SJCET B. Tech (CE) CURRICULUM 2024

(B. Tech in Civil Engineering)

Signed By Dr. Jesia V P
Approved by SJCET Academic Council held on 29.11.2024

FIRST SEMESTER (July-December)														
10 Days Compulsory Induction Program and UHV														
S. No	**Slot**	**Course Code**	**Course Type**	**Course Category**	**Course Title (Course Name)**	**Credit Structure**				**SS**	**Total Marks**		**Credits**	**Hrs./Week**
						L	**T**	**P**	**R**		**CIE**	**ESE**		
1	A	24SJGYMAT101	BSC	GC	Mathematics for Electrical Science and Physical Science-1	3	0	0	0	4.5	40	60	3	3
2	B S1/ S2	24SJGCPHT121	BSC	GC	Physics for Physical Science and Life Science	3	0	2	0	5.5	40	60	4	5
		24SJGCCYT122			Chemistry for Physical Science									
3	C	24SJGCEST103	ESC	GC	Engineering Mechanics	3	0	0	0	4.5	40	60	3	3
4	D	24SJGCEST104	ESC	GC	Introduction to Mechanical Engineering and Civil Engineering (Part1: Mechanical Engineering)	2	0	0	0	3	20	30	2+2=4	4
					(Part 2: Civil Engineering)	2	0	0	0	3	20	30		
5	F	24SJICEST105	ESC	IC	Algorithmic Thinking with Python	3	0	2	0	5.5	40	60	4	5
6	L	24SJGCESL106	ESC	GC	Engineering Workshop	0	0	2	0	1	50	50	1	2
7	I* S1/ S2	24SJICHWT127	HWP	IC	Health and Wellness	1	0	1	0	0	50	0	1	2/3
		24SJICHUT128	HMC		Life Skills and Professional Communication	2	0	1	0	3.5	100	0		
8	S1/ S2	24SJICSEM129	SEC	IC	**Skill Enhancement Course: Digital 101 (NASSCOM)	MOOC				2			-	
Total										**30/ 32**			**20**	**24/ 25**
Bridge Course (Mathematics or Introduction to Computer Science) *: Total 15 Hrs.														

No Grade Points will be awarded for the MOOC course and I slot course.

SECOND SEMESTER (January-June)														
S. No	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit Structure				SS	Total Marks		Credits	Hrs./Week
						L	T	P	R		CIA	ESE		
1	A	24SJGYMAT201	BSC	GC	Mathematics for Electrical Science and Physical Science-2	3	0	0	0	4.5	40	60	3	3
2	B S1/ S2	24SJGCPHT121	BSC	GC	Physics for Physical Science and Life Science	3	0	2	0	5.5	40	60	4	5
		24SJGCCYT122			Chemistry for Physical Science									
3	C	24SJGCEST203	ESC	GC	Engineering Graphics and Computer Aided Drawing	2	0	2	0	4	40	60	3	4
4	D	24SJGCEST204	ESC	GC	Basic Electrical and Electronics Engineering (Part 1: Electrical Engineering)	2	0	0	0	3	20	30	2+2=4	4
					(Part 2: Electronics Engineering)	2	0	0	0	3	20	30		
5	E	24SJPCCET205	PC	PC	Mechanics of Solids	3	1	0	0	5	40	60	4	4
6	F	24SJICEST206	ESC	IC	Engineering Entrepreneurship and IPR	3	0	0	0	4.5	60	40	3	3
7	I* S1/ S2	24SJICHWT127	HWP	IC	Health and Wellness	1	0	1	0	0	50	0	1	2/3
		24SJICHUT128	HMC		Life Skills and Professional Communication	2	0	1	0	3.5	100	0		
8	L	24SJPCCEL218	PCL	PC	Civil Engineering Drafting Lab (CE)	0	0	2	0	1	50	50	1	2
9	S1/ S2	24SJICSEM129	SEC	IC	**Skill Enhancement Course: Digital 101 (NASSCOM)	MOOC							1	
Total										34			24	27/ 28

No Grade Points will be awarded for the MOOC course and I slot course.

Digital 101 (NASSCOM)		
Sl. No:	Technologies Covered	Hours
1	Artificial intelligence and Big Data Analytics (AI/BDA)	11
2	Internet of Things (IoT)	2.5
3	Cyber Security	2.5
4	Block Chain	2.5
5	Robotic Process Automation	1.5
6	Augmented Reality and Virtual Reality (AR and VR)	2.5
7	Cloud Computing	2.5
8	3 D Printing and Modelling	2
9	Web, Mobile Dev and Marketing	2
10	Responsible AI	1
	Total Hours	**30**

***Skill Enhancement Course:** Digital 101 is an introductory Massive Open Online Course (MOOC) offered by NASSCOM. It is designed to provide students with foundational knowledge and skills in digital technologies, preparing them for further studies and careers in the digital domain. By incorporating the Digital 101 course into the curriculum, SJCET ensures that all students gain valuable digital skills early in their academic journey, enhancing their readiness for advanced courses and future careers in technology.*

THIRD SEMESTER (July-December)														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit Structure				SS	Total Marks		Credits	Hrs./ Week
						L	T	P	R		CIE	ESE		
1	A	24SJGYMAT301	BSC	GC	Mathematics for Electrical Science and Physical Science-3	3	0	0	0	4.5	40	60	3	3
2	B	24SJPCCET302	PC	PC	Fluid Mechanics	3	1	0	0	5	40	60	4	4
3	C	24SJPCCET303	PC	PC	Structural Analysis – I	3	1	0	0	5	40	60	4	4
4	D	24SJPBCET304	PC-PBL	PB	Surveying and Geomatics	3	0	0	1	5.5	60	40	4	4
5	F	24SJGYEST305	ESC	GC	Introduction to Artificial Intelligence and Data Science	3	1	0		5	40	60	4	4
6	G S3/S4	24SJICHUT346	HMC	IC	Economics for Engineers	2	0	0	0	3	50	50	2	2
		24SJICHUT347			Engineering Ethics and Sustainable Development									
7	L	24SJPCCEL307	PCL	PC	Survey Lab	0	0	3	0	1.5	50	50	2	3
8	Q	24SJPCCEL308	PCL	PC	Fluid Mechanics Lab	0	0	3	0	1.5	50	50	2	3
9	R/M		VAC		Remedial/Minor Course	3	1	0	0	5			4*	4*
Total										**31/ 36**			**25/29***	**27/31***
Bridge Course for Lateral Entry Students: Total 15 Hrs.														

FOURTH SEMESTER (January-June)														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit Structure				SS	Total Marks		Credits	Hrs./ Week
						L	T	P	R		CIE	ESE		
1	A	24SJGCMAT401	BSC	GC	Mathematics for Physical Science-4	3	0	0	0	4.5	40	60	3	3
2	B	24SJPCCET402	PC	PC	Soil Mechanics	3	1	0	0	5	40	60	4	4
3	C	24SJPCCET403	PC	PC	Structural Analysis - II	3	1	0	0	5	40	60	4	4
4	D	24SJPBCET404	PC-PBL	PB	Design of concrete structures	3	0	0	1	5.5	60	40	4	4
5	E	24SJPECET41N	PE	PE	PE-1	3	0	0	0	4.5	40	60	3	3
6	G S3/S4	24SJICHUT346	HMC	IC	Economics for Engineers	2	0	0	0	3	50	50	2	2
		24SJICHUT347			Engineering Ethics and Sustainable Development									
7	L	24SJPCCEL407	PCL	PC	Materials Testing Lab	0	0	3	0	1.5	50	50	2	3
8	Q	24SJPCCEL408	PCL	PC	Civil Engineering Modelling Lab	0	0	3	0	1.5	50	50	2	3
9	R/M/ H		VAC		Remedial/Minor/Honours Course	3	1	0	0	5			4*	4*
Total										**31/ 36**			**24/ 28***	**26/ 30***

PROGRAM ELECTIVE I: 24SJPECET 41N					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
E	24SJPECET411	Advanced Solid Mechanics	3-0-0-0	3	3
	24SJPECET412	Concrete Technology	3-0-0-0		3
	24SJPECET413	Mechanics of Fluid Flow	3-0-0-0		3
	24SJPECET414	Cartography and GIS	3-0-0-0		3
	24SJPECET416	Engineering Geology	3-0-0-0		3
	24SJPECET417	Numerical methods for Engineers	3-0-0-0		3
	24SJPECET418	Environmental law and Policy	3-0-0-0		3
	24SJPECET415	Architectural Engineering	3-0-0-0		**5/3**

***Note**: Level 5 courses in the B. Tech curriculum carry a total of 5 credits, consisting of 3 credits for the Programme Elective and 2 additional credits. The additional 2 credits shall be awarded only if the student meets the eligibility conditions specified in the B. Tech. - 2024 regulations. If those conditions are not fulfilled, the student will receive only 3 credits for the course.*

FIFTH SEMESTER (July-December)														
S. No	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit Structure				SS	Total Marks		Credits	Hrs./ Week
						L	T	P	R		CIE	ESE		
1	A	24SJPCCET501	PC	PC	Hydrology and Water Resources Engineering	3	1	0	0	5	40	60	4	4
2	B	24SJPCCET502	PC	PC	Transportation Engineering	3	1	0	0	5	40	60	4	4
3	C	24SJPCCET503	PC	PC	Environmental Engineering	3	0	0	0	4.5	40	60	3	3
4	D	24SJPBCET504	PC-PBL	PB	Foundation Engineering	3	0	0	1	5.5	60	40	4	4
5	E	24SJPECET52N	PE	PE	PE-2	3	0	0	0	4.5	40	60	3	3
6	I*	24SJICHUM506	HMC	IC	Constitution of India (MOOC)	-	-	-	-	2	-	-	1	-
7	L	24SJPCCEL507	PCL	PC	Geotechnical Engineering lab	0	0	3	0	1.5	50	50	2	3
8	Q	24SJPCCEL508	PCL	PC	Concrete lab (MT-2)	0	0	3	0	1.5	50	50	2	3
9	R/M/H		VAC		Remedial/Minor/Honours Course	3	1	0	0	5			4*	4*
	S5/S6	Industrial Visit (Maximum 6 Days are permitted, Not Exceeding more than 4 Working Days) /Industrial Training												
Total										**30/35**			**23/27***	**24/28***

No Grade Points will be awarded for the MOOC course and I slot course.

Industrial Training:

Students who are not participating in the industrial visit must attend industrial training during that period.

PROGRAM ELECTIVE II: 24SJPECET52N					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
E	24SJPECET521	Advanced Structural Analysis	3-0-0-0	3	3
	24SJPECET522	Modern Construction Technology	3-0-0-0		3
	24SJPECET523	Open Channel Hydraulics	3-0-0-0		3
	24SJPECET524	Disaster Management	3-0-0-0		3
	24SJPECET526	Applied Hydrology and Climatology	3-0-0-0		3
	24SJPECET527	Town Planning	3-0-0-0		3
	24SJPECET528	Optimization Techniques and Operations Research for Civil Engineers	3-0-0-0		3
	24SJPECET525	**Design of prestressed concrete**	3-0-0-0		**5/3**

SIXTH SEMESTER (January – June)															
S. No	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit Structure				SS	Total Marks		Credits	Hrs/ Week
						L	T	P	R		CIE	ESE		
1	A	24SJPCCET601	PC	PC	Quantity Surveying and Valuation	3	0	0	0	4.5	40	60	3	3
2	B	24SJPCCET602	PC	PC	Design of Steel Structures	3	0	0	0	4.5	40	60	3	3
3	C	24SJPECET63N	PE	PE	PE-3	3	0	0	0	4.5	40	60	3	3
4	D	24SJPBCET604	PC-PBL	PB	Construction Project Management	3	0	0	1	5.5	60	40	4	4
5	F	24SJGCEST605	ESC	GC	Design Thinking and Product Development	2	0	0	0	3	40	60	2	2
6	O#	24SJOE- -T61N/ IE- -T61N	OE/ILE	OE/IE	Open Elective / Industry Linked Elective-1	3	0	0	0	4.5	40	60	3	3
7	L	24SJPCCEL607	PCL	PC	Transportation Engineering lab	0	0	3	0	1.5	50	50	2	3
8	P	24SJPCCEP608	PWS	PC	Mini Project: Socially Relevant Project	0	0	0	0	3	50	50	2	3
9	Q*	24SJPCCEL609	PCL	PC	Environmental Engineering lab	0	0	2	0	1	50	50	1	2
10	R/ M/ H		VAC		Remedial/Minor/Honours Course	3	0	0	0	4.5			3*	3*
	S5/ S6	Industrial Visit (Maximum of 6 Days are permitted, Not Exceeding more than 4 Working Days) /Industrial Training												
Total										**32/ 36**			**23/26***	**26/29***

Note: Open Electives are such courses which will be offered by other departments. Like CSE department students have to opt open electives from ECE/ME/EEE etc. departments.

Industrial Training:
Students who are not participating in the industrial visit must attend industrial training during that period.

#*Open Elective or Industry linked Elective applicable for CE Students.*

PROGRAM ELECTIVE III: 24SJPECET63N					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
C	24SJPECET631	Advanced Design of Concrete Structures	3-0-0-0	3	3
	24SJPECET632	Irrigation and Drainage Engineering	3-0-0-0		3
	24SJPECET633	Ground Improvement Techniques	3-0-0-0		3
	24SJPECET634	Repair and Rehabilitation of Structures	3-0-0-0		3
	24SJPECET636	Solid and Hazardous Waste Management	3-0-0-0		3
	24SJPECET637	Traffic Engineering and Management	3-0-0-0		3
	24SJPECET635	**Advanced foundation Engineering**	3-0-0-0		**5/3**

Open Electives offered by CE department to students of other departments

OPEN ELECTIVE I: 24SJOECET61N					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
O	24SJOECET611	Introduction to Construction Engineering	3-0-0-0	3	3
	24SJOECET612	Environmental Laws and Policy	3-0-0-0		3
	24SJOECET613	Disaster Management	3-0-0-0		3
	24SJOECET614	Environmental Impact Assessment	3-0-0-0		3
	24SJOECET615	Structural Geology	3-0-0-0		3
	24SJOECET616	Applied Earth Systems	3-0-0-0		3

SEVENTH SEMESTER (July-December)														
Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit Structure				SS	Total Marks		Credits	Hrs/ Week
						L	T	P	R		CIE	ESE		
1	A	24SJPECET74N 24SJPECEM74N#	PE	PE	PE-4 Internship Students: Self Study/MOOC /Online Classes	3	0	0	0	4.5	40	60	3	3
2	B	24SJPECET75N 24SJPECEM75N#	PE	PE	PE-5 Internship Students: Self Study/MOOC /Online Classes	3	0	0	0	4.5	40	60	3	3
3	O#	24SJOE--T72N 24SJIECET72N 24SJOECEM72N#	OE/ ILE	OE/IE	Open Elective Industry Linked Elective - 2 Internship Students: Self Study/MOOC /Online Classes	3	0	0	0	4.5	40	60	3	3
4	I*	24SJIEHUT704 24SJIEHUM70N#	HMC	IE	Elective Internship Students: Self Study/MOOC /Online Classes	2	0	0	0	3	50	50	2	2
5	S	24SJPCCES705	PWS	PC	Seminar	0	0	3	0	1.5	50	0	2	3
6	P**	24SJPCCEP706/ 24SJPCCEI706	PWS	PC	Option 1: Major Project Option 2: Internship (4-6 Months)	0	0	0	8	8	100	0	4	8
7	R/H		VAC		Remedial/Honours Course	3	0	0	0	4.5			3*	3*
Total										**26/ 31**			**17/20***	**22/25***

#MOOC Courses approved by Institution (for Internship Students)

**No Grade Points will be awarded for the I slot courses.*

***Students can opt for the internship either in the 7th or 8th semester.*

Option 1: Work on a Project in the institute/department under the mentorship of faculty members.

Option 2: Full semester Internship in an Industry/organization (7th or 8th semester)

Note: Open Electives are such courses which will be offered by other departments.

PROGRAM ELECTIVE IV: 24SJPECET74N					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
A	24SJPECET741	Structural Dynamics	3-0-0-0	**3**	3
	24SJPECET742	Formwork Engineering	3-0-0-0		3
	24SJPECET743	Environmental Geo-technology	3-0-0-0		3
	24SJPECET744	Airport Planning and Design	3-0-0-0		3
	24SJPECET746	Highway Material & Design	3-0-0-0		3
	24SJPECET747	River Engineering	3-0-0-0		3
	24SJPECET745	**Pavement Design and Construction**	3-0-0-0		**5/3**

PROGRAM ELECTIVE V: 24SJPECET75N					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
B	24SJPECET751	Groundwater Engineering	3-0-0-0	**3**	3
	24SJPECET752	Sustainable Construction Practices	3-0-0-0		3
	24SJPECET753	Advanced Geotechnical Investigation	3-0-0-0		3
	24SJPECET754	Railway, Port and Harbor Engineering	3-0-0-0		3
	24SJPECET756	Air and Noise Pollution Control Engineering	3-0-0-0		3
	24SJPECET757	Finite Element Method	3-0-0-0		3
	24SJPECET755	**Design of Hydraulic Structures**	3-0-0-0		**5/3**

Open Electives offered by CE department to students of other departments

OPEN ELECTIVE II: 24SJOECET 72N					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
O	24SJOECET721	Intelligent Transportation Systems	3-0-0-0	**3**	3
	24SJOECET722	Environment Health and Safety	3-0-0-0		3
	24SJOECET723	Watershed Conservation and Management	3-0-0-0		3
	24SJOECET724	Forensic Engineering	3-0-0-0		3
	24SJOECET725	Finance for Engineers	3-0-0-0		3

HMC Courses	
S. No	**Slot I: HMC Elective**
1	Project Management: Planning, Execution, Evaluation and Control
2	Proficiency course in French. (MOOC) (B1 level)
3	Proficiency Course in German (B1 Level). (MOOC)
4	Proficiency Course in Spanish (B1 Level) (MOOC)
5	Introduction to Japanese Language and Culture (N5 level). (MOOC)

EIGHTH SEMESTER (January-June)

Sl. No:	Slot	Course Code	Course Type	Course Category	Course Title (Course Name)	Credit Structure				SS	Total Marks		Credits	Hrs/ Week
						L	T	P	R		CIE	ESE		
1	A	24SJPECET86N 24SJPECEM86N#	PE	PE	PE-6 Internship Students: Self Study/MOOC / Online Classes	3	0	0	0	4.5	40	60	3	3
2	O#	24SJOECET83N 24SJIECET83N 24SJOECEM83N#	OE/ILE	OE/IE	OE Industry Linked Elective - 3 Internship Students: Self Study/MOOC/ Online Classes	3	0	0	0	4.5	40	60	3	3
3	I*	24SJICHUT803 24SJIEHUM803#	HMC	IC	Organizational Behavior and Business Communication Internship Students: Self Study/MOOC /Online Classes	2	0	0	0	3	50	50	1	2
4	P**	24SJPCCEP806 24SJPCCEI806 24SJPCCEJ806	PWS	PC	Option 1: Major Project Option 2: Internship (4-6 Months) Option 3: Major Project Phase -II	0	0	0	8	8	100	0	4	8
Total										**20**			**11**	**16**

No Grade Points will be awarded for the I slot courses.

#*MOOC Courses approved by Institution (for Internship Students)*

** *Option 1: For the students who have opted for an internship in S7*

*Option 2: Full semester Internship in an Industry/organization (**7th or 8th semester**)*

Option 3: For the students who have not opted for internship in S7/S8

PROGRAM ELECTIVE VI: 24SJPECET 86N					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
A	24SJPECET861	Water and Air Quality Management	3-0-0-0	3	3
	24SJPECET862	Valuation of Real Properties	3-0-0-0		3
	24SJPECET863	Contracts Management	3-0-0-0		3
	24SJPECET864	Advanced Design of Steel Structures	3-0-0-0		3
	24SJPECET866	Urban Transportation Planning	3-0-0-0		3
	24SJPECET867	Rural Water Supply and Onsite Sanitation Systems	3-0-0-0		3
	24SJPECET865	**Design of Earthquake Resistant Structures**	3-0-0-0		**5/3**

Open Electives offered by CE department to students of other departments

OPEN ELECTIVE III: 24SJOECET 83N					
SLOT	COURSE CODE	COURSES	L-T-P-R	HOURS	CREDIT
O	24SJOECET831	Waste Management	3-0-0-0	3	3
	24SJOECET832	Rainwater Harvesting	3-0-0-0		3
	24SJOECET833	Public Transportation Systems	3-0-0-0		3
	24SJOECET834	Fundamentals of Building Planning	3-0-0-0		3
	24SJOECET835	Hydrogeology	3-0-0-0		3

HMC Courses			
S. No	**Semester**	**Course Area**	**Credits**
1	**S1/S2**	Life Skills and Professional Communication	1
2	**S3/S4**	Economics for Engineers	2
3		Engineering Ethics and Sustainable Development	2
4	**S5**	Constitution of India. (MOOC)	1
5	**S7**	Elective (Project Management/Foreign Languages)	2
6	**S8**	Organizational Behavior and Business Communication	1
Total Credits			**9**

BSC Courses			
Sl. No:	**Semester**	**Course Area**	**Credits**
1	**S1**	Mathematics for Physical Science-1	3
2	**S1/S2**	Physics for Physical Science	4
3		Chemistry for Physical Science	4
4	**S2**	Mathematics for Physical Science-2	3
5	**S3**	Mathematics for Physical Science-3	3
6	**S4**	Mathematics for Physical Science-4	3
Total Credits			**20**

ESC Courses			
Sl. No:	**Semester**	**Course Area**	**Credits**
1	**S1**	Engineering Mechanics	3
2		Introduction to Mechanical Engineering/ Civil Engineering	4
3		Algorithmic Thinking with Python	4
4		Engineering Workshop	1
5	**S2**	Engineering Graphics and Computer Aided Drawing	3
6		Basic Electrical and Electronics Engineering	4
7		Engineering Entrepreneurship and IPR	3
8		Civil Engineering Drafting Lab (CE)	1
9	**S3**	Introduction to Artificial Intelligence and Data Science	4
10	**S6**	Design Thinking and Product Development (Group Specific Syllabus)	2
Total Credits			**29**

Programme Core Courses (PC)			
Sl. No:	**Semester**	**Course Area**	**Credits**
1	**S2**	Mechanics of Solids	4
2	**S3**	Fluid Mechanics	4
3		Structural Analysis-I	4
4		Survey Lab	2
5		Fluid Mechanics Lab	2
6	**S4**	Soil Mechanics	4
7		Structural Analysis-II	4
8		Materials Testing Lab	2
9		Civil Engineering Modelling Lab	2
10	**S5**	Hydrology & Water Resources Engineering	4
11		Transportation Engineering	4
12		Environmental Engineering	3
13		Geotechnical Engineering Lab	2
14		Concrete Lab (MTL-2)	2
15	**S6**	Quantity Surveying & Valuation	3
16		Design of Steel Structures	3
17		Transportation Engineering Lab	2
18		Environmental Engineering Lab	1
Total Credits (Theory -10, Lab-8)			**52**

Programme Core-Project Based Learning (PBL)			
Sl. No:	**Semester**	**Course Area**	**Credits**
1	**S3**	Surveying & Geomatics	4
2	**S4**	Design of Concrete Structures	4
3	**S5**	Foundation Engineering	4
4	**S6**	Construction Project Management	4
Total Credits			**16**

Programme Elective Courses (PE)			
Sl. No:	**Semester**	**Course Type**	**Credits**
1	**S4**	PE-1	3
2	**S5**	PE-2	3
3	**S6**	PE-3	3
4	**S7**	PE-4	3
5		PE-5	3
6	**S8**	PE-6	3
Total Credits			**18**

Open Elective Courses/Industry Elective (OE/ILE)			
Sl. No:	**Semester**	**Course Type**	**Credits**
1	**S6**	OE/ILE-1	3
2	**S7**	OE/ILE-2	3
3	**S8**	OE/ILE-3	3
Total Credits			**9**

Project/ Internship and Seminar			
Sl. No:	**Semester**	**Course Type**	**Credits**
1	**S6**	Mini Project	**2**
2	**S7**	Seminar	2
3		Major Project/Internship	4
4	**S8**	Major Project/Internship/Research Project	4
Total Credits			**12**

<table>
<tr><th colspan="5">Activity Points</th></tr>
<tr><th>Sl. No.</th><th>Group</th><th>Courses</th><th>Credits</th><th>Minimum Credit Requirements</th></tr>
<tr><td>1</td><td rowspan="3">I</td><td>NSS, NCC, NSO (National Sports Organization)</td><td rowspan="3">1
(40 Points)</td><td rowspan="8">3 Credits
(One credit from each Group)</td></tr>
<tr><td>2</td><td>Arts/Sports/Games</td></tr>
<tr><td>3</td><td>Union/Club Activities</td></tr>
<tr><td>4</td><td rowspan="3">II</td><td>English Proficiency Certification (TOFEL, IELTS, BEC etc.)</td><td rowspan="3">1
(40 Points)</td></tr>
<tr><td>5</td><td>Aptitude Proficiency Certification (GRE, CAT, GMAT etc.)/ Valid Gate Score.</td></tr>
<tr><td>6</td><td>Short Term Internship (Minimum 2 weeks), Clinical Exposure/Training (Minimum 2 weeks), Conferences/Paper Presentation/ Workshop Activities/ Professional Body Activities, Participation in University level/State Level/ National Level Hackathons</td></tr>
<tr><td>7</td><td rowspan="2">III</td><td>Journal Publication, Patents, Start-Up, Innovation, Winners of National/ International Level Hackathons</td><td rowspan="2">1
(40 Points)</td></tr>
<tr><td>8</td><td>Skilling Certificates (Approved by the Institution)</td></tr>
</table>

- ***Students are required to acquire a minimum of 120 activity points, with at least 40 points per group, to fulfill the curriculum requirement of 3 activity credits.***
- ***For B. Tech Lateral Entry students, 30 points per group are required. A minimum of 90 activity points must be acquired to obtain the 3 activity credits mandated by the curriculum.***

Course classifications of the B. Tech Programmes and Overall Credit Structure			
Sl. No	**Category**	**Code**	**Credits**
1	Humanities and Social Sciences including Management Courses	HMC	9
2	Basic Science Courses	BSC	20
3	Engineering Science Courses	ESC	29
4	Programme (Professional) Core Courses	PCC	52
5	Programme (Professional) Core Courses-Project Based Learning	PBL	16
6	Programme Elective Courses	PEC	18
7	Open Elective Courses/Industry Linked Elective	OEC/ILE	9
8	Mini Project, Project Work/Internship and Seminar	PWS	12
9	Health and Wellness	HWP	1
10	Skill Enhancement Courses (Digital 101)	SEC	1
11	Mandatory Student Activities	MSA	3
Total Credits			**170**

COURSE CODING PATTERN

A course code in an engineering degree curriculum is a unique identifier assigned to a specific academic course. It is a combination of letters and numbers that serves as a shorthand reference for the course.

- Each course is denoted by a unique code consisting of Twelve alphanumeric characters
  - Format: [24SJYYXXCSNN]
  - Eg**: 24SJICMAT201**

- The first four characters (24SJ) denote the year of scheme of introducing the curriculum and institution code
- The next five characters (YYXXC) will be alphabets, representing the course category (YY), name of the department (XX) offering that course followed by the nature of the course(C).
  - YY- Institution Core (**IC**), Group Core (**GC**), Programme Core (**PC**) etc.
  - XX- Civil Engineering (**CE**)
  - C- Theory(**T**), Lab(**L**), Seminar(**S**), Project(**P**) etc.
  - The last three characters (SNN) will be digits, providing a unique numerical identifier for the course.
  - S- Semester Number (It can have a number from 1 to 8) in which the course is offered
  - NN- Course Sequence Number

This format aims to create a clear and consistent structure for course codes, making it easier for students, faculty, and administrative staff to identify and manage different courses within the institution. These course numbers are to be given in the curriculum and syllabi.

For example: 24SJGCPHT121- is a theory course offered in the first semester. 24SJPCCEL507- is a Programme core laboratory course in the fifth semester. 24SJPBCET604 - is a Project-Based Learning course offered in the sixth semester.24SJICHUT803 is an institution core theory course in the Eighth semester.

SJCET offers various Engineering branches are grouped into three broad categories based on their specialization.

Group	Branches
A	Artificial Intelligence and Data Science (AD) Computer Science and Engineering (CS) Computer Science and Engineering (Artificial Intelligence) (CA) Computer Science and Engineering (Cyber Security) (CC)
B	Electrical and Electronics Engineering (EE) Electronics & Communication Engineering (EC) Electronics and Computer Engineering (ER)
C	Civil Engineering (CE) Mechanical Engineering (ME)

CODE	DESCRIPTION	EXAMPLE
GA	Courses Common to Group A	24SJGAMAT101
GB	Courses Common to Group B	24SJGBPHT121
GC	Courses Common to Group C	24SJGCEST103
GX	Courses Common to Group A and B	24SJGXCYT122
GY	Courses Common to Group B and C	24SJGYMAT101

Course Category

- **Institution Core (IC):** The Institution core is a compulsory set of courses for all B. Tech students, which includes basic courses in Humanities and Computer Science.
- **Institution Elective (IE):** These are elective courses from a basket of courses in the Humanities and Social Sciences.
- **Group Core (GC):** Courses listed under Group Core of a curriculum are group specific. These courses ensure that students gain specialized knowledge and skills in their chosen field of study.

Course Category	Branch/ Department Code	Codes for the nature of the Course	Semester Number	Identification Number for Each Course
YY	XX	C	S	NN
IC	HU, HW	T-Theory M-MOOC L- Lab S-Seminar P-Project J-Project Phase 2 I-Internship	1 to 8	01, 02, 03…
IE				
GC	AD, CS, CA, CY, CE, EC, EE, ES, ME			
PC				
PB				
PE, OE/IE				
HN - Honours MN - Minor				