



SRI KRISHNA COLLEGE OF ENGINEERING AND TECHNOLOGY

Kuniamuthur, Coimbatore. Tamil Nadu 641008

(An Autonomous Institution Affiliated to Anna University, Chennai)



DEPARTMENT OF INFORMATION TECHNOLOGY



CURRICULUM AND SYLLABI
B.TECH. INFORMATION TECHNOLOGY
REGULATION 2022
(2023-2027 BATCH)

SRI KRISHNA COLLEGE OF ENGINEERING AND TECHNOLOGY
KUNIAMUTHUR, COIMBATORE-641008

DEPARTMENT OF INFORMATION TECHNOLOGY

Department Vision

To impart quality education by providing opportunities for shaping and transforming students into eminent and ethical IT professionals, researchers, innovators and entrepreneurs with requisite skill set to excel in the dynamic field of IT.

Department Mission

- To provide state of art computer education.
- To equip staff and students with the latest skills in the field
- To keep pace with new invention and technology development, thereby set the trend for the futuristic information technology education and research with ethical and moral values.

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DEPARTMENT OF INFORMATION TECHNOLOGY

PROGRAMME OUTCOMES

1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

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TECHNOLOGY KUNIAMUTHUR, COIMBATORE-641008**

DEPARTMENT OF INFORMATION TECHNOLOGY

PROGRAMME EDUCATIONAL OBJECTIVES

PEO 1: Graduates will have a profound knowledge in the various programming languages and possess globally competent skill sets by inculcating continuous up gradation of their technical skills and personality traits.

PEO 2: Graduates will be able to analyze and find solutions to various applications and reconcile the dynamic trends in the field of Information Technology.

PEO 3: Graduates will contribute to the society by their ethical behaviour and effective teamwork.

PEO 4: Graduates will excel with different skills like effective communication, leadership qualities, and provide smart solutions in business environment

Mapping of PO's to PEO's

Programme Educational Objectives	Programme Outcomes											
	1	2	3	4	5	6	7	8	9	10	11	12
PEO 1	3	3	3	3	3	3	3	2	1	2	2	3
PEO 2	3	3	3	3	3	2	2	2	2	1	2	2
PEO 3	2	2	2	2	2	2	2	3	3	3	2	1
PEO 4	2	2	3	2	2	2	3	3	3	3	3	3

1	Reasonably agreed	2	Moderately agreed	3	Strongly agreed
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PROGRAMME SPECIFIC OUTCOMES

PSO 1:

Graduates will demonstrate multidisciplinary knowledge for problem solving by creating solutions for product based and application-based software for the advancement of the society.

PSO 2:

Graduates attain advance knowledge in Information and Communication Technologies (ICT) thereby creating real time solutions for different projects by using modern tools prevailing in the current trends.

PSO 3:

Graduates will exhibit state of the art technologies by applying their knowledge in various programming skills to overcome the demand of sustainable development.

SEMESTER I							
S No.	Course Code	Course	L/T/P	Contact hrs/week	Credit	Ext/Int	Category
1.	23MA101	Mathematics I	3/1/0	4	4	60/40	BSC
2.	23TA101	Heritage of Tamils / தமிழர் மரபு	1/0/0	1	1	60/40	HSMC
3.	23EC111	Digital Logic Design and Computer Architecture	3/1/0	4	4	60/40	ESC
4.	23IT101	Application Development Practices	1/0/4	5	3	50/50	ESC
5.	23CS101	Problem Solving using C++	1/0/4	5	3	50/50	ESC
6.	23EN101	Oral and Written Communication Skills	2/0/2	4	3	50/50	HSMC
7.	23MC101	Mandatory Course – I (Induction Programme)	3 Weeks			0/100	MC
Total				23	18	700	

SEMESTER II							
S No.	Course Code	Course	L/T/P	Contact hrs/week	Credit	Ext/Int	Category
1.	23MA201	Mathematics II	3/1/0	4	4	60/40	BSC
2.	23AS101	Applied Science	4/0/0	4	4	60/40	BSC
3.	23TA201	Tamils and Technology / தமிழரும் தொழில்நுட்பமும்	1/0/0	1	1	60/40	HSMC
4.	23CS201	Data Structures and Algorithms	1/0/4	5	3	50/50	PCC
5.	23CD201	Database Management Systems	1/0/4	5	3	50/50	PCC
6.	23CY201	Java Programming	1/0/4	5	3	50/50	PCC
7.	23CD202	Object Oriented Analysis and Design	3/0/2	5	4	50/50	PCC
8.	23AS102	Applied Science Laboratory	0/0/4	4	2	40/60	BSC
9.	23MC102	Mandatory Course II (Environmental Sciences)	1/0/0	1	0	0/100	MC
Total				34	24	900	

SEMESTER III							
S No.	Course Code	Course	L/T/P	Contact hrs/week	Credit	Ext/Int	Category
1.	23MA301	Mathematical Foundations for Computer Science	3/1/0	4	4	60/40	BSC
2.	23IT301	Web Technology using React	1/0/4	5	3	50/50	PCC
3.	23CS301	Advanced Java Programming	1/0/4	5	3	50/50	PCC
4.	23AD301	Design and Analysis of Algorithms	1/0/4	5	3	50/50	PCC
5.	23CD301	Software Product Design	3/0/2	5	4	50/50	ESC
6.	23CY202	Operating Systems	3/0/2	5	4	50/50	PCC
7.	23MCXXX	Mandatory Course-III	1/0/0	1	0	0/100	MC
Total				30	21	700	

SEMESTER IV							
S No.	Course Code	Course	L/T/P	Contact hrs/week	Credit	Ext/Int	Category
1.	23GE301	Universal Human Values	3/0/0	3	3	60/40	HSMC
2.	23IT401	Formal Languages and Automata Theory	3/1/0	4	4	60/40	PCC
3.	23CD401	Algorithms of Internet	3/1/0	4	4	60/40	PCC
4.	23IT402	Web Frameworks using Rest API	1/0/4	5	3	50/50	PCC
5.	23AD403	Managing Cloud and Containerization	1/0/4	5	3	50/50	PCC
6.	23CS402	Software Testing	1/0/4	5	3	50/50	PCC
7.	23MCXXX	Mandatory Course-IV	1/0/0	1	0	0/100	MC
Total				27	20	700	

SEMESTER V							
S No.	Course Code	Course	L/T/P	Contact hrs/week	Credit	Ext/Int	Category
1.	23xxxx	Open Elective – I	3/0/0 (or) 1/0/4 (or) 0/0/6	3/5/6	3	60/40 (or) 50/50 (or) 40/60	OEC
2.	23IT501	Internet of Things	3/0/0	3	3	60/40	PCC
3.	23CD501	Product Analytics	3/1/0	4	4	60/40	PCC
4.	23xxxx	Professional Elective-I	3/0/0 (or) 1/0/4 (or) 0/0/6	3/5/6	3	60/40 (or) 50/50 (or) 40/60	PEC
5.	23xxxx	Professional Elective-II	3/0/0 (or) 1/0/4 (or) 0/0/6	3/5/6	3	60/40 (or) 50/50 (or) 40/60	PEC
6.	23CY101	Networking and Communication	3/0/2	5	4	50/50	ESC
7.	23IT502	Internet of Things Laboratory	0/0/4	4	2	40/60	PCC
8.	23IT503	Mini Project	0/0/4	4	2	40/60	PW
Total				29	24	800	

SEMESTER VI							
S No.	Course Code	Course	L/T/P	Contact hrs/week	Credit	Ext/Int	Category
1.	23IT601	Machine Learning using Python	3/0/0	3	3	60/40	PCC
2.	23IT602	Generative AI	3/1/0	4	4	60/40	PCC
3.	23xxxx	Emerging Elective - 1	3/0/2	5	4	50/50	EEC
4.	23xxxx	Professional Elective-III	3/0/0 (or) 1/0/4 (or) 0/0/6	3/5/6	3	60/40 (or) 50/50 (or) 40/60	PEC
5.	23xxxx	Professional Elective-IV	3/0/0 (or) 1/0/4 (or) 0/0/6	3/5/6	3	60/40 (or) 50/50 (or) 40/60	PEC
6.	23IT603	Data Engineering	3/0/2	5	4	50/50	PCC
7.	23IT604	Machine Learning using Python Laboratory	0/0/4	4	2	40/60	PCC
Total				27	23	700	

SEMESTER VII							
S No.	Course Code	Course	L/T/P	Contact hrs/week	Credit	Ext/Int	Category
1.	23IT701	Computational Biology	3/0/0	3	3	60/40	PCC
2.	23xxxx	Open Elective - II	3/0/0 (or) 1/0/4 (or) 0/0/6	3/5/6	3	60/40 (or) 50/50 (or) 40/60	OEC
3.	23xxxx	Emerging Elective - II	3/0/2	5	4	60/40	EEC
4.	23xxxx	Professional Elective - V	3/0/0 (or) 1/0/4 (or) 0/0/6	3/5/6	3	60/40 (or) 50/50 (or) 40/60	PEC
5.	23xxxx	Professional Elective - VI	3/0/0 (or) 1/0/4 (or) 0/0/6	3/5/6	3	60/40 (or) 50/50 (or) 40/60	PEC
6.	23xxxx	Principles of Management	3/0/0	3	3	60/40	HSMC
7.	23EES01	Employability Enhancement Skills			2	0/100	EES
Total				20	21	700	

SEMESTER VIII							
S No.	Course Code	Course	L/T/P	Contact hrs/week	Credit	Ext/Int	Category
PROJECT WORK							
1.	23IT801	Project	0/0/24	24	12	40/60	PW
Total				24	12	100	

HUMANITIES AND MANAGEMENT COURSES (11 Credits)

S. No	Course Code	Course Title	L/T/P	Contact Hrs/Wk	Credits	Category
1.	23EN101	Oral and Written Communication Skills	2/0/2	4	3	HSMC
2.	23GE301	Universal Human Values	3/0/0	3	3	HSMC
3.	23TA101	Heritage of Tamils	1/0/0	1	1	HSMC
4.	23TA201	Tamils and Technology	1/0/0	1	1	HSMC
5.	23xxxx	Principles of Management	3/0/0	3	3	HSMC

BASIC SCIENCE COURSES (18 Credits)

S. No	Course Code	Course Title	L/T/P	Contact Hrs/Wk	Credits	Category
1.	23MA101	Mathematics I	3/1/0	4	4	BSC
2.	23MA201	Mathematics II	3/1/0	4	4	BSC
3.	23AS101	Applied Science	4/0/0	4	4	BSC
4.	23AS102	Applied Science Laboratory	0/0/4	4	2	BSC
5.	23MA301	Mathematical Foundations for Computer Science	3/1/0	4	4	BSC

ENGINEERING SCIENCE COURSES (18 Credits)

S. No	Course Code	Course Title	L/T/P	Contact Hrs/Wk	Credits	Category
1	23IT101	Application Development Practices	1/0/4	5	3	ESC
2.	23CS101	Problem Solving using C++	1/0/4	5	3	ESC
3.	23EC111	Digital Logic Design and Computer Architecture	3/1/0	4	4	ESC
4.	23CD301	Software Product Design	3/0/2	5	4	ESC
5.	23CY101	Networking and Communication	3/0/2	5	4	ESC

PROFESSIONAL CORE COURSES (68 Credits)

S. No	Course Code	Course Title	L/T/P	Contact Hrs/Wk	Credits	Category
1.	23CS201	Data Structures and Algorithms	1/0/4	5	3	PCC
2.	23CD201	Database Management Systems	1/0/4	5	3	PCC
3.	23CY201	Java Programming	1/0/4	5	3	PCC
4.	23IT301	Web Technology using React	1/0/4	5	3	PCC
5.	23CS301	Advanced Java Programming	1/0/4	5	3	PCC
6.	23CY202	Operating Systems	3/0/2	5	4	PCC
7.	23AD301	Design and Analysis of Algorithms	1/0/4	5	3	PCC
8.	23IT402	Web Frameworks using Rest API	1/0/4	5	3	PCC
9.	23AD403	Managing Cloud and Containerization	1/0/4	5	3	PCC
10.	23CS402	Software Testing	1/0/4	5	3	PCC
11.	23CD202	Object Oriented Analysis and Design	3/0/2	5	4	PCC
12.	23CD401	Algorithms of Internet	3/1/0	4	4	PCC
13.	23IT401	Formal Languages and Automata Theory	3/1/0	4	4	PCC
14.	23IT501	Internet of Things	3/0/0	3	3	PCC
15.	23IT502	Internet of Things Laboratory	0/0/4	4	2	PCC
16.	23CD501	Product Analytics	3/1/0	4	4	PCC
17.	23IT602	Generative AI	3/1/0	4	4	PCC
18.	23IT603	Data Engineering	3/0/2	5	4	PCC
19.	23IT601	Machine Learning using Python	3/0/0	3	3	PCC
20.	23IT604	Machine Learning using Python Laboratory	0/0/4	4	2	PCC
21.	23IT701	Computational Biology	3/0/0	3	3	PCC

PROFESSIONAL ELECTIVE COURSES

S. No	Course Code	Course Title	L/T/P	Contact Hrs/Wk	Credits	Category
Software Development						
1.	23AD903	App Development	0/0/6	6	3	PEC
2.	23IT901	UI/UX Application Development	3/0/0	3	3	PEC
3.	23CS901	Cloud Services and Integration	3/0/0	3	3	PEC
4.	23IT902	Advanced Application Development	0/0/6	6	3	PEC
5.	23IT903	R Programming	3/0/0	3	3	PEC
6.	23IT904	Open Source Systems	3/0/0	3	3	PEC
7.	23CS902	Principles of Compiler Design	3/0/0	3	3	PEC
Data Science and Computational Intelligence						
1.	23CS911	Fundamentals of Data Science	3/0/0	3	3	PEC

2.	23AD914	Predictive Analytics	3/0/0	3	3	PEC
3.	23IT911	Data Warehousing and Data Mining	3/0/0	3	3	PEC
4.	23IT912	Streaming Analytics	3/0/0	3	3	PEC
5.	23IT913	Cognitive Systems and Analytics	3/0/0	3	3	PEC
6.	23CS913	Knowledge Management Systems	3/0/0	3	3	PEC
7.	23AD916	Computer Vision	3/0/0	3	3	PEC
Networks & Security						
1.	23IT921	Cyber Security	3/0/0	3	3	PEC
2.	23AD921	Ethical Hacking	3/0/0	3	3	PEC
3.	23CS921	Cyber Threats and Vulnerabilities	3/0/0	3	3	PEC
4.	23CY403	Auditing IT Infrastructure for Compliance	3/0/0	3	3	PEC
5.	23IT922	Wireless Sensor Networks and its Applications	3/0/0	3	3	PEC
6.	23IT923	Mobile Adhoc Networks	3/0/0	3	3	PEC
7.	23IT924	Blockchain Technology	3/0/0	3	3	PEC

OPEN ELECTIVE COURSES

S. No	Course Code	Course Title	L/T/P	Contact Hrs/Wk	Credits	Category
1.	23IT001	Mobile Applications Development using Android	3/0/0	3	3	OEC
2.	23IT002	REST API using Spring Boot	0/0/6	6	3	OEC
3.	23IT003	Blockchain Essentials	3/0/0	3	3	OEC
4.	23IT004	Security of Connected Device	1/0/4	5	3	OEC
5.	23IT005	React	0/0/6	6	3	OEC
6.	23IT006	Cloud Computing	1/0/4	5	3	OEC

EMERGING ELECTIVE COURSES

S. No	Course Code	Course Title	L/T/P	Contact Hrs/Wk	Credits	Category
Emerging Elective Courses						
1.	23IT007	NoSQL Data Modeling	3/0/2	5	4	EEC
2.	23CS007	Node JS	3/0/2	5	4	EEC
3.	23IT008	AR / VR Programming	3/0/2	5	4	EEC
4.	23CD007	Data Visualization	3/0/2	5	4	EEC
5.	23CY007	Application Security	3/1/0	4	4	EEC

EMPLOYABILITY ENHANCEMENT SKILLS (2 Credits)

S. No	Course Code	Course Title	Credits	Category
1.	23EES01	Employability Enhancement Skills	2	EES

MANDATORY COURSES

S.No	Course Code	Course Title	Category
1.	23MC101	Induction Programme	MC
2.	23MC102	Environmental Sciences	MC
3.	23MC103	Soft Skills	MC
4.	23MC105	General Aptitude	MC
5.	23MC106	Life Skills and Ethics	MC
6.	23MC107	Stress Management	MC
7.	23MC108	Constitution of India	MC
8.	23MC109	Essence of Indian Traditional Knowledge	MC

VALUE ADDED COURSES

S. No	Course Code	Course Title	Credits	Category
1.	23VA900	Application Development using Flutter	1	VAC
2.	23VA901	Ruby on Rails	1	VAC
3.	23VA130	Effective Communication Skills	2	VAC

SCHEME OF CREDIT DISTRIBUTION – SUMMARY

S. No	Stream	Credits / Semester								Credits	AICTE Norms
		I	II	III	IV	V	VI	VII	VIII		
1.	Humanities (HSMC)	4	1		3			3		11	16
2.	Basic Sciences (BSC)	4	10	4						18	23
3.	Engineering Sciences (ESC)	10		4		4				18	29
4.	Professional Core (PCC)		13	13	17	9	13	3		68	59
5.	Professional Electives (PEC)					6	6	6		18	12
6.	Open Electives (OEC)					3		3		6	9
7.	Emerging Elective (EEC)						4	4		8	
8.	Project Work (PW)					2			12	14	15
9.	Employability Enhancement Skills (EES)							2		2	
10.	Mandatory Course (MC)										Non-Credit
Total		18	24	21	20	24	23	21	12	163	
AICTE (CSE)		18	23	23	21	20	23	20	15		163