|| 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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Recognized by UGC, New Delhi with 2(f) & 12 (B), Accredited by NAAC with 'A+'grade,
Certified by ISO 9001 – 2015

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

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	Dur.	Th.	Lab	Tot.
1	PCC	3	23CDT501	Theory of Computation	CSE(DS)	CSE(DS)	3	3	0	0		50	03	50	-	100
2	IPCC	5	23CDI502	Computer Networks	CSE(DS)	CSE(DS)	4	3	0	2		50	03	50	-	100
3	IPCC	6	23CDI503	Artificial Intelligence and Machine Learning	CSE(DS)	CSE(DS)	4	3	0	2		50	03	50	-	100
4	PCCL	3	23CDL504	Data Visualization Lab	CSE(DS)	CSE(DS)	1	0	0	2		50	03	-	50	100
5	PEC	1	23CDP51y	Professional Elective Course - 1	CSE(DS)	CSE(DS)	3	3	0	0		50	03	50	-	100
6	ETC	3	23CDE53y	Emerging Technology Course - 3	CSE(DS)	CSE(DS)	3	3	0	0	@	50	03	50	-	100
7	HSMC	6	23SFHH06/ 23UHVH07	Bioscience or UHV-Universal Human Values	any dept	any dept	1	0	2	0	@	50	02	50	-	100
8	AEC	5	23CDAE5y	Ability Enhancement Course - 5	CSE(DS)	CSE(DS)	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 plaanned 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: 23CDAE5y - 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
23CDP511	Computer Vision	23CDE531	Java Full Stack Development	23CDAE51	Devops
23CDP512	Exploratory Data Analytics	23CDE532	Web Programming	23CDAE52	Mobile Application Development with Flutter
23CDP513	Data Warehousing 2.0	23CDE533	IOT Analytics	23CDAE53	Generative AI
23CDP514	NOSQL Databases	23CDE534	Information and Network Security	23CDAE54	React

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

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	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	PCC	4	23CDT601	Big Data Analytics	CSE(DS)	CSE(DS)	3	3	0	0		50	03	50	-	100
2	IPCC	7	23CDI602	Deep Learning	CSE(DS)	CSE(DS)	4	3	0	2		50	03	50	-	100
3	PCCL	4	23CDL603	Big Data Analytics Lab	CSE(DS)	CSE(DS)	1	0	0	2		50	03	-	50	100
4	PEC	2	23CDP62y	Professional Elective Course - 2	CSE(DS)	CSE(DS)	3	3	0	0		50	03	50	-	100
5	OEC	1	23CDO61y	Open Elective Course - 1	Any dept.	Any dept.	3	3	0	0		50	03	50	-	100
6	ETC	4	23CDE64y	Emerging Technology Course - 4	CSE(DS)	CSE(DS)	3	3	0	0	@	50	03	50	-	100
7	AEC	6	23RMAE61	Research Methodology & IPR	Dept.	Dept.	3	3	0	0	@	50	03	50	-	100
8	PRJ	1	23CDPRJ1	Project - Phase I	CSE(DS)	Dept.	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	0	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

NOTE: CIE & SEE guidelines for S. #7: AEC-23RMAE61-Reserach Methodology & IPR will be same as 3 credit courses BSC/ESC/PCC/ETC/PEC/OEC as mentioned in serial no. 1 of CIE & SEE guidelines.

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 plaanned 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 (23CDP62y)		Open Elective Course - 1 (23CDO61y)		Emerging Technology Course - 4 (23CDE64y)	
Course Code	Course Title	Course Code	Course Title	Course Code	Course Title
23CDP621	Natural Language Processing	23CDO611	Introduction to Data Structures	23CDE641	UI/UX with Flutter
23CDP622	Block Chain Technologies	23CDO612	Fundamental of Operating System	23CDE642	Parallel Programming
23CDP623	Distributed File System	23CDO613	Introduction to Data Science	23CDE643	Prompt Engineering
23CDP624	Digital Marketing	23CDO614	OOPS with Java	23CDE644	Data Security and Privacy

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

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	L Lecture	T Tutorial	P Practical	O PBL/ABL /SL/etc.	CIE Marks	SEE Dur.	SEE Th.	SEE Lab	SEE Tot.
1	PCC	5	23CDT701	Large Language Modelling	CSE(DS)	CSE(DS)	**3**	3	0	0		50	03	50	-	100
2	IPCC	8	23CDI702	Satatistical Machine Learning for Data Science	CSE(DS)	CSE(DS)	**4**	3	0	2		50	03	50	-	100
3	PEC	3	23CDP73y	Professional Elective Course - 3	CSE(DS)	CSE(DS)	**3**	3	0	0		50	03	50	-	100
4	OEC	2	23CDO72y	Open Elective Course - 2	Any dept.	Any dept.	**3**	3	0	0		50	03	50	-	100
5	HSMC	7	23CDT704	Management and Entrepreneurship for IT Industry	Dept.	Dept.	**2**	2	0	0		50	03	50	-	100
6	PRJ	2	23CDPRJ2	Major Project - Phase II	Dept.	Dept.	**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 (23CDP73y)		Open Elective Course - 2 (23CDO72y)	
Course Code	**Course Title**	**Course Code**	**Course Title**
23CDP731	Time Series Analysis	23CDO721	Software Engineering
23CDP732	Scalable Computing	23CDO722	Introduction to Machine Learning
23CDP733	Business Analytics	23CDO723	Distributed File System
23CDP734	Pytorch	23CDO724	Information and Network Security

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

SCHEME: 2023 **SEM: VIII** **Revision date:** **29-03-2025**

S. #	Course Type	Course Type Series	Course Code	Course Title	QP setting dept	Credits	Lecture	Tutorial	Practical	PBL/ABL / SL/etc.	CIE Marks	Dur.	Th.	Lab	Tot.
1	SLC	1	23CDS1yy	Self-Learning Course - 1 (NPTEL)		**3**	0	0	0	@	50	-	50	-	100
2	SLC	2	23CDS2yy	Self-Learning Course - 2 (NPTEL)		**3**	0	0	0	@	50	-	50	-	100
3	INT	1	23CDINT1	Industrial Internship		**10**				@	100	03	-	100	200
				Total		**16**	**0**	**0**	**0**	**0**	**200**		**100**	**100**	**400**

SLC: Self Learning Course; INT: Internship-After 7th SEM exams; 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) (23CDS1yy)			Self-Learning course - 2 (NPTEL) (23CDS2yy)		
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.					