SRI KRISHNA COLLEGE OF ENGINEERING AND TECHNOLOGY
An Autonomous Institution | Approved by AICTE | Affiliated to Anna University | Accredited by NAAC with A++ Grade
Kuniamuthur, Coimbatore – 641008
Phone : (0422)-2678001 (7 Lines) | Email : info@skcet.ac.in | Website : www.skcet.ac.in

DEPARTMENT OF INFORMATION TECHNOLOGY

CURRICULUM AND SYLLABI

B.TECH. INFORMATION TECHNOLOGY

REGULATION 2022

(2024-2028 BATCH)

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DEPARTMENT OF INFORMATION TECHNOLOGY

Institution Vision

- To Produce Globally Competitive Engineers with High Ethical Values and Social Responsibilities.

Institution Mission

- To impart the highest quality state-of-the-art technical education by providing impetus to innovation, research, and development and empowering students with entrepreneurship skills
- To instill ethical values, imbibe a sense of social responsibility, and strive for societal well-being.
- To identify the needs of society and offer sustainable solutions through outreach programs.

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.

SRI KRISHNA COLLEGE OF ENGINEERING AND 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

SRI KRISHNA COLLEGE OF ENGINEERING AND TECHNOLOGY

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DEPARTMENT OF INFORMATION TECHNOLOGY

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.	23AS101	Applied Science	4/0/0	4	4	60/40	BSC
3.	23SB101	Engineering Biology	3/0/0	3	3	60/40	BSC
4.	23TA101	Heritage of Tamils / தமிழர் மரபு	1/0/0	1	1	60/40	HSMC
5.	23EC111	Digital Logic Design and Computer Architecture	3/1/0	4	4	60/40	ESC
6.	23IT101	Application Development Practices	1/0/4	5	3	50/50	ESC
7.	23CS101	Problem Solving using C++	1/0/4	5	3	50/50	ESC
8.	23AS102	Applied Science Laboratory	0/0/4	4	2	40/60	BSC
9.	23MC101	Mandatory Course – I (Induction Programme)	3 Weeks			0/100	MC
			Total	**30**	**24**	**900**	

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.	23TA201	Tamils and Technology / தமிழரும் தொழில்நுட்பமும்	1/0/0	1	1	60/40	HSMC
3.	23CS201	Data Structures and Algorithms	1/0/4	5	3	50/50	PCC
4.	23CD201	Database Management Systems	1/0/4	5	3	50/50	PCC
5.	23CY203	Programming in Java	1/0/4	5	3	50/50	PCC
6.	23EN101	Oral and Written Communication Skills	2/0/2	4	3	50/50	HSMC
7.	23CD202	Object Oriented Analysis and Design	3/0/2	5	4	50/50	PCC
8.	23MC102	Mandatory Course II (Environmental Sciences)	1/0/0	1	0	0/100	MC
			Total	**30**	**21**	**800**	

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.	23CS302	Python Programming	1/0/4	5	3	50/50	PCC
4.	23AD402	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.	23CS402	Algorithms of Internet	3/1/0	4	4	60/40	PCC
4.	23AD403	Managing Cloud and Containerization	1/0/4	5	3	50/50	PCC
5.	23IT402	Web Frameworks using Rest API	0/0/4	4	2	40/60	PCC
6.	23IT403	Data Communications and Computer Networks	3/0/2	5	4	50/50	ESC
7.	23ME305	Design Thinking and Idea Lab	0/0/2	2	1	40/60	HSMC
8.	23MCXXX	Mandatory Course-IV	1/0/0	1	0	0/100	MC
			Total	**28**	**21**	**800**	

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	3	3	60/40	OEC
2.	23IT501	Cryptography and Network Security	3/1/0	4	4	60/40	PCC
3.	23CS601	Artificial Intelligence	3/0/0	3	3	60/40	PCC
4.	23xxxx	Professional Elective-I	0/0/6	6	3	40/60	PEC
5.	23xxxx	Professional Elective-II	3/0/0	3	3	60/40	PEC
6.	23CS502	Software Testing	1/0/4	5	3	50/50	PCC
7.	23CS503	Principles of Compiler Design	3/0/2	5	4	50/50	PCC
			Total	**29**	**23**	**700**	

SEMESTER VI							
S No.	**Course Code**	**Course**	**L/T/P**	**Contact hrs/week**	**Credit**	**Ext/Int**	**Category**
1.	23CS602	Machine Learning Techniques	3/0/0	3	3	60/40	PCC
2.	23IT601	Cyber Security	3/0/0	3	3	60/40	PCC
3.	23IT602	User Experience Design	3/0/0	3	3	60/40	PCC
4.	23xxxx	Professional Elective-III	3/0/0	3	3	60/40	PEC
5.	23xxxx	Professional Elective-IV	3/0/0	3	3	60/40	PEC
6.	23AD401	Data Engineering	3/1/0	4	4	60/40	PCC
7.	23CS603	Machine Learning Techniques Laboratory	0/0/3	3	1.5	40/60	PCC
8.	23IT603	Mini Project	0/0/4	4	2	40/60	PW
			Total	**26**	**22.5**	**800**	

SEMESTER VII							
S No.	Course Code	Course	L/T/P	Contact hrs/week	Credit	Ext/Int	Category
1.	23xxxx	Open Elective - II	3/0/0	3	3	60/40	OEC
2.	23IT702	Internet of Things	3/0/0	3	3	60/40	PCC
3.	23xxxx	Emerging Elective - I	3/0/0	3	3	60/40	EEC
4.	23xxxx	Professional Elective - V	3/0/0	3	3	60/40	PEC
5.	23xxxx	Principles of Management	3/0/0	3	3	60/40	HSMC
6.	23IT703	Internet of Things Laboratory	0/0/3	3	1.5	40/60	PCC
7.	23EES01	Employability Enhancement Skills			2	0/100	EES
			Total	**18**	**18.5**	**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 (12 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
6.	23ME305	Design Thinking and Idea Lab	0/0/2	2	1	HSMC

BASIC SCIENCE COURSES (21 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
6.	23SB101	Engineering Biology	3/0/0	3	3	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.	23IT403	Data Communications and Computer Networks	3/0/2	5	4	ESC

PROFESSIONAL CORE COURSES (72 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.	23CY203	Programming in Java	1/0/4	5	3	PCC
4.	23IT301	Web Technology using React	1/0/4	5	3	PCC
5.	23CS302	Python Programming	1/0/4	5	3	PCC
6.	23CY202	Operating Systems	3/0/2	5	4	PCC
7.	23AD402	Design and Analysis of Algorithms	1/0/4	5	3	PCC
8.	23IT402	Web Frameworks using Rest API	0/0/4	4	2	PCC
9.	23AD403	Managing Cloud and Containerization	1/0/4	5	3	PCC
10.	23CS502	Software Testing	1/0/4	5	3	PCC
11.	23CD202	Object Oriented Analysis and Design	3/0/2	5	4	PCC
12.	23CS402	Algorithms of Internet	3/1/0	4	4	PCC
13.	23IT401	Formal Languages and Automata Theory	3/1/0	4	4	PCC
14.	23IT702	Internet of Things	3/0/0	3	3	PCC
15.	23IT501	Cryptography and Network Security	3/1/0	4	4	PCC
16.	23IT703	Internet of Things Laboratory	0/0/3	3	1.5	PCC
17.	23CS503	Principles of Compiler Design	3/0/2	5	4	PCC
18.	23CS601	Artificial Intelligence	3/0/0	3	3	PCC
19.	23CS602	Machine Learning Techniques	3/0/0	3	3	PCC
20.	23IT601	Cyber Security	3/0/0	3	3	PCC
21.	23IT602	User Experience Design	3/0/0	3	3	PCC
22.	23AD401	Data Engineering	3/1/0	4	4	PCC
23.	23CS603	Machine Learning Techniques Laboratory	0/0/3	3	1.5	PCC

PROFESSIONAL ELECTIVE VERTICAL COURSES

S. No	Course Code	Course Title	L/T/P	Contact Hrs/Wk	Credits	Category
Vertical – I Cloud Computing & Data Storage Technologies						
1.	23CD901	Data Virtualization	3/0/0	3	3	PEC
2.	23IT901	Cloud Services and Integration	3/0/0	3	3	PEC
3.	23CY901	Security and Privacy in Cloud	3/0/0	3	3	PEC
4.	23AD901	Storage Technologies	3/0/0	3	3	PEC
5.	23CS901	Software Defined Networks	3/0/0	3	3	PEC
6.	23CB901	Stream Processing	3/0/0	3	3	PEC

Vertical – II Applied Artificial Intelligence						
1.	23IT911	Intelligent Multiagent and Expert Systems	3/0/0	3	3	PEC
2.	23AD911	App Development	0/0/6	6	3	PEC
3.	23CY911	ETL Tools	3/0/0	3	3	PEC
4.	23CS911	Statistical Pattern Recognition	3/0/0	3	3	PEC
5.	23CD911	Stochastic and Network Control	3/0/0	3	3	PEC
6.	23AD912	Bayesian Data Analysis	3/0/0	3	3	PEC
Vertical – III Information Security						
1.	23IT921	Cyber Threats and Vulnerabilities	3/0/0	3	3	PEC
2.	23IT922	Cyber Physical Systems	3/0/0	3	3	PEC
3.	23IT923	Ethical Hacking and Auditing Frameworks	3/0/0	3	3	PEC
4.	23CY921	Data Privacy and Security	3/0/0	3	3	PEC
5.	23CY922	Cyber Crime and Forensics	3/0/0	3	3	PEC
6.	23CY923	Digital and Mobile Forensics	3/0/0	3	3	PEC
Vertical – IV Data Analytics						
1.	23IT931	NLP in Analytics	3/0/0	3	3	PEC
2.	23IT932	Deep Learning Techniques	3/0/0	3	3	PEC
3.	23IT933	Cognitive Systems and Analytics	3/0/0	3	3	PEC
4.	23CS931	Big Data Analytics	3/0/0	3	3	PEC
5.	23CD931	Social Network Analysis	3/0/0	3	3	PEC
6.	23CY931	Exploratory Data analytics	3/0/0	3	3	PEC
7.	23CS932	Data Science with Python	3/0/0	3	3	PEC
Vertical – V Networks and Communication						
1.	23IT941	Wireless Sensor Networks and its Applications	3/0/0	3	3	PEC
2.	23IT942	Mobile Adhoc Networks	3/0/0	3	3	PEC
3.	23IT943	Wireless Networks	3/0/0	3	3	PEC
4.	23IT944	Network Protocols and Algorithms	3/0/0	3	3	PEC
5.	23IT945	Network Design and Management	3/0/0	3	3	PEC
6.	23IT946	Wireless and Mobile Communication	3/0/0	3	3	PEC
7.	23IT947	Advanced Mobile Communication	3/0/0	3	3	PEC
8.	23IT948	Digital Communication Systems	3/0/0	3	3	PEC
9.	23IT949	Communication Systems Engineering	3/0/0	3	3	PEC
Vertical VI - Blockchain						
1.	23IT951	Principles of Cryptography	3/0/0	3	3	PEC
2.	23IT952	Blockchain Technology	3/0/0	3	3	PEC
3.	23IT953	IoT and Blockchain	3/0/0	3	3	PEC
4.	23IT954	Cryptocurrencies and Blockchain Technology	3/0/0	3	3	PEC
5.	23IT955	Fundamentals of Ethereum	3/0/0	3	3	PEC
6.	23IT956	AI and Blockchain	3/0/0	3	3	PEC
7.	23IT957	Blockchain Business Models	3/0/0	3	3	PEC
8.	23IT958	Smart Contracts and Application Development	3/0/0	3	3	PEC
9.	23IT959	Bitcoin Essentials and Use Cases	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	Fundamentals of Python Programming	1/0/4	5	3	OEC
5.	23IT005	Web Development using 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	3/0/0	3	3	EEC
2.	23CS007	Node JS	3/0/0	3	3	EEC
3.	23IT008	AR / VR Programming	3/0/0	3	3	EEC
4.	23CD007	Data Visualization	3/0/0	3	3	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)	1	4		4			3		12	**16**
2.	Basic Sciences (BSC)	13	4	4						21	**23**
3.	Engineering Sciences (ESC)	10		4	4					18	**29**
4.	Professional Core (PCC)		13	13	13	14	14.5	4.5		72	**59**
5.	Professional Electives (PEC)					6	6	3		15	**12**
6.	Open Electives (OEC)					3		3		6	**9**
7.	Emerging Elective (EEC)							3		3	
8.	Project Work (PW)						2		12	14	**15**
9.	Employability Enhancement Skills (EES)							2		2	
10.	Mandatory Course (MC)										**Non-Credit**
Total		24	21	21	21	23	22.5	18.5	12	**163**	
AICTE (CSE)		**18**	**23**	**23**	**21**	**20**	**23**	**20**	**15**		**163**