (Continuous Internal Evaluation) and SEE (Semester End Examination) taken together.

Faculty In charge
Prema C R

Course Coordinator
Prema C R

HoD



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