|| Jai Sri Gurudev ||
Sri Adichunchanagiri Shikshana Trust (R)
SJB Institute of Technology
BGS Health and Education City, Dr. Vishnuvardhana Road, Kengeri, Bengaluru-560060
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Autonomous Scheme of Teaching & Examinations (ST&E) (Tentative) UG - BE 3rd Year ECE

SCHEME: 2023　　　　**SEM: V**　　　　**Revision date: 29/03/2025**

S. #	Course Type	Course type Series	Course Code	Course Title	Teaching Dept.	QP setting dept	Credits	Lecture (L)	Tutorial (T)	Practical (P)	PBL/ABL / SL/etc. (O)	CIE Marks	SEE Dur.	SEE Th.	SEE Lab	SEE Tot.
1	PCC	3	23ECT501	Electromagnetic Field Theory	ECE	ECE	3	3	0	0		50	03	50	-	100
2	IPCC	5	23ECI502	Analog & Digital Communication	ECE	ECE	4	3	0	2		50	03	50	-	100
3	IPCC	6	23ECI503	Digital Signal Processing	ECE	ECE	4	3	0	2	@	50	03	50	-	100
4	PCCL	3	23ECL504	Advanced Digital Communication Lab	ECE	ECE	1	0	0	2		50	03	-	50	100
5	PEC	1	23ECP51y	Professional Elective Course - 1	ECE	ECE	3	3	0	0	@	50	03	50	-	100
6	ETC	3	23ECE53y	Emerging Technology Course - 3	ECE	ECE	3	3	0	0	@	50	03	50	-	100
7	HSMC	6	23SFHH06	Bioscience	any dept	any dept	1	0	2	0	@	50	02	50	-	100
8	AEC	5	23ECAE5y	Ability Enhancement Course - 5	ECE	ECE	1	1	0	0		50	02	50	-	100
								(or)								
								0	0	2		50	02	-	50	100
9	NCMC	4	23PASN01	Physical Education - Sports and Athletics	PED	PED	PP/NP	-	-	-	2	50	-	-	-	50
			23YOGN02	Yoga	PED	PED										
			23NSSN03	NSS - National Service Scheme	NSS	NSS										
			23NCCN04	NCC - National Cadet Corps	NCC	NCC										
			23IKSN05	Indian Knowledge System	HSS	HSS										
Total							**20**	**16**	**2**	**8**	**2**	**450**		**350**	**100**	**850**

PCC: Professional Course; IPCC: Integrated Professional Core Course; PCCL: Professional Core Course Laboratory; AEC: Ability Enhancement Course; HSMC: Humanities, Social Sciences & Management Course; NCMC: Non Credit Mandatory Course;
{ @ - Compulsory one activity during the semester};
{I.E.-Industry Experts}.
PBL: project Based learning; ABL: Activity Based Learning; SL: Self-Learning

ETC (Emerging Technology Course):
For ETC (L:T:P:O) can be planned by the depts considering practicality & possibility of conduction, same shall be indicated along with course title in the list, if altered than above. If planned altering the prescription, the same shall be approved at the department BOS & authorities. Atleast one activity is mandatory during the delivery of the course. The guidelines is applicable to all the semesters III to VI semesters (ETC-1 to ETC-4).

Bioscience & UHV-Universal Human Values:
1) Any one of the course will be offered by the departments in each semester of IV & V based on the institutional planning.
2) Both the courses shall be studied and completed by the students registering each in the two semesters. For example, if Bioscience is offered in the IV semester, UHV-Universal Human Values is offered in the V semester.

Ability Enhancement Course-5: 23xxAE5y - 1 Credit course
1) The courses and the syllabus shall be defined by the respective dept. BOS.
2) SEE will be MCQ if offered as theory course. If offered as LAB course, SEE will be practical, with two internal examiners. Handled by Controller of Examinations.

NCMC (Non Credit Mandatory Course) for course type series-4: Refer to guidelines in III SEM.

Professional Elective Course - 1		Emerging Technology Course - 3		Ability Enhancement Course - 5	
Course Code	**Course Title**	**Course Code**	**Course Title**	**Course Code**	**Course Title**
23ECP511	Data Structure using C++	23ECE531	Automotive Electronics and Hybrid Vehicles	23ECAE51	Data Structure using C++ Lab
23ECP512	Information Theory & Coding	23ECE532	FPGA based System design using Verilog	23ECAE52	FPGA Based System design Lab Using Verilog
23ECP513	Fundamentals of Artificial Intelligence	23ECE533	Cloud Computing & IoT Analytics	23ECAE53	Data Acquisition using Labview
23ECP514	Real Time Operating System	23ECE534	Block Chain Technology	23ECAE54	PLC & Sensorics Lab

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Autonomous Scheme of Teaching & Examinations (ST&E) (Tentative) UG - BE 3rd Year ECE

SCHEME: 2023　　　**SEM: VI**　　　**Revision date: 29/03/2025**

S. #	Course Type	Course type Series	Course Code	Course Title	Teaching Dept.	QP setting dept	Credits	L Lecture	T Tutorial	P Practical	O PBL/ABL /SL/etc.	CIE Marks	SEE Dur.	SEE Th.	SEE Lab	SEE Tot.
1	PCC	4	23ECT601	VLSI Design & Testing	ECE	ECE	3	3	0	0	@	50	03	50	-	100
2	IPCC	7	23ECI602	Microwave & Antennas	ECE	ECE	4	3	0	2	@	50	03	50	-	100
3	PCCL	4	23ECL603	VLSI Design & Testing Lab	ECE	ECE	1	0	0	2		50	03	-	50	100
4	PEC	2	23ECP62y	Professional Elective Course - 2	ECE	ECE	3	3	0	0		50	03	50	-	100
5	OEC	1	23ECO61y	Open Elective Course - 1	Any dept.	Any dept.	3	3	0	0		50	03	50	-	100
6	ETC	4	23ECE64y	Emerging Technology Course - 4	ECE	ECE	3	3	0	0	@	50	03	50	-	100
7	AEC	6	23RMAE61	Research Methodology & IPR	ECE	ECE	3	3	0	0	@	50	03	50	-	100
8	PRJ	1	23ECPRJ1	Major Project - Phase I	ECE	ECE	2	0	0	4	@	50	03	-	50	100
9	HSMC	7	23SCRH08	Social Connect & Responsibility	Any dept	Any dept	1	1	0	0	@	50	-	-	-	50
10	NCMC	4	23PASN01	Physical Education - Sports and Athletics	PED	PED	PP/NP	-	-	-	2	50	-	-	-	50
			23YOGN02	Yoga	PED	PED										
			23NSSN03	NSS - National Service Scheme	NSS	NSS										
			23NCCN04	NCC - National Cadet Corps	NCC	NCC										
			23IKSN05	Indian Knowledge System	HSS	HSS										
				Total			**23**	**19**	**0**	**8**	**2**	**500**		**300**	**100**	**900**

PCC: Professional Course; IPCC: Integrated Professional Core Course; PCCL: Professional Core Course Laboratory; PEC: Professional Elective Course; OEC: Open Elective Course;
HSMC: Humanities, Social Sciences & Management Course; AEC: Ability Enhancement Course; NCMC: Non Credit Mandatory Course; PRJ: Project work.
{@ - Compulsory one activity during the semester};
{I.E.-Industry Experts};
PBL: project Based learning; ABL: Activity Based Learning; SL: Self-Learning

Open Elective Courses (OEC):

1) Open Electives listed here are to offer for other department students.

2) Students shall select open elective courses offered from other departments, separate consolidated list of courses offered from various departments will be published time to time.

ETC (Emerging Technology Course):

For ETC (L:T:P:O) can be planned by the depts considering practicality & possibility of conduction, same shall be indicated along with course title in the list, if altered than above. If planned altering the prescription, the same shall be approved at the department BOS & authorities. Atleast one activity is mandatory during the delivery of the course. The guidelines is applicable to all the semesters III to VI semesters (ETC-1 to ETC-4).

NCMC (Non Credit Mandatory Course) for course type series-4: Refer to guidelines in III SEM.

Professional Elective Course - 2 (23ECP62y)		Open Elective Course - 1 (23ECO61y)		Emerging Technology Course - 4 (23ECE64y)	
Course Code	Course Title	Course Code	Course Title	Course Code	Course Title
23ECP621	Satellite Communication	23ECO611	Electronic Communication Systems	23ECE641	Robotics and Its Applications
23ECP622	DSP Algorithm and Architecture	23ECO612	Basic VLSI Design	23ECE642	Natural Language Processing
23ECP623	Hardware Software Co-Design	23ECO613	Consumer Electronics	23ECE643	Principles of Machine Learning
23ECP624	Digital Image Processing	23ECO614	Digital System Design using Verilog	23ECE644	Nano Technology for Engineers

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Autonomous Scheme of Teaching & Examinations (ST&E) (Tentative) UG - BE 4th Year ECE

SCHEME: 2023   **SEM: VII**   **Revision date: 29/03/2025**

S. #	Course Type	Course Type Series	Course Code	Course Title	Teaching Dept.	QP setting dept	Credits	Lecture	Tutorial	Practical	PBL/ABL /SL/etc.	CIE Marks	SEE Dur.	SEE Th.	SEE Lab	SEE Tot.
								Teaching Hrs/Week					**Examinations**			
								L	T	P	O			**SEE (Dur. & Marks)**		
1	PCC	5	23ECT701	Wireless Communication	Dept.	Dept.	**3**	3	0	0		50	03	50	-	100
3	IPCC	8	23ECI702	Computer Networks and Protocols	Dept.	Dept.	**4**	3	0	2		50	03	50	-	100
4	PEC	3	23ECP73y	Professional Elective Course - 3	Dept.	Dept.	**3**	3	0	0		50	03	50	-	100
5	OEC	2	23ECO72y	Open Elective Course - 2	Any dept.	Any dept.	**3**	3	0	0		50	03	50	-	100
6	HSMC	7	23ECT704	Management & Entrepreneurship	Dept.	Dept.	**2**	2	0	0		50	03	50	-	100
7	PRJ	2	23ECPRJ2	Major Project - Phase II			**6**	0	0	12	@	100	03	-	100	200
				Total			**21**	**14**	**0**	**14**		**350**		**250**	**100**	**700**

PCC: Professional Core Course; IPCC: Integrated Professional Core Course; PEC: Professional Elective Course; OEC: Open Elective Course; PRJ: Project Work.
PBL: project Based learning; ABL: Activity Based Learning; SL: Self-Learning

Open Elective Courses (OEC):

1) Open Electives listed here are to offer for other department students.

2) Students shall select open elective courses offered from other departments, separate consolidated list of courses offered from various departments will be published time to time.

Professional Elective Course - 3 (23xxP73y)		Open Elective Course - 2 (23xxO72y)	
Course Code	Course Title	Course Code	Course Title
23ECP731	Multimedia Communication	23ECO721	Automotive Electronics
23ECP732	5G Fundamental & Architecture	23ECO722	Embedded System Applications
23ECP733	Application Specific Integrated Circuit	23ECO723	Sensors and Actuators
23ECP734	Optical Fibre Communication	23ECO724	E-waste Management

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Autonomous Scheme of Teaching & Examinations (ST&E) (Tentative) UG - BE 4th Year ECE

SCHEME: 2023   SEM: VIII   Revision date: 29/03/2025

S. #	Course Type	Course Type Series	Course Code	Course Title	QP setting dept	Credits	Teaching Hrs/Week				Examinations				
							L	T	P	O	CIE Marks	SEE (Dur. & Marks)			
							Lecture	Tutorial	Practical	PBL/ABL / SL/etc.		Dur.	Th.	Lab	Tot.
1	SLC	1	23ECS1yy	Self-Learning Course - 1 (NPTEL)		**3**	0	0	0	@	50	-	50	-	100
2	SLC	2	23ECS2yy	Self-Learning Course - 2 (NPTEL)		**3**	0	0	0	@	50	-	50	-	100
4	INT	1	23ECINT1	Industrial Internship		**10**				@	100	03	-	100	200
				Total		**16**	**0**	**0**	**0**	**0**	**200**		**100**	**100**	**400**

SLC: Self Learning Course; PRJ: Project Work; INT: Internship; After 7th SEM exams, full time for Internship & Project equally divided; SLC courses to be started from 3rd SEM and to be completed by 7th SEM and evaluated and credited in 8th SEM.

PBL: project Based learning; ABL: Activity Based Learning; SL: Self-Learning

Self-Learning Courses (SLC):

1) Offering and Registration of Self-learning Courses will commence from 3rd Semester itself and continues till the end of the duration of study.

2) Both regular & lateral entry students shall start registering for the self learning courses and complete as per the guidelines published separately. (Refer to the Self Learning Courses guidelines published).

3) Calculation of SGPA & CGPA is considered for VIII Semester, irrespective of period or time of completion of the course.

Self-Learning course - 1 (NPTEL) (23ECS1yy)			Self-Learning course - 2 (NPTEL) (23ECS2yy)		
Course Code	Course Title	NPTEL Code	Course Code	Course Title	NPTEL Code
NOTE: 1) List shall be published separately starting from 3rd SEM itself. (Need not to mention the list here) 2) The students shall register for NPTEL courses when the lists are announced by the departments & complete as per the guidelines.					