



SRI KRISHNA COLLEGE OF ENGINEERING AND TECHNOLOGY

An Autonomous Institution| Approved by AICTE| Affiliated to Anna University
Kuniamuthur, Coimbatore - 641008

17.4.2. EDUCATION FOR SDGS SPECIFIC COURSES ON SUSTAINABILITY

SDG Indicator 17.4.2 specifically tracks the ratio of debt service to exports of goods and services. However, you're highlighting an important additional angle: the role of education for sustainable development (ESD) within SDG 17, particularly through courses that advance learning on the SDGs and sustainability. Since SDG 17 focuses on partnerships, it also encompasses efforts to enhance educational programs that equip people and institutions to tackle sustainability challenges.



**SRI KRISHNA COLLEGE OF ENGINEERING AND
TECHNOLOGY**

**An Autonomous Institution, Affiliated to Anna University
Coimbatore - 641 008**

DEPARTMENT OF CIVIL ENGINEERING



**CURRICULUM AND
SYLLABI BE CIVIL
ENGINEERING
REGULATION 2022**

(B: 2023-2027)

SRI KRISHNA COLLEGE OF ENGINEERING AND TECHNOLOGY

An Autonomous Institution Affiliated to Anna University
Kuniamuthur, Coimbatore - 641 008

VISION AND MISSION OF THE DEPARTMENT

Our Vision

To be a center of excellence in Civil Engineering Education through full-fledged learning experience along with research.

Our Mission

To accomplish our vision, we are committed to

- M1: Faculty experts from all specialization of Civil Engineering to facilitate teaching learning process
- M2: Excellent infrastructure facilities to apply Civil Engineering knowledge and perform societal based research
- M3: Exposure to latest technologies in Civil Engineering through industry-institute interaction and professional bodies
- M4: Environ to develop their innovative thoughts, ethics, communication, inter- and intra-personal skills
- M5: Enthusiasm towards self-learning, social responsibility and entrepreneurship

Program Outcomes (POs):-

At the time of their graduation students of Civil Engineering Program should be in possession of the following Program Outcomes

- PO 1. **Engineering knowledge:** Apply the knowledge of mathematics, science and engineering fundamentals for the solution of complex Civil Engineering problems.
- PO 2. **Problem analysis:** Identify, formulate and analyse complex Civil Engineering problems reaching substantiated conclusions using first principles of mathematics and engineering sciences.

PO 3. **Design/development of solutions:** Design solutions for complex Civil Engineering problems and design system components with appropriate consideration for public health & safety, cultural, societal and environmental considerations.

PO 4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis & interpretation of data and synthesis of the information to provide valid conclusions.

PO 5. **Modern tool usage:** Create, select & apply appropriate techniques, resources, modern engineering and IT tools, including prediction and modeling to complex Civil Engineering activities, with an understanding of the limitations.

PO 6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal & cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO 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.

PO 8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities as well as norms of the engineering practice.

PO 9. **Individual and team work:** Function effectively as an individual, a member or leader in diverse teams and in multidisciplinary settings.

PO 10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with the 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.

PO 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.

PO 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.

Program Educational Objectives (PEOs):-

The following Program Educational Objectives are designed based on the department mission

1. To apply knowledge of mathematics, science and engineering to solve existing problems in the area of Structural, Geotechnical, Water Resources, Environmental, Transportation, Urban Planning, Construction Materials and Management in Civil Engineering
2. To analyze, design, construct Civil Engineering traditional and modern structures

3. To perform investigation on any complicated Civil Engineering problems by conducting research using modern equipment's and software tools
4. To communicate and develop strong inter- and intra- personal skills to prepare them for placement and higher studies
5. To be self-motivated towards lifelong learning and entrepreneurship

Mapping of POs to PEOs

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

1	Reasonably agreed	2	Moderately agreed	3	Strongly agreed
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Program Specific Outcomes (PSOs):-

At the end of the Program, Graduate shall have

PSO 1	Analytical Knowledge and Practical Skills	The ability to analyse, design and interpret by applying the concepts of mathematics and physical sciences in the core areas of Civil Engineering.
PSO 2	Civil Engineer and Sustainability	The propensity to excel in portfolio of waste management, sanitation, housing and construction management for the sustainable environment.
PSO 3	Environment and Social Commitment	The ability to acquire and update knowledge continuously and offer engineering solutions to meet the environmental and societal needs.

B.E. CIVIL ENGINEERING
REGULATION 2022 (B: 2023-2027)

I – VIII SEMESTER CURRICULUM AND SYLLABI

SEMESTER I										
SL. No.	Course Code	Course	L	T	P	Contact hrs./wk.	C	Ext / Int	Cat.	SDG
1	23CE101	Introduction to Civil Engineering	3	0	0	3	3	60/40	HSMC	6,7,12,13, 11,15
2	23MA101	Mathematics I	3	1	0	4	4	60/40	BSC	4,9
3	23EE113	Fundamentals of Electrical and Electronics Engineering	2	1	0	3	3	60/40	ESC	4,7,8,9, 12
4	23PS101	Physical Sciences	4	0	0	4	4	60/40	BSC	4,7,8,9, 12
5	23TA101	Heritage of Tamils	1	0	0	1	1	60/40	IKS	4,10
6	23CS101	Problem solving using C++	1	0	4	5	3	50/50	ESC	4,9
7	23PS102	Physical Science Laboratory	0	0	4	4	2	40/60	BSC	4,7,8,9, 12
8	23EE115	Fundamentals of Electrical and Electronics Engineering Laboratory	0	0	2	2	1	40/60	ESC	4,7,8,9, 12
9	23CE102	Engineering Graphics Laboratory	0	0	3	3	1.5	40/60	ESC	3,4,6,7, ,8, 11,14, 15
10	23MC101	Induction Programme 3 - weeks (Mandatory Course -I)					0	0/100	MC	6,7,12,13, 11,15
Total			14	2	13	29	22.5	1000		

SEMESTER II										
SL. No.	Course Code	Course	L	T	P	Contact hrs./wk.	C	Ext / Int	Cat.	SDG
1	23MA204	Calculus and Fourier Series	3	1	0	4	4	60/40	BSC	6,7,12,13, 11,15
2	23CE201	Applied Mechanics	3	1	0	4	4	60/40	BSC	4,9
3	23CE202	Construction Materials and Techniques	3	0	0	3	3	60/40	ESC	4,7,8,9, 12
4	23TA201	Tamils and Technology	1	0	0	1	1	60/40	IKS	4,7,8,9,

										12
5	23CE203	Architectural Planning and Building Drawing	3	0	3	6	4.5	50/50	ESC	4,10
6	23EN101	Oral and Written Communication Skills	2	0	2	4	3	50/50	HSMC	4,9
7	23IT211	Introduction to Python Programming	1	0	4	5	3	50/50	ESC	4,7,8,9,12
8	23CE204	Engineering Practices Laboratory	0	0	4	4	2	40/60	ESC	4,7,8,9,12
			Total	16	2	13	31	24.5	800	

SEMESTER III

SL. No.	Course Code	Course	L	T	P	Contact hrs./wk.	C	Ext / Int	Cat.	SDG
1	23MA303	Numerical Methods	3	1	0	4	4	60/40	BSC	6,7,12,13,11,15
2	23CE301	Fluid Mechanics and Hydraulic Engineering	3	0	0	3	3	60/40	PCC	4,9
3	23CE302	Solid Mechanics	3	1	0	4	4	60/40	PCC	4,7,8,9,12
4	23CE303	Surveying and Geomatics	3	0	0	3	3	60/40	PCC	4,7,8,9,12
5	23GE301	Universal Human Values	3	0	0	3	3	60/40	HSMC	4,10
6	23CE304	Fluid Mechanics Laboratory	0	0	3	3	1.5	40/60	PCC	4,9
7	23CE305	Solid Mechanics Laboratory	0	0	3	3	1.5	40/60	PCC	4,7,8,9,12
8	23CE306	Surveying and Geomatics Laboratory	0	0	3	3	1.5	40/60	PCC	4,7,8,9,12
9	23MCxxx	Mandatory Course II	2	0	0	2	0	0/100	MC	3,4,6,7,8,11,14,15
			Total	17	2	9	28	21.5	900	

SEMESTER IV

SL. No.	Course Code	Course	L	T	P	Contact hrs./wk.	C	Ext / Int	Cat.	SDG
1	23CE401	Concrete Technology	3	0	0	3	3	60/40	PCC	6,7,12,13,11,15
2	23CE402	Environmental Engineering	3	0	0	3	3	60/40	PCC	4,9
3	23CE403	Structural Analysis	3	1	0	4	4	60/40	PCC	4,7,8,9

											12
4	23CE404	Transportation Engineering	3	0	0	3	3	60/40	PCC	4,7,8,9, 12	
5	23xxxxyy	Open Elective I	3 or 1 or 0	0 or 0 or 0	0 or 4 or 6	3 or 5 or 6	3	60/40 or 40/60	OEC		4,10
6	23CE405	Concrete and Highway Engineering Laboratory	0	0	4	4	2	40/60	PCC	4,9	
7	23CE406	Environmental Engineering Laboratory	0	0	3	3	1.5	40/60	PCC	4,7,8,9, 12	
8	23CE407	Structural Analysis Laboratory	0	0	3	3	1.5	40/60	PCC	4,7,8,9, 12	
9	23EES101	Employability Enhancement Skills (Internship / Training – 2 weeks)	0	0	0	0	1	0/100	EES	3,4,6,7 ,8, 11,14, 15	
10	23MCxxx	Mandatory Course III	2	0	0	2	0	0/100	MC	6,7,12,1 3, 11,15	
			Total	17	1	10	28	22	1000		

SEMESTER V

SL. No.	Course Code	Course	L	T	P	Contact hrs./wk	C	Ext / Int	Cat.	SDG
1	23CE501	Design of Reinforced Concrete Elements	3	1	0	4	4	60/40	PCC	6,7,12,1 3, 11,15
2	23CE502	Geotechnical Engineering	3	1	0	4	4	60/40	PCC	4,9
3	23CE503	Intelligent transportation system	3	0	0	3	3	60/40	PCC	4,7,8,9, 12
4	23CExxx	Professional Elective I	3	0	0	3	3	60/40	PEC	4,7,8,9, 12
5	23xxxxyy	Open Elective II	3 or 1 or 0	0 or 0 or 0	0 or 4 or 6	3 or 5 or 6	3	60/40 or 40/60	OEC	
6	23CE504	Design of RC Structures Laboratory	0	0	3	3	1.5	40/60	PCC	4,9

7	23CE505	Geotechnical Laboratory	0	0	3	3	1.5	40/60	PCC	4,7,8,9, 12
8	23EES102	Employability Enhancement Skills (Internship / Training - 2 weeks)	0	0	0	0	1	0/100	EES	4,7,8,9, 12
9	23MCxxx	Mandatory Course - IV	2	0	0	2	0	0/100	MC	3,4,6,7 ,8, 11,14, 15
		Total	17	2	6	25	21	900		

SEMESTER VI										
SL. No.	Course Code	Course	L	T	P	Contact hrs./wk.	C	Ext / Int	Cat.	SDG
1	23CE601	Construction Planning and Management	3	0	0	3	3	60/40	PCC	6,7,12,1 3, 11,15
2	23CE602	Design of Steel Structural Elements	3	1	0	4	4	60/40	PCC	4,9
3	23CE603	Foundation Engineering	3	0	0	3	3	60/40	PCC	4,7,8,9, 12
4	23CExxx	Open Elective III	3	0	0	3	3	60/40	OEC	4,7,8,9, 12
5	23Cexxx	Professional Elective II	3	0	0	3	3	60/40	PEC	4,10
6	23Cexxx	Professional Elective III	3	0	0	3	3	60/40	EEC	4,9
7	23CE604	Design of Steel Structures Laboratory	0	0	3	3	1.5	40/60	PCC	4,7,8,9, 12
8	23CE605	Project Planning Laboratory	0	0	3	3	1.5	40/60	PCC	4,7,8,9, 12
		Total	18	1	6	25	22	800		

SEMESTER VII										
SL. No.	Course Code	Course	L	T	P	Contact hrs./wk.	C	Ext / Int	Cat.	SDG
1	23CE701	Construction Cost Estimation and Valuation	3	1	0	4	4	60/40	PCC	6,7,12,1 3, 11,15
2	23CE702	Sustainable and Green Construction	3	0	0	3	3	60/40	PCC	4,9
3	23Cexxx	Open Elective IV	3	0	0	3	3	60/40	OEC	4,7,8,9,

											12
4	23Cexxx	Professional Elective IV	3	0	0	3	3	60/40	PEC	4,7,8,9, 12	
5	23Cexxx	Professional Elective V	3	0	0	3	3	60/40	PEC	6,7,12,1 3, 11,15	
6	23Cexxx	Professional Elective VI	3	0	0	3	3	60/40	PEC	4,9	
7	23CE703	Construction Cost Estimation and Valuation Laboratory	0	0	3	3	1.5	40/60	PCC	4,7,8,9, 12	
8	23CE704	Design Comprehensive Project	0	0	4	4	2	40/60	PROJ	4,7,8,9, 12	
		Total	18	1	7	26	22.5	800			

SEMESTER VIII										
SL. No.	Course Code	Course	L	T	P	Contact hrs./wk.	C	Ext / Int	Cat.	SDG
1.	23CE801	Project Work	0	0	24	24	12	40/60	PROJ	9
		Total	0	0	24	24	12	100		

L: Lecture T: Tutorial P: Practical C: Credit Cat.: Category

HSMC : Humanities and Social Sciences including Management
BSC : Basic Science Courses
ESC : Engineering Science Courses
PCC : Professional Core Courses
PEC : Professional Elective Courses

OEC : Open Elective Courses
EEC : Emerging Elective Courses
IKS : Indian Knowledge System
PROJ : Project Work
MC : Mandatory Course

Definition of Credit:

L – Lecture 1 Hr. Lecture (L) per week 1 credit
T – Tutorial 1 Hr. Tutorial (T) per week 1 credit
P – Practical/Practice (Project and Industry based Courses) 1 Hr. Practical (P) per week 0.5 credit

SEMESTER WISE CREDIT DISTRIBUTION: -

Semester	I	II	III	IV	V	VI	VII	VIII	Total
Credits	22.5	24.5	21.5	22	21	22	22.5	12	168

Total Credits: 168

PROFESSIONAL ELECTIVE COURSES (18 Credits)

SL. No.	Course Code	Course Title	L/T/P	Contact hrs./Wk.	C	Cat.	SDG
Vertical I : Structural Engineering							
1.	23CE901	Conditional Assessment and Rehabilitation of Structures	3/0/0	3	3	PEC	9
2.	23CE902	Design of RC Structures	3/0/0	3	3	PEC	11
3.	23CE903	Finite Element Analysis	3/0/0	3	3	PEC	11
4.	23CE904	Pre-stressed Concrete Structures	3/0/0	3	3	PEC	9
5.	23CE905	Design of Steel Structures	3/0/0	3	3	PEC	11
6.	23CE906	Prefabricated Structures	3/0/0	3	3	PEC	11
7.	23CE907	Advanced Structural Analysis	3/0/0	3	3	PEC	9
Vertical II: Geotechnical Engineering							
8.	23CE908	Soil Dynamics and Seismology	3/0/0	3	3	PEC	9
9.	23CE909	Ground Improvement and Geosynthetics	3/0/0	3	3	PEC	11
10.	23CE910	Environmental Geotechnics	3/0/0	3	3	PEC	11
11.	23CE911	Surface Water Hydrology	3/0/0	3	3	PEC	9
12.	23CE912	Assessment of Contaminated Site and Remediation	3/0/0	3	3	PEC	11
13.	23CE913	Design of Substructures	3/0/0	3	3	PEC	11
14.	23CE914	Seismic Design of Structures	3/0/0	3	3	PEC	9
Vertical III: Construction Management							
15.	23CE915	Project Formulation and Implementation	3/0/0	3	3	PEC	9
16.	23CE916	Construction Personnel Management	3/0/0	3	3	PEC	11
17.	23CE917	Lean and Sustainable Construction	3/0/0	3	3	PEC	11
18.	23CE918	Construction Method and Equipment Management	3/0/0	3	3	PEC	9
19.	23CE919	Supply Chain Management and Logistics in Construction	3/0/0	3	3	PEC	11
20.	23CE920	Risk and Reliability Analysis of Civil Infrastructure Systems	3/0/0	3	3	PEC	11
21.	23CE921	Formwork Engineering	3/0/0	3	3	PEC	9
Vertical IV: Environmental Engineering							
22.	23CE922	Air and Noise Pollution	3/0/0	3	3	PEC	

23.	23CE923	Industrial Wastewater Treatment System	3/0/0	3	3	PEC	9
24.	23CE924	Rural Water Supply and Onsite Sanitation Systems	3/0/0	3	3	PEC	11
25.	23CE925	Irrigation and water resources engineering	3/0/0	3	3	PEC	11



26.	23CE926	Ground water and surface water pollution	3/0/0	3	3	PEC	9
27.	23CE927	Solid and Hazardous Waste Management	3/0/0	3	3	PEC	11
28.	23CE928	Environmental impact Assessment and Life Cycle Analysis	3/0/0	3	3	PEC	11

Vertical V :Infrastructures Engineering

29.	23CE929	Computer Simulation Applications in Transportation Engineering	3/0/0	3	3	PEC	9
30.	23CE930	Smart City Planning and Development	3/0/0	3	3	PEC	11
31.	23CE931	Metro Rail Engineering and Infrastructure	3/0/0	3	3	PEC	11
32.	23CE932	Remote Sensing and GIS for Civil Engineering	3/0/0	3	3	PEC	9
33.	23CE933	Smart Construction Materials and Techniques	3/0/0	3	3	PEC	11
34.	23CE934	Highway Pavement Design and Evaluation	3/0/0	3	3	PEC	11
35.	23CE935	Coastal Engineering	3/0/0	3	3	PEC	9

Vertical VI : Diversified Courses

36.	23CE936	Plumbing (Water and Sanitation)	3/0/0	3	3	PEC	9
37.	23CE937	Instrumentation and Sensor Technologies for Civil Engineering	3/0/0	3	3	PEC	11
38.	23CE938	Building Services and Management	3/0/0	3	3	PEC	11
39.	23CE939	Valuation of Real Properties	3/0/0	3	3	PEC	9
40.	23CE940	Nanotechnology in Civil Engineering	3/0/0	3	3	PEC	11
41.	23CE941	Airport and Harbour Engineering	3/0/0	3	3	PEC	11
42.	23CE942	Robotics and Automation in Civil Engineering	3/0/0	3	3	PEC	9

PROJECT WORK (14 Credits)

SL. No.	Course Code	Course Title	L/T/P	Contact hrs./Wk.	C	Cat.	SDG
1.	23CE704	Design Comprehensive Project	0/0/4	4	2	PROJ	9
2.	23CE801	Project Work	0/0/24	24	12	PROJ	11

EMPLOYABILITY ENHANCEMENT SKILLS (2 Credits)



SL. No.	Course Code	Course Title	Duration	C	Cat.	SDG
1.	23EES101	Employability Enhancement Skills (Internship / Training)	2 Weeks	1	EES	9
2.	23EES102	Employability Enhancement Skills (Internship / Training)	2 Weeks	1	EES	11

OPEN ELECTIVE COURSES (6 Credits) [Offered to Other Branches]

SL. No.	Course Code	Course Title	L/T/P	Contact hrs./Wk.	C	Cat.	SDG
1.	23CE001	Disaster Management	3/0/0	3	3	OEC	6,7,12,13,11,15
2.	23CE002	Engineering Risk and Uncertainty	3/0/0	3	3	OEC	4,9
3.	23CE003	Environmental Pollution and Global issues	3/0/0	3	3	OEC	4,7,8,9,12
4.	23CE004	Project Management	3/0/0	3	3	OEC	4,7,8,9,12
5.	23CE005	Industrial Safety	3/0/0	3	3	OEC	4,10
6.	23CE006	Research Methodology and IPR	3/0/0	3	3	OEC	4,9

VALUE ADDED COURSES (Additional credit courses)

SL. No.	Course Code	Course Title	Course Credits	SDG
1.	23VA130	Effective Communication Skills	1	6,7,12,13,11,15
2.	23VA101	Building Functional Design using AutoCAD	1	4,9
3.	23VA102	Total Station and GPS Surveying	1	4,7,8,9,12
4.	23VA103	Arc GIS for Civil Engineers	1	4,7,8,9,12
5.	23VA104	Structural Analysis and Design Using STAAD.Pro	1	4,10
6.	23VA105	Project Management Using Primavera	1	4,9
7.	23VA106	3DBuilding Modeling Using Revit Architecture	1	4,7,8,9,12
8.	23VA107	Building Valuation	1	4,7,8,9,12



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Curriculum & Syllabi

Regulation 2022

2023-2027 Batch

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

AUTONOMOUS CURRICULUM AND SYLLABI

Regulations 2022 (2023-2027 Batch)



SEMESTER I								
S.No	Course Code	Course Title	L/T/P	Contact Hrs/Wk	Credits	Ext/Int	Cat.	SDG
Theory (Internal 40 Marks & External 60 Marks)								
1	23MA101	Mathematics - I	3/1/0	4	4	60/40	BSC	6,7,11,13,11,15
2	23EC111	Digital Logic Design and Computer Architecture	3/1/0	4	4	60/40	ESC	4,9
3	23TA101	Heritage of Tamils / தமிழர் மரபு	1/0/0	1	1	60/40	HSMC	4,7,8,9,12
Theory with Practical (Internal 50 Marks & External 50 Marks)								
4	23IT101	Application Development Practices	1/0/4	5	3	50/50	ESC	6,7,11,13,11,15
5	23CS101	Problem Solving using C++	1/0/4	5	3	50/50	ESC	4,9
6	23EN101	Oral and Written Communication Skills	2/0/2	4	3	50/50	HSMC	4,7,8,9,12
Mandatory Course (Internal 100 Marks)								
7	23MC101	Mandatory Course – I (Induction Programme)	3 Weeks				MC	4,7,8,9,12
TOTAL				23	18	700		

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4	23CS201	Data Structures and Algorithms	1/0/4	5	3	50/50	PCC	4,7,8,9 ,12
5	23CD201	Database Management Systems	1/0/4	5	3	50/50	PCC	4,7,8,9 ,12
6	23CY201	Java Programming	1/0/4	5	3	50/50	PCC	4,7,8,9 ,12
7	23CD202	Object Oriented Analysis and Design	3/0/2	5	4	50/50	PCC	4,7,8,9 ,12
Practical (Internal 60 Marks & External 40 Marks)								
8	23AS102	Applied Science Laboratory	0/0/4	4	2	40/60	BSC	4,7,8,9 ,12
Mandatory Course (Internal 100 Marks)								
9	23MC102	Mandatory Course - II (Environmental Sciences)	1/0/0	1	0	0/100	MC	4,7,8,9 ,12
TOTAL				34	24	900		

SEMESTER III								
S.No	Course Code	Course Title	L/T/P	Contact Hrs/Wk	Credits	Ext/Int	Ca t.	SDG
Theory (Internal 40 Marks & External 60 Marks)								
1	23MA301	Mathematical Foundation for Computer Science	3/1/0	4	4	60/40	BS C	4,16,10
Theory with Practical (Internal 50 Marks & External 50 Marks)								
2	23IT301	Web Technology using React	1/0/4	5	3	50/50	PCC	4,9
3	23CD301	Software Product Design	3/0/2	5	4	50/50	ESC	4,7,8,9 ,12
4	23CY202	Operating Systems	3/0/2	5	4	50/50	PCC	4,9,11
5	23CS301	Advanced Java Programming	1/0/4	5	3	50/50	PCC	4,11,10
6	23AD402	Design and Analysis of Algorithms	1/0/4	5	3	50/50	PCC	4,11,12
Mandatory Course (Internal 100 Marks)								
7	23MCXXX	Mandatory Course - III	1/0/0	1	0	0/100	M C	9,12
TOTAL				30	21	700		

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SEMESTER IV								
S.No	Course Code	Course Title	L/T/P	Contact Hrs/Wk	Credits	Ext/Int	Cat.	SDG
Theory (Internal 40 Marks & External 60 Marks)								
1	23GE301	Universal Human Values	3/0/0	3	3	60/40	HSMC	4,16,10
2	23CS401	Theory of Computation	3/1/0	4	4	60/40	PCC	9,12
3	23CS402	Algorithms of Internet	3/1/0	4	4	60/40	PCC	4,9
Theory with Practical (Internal 50 Marks & External 50 Marks)								
4	23CS403	Computer Networks	3/0/2	5	4	50/50	ESC	4,9,11
5	23AD403	Managing Cloud and Containerization	1/0/4	5	3	50/50	PCC	4,11,10
Practical (Internal 60 Marks & External 40 Marks)								
6	23IT402	Web Frameworks using Rest API	0/0/4	4	2	40/60	PCC	4,16,10
7	23ME305	Design Thinking and Idea Lab	0/0/2	2	1	40/60	HSMC	9,12
Mandatory Course (Internal 100 Marks)								
8	23MCXXX	Mandatory Course - IV	1/0/0	1	0	0/100	MC	4,7,8,9,12
TOTAL				28	21	800		

	SEMESTER V							
S.No	Course Code	Course Title	L/T/P	Contact Hrs/Wk	Credits	Ext/I nt	Cat.	SDG
Theory (Internal 40 Marks & External 60 Marks)								
1	23IT501	Cryptography and Network Security	3/1/0	4	4	60/40	PCC	4,16,10
2	23CS501	Mobile and Edge Computing	3/0/0	3	3	60/40	PCC	9,12
Theory with Practical (Internal 50 Marks & External 50 Marks)								
3	23ITC01	Internet of Things	2/0/2	4	3	50/50	PCC	



									4,7,8 ,9, 12
4	23CS502	Software Testing	1/0/4	5	3	50/50	PCC	4,9, 11	
5		Professional Elective - I	2/0/2	4	3	50/50	PEC	4, 11, 10	
6		Professional Elective - II	2/0/2	4	3	50/50	PEC	4,11, 12	
Mini Project (Internal 100 Marks)									
7	23CS503	Application Development	0/0/6	6	3	0/100	PRJ	4, 16, 10	
TOTAL				30	22	700			
SEMESTER VI									
S.No	Course Code	Course Title	L/T/ P	Contact Hrs/Wk	Credits	Ext/Int			4,7,8 ,9, 12
	Theory (Internal 40 Marks & External 60 Marks)								
1	23CSC03	Quantum Computing	3/0/0	3	3	60/40			4, 11, 10
	Theory with Practical (Internal 50 Marks & External 50 Marks)								
2	23CSC04	Principles of Compiler Design	3/0/2	5	4	50/50			4, 16, 10
3	23CSC02	Machine Learning Techniques	2/0/2	4	3	50/50			9,12
4	23ADC01	Artificial Intelligence and Its Application	2/0/2	4	3	50/50			4,9
5		Professional Elective – III	2/0/2	4	3	50/50			4,7,8 ,9, 12
6		Professional Elective - IV	2/0/2	4	3	50/50			4,9, 11
	Mini Project (Internal 100 Marks)								
7	23CS601	Capstone Project	0/0/6	6	3	0/100			4,11 ,12
TOTAL				30	22	700			

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SEMESTER VII									
S.No	Course Code	Course Title	L/T/P	Contact Hrs/Wk	Credits	Ext/Int	Cat.	SDG	
Theory (Internal 40 Marks & External 60 Marks)									
1		Open / Emerging/ Industrial Elective- I	3/0/0	3	3	60/40	OEC	4,16, 10	
2		Open / Emerging/ Industrial Elective- II	3/0/0	3	3	60/40	OEC	9,12	
3		Open / Emerging/ Industrial Elective- III	3/0/0	3	3	60/40	OEC	4,9	
Theory with Practical (Internal 50 Marks & External 50 Marks)									
4		Professional Elective - V	2/0/2	4	3	50/50	PEC	4,9, 11	
5		Professional Elective - VI	2/0/2	4	3	50/50	PEC	4,11, 10	
Project (Internal 60 Marks & External 40 Marks)									
6	23CS701	Project - I	0/0/6	6	3	40/60	PRJ	4,16, 10	
Internship (Internal 100 Marks)									
7	23CS702	Employability Enhancement Skills (Internship)	28 Days		2	0/100	PRJ	4,16, 10	
TOTAL					23	20	700		

SEMESTER VIII							
S.No	Course Code	Course Title	L/T/P	Contact Hrs/Wk	Credits	Ext/Int	Cat.
Theory (Internal 40 Marks & External 60 Marks)							
1	23CS801	Project - II	0 / 0 / 24	24	12	60/40	PRJ
TOTAL				24	12	100	



PROFESSIONAL ELECTIVE COURSES (18 Credits)								
S. No.	Course Code	Course Title	L/T/P	Contact hrs./Wk.	C	Ext/ Int	Cat.	SDG
ELECTIVE STREAM I – MACHINE LEARNING ENGINEERING								
1	23AD902	Exploratory Data Analysis (EDA) using Python	2/0/2	4	3	50/50	PEC	4,16, 10
2	23AD905	Statistical Methods and Basic Machine Learning Models	2/0/2	4	3	50/50	PEC	9,12
3	23IT901	Advanced ML Techniques	2/0/2	4	3	50/50	PEC	4,9
4	23IT902	NLP	2/0/2	4	3	50/50	PEC	4,7, 8,9, 12
5	23IT903	Computer Vision	1/0/4	5	3	50/50	PEC	4,9, 11
6	23AD906	GenAI Advanced Prompt Engineering & LLMs	1/0/4	5	3	50/50	PEC	4,11, 10
ELECTIVE STREAM II - DATA ANALYST WITH ML ESSENTIALS								
1	23AD901	Data Storytelling and Visualization	2/0/2	4	3	50/50	PEC	9,11, 15
2	23AD902	Exploratory Data Analysis (EDA) using Python	2/0/2	4	3	50/50	PEC	4,9
3	23AD903	Problem solving with Analytical & Design Thinking	2/0/2	4	3	50/50	PEC	11
4	23AD904	PowerBI	2/0/2	4	3	50/50	PEC	9
5	23AD905	Statistical Methods and Machine Learning Models	2/0/2	4	3	50/50	PEC	8
6	23AD906	GenAI Advanced Prompt Engineering & LLMs	1/0/4	5	3	50/50	PEC	10
ELECTIVE STREAM III - CLOUD IT ADMINISTRATION								
1	23CS901	Implementing and Administering Enterprise Networks	2/0/2	4	3	50/50		9,11, 15
2	23CS902	Linux System Administration	2/0/2	4	3	50/50		4,9
3	23CS903	Information Security Systems	2/0/2	4	3	50/50		11
4	23CS904	Low-Code No-Code Application Building	2/0/2	4	3	50/50		9



5	23CS905	Virtualization, Cloud Computing and SysOps	1/0/4	5	3	50/50		8
6	23CS906	Continuous Monitoring and Observability (AWS)	1/0/4	5	3	50/50		10

ELECTIVE STREAM IV – CYBER SECURITY

1	23CS901	Implementing and Administering Enterprise Networks	2/0/2	4	3	50/50		9,11, 15
2	23CS902	Linux System Administration	2/0/2	4	3	50/50		4,9
3	23CS903	Information Security Systems	2/0/2	4	3	50/50		11
4	23CY901	Cloud Computing and Containerized Virtual Infrastructure	2/0/2	4	3	50/50		9
5	23CY902	Penetration Testing	1/0/4	5	3	50/50		8
6	23CY903	Security Operations of Information systems	1/0/4	5	3	50/50		10

ELECTIVE STREAM V – FULL STACK SOFTWARE DEVELOPMENT (for Minor)

1	23CS911	Managing and Querying Database (RDBMS) MySQL / Postgre SQL	2/0/2	4	3	50/50		9,11, 15
2	23CS912	Java / Python: Object-Oriented Programming	2/0/2	4	3	50/50		4,9
3	23IT911	Web Development and UI/UX Essentials	2/0/2	4	3	50/50		11
4	23IT912	Build Single-Page Applications using React	2/0/2	4	3	50/50		9
5	23IT913	Build Back-end Application using Spring Boot / FAST API	1/0/4	5	3	50/50		8
6	23AD906	GenAI Advanced Prompt Engineering & LLMs	1/0/4	5	3	50/50		9

ELECTIVE STREAM VI - QUANTUM TECHNOLOGIES

1	23CS921	Survey of Quantum Technologies and Applications	3/0/0	3	3	60/40		9
2	23CS922	Foundations of Quantum Technologies	3/0/0	3	3	60/40		8
3	23CS923	Introduction to Quantum Computation	3/0/0	3	3	60/40		9
4	23CS924	Introduction to Quantum Communication	3/0/0	3	3	60/40		8
5	23CS925	Introduction to Quantum Sensing	3/0/0	3	3	60/40		9
6	23CS926	Introduction to Quantum Materials	3/0/0	3	3	60/40		8