FACULTY OF ENGINEERING

Scheme of Instruction & Examination

For
Four Year Degree Programme of

Bachelor of Engineering (B.E)

in

Artificial Intelligence and Data Science

(With effect from the academic year 2021–22)

Estd. 2008

STANLEY COLLEGE OF ENGINEERING AND TECHNOLOGY FOR WOMEN (AUTONOMOUS)

(Affiliated to Osmania University)
(Accredited by NAAC with "A" Grade)
ABIDS, HYDERABAD-500001,Telangana.

Stanley College of Engineering and Technology for Women (Autonomous)

Abbreviation	Meaning
HS	Humanities, Social Sciences and Management
BS	Basic Sciences including Mathematics, Physics and Chemistry
ES	Engineering Sciences including Workshop, Drawing, Basic Electrical / Electronics
PC	Professional Core Courses
PE	Professional Elective Courses
OE	Open Elective Courses
PW	Project Work
MC	Mandatory Courses
AC	Audit Courses
PY	Philosophy
EC	Electronics and Communication Engineering.
CE	Civil Engineering,
MP	Mechanical / Production Engineering
IT	Information Technology
CS	Computer Science Engineering
EE	Electrical and Electronics Engineering
CM	Computer Engineering
AD	Artificial Intelligence and Data Science
L	Lecture
T	Tutorial
P	Practical
G	Grade
D	Drawing
CIE	Continuous Internal Evaluation
SEE	Semester End Evaluation
	Each contact hour is a clock hour
	The duration of the Practical class is two hours; however, it can be extended wherever necessary, to enable the student to complete the experiment.

Keywords	Definition
HS	Courses offered in the area of humanities and social sciences like communication & managerial skills.
BS	Courses of foundational nature in the areas of Mathematics, Physics, Chemistry, Biology etc.
ES	Courses belonging to the basic evolutionary aspects of a Particular Engineering from all other branches of Engineering.
PC	Courses that are fundamental and compulsory constituents of the respective engineering discipline.
PE	Courses those are discipline-specific to stream line the graduates to different emerging fields as per their choice.
OE	Courses of interdisciplinary nature offered to all the students of various programmes across the Institute.
PW	To make a perfect, Hands-on experienced Professionals.
MC	Compulsory non-credit courses that a student need to study to become a responsible citizen, as per supreme court guidelines.
AC	Audit courses can help the student to get awareness of different issues which enhance their skill sets to improve their employability.

Induction Program

SMC901AD Induction Program (Mandatory)	3 weeks' duration
Induction program for students to be offered right at the start of the first year	• Physical Activity • Creative Arts • Universal Human Values • Literary • Proficiency Modules • Lectures by Eminent People • Visits to local Areas • Familiarization to Dept./Branch & Innovations

I Semester

S.No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hours per week	CIE	SEE	SEE Duration in Hours	
Theory Courses										
Three Week Induction Program										
1	SHS901EG	English	2	-	-	2	40	60	3	2
2	SBS101MT	Mathematics – I	3	1	-	4	40	60	3	4
3	SBS902PH	Applied Physics	3	-	-	3	40	60	3	3
4	SES101CS	Programming for Problem Solving	3	-	-	3	40	60	3	3
5	SMC903PO	Indian Constitution	2	-	-	2	40	60	3	0
6	SMC904PY	Essence of Indian Traditional Knowledge	2	-	-	2	40	60	3	0
Practical/Laboratory Courses										
7	SHS911EG	English Lab	-	-	2	2	40	60	3	1
8	SBS912PH	Physics Lab			4	4	40	60	3	2
9	SES111CS	Programming for Problem Solving Lab	-	-	4	4	40	60	3	2
10	SES914ME	Workshop		-	6	6	40	60	3	3
TOTAL			**15**	**01**	**16**	**32**	**400**	**600**	**30**	**20**

Stanley College of Engineering and Technology for Women (Autonomous)

II Semester

S.No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hours per week	CIE	SEE	SEE Duration in Hours	
Theory Courses										
1	SBS201MT	Mathematics – II	3	1	-	4	40	60	3	4
2	SBS903CH	Chemistry	3	-	-	3	40	60	3	3
3	SES901EC	Basic Electrical & Electronics Circuits	3	-	-	3	40	60	3	3
4	SES202CS	Data Structures Using C	3	-	-	3	40	60	3	3
5	SMC903CE	Environmental Science	2	-	-	2	40	60	3	-
6	SAC901AD	Design Thinking	2	-	-	2	-	=	-	-
Practical/Laboratory Courses										
7	SBS913CH	Chemistry Lab	-	-	4	4	40	60	3	2
8	SES915ME	Engineering Graphics & Design	1	-	4	5	40	60	3	3
9	SES911EC	Basic Electrical & Electronics Circuits Lab	-	-	4	4	40	60	3	2
10	SES212CS	Data Structures Using C Lab	-	-	2	2	40	60	3	1
11	SPW211AD	Field Work	The students have to undergo a Field work of 2-week duration after II- Semester SEE				50	-	-	1
TOTAL			**17**	**01**	**14**	**32**	**410**	**540**	**30**	**22**

III Semester

S.No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hours per week	CIE	SEE	SEE Duration in Hours	
Theory Courses										
1	SBS301MT	Mathematics-III (Probability & Statistics)	3	-	-	3	40	60	3	3
2	SES301AD	Discrete Mathematics	3	1	-	3	40	60	3	4
3	SPC301AD	OPPs Using Java	3	-	-	3	40	60	3	3
4	SPC302AD	Data Base Management System	3	-	-	3	40	60	3	3
5	SPC303AD	Concepts in Computer Organization and Microprocessor	3	-	-	3	40	60	3	3
6	SAC902EE	Electrical Technology	2	-	-	2	-	-	-	-
Practical/Laboratory Courses										
7	SPC311AD	OPPs Using Java Lab	-	-	3	3	40	60	3	1.5
8	SPC312AD	Data Base Management System Lab	-	-	3	3	40	60	3	1.5
9	SPC313AD	Concepts in Computer Organization and Microprocessor Lab	-	-	2	2	40	60	3	1
TOTAL			**17**	**01**	**8**	**26**	**320**	**480**	**24**	**20**

Stanley College of Engineering and Technology for Women (Autonomous)

IV Semester

S.No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hours per week	CIE	SEE	SEE Duration in Hours	
Theory Courses										
1	SES401EC	Digital Electronics	3	-	-	3	40	60	3	3
2	SPC401AD	Artificial Intelligence and Robotics	3	-	-	3	40	60	3	3
3	SPC402AD	Operating System	3	-	-	3	40	60	3	3
4	SPC403AD	Data Communication and Computer Network	3	-	-	3	40	60	3	3
5	SPC404AD	Data Science	3	-	-	3	40	60	3	3
Practical/Laboratory Courses										
6	SHS411EG	Soft Skills & Interpersonal Skills	1	-	2	2	40	60	3	2
7	SPC412AD	Operating System & CN Lab	-	-	4	4	40	60	3	2
8	SPC413AD	Data Science using R	-	-	2	2	40	60	3	1
9	SPW411AD	Internship- 1	The students have to undergo an Internship of 4 week duration after IV- Semester SEE				50	-	-	1
TOTAL			16	00	08	24	370	480	24	21

V Semester

S.No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hours per week	CIE	SEE	SEE Duration in Hours	
Theory Courses										
1	SPC501AD	Automata Theory and Compiler Design	3	-	-	3	40	60	3	3
2	SPC502AD	Natural Language Processing Using python	3	-	-	3	40	60	3	3
3	SPC503AD	Design Analysis & Algorithms	3	-	-	3	40	60	3	3
4	PE-I	Professional Elective – I	3	-	-	3	40	60	3	3
5	OE-1	Open Elective – I	3	-	-	3	40	60	3	3
Practical/Laboratory Courses										
6	SPC511AD	Automata Theory and Compiler Design Lab	-	-	3	3	40	60	3	1.5
7	SPC512AD	Natural Language Processing Using python Lab	-	-	3	3	40	60	3	1.5
8	SPC513AD	Design Analysis & Algorithms Lab	-	-	2	2	40	60	3	1
TOTAL			**15**	**00**	**10**	**25**	**320**	**480**	**24**	**19**

Professional Elective – I	
SPE501AD	Machine Vision
SPE502AD	Mathematical Modeling for Data Science
SPE503AD	Advanced Database
SPE504AD	Distributed systems
SPE505AD	Cryptography & Cyber Security
SPE506AD	Introduction to IoT

Stanley College of Engineering and Technology for Women (Autonomous)

S.No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hours per week	CIE	SEE	SEE Duration in Hours	
Theory Courses										
1	SHS601BM	Managerial Economics & Financial Accounting	3	1	-	4	40	60	3	4
2	SPC601AD	Software Engineering	3	-	-	3	40	60	3	3
3	SPC602AD	Machine Learning Techniques	3	-	-	3	40	60	3	3
4	SPC603AD	Big Data Analytics and Hadoop	3	-	-	3	40	60	3	3
5	PE-II	Professional Elective – II	3	-	-	3	40	60	3	3
Practical/Laboratory Courses										
6	SPC611AD	Software Engineering Lab	-	-	4	4	40	60	3	2
7	SPC612AD	Machine Learning & Hadoop Lab	-	-	4	4	40	60	3	2
8	SPW614AD	Web Technology Lab	1	-	2	3	40	60	3	2
9	SPW611AD	Technical Seminar-1			2	2	50	-	-	1
10	SPW612AD	Internship- 2	The students have to undergo an Internship of 4 week duration after VI- Semester SEE				50	-	-	1
TOTAL			16	01	12	29	420	480	24	24

VII Semester

S.No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hours per week	CIE	SEE	SEE Duration in Hours	
Theory Courses										
1	SPC701AD	Neural Networks and Deep Learning	3	-	-	3	40	60	3	3
2	PE-IV	Professional Elective – IV	3	-	-	3	40	60	3	3
3	PE-V	Professional Elective – V	3	-	-	3	40	60	3	3
4	OE-I	Open Elective – I	3	-	-	3	40	60	3	3
5	OE-II	Open Elective – II	3	-	-	3	40	60	3	3
Practical/Laboratory Courses										
6	SPC711AD	Neural Network and Deep Learning Lab	-	-	2	2	40	60	3	1
7	PE-Lab	Professional Elective – Lab	-	-	2	2	40	60	3	1
8	SPW711AD	Project Work – I	-	-	6	6	50		3	3
	SPW712AD	Technical Seminar-1			2	2	50	-	-	1
TOTAL			15	0	12	27	380	420	24	21

VIII Semester

S.No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hours per week	CIE	SEE	SEE Duration in Hours	
Theory Courses										
1	OE-III	Open Elective – IV (Online Course)	3	-	-	3	40	60	3	3
Practical/Laboratory Courses										
2	SPW811AD	Project II	-	-	16	16	40	120	-	8
TOTAL			03	-	16	19	80	180	03	11

Stanley College of Engineering and Technology for Women (Autonomous)

Professional Elective – II	
SPE507AD	information retrieval system
SPE508AD	Advanced Python Programming
SPE509AD	SQL & DB Applications
SPE50AAD	Cloud Computing
SPE50BAD	Cyber forensics
SPE50CAD	Embedded System

Professional Elective – III	
SPE601AD	Speech Processing
SPE602AD	NO SQL Databases
SPE603AD	Database Security & Privacy
SPE604AD	Security & Privacy in Cloud Computing
SPE605AD	Digital forensics
SPE606AD	Blockchain Technology

Professional Elective – IV	
SPE701AD	Cognitive Science and Analytics
SPE702AD	Business intelligence and Analytics
SPE703AD	Database Administration and Tuning
SPE704AD	Service Oriented Architecture
SPE705AD	Vulnerability Analysis and Penetration Testing
SPE706AD	Open Source Programming for IoT

Professional Elective – V	
SPE707AD	Robotics and Intelligent Systems
SPE708AD	Web and Social Media Analytics
SPE709AD	Large Scale Data Processing
SPE70AAD	Cloud Application Development
SPE70BAD	Malware Analysis
SPE70CAD	Artificial Intelligence in Blockchain

Open Elective – I		
Course Code	**Course Title**	**Course Offered by the Department**
SOE701EG	Effective Technical Communication in English	English
SOE701PY	Introduction to Nanoscience and Technology	Physics
SOE701EC	Signals ans Systems	ECE
SOE701EE	Non-Conventional Energy Sources	EEE
SOE701MT	Operations Research	Mathematics
SOE701CE	Disaster Mitigation	CE

Open Elective – II		
Course Code	**Course Title**	**Course Offered by the Department**
SOE702BM	Advanced Entrepreneurship	MBA
SOE702MT	Mathematical Modeling	Mathematics
SOE702EC	Embedded Systems and its Applications	ECE
SOE702EE	Renewable Energy Sources	EEE

Open Elective – III		
Course Code	**Course Title**	**Course Offered by the Department**
SOE801EC	Internet of Things	ECE
SOE801BM	Supply Chain Management	MBA
SOE702EG	Technical Writing for Research	English
SOE801CE	Industrial Safety	CE
SOE801EE	Industrial Instrumentation	EEE

List of open electives offered to other departments

Open Electives I, II, III, IV	
Course Code	**Course Title**
SOExxxAD	Python Programming
SOExxxAD	Data Science Using R
SOExxxAD	Artificial intelligence
SOExxxAD	Machine Learning
SOExxxAD	Soft computing and Neural Networks

Mandatory (non-credit) Courses	
Course Code	Course Title
SMC901HS	Induction Program
SMC902CE	Environmental Science
SMC903PS	Indian Constitution
SMC904PY	Essence of Indian Traditional Knowledge

Audit (non-credit) Courses	
Course Code	Course Title
SAC901AD	Design Thinking
SAC902EE	Electrical Technology

Stanley College of Engineering and Technology for Women (*Autonomous*)

FACULTY OF ENGINEERING

Scheme of Instruction & Examination

For
Four Year Degree Programme of

Bachelor of Engineering (B.E)

in

Computer Engineering
(With effect from the academic year 2021–22)

Estd. 2008

STANLEY COLLEGE OF ENGINEERING AND TECHNOLOGY FOR WOMEN (AUTONOMOUS)
(Affiliated to Osmania University)
(Accredited by NAAC with "A" Grade)
ABIDS, HYDERABAD-500001,Telangana.

Abbreviation	Meaning
HS	Humanities, Social Sciences and Management
BS	Basic Sciences including Mathematics, Physics and Chemistry
ES	Engineering Sciences including Workshop, Drawing, Basic Electrical / Electronics
PC	Professional Core Subjects
PE	Professional Elective Subjects
OE	Open Elective Subjects
PW	Project Work, Seminars, Internship
MC	Mandatory Courses
PY	Philosophy
EC	Electronics and Communication Engineering.
CE	Civil Engineering,
MP	Mechanical / Production Engineering
IT	Information Technology
CS	Computer Science Engineering
EE	Electrical and Electronics Engineering
CM	Computer Engineering
AD	Artificial Intelligence and Data Science
L	Lecture
T	Tutorial
P	Practical
G	Grade
D	Drawing
CIE	Continuous Internal Evaluation
SEE	Semester End Evaluation
	Each contact hour is a clock hour
	The duration of the Practical class is two hours; however, it can be extended wherever necessary, to enable the student to complete the experiment.

Stanley College of Engineering and Technology for Women (Autonomous)

Induction Program

SMC901CM Induction Program (Mandatory)	3 weeks' duration
Induction program for students to be offered right at the start of the first year	• Physical Activity • Creative Arts • Universal Human Values • Literary • Proficiency Modules • Lectures by Eminent People • Visits to local Areas • Familiarization to Dept./Branch & Innovations

CME: SEMESTER – I

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hours/ Week	CIE	SEE	SEE Duration in Hours	
Theory Courses										
1	SHS901EG	English	2	-	-	2	40	60	3	2
2	SBS101MT	Mathematics-I	3	1	-	4	40	60	3	4
3	SBS902PH	Physics	3	-	-	3	40	60	3	3
4	SES101CS	Programming for Problem Solving	3	-	-	3	40	60	3	3
5	SMC903PO	Mandatory Course	2	-	-	2	40	60	3	-
6	SMC904PY	Mandatory Course	2	-	-	2	40	60	3	-
Practical/ Laboratory Courses										
7	SHS911EG	English Lab	-	-	2	2	40	60	3	1
8	SBS912PY	Physics Lab	-	-	4	4	40	60	3	2
9	SES111CS	Programming for Problem Solving Lab	-	-	4	4	40	60	3	2
10	SES914ME	Workshop	-	-	6	6	40	60	3	3
	Total		**15**	**1**	**16**	**32**	**400**	**600**		**20**

Stanley College of Engineering and Technology for Women (Autonomous)

S. No	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P	Contact Hrs/Wk	CIE	SEE	SEE Duration in Hours	
		Theory Courses								
1	SBS201MT	Mathematics-II	3	1	-	4	40	60	3	4
2	SBS903CH	Chemistry	3		-	3	40	60	3	3
3	SES901EC	Basic Electrical & Electronics Circuits	3	-	-	3	40	60	3	3
4	SES202CS	Data Structures using C	3	-	-	3	40	60	3	3
5	SMC902CE	Mandatory Course	2	-	-	2	40	60	3	-
6	SAC901CM	Audit Course	2	-	-	2	-	-	-	-
		Practical/ Laboratory Courses								
7	SBS913CH	Chemistry Lab	-	-	4	4	40	60	3	2
8	SES915ME	Engineering Graphics & Design	1	-	4	5	40	60	3	3
9	SES212CS	Data Structures using C Lab	-	-	2	2	40	60	3	1
10	SES911EC	Basic Electrical & Electronics Circuits Lab	-	-	4	4	40	60	3	2
11	SPW211CM	Field Work	The students have to undergo a Field work of 2-week duration after II-Semester SEE				50	-	-	1
Total			**17**	**01**	**14**	**32**	**410**	**540**		**22**

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/	CIE	SEE	SEE Duration in	
Theory Courses										
1	SBS301MT	Mathematics -III (Probability and Statistics)	3	-	-	3	40	60	3	3
2	SES301CM	Discrete Mathematics	3	-	-	3	40	60	3	3
3	SES302CM	Digital Electronics	3	-	-	3	40	60	3	3
4	SPC301CM	Database Management Systems	3	-	-	3	40	60	3	3
5	SPC302CM	Concepts in Computer Organization & Microprocessor	3	-	-	3	40	60	3	3
6	SAC902EE	Electrical Technology	2	-	-	2	-	-	-	-
Practical/ Laboratory Courses										
7	SES311CM	Python programming Lab	-	-	4	4	40	60	3	2
8	SPC311CM	Database Management Systems Lab	-	-	4	4	40	60	3	2
9	SPC312CM	Concepts in Computer Organization & Microprocessor Lab	-	-	4	4	40	60	3	2
		Total	**17**	**-**	**12**	**29**	**320**	**480**		**21**

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	SEE Duration in	
Theory Courses										
1	SHS401EG	Effective Technical Communication	2	-	-	2	40	60	3	2
2	SPC401CM	Automata Theory Languages and Computation	3	-	-	3	40	60	3	3
3	SPC402CM	Operating Systems	3	-	-	3	40	60	3	3
4	SPC403CM	OOPs using JAVA	3	-	-	3	40	60	3	3
5	SPC404CM	Design and Analysis of Algorithms	3	1	-	4	40	60	3	4
Practical/ Laboratory Courses										
6	SPC412CM	Operating Systems Lab	-	-	4	4	40	60	3	2
7	SPC413CM	OOPs using JAVA Lab	-	-	4	4	40	60	3	2
8	SPC414CM	Design and Analysis of Algorithms Lab	-	-	2	2	40	60	3	1
9	SPW941CM	Internship-1	The students have to undergo an Internship of 4 week duration after IV-Semester SEE				50	-	-	1
Total			14	1	10	25	370	480		21

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	D/P	Contact Hrs/W	CIE	SEE	SEE Duration in Hrs	
Theory Courses										
1	SPC501CM	Artificial Intelligence & Robotics	3	-	-	3	40	60	3	3
2	SPC502CM	Data Communication & Computer Networks	3	-	-	3	40	60	3	3
3	SPC503CM	Compiler Design	3	-	-	3	40	60	3	3
4	PE-I	Professional Elective – I	3	1	-	4	40	60	3	4
5	OE-I	Open Elective – I	3	-	-	3	40	60	3	3
Practical/Laboratory Courses										
6	SPC511CM	Artificial Intelligence & Robotics Lab	-	-	4	4	40	60	3	2
7	SPC512CM	Data Communication & Computer Networks Lab	-	-	4	4	40	60	3	2
8	SPC513CM	Compiler Design Lab	-	-	2	2	40	60	3	1
Total			15	1	10	26	320	480		21

S. No	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	D/P	Contact Hrs/Wk	CIE	SEE	SEE Duration in Hrs	
Theory Courses										
1	SHS904BM	Managerial Economics & Financial Accounting	3	-	-	3	40	60	3	3
2	SPC601CM	Data Science	3	-	-	3	40	60	3	3
3	SPC602CM	Software Engineering	3	-	-	3	40	60	3	3
4	SPC603CM	Internet of Things	3	-	-	3	40	60	3	3
5	PE-II	Professional Elective – II	3	-	-	3	40	60	3	3
Practical/Laboratory Courses										
6	SPC611CM	Data Science Lab	-	-	4	4	40	60	3	2
7	SPC612CM	Software Engineering Lab + Mini Project	-	-	4	4	40	60	3	2
8	SPC613CM	Web Technology & Applications Lab	-	1	2	3	40	60	3	2
9	SPW961CM	Technical Seminar -1	-	-	2	2	50	-	3	1
10	SPW962CM	Internship -2	The students have to undergo an Internship of 4 week duration after VI- Semester SEE				50	-	-	1
Total			15	1	12	28	420	480		23

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	SEE Duration in Hrs	
			Theory Courses							
1	SPC701CM	Machine Learning Techniques	3	-	-	3	40	60	3	3
2	PE-III	Professional Elective – III	3	-	-	3	40	60	3	3
3	PE-IV	Professional Elective – IV	3	-	-	3	40	60	3	3
4	PE-V	Professional Elective – V	3	-	-	3	40	60	3	3
5	OE-II	Open Elective – II	3	-	-	3	40	60	3	3
		Practical/ Laboratory Courses								
6	SPC711CM	Machine Learning Techniques Lab	-	-	2	2	40	60	3	1
7	SPE71XCM	Professional Elective – IV			2	2	40	60	3	1
8	SPW711CM	Project Work – I	-	-	6	6	40	60	3	3
9	SPW971CM	Technical Seminar -2	-	-	2	2	50	-	-	1
		Total	15	-	12	27	370	480		21

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	SEE Duration in Hrs	
		Theory Courses								
1	OE-III	Open Elective – III	3	-	-	3	40	60	3	3
		Practical/ Laboratory Courses								
2	SPW821CM	Project Work – II	-	-	16	16	40	60	3	8
		Total	03	-	16	19	80	120		11

PROFESSIONAL ELECTIVES

Stream	Professional Elective – I	Professional Elective – II	Professional Elective – III	Professional Elective – IV	Professional Elective – V
AI & its Applications	PE501CM Computer Graphics	PE601CM Computer Vision	PE701CM Natural Language Processing & Speech Processing	PE702CM Cognitive Science and Analytics	PE703CM Neural Networks & Deep Learning
Data Science	PE501CM Data Warehousing & Data Mining	PE601CM Mathematical Modeling for Data Science	PE701CM Data Visualization	PE702CM NO SQL Databases	PE703CM Data Analytics
Cloud Computing	PE501CM Advanced Databases	PE601CM Distributed Systems	PE701CM Cloud Computing	PE702CM Scalable Architecture for Large Applications	PE703CM Architecting Applications for Cloud
IOT	PE 501CM Signals & Systems	PE601CM Embedded Systems	PE701CM Advance Internet of Things (IOT)	PE702CM Wireless Sensor Network	PE703CM Block Chain Technology
Cyber Security	PE 501CM Cryptography & Network Security	PE601CM Cyber Security	PE701CM Digital Forensics	PE702CM Database Security & Administration	PE703CM Malware Analysis

Professional Elective -I

S.No.	Course Code	Subject
1	SPE501CM	Computer Graphics
2	SPE501CM	Data Warehousing & Data Mining
3	SPE501CM	Advanced Databases
4	SPE501CM	Signals & Systems
5	SPE501CM	Cryptography & Network Security

Professional Elective –II

S.No.	Course Code	Subject
1	SPE601CM	Computer Vision
2	SPE601CM	Mathematical Modeling for Data Science
3	SPE601CM	Distributed Systems
4	SPE601CM	Embedded Systems
5	SPE601CM	Cyber Security

Professional Elective –III

S.No.	Course Code	Subject
1	SPE701CM	Natural Language Processing & Speech Processing
2	SPE701CM	Data Visualization
3	SPE701CM	Cloud Computing
4	SPE701CM	Internet of Things
5	SPE701CM	Digital Forensics

Professional Elective –IV

S.No.	Course Code	Subject
1	SPE702CM	Cognitive Science and Analytics
2	SPE702CM	No SQL Databases
3	SPE702CM	Scalable Architecture for Large Applications
4	SPE702CM	Wireless Sensor Network
5	SPE702CM	Database Security & Administration

Professional Elective –V

S.No.	Course Code	Subject
1	SPE703CM	Neural Networks & Deep Learning
2	SPE703CM	Data Analytics
3	SPE703CM	Architecting Applications for Cloud
4	SPE703CM	Block Chain Technology
5	SPE703CM	Malware Analysis

LIST OF OPEN ELECTIVES

Open Elective – I

Sl. No.	Course Code	Course Title	Course Offered by the Department
1.	SOE501MB	Entrepreneurship	(MBA)
2.	SOE501EG	Soft Skills and Interpersonal Skills	(H&S)
3.	SOE501MT	Operations Research	(Mathematics)
4.	SOE501CE	Road Safety Engineering	(CE)
5.	SOE501EC	Signal Analysis and Transform Techniques	(ECE)

Open Elective – II

Course Code	Course Title	Course Offered by the Department
SOE701EG	Technical Writing for Research	(H&S)
SOE701MB	Human Resource Management	(MBA)
SOE701CE	Disaster Mitigation	(CE)
SOE701EE	Renewable Energy Sources	(EEE)
SOE701EC	Digital Signal Processing	(ECE)
SOE701CE	Industry Safety	(Mechanical)

Open Elective - III

Course Code	Course Title	Course Offered by the Department
SOE801ME	Industrial Robotics	(Mechanical)
SOE801MB	Management Information System	(MBA)
SOE801EC	Power Management for IOT Devices	(ECE)
SOE801EE	Industrial Instrumentation	(EEE)

Mandatory Courses	
SMC901CM	Induction Program
SM902CE	Environmental Science
SMC903PO	Indian Constitution
SM904PY	Essence of Indian Traditional Knowledge

Audit Courses	
SAC901CM	Design Thinking
SAC902EE	Electrical Technology

FACULTY OF ENGINEERING

Scheme of Instruction & Examination

For
Four Year Degree Programme of

Bachelor of Engineering (B.E)

in

Computer Science Engineering
(Accredited by NBA)

(With effect from the academic year 2021–22)

Estd. 2008

STANLEY COLLEGE OF ENGINEERING AND TECHNOLOGY FOR WOMEN (AUTONOMOUS)

(Affiliated to Osmania University)

(Accredited by NAAC with "A" Grade)

ABIDS, HYDERABAD-500001, Telangana.

Abbreviation	Meaning
HS	Humanities, Social Sciences and Management
BS	Basic Sciences including Mathematics, Physics and Chemistry
ES	Engineering Sciences including Workshop, Drawing, Basic Electrical / Electronics
PC	Professional Core Subjects
PE	Professional Elective Subjects
OE	Open Elective Subjects
PW	Project Work, Seminars, Internship
MC	Mandatory Courses
AC	Audit Courses
PY	Philosophy
EC	Electronics and Communication Engineering.
CE	Civil Engineering,
MP	Mechanical / Production Engineering
IT	Information Technology
CS	Computer Science Engineering
EE	Electrical and Electronics Engineering
CM	Computer Engineering
AD	Artificial Intelligence and Data Science
L	Lecture
T	Tutorial
P	Practical
G	Grade
D	Drawing
CIE	Continuous Internal Evaluation
SEE	Semester End Evaluation
	Each contact hour is a clock hour
	The duration of the Practical class is two hours; however, it can be extended wherever necessary, to enable the student to complete the experiment.

Induction Program

SMC901CS Induction Program (Mandatory)	3 weeks' duration
Induction program for students to be offered right at the start of the first year	• Physical Activity • Creative Arts • Universal Human Values • Literary • Proficiency Modules • Lectures by Eminent People • Visits to local Areas • Familiarization to Dept./Branch & Innovations

CSE: SEMESTER – I

S. No.	Course Code	Course Title	L	T	P/D	Contact Hours/ Week	CIE	SEE	SEE Duration in Hours	Credits
			Scheme of Instruction				Scheme of Examination			
Theory Courses										
1	SHS901EG	English	2	-	-	2	40	60	3	2
2	SBS101MT	Mathematics-I	3	1	-	4	40	60	3	4
3	SBS902PH	Physics	3	-	-	3	40	60	3	3
4	SES101CS	Programming for Problem Solving	3	-	-	3	40	60	3	3
5	SMC902HS	Mandatory Course	2	-	-	2	40	60	3	-
6	SMC903PO	Mandatory Course	2	-	-	2	40	60	3	-
Practical/ Laboratory Courses										
7	SHS911EG	English Lab	-	-	2	2	40	60	3	1
8	SBS912PH	Physics Lab	-	-	4	4	40	60	3	2
9	SES111CS	Programming for Problem Solving Lab	-	-	4	4	40	60	3	2
10	SES914ME	Workshop	-	-	6	6	40	60	3	3
Total			15	01	16	32	400	600	30	20

Stanley College of Engineering and Technology for Women (Autonomous)

CSE: SEMESTER – II

S. No	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P	Contact Hrs/Wk	CIE	SEE	SEE Duration in Hours	
Theory Courses										
1	SBS201MT	Mathematics-II	3	1	-	4	40	60	3	4
2	SBS903CH	Chemistry	3	-	-	3	40	60	3	3
3	SES901EC	Basic Electrical & Electronic Circuits	3	-	-	3	40	60	3	3
4	SES202CS	Data Structures using C	3	-	-	3	40	60	3	3
5	SMC904EG	Mandatory Course	2	-	-	2	40	60	3	-
6	SAC901CS	Audit Course	2	-	-	2	50	-	-	-
Practical/ Laboratory Courses										
7	SBS 913CH	Chemistry Lab	-	-	4	4	40	60	3	2
8	SES915ME	Engineering Graphics & Design	1	-	4	5	40	60	3	3
9	SES212CS	Data Structures using C Lab	-	-	2	2	40	60	3	1
10	SES911EC	Basic Electrical & Electronic Circuits Lab	-	-	4	4	40	60	3	2
11	SPW211CS	Field Work	The students have to undergo a Field work of 2-week duration after II-Semester SEE				50	-	-	1
Total			**17**	**01**	**14**	**32**	**460**	**540**	**27**	**22**

CSE: SEMESTER – III

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	SEE Duration in Hrs	
Theory Courses										
1	SBS301MT	Mathematics-III (Probability & Statistics)	3	-	-	3	40	60	3	3
2	SES301CS	Discrete Mathematics	3	-	-	3	40	60	3	3
3	SES302EC	Digital Electronics	3	-	-	3	40	60	3	3
4	SPC301CS	OOPs using Java	3	-	-	3	40	60	3	3
5	SPC302CS	Computer Organization	3	-	-	3	40	60	3	3
Practical/ Laboratory Courses										
6	SES312CS	Python Programming Lab	2	-	2	4	40	60	3	3
7	SPC311CS	OOPs using Java Lab	-	-	3	3	40	60	3	1.5
8	SPC312CS	Computer Organization Lab	-	-	3	3	40	60	3	1.5
		Total	**17**	**0**	**8**	**25**	**320**	**480**	24	**21**

CSE: SEMESTER – IV

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	SEE Duration in	Credits
Theory Courses										
1	SHS902EG	Effective Technical Communication Skills	3	-	-	3	40	60	3	3
2	SPC401CS	Automata Theory Languages and Computation	3	-	-	3	40	60	3	3
3	SPC402CS	Artificial Intelligence	3	-	-	3	40	60	3	3
4	SPC 403CS	Database Management Systems	3	-	-	3	40	60	3	3
5	SPC404CS	Operating Systems	3	-	-	3	40	60	3	3
6	SAC902EE	Audit Course	2	-	-	2	50	-	-	-
Practical/ Laboratory Courses										
7	SPC413CS	Database Management Systems Lab	-	-	3	3	40	60	3	1.5
8	SPC 414CS	Operating Systems Lab	-	-	3	3	40	60	3	1.5
9	SPC415CS	Web Technology & Applications Lab	2	-	3	5	40	60	3	3.5
10	SPW421CS	Internship-1	The students have to undergo an Internship of 2-week duration after IV-Semester SEE				50	-	-	1
	Total		19	0	09	28	420	480	24	22.5

6   *Stanley College of Engineering and Technology for Women (Autonomous)*

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	D/P	Contact Hrs/Wk	CIE	SEE	SEE Duration in Hrs	
Theory Courses										
1	SPC501CS	Design and Analysis of Algorithms	3	-	-	3	40	60	3	3
2	SPC502CS	Data Communication & Computer Networks	3	-	-	3	40	60	3	3
3	SPC503CS	Compiler Design	3	-	-	3	40	60	3	3
4	SPE 501CS	Professional Elective-I	3	-	-	3	40	60	3	3
5	SOE 501XX	Open Elective-I	3	-	-	3	40	60	3	3
Practical/Laboratory Courses										
6	SPC511CS	Design and Analysis of Algorithms Lab	-	-	3	3	40	60	3	1.5
7	SPC512CS	Data Communication & Computer Networks Lab	-	-	3	3	40	60	3	1.5
8	SPC513CS	Compiler Design Lab	-	-	3	3	40	60	3	1.5
Total			**15**	**-**	**09**	**24**	**320**	**480**	**24**	**19.5**

S. No	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	D/P	Contact Hrs/Wk	CIE	SEE	SEE Duration in Hrs	
Theory Courses										
1	SHS601DM	Managerial Economics & Financial Accounting	3	-	-	3	40	60	3	3
2	SPC601CS	Data Mining	3	-	-	3	40	60	3	3
3	SPC 602CS	Software Engineering	3	-	-	3	40	60	3	3
4	SPC 603CS	Distributed Systems	3	-	-	3	40	60	3	3
5	SPE 601CS	Professional Elective –II	3	-	-	3	40	60	3	3
Practical/Laboratory Courses										
6	SPC 611CS	Data mining Lab	-	-	3	3	40	60	3	1.5
7	SPC 612CS	Software Engineering Lab with Mini Project	-	-	5	5	40	60	3	2.5
8	SPC 613CS	Distributed Systems Lab	-	-	3	3	40	60	3	1.5
9	S TS 611CS	Technical Seminar-1	-	-	3	3	50	-	-	1
10	SPW611CS	Internship -2	The students have to undergo an Internship of 4-week duration after VI- Semester SEE				50	-	-	1
Total			15	-	14	29	420	480	24	22.5

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	SEE Duration in Hrs	
Theory Courses										
1	SPC 701CS	Machine Learning	3	-	-	3	40	60	3	3
2	SPE701CS	Professional Elective- III	3	-	-	3	40	60	3	3
3	SPE702CS	Professional Elective – IV	3	-	-	3	40	60	3	3
4	SPE703 CS	Professional Elective – V	3	-	-	3	40	60	3	3
5	SOE701XX	Open Elective-II	3	-	-	3	40	60	3	3
Practical/ Laboratory Courses										
6	SPC 711CS	Machine Learning Lab	-	-	3	3	40	60	3	1.5
7	SPE 711CS	Professional Elective- III Lab	-	-	2	2	40	60	3	1
8	SPW 711CS	Project Work – I	-	-	6	6	40	-	3	3
9	S TS 612CS	Technical Seminar-2	-	-	2	2	50	-	-	1
		Total	15	-	13	28	370	420	24	21.5

Stanley College of Engineering and Technology for Women (Autonomous)

CSE: SEMESTER – VIII

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	SEE Duratin Hrs	
Theory Courses										
1	SOE801XX	Open Elective – III	3	-	-	3	40	60	3	3
Practical/ Laboratory Courses										
2	SPW811CS	Project Work – II	-	-	16	16	40	120	3	8
		Total	**3**	**-**	**16**	**19**	**80**	**180**	**6**	**11**

Professional Electives

V Sem		VI Sem	VII Sem	
PE-I	PE-II	PE-III	PE-IV	PE-V
Principles of Programming Languages	OOPs using C++	Advanced Python Programming	Predictive Analytics using R	Human Computer Interaction
Data Science using R	Mobile Computing	Cloud Computing	Scalable Architecture for Large Applications	Architecting Applications for Clouding
Distributed Databases	Storage Area Networks	Data Engineering	Information Retrieval Systems	Principles of Data Intensive Systems
Natural Language Processing	Digital Image Processing	Exploratory data analysis	Expert Systems	Deep Learning
Number Theory and Cryptography	Software Security Engineering	Wireless Sensor Networks	Cyber Security	Block Chain Technology

Open Electives

Open Elective-1		Open Elective -2		Open Elective -3	
Course Code	Course Title	Course Code	Course Title	Course Code	Course Title
SOE701EC	Signals Analysis & Transformation Techniques	S OE702EC	Internet of Things	SOE801EC	Embedded Systems
SOE701EE	Electrical Energy Conservation and Safety	S OE702EE	Non-Conventional Energy Sources	SOE801EE	Programmable Logic Controllers
SOE701EG	Soft Skills & Interpersonal Skills	SOE702DM	Managemental Science	SOE801DM	Human Resource Management
SOE701DM	Entrepreneurship	SOE702CE	Disaster Mitigation	SOE801CE	Road Safety Engineering

Mandatory Courses	
Course Code	Course Title
	Induction Programme
MC-1	Environmental Science
MC-2	Essence of Indian Traditional Knowledge
MC-3	Indian Constitution

Audit Courses	
Course Code	Course Title
AC-1	Design Thinking
AC-2	Electrical Technology

FACULTY OF ENGINEERING

Scheme of Instruction & Examination

For
Four Year Degree Programme of

Bachelor of Engineering (B.E.)

In

ELECTRONICS AND COMMUNICATION ENGINEERING
(Accredited by NBA)

(With effect from the academic year 2021–22)

Estd. 2008

STANLEY COLLEGE OF ENGINEERING AND TECHNOLOGY FOR WOMEN (AUTONOMOUS)
(Affiliated to Osmania University)
(Accredited by NAAC with "A" Grade)
ABIDS, HYDERABAD-500001, Telangana.

Abbreviation	Meaning
HS	Humanities, Social Sciences and Management
BS	Basic Sciences including Mathematics, Physics and Chemistry
ES	Engineering Sciences including Workshop, Drawing, Basic Electrical / Electronics
PC	Professional Core Courses
PE	Professional Elective Courses
OE	Open Elective Courses
PW	Project Work
MC	Mandatory Courses
AC	Audit Courses
PY	Philosophy
EC	Electronics and Communication Engineering.
CE	Civil Engineering,
MP	Mechanical / Production Engineering
IT	Information Technology
CS	Computer Science Engineering
EE	Electrical and Electronics Engineering
CM	Computer Engineering
AD	Artificial Intelligence and Data Science
L	Lecture
T	Tutorial
P	Practical
G	Grade
D	Drawing
CIE	Continuous Internal Evaluation
SEE	Semester End Evaluation
	Each contact hour is a clock hour
	The duration of the Practical class is two hours; however, it can be extended wherever necessary, to enable the student to complete the experiment.

Stanley College of Engineering and Technology for Women (Autonomous)

Keywords	Definition
HS	Courses offered in the area of humanities and social sciences like communication & managerial skills.
BS	Courses of foundational nature in the areas of Mathematics, Physics, Chemistry, Biology etc.
ES	Courses belonging to the basic evolutionary aspects of a Particular Engineering from all other branches of Engineering.
PC	Courses that are fundamental and compulsory constituents of the respective engineering discipline.
PE	Courses those are discipline-specific to stream line the graduates to different emerging fields as per their choice.
OE	Courses of interdisciplinary nature offered to all the students of various programmes across the Institute.
PW	To make a perfect, Hands-on experienced Professionals.
MC	Compulsory non-credit courses that a student need to study to become a responsible citizen, as per supreme court guidelines.
AC	Audit courses can help the student to get awareness of different issues which enhance their skill sets to improve their employability.

SCHEME OF INSTRUCTION & EXAMINATION

(ELECTRONICS AND COMMUNICATION ENGINEERING)
I.   Induction Program

SMC904XX **Induction Program (Mandatory)**	**3 weeks duration**
I Induction program for students to be offered right at the start of the first year	• Physical Activity • Creative Arts • Universal Human Values • Literary • Proficiency Modules • Lectures by Eminent People • Visits to local Areas • Familiarization to Dept./Branch & Innovations

B.E. I- Semester

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	SEE Duration in Hrs	
Theory Course										
Three Week Induction Program										
1.	SBS101MT	Mathematics-I	3	1	-	4	40	60	3	4
2.	SBS903CH	Chemistry	3		-	3	40	60	3	3
3.	SES101CS	Programming for Problem Solving	3	-	-	3	40	60	3	3
4.	SES102EE	Fundamentals of Electrical Engineering	3		-	3	40	60	3	3
5.	SMC905CE	Environmental Science	2	-	-	2	40	60	3	0
6.	SAC901EC	Design Thinking	2	-	-	2	50			0
Practical/Laboratory Course										
1.	SBS913CH	Chemistry Lab	-	-	4	4	40	60	3	2
2.	SES915ME	Engineering Graphics & Design	1	-	4	5	40	60	3	3
3.	SES112EE	Fundamentals of Electrical Engineering Lab	-	-	4	4	40	60	3	2
4.	SES111CS	Programming for Problem Solving Lab			4	4	40	60	3	2
Total			**17**	**1**	**16**	**34**	**410**	**540**	**27**	**22**

B.E. II- Semester

S. No.	Course Code	Course Title	L	T	P/D	Contact Hrs/Wk	CIE	SEE	SEE Duration in Hrs	Credits
								Scheme of Instruction / Scheme of Examination			
Theory Course										
1.	SHS901EG	English	2		-	2	40	60	3	2
2.	SBS909PH	Engineering Physics	3		-	3	40	60	3	3
3.	SBS201MT	Mathematics-II	3	1	-	4	40	60	3	4
4.	SPC201EC	Circuit theory	3		-	3	40	60	3	3
5.	SMC906PO	Indian Constitution	2		-	2	40	60	3	0
6.	SMC907PY	Essence of Indian Traditional Knowledge	2		-	2	40	60	3	0
Practical/Laboratory Course										
1.	SHS911EG	English Lab			2	2	40	60	3	1
2.	SBS919PH	Engineering Physics Lab	-	-	4	4	40	60	3	2
3.	SES914ME	Workshop			6	6	40	60	3	3
4.	SPC211EC	Circuit Theory Lab			2	2	40	60	3	1
5.	SPW211EC	Field Work	The students have to undergo a Summer Field Work for two weeks duration after II semester and should submit a report for which credits will be awarded.				50	-	-	1
Total			15	1	14	30	450	600	30	20

B.E. III- Semester

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	SEE Duration in Hrs	
Theory Course										
1.	SHS301DM	Managerial Economics & Accountancy	3	1	-	4	40	60	3	4
2.	SBS303MT	Probability Theory and Stochastic Process	3	1	-	4	40	60	3	4
3.	SPC301EC	Electronic Devices and Circuits	3		-	3	40	60	3	3
4.	SPC302EC	Electromagnetic Theory and Transmission Lines	3		-	3	40	60	3	3
5.	SPC303EC	Digital System Design	3		-	3	40	60	3	3
Practical/Laboratory Course										
1.	SES315EC	Data Structures Lab	2		2	4	40	60	3	3
2.	SPC311EC	Electronic Devices Lab	-	-	2	2	40	60	3	1
3.	SPC312EC	Digital System Design Lab			2	2	40	60	3	1
Total			17	2	6	25	360	540	24	22

B.E. IV- Semester

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	SEE Duration in Hrs	
Theory Course										
1.	SPC401EC	Analog Electronic Circuits	3		-	3	40	60	3	3
2.	SPC402EC	Signals & Systems	3		-	3	40	60	3	3
3.	SPC403EC	Integrated Circuits and Applications	3	1	-	4	40	60	3	4
4.	SPC404EC	Computer Organization and Architecture	3		-	3	40	60	3	3
5.	SPC405EC	Antennas and Wave Propagation	3		-	3	40	60	3	3
Practical/Laboratory Course										
1.	SPC411EC	Analog Electronic Circuits Lab	-	-	2	2	40	60	3	1
2.	SPC412EC	Integrated Circuits Lab			2	2	40	60	3	1
3.	SPC413EC	Antenna Lab			2	2	40	60	3	1
4.	SPW412EC	**Internship- 1**	The students have to undergo an Internship of 4 week duration after IV- Semester SEE				50			1
Total			**15**	**1**	**6**	**23**	**370**	**480**	**24**	**20**

B.E. V- Semester

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	SEE Duration in Hrs	
Theory Course										
1.	SPC501EC	Digital Signal Processing	3	1		4	40	60	3	4
2.	SPC502EC	Microcontrollers	3			3	40	60	3	3
3.	SPC503EC	Automatic Control Systems	3	1		4	40	60	3	4
4.	SPE 5XX EC	Professional Elective –I	3			3	40	60	3	3
5.	SOE 6XX YY	Open Elective-I	3	1		4	40	60	3	4
6.	SAC903ME	Elements of Mechanical Engineering	2	-	-	2	50	-	-	0
Practical/Laboratory Course										
1.	SPC511EC	S & S Lab	-	-	2	2	40	60	3	1
2.	SPC512EC	Microcontrollers Lab			2	2	40	60	3	1
3.	SPW513EC	Mini Project & Industrial Visit			2	2	50		-	1
Total			**17**	**3**	**6**	**26**	**380**	**420**	**21**	**21**

B.E. VI- Semester

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	SEE Duration in Hrs	
Theory Course										
1.	SPC601EC	Analog and Digital Communications	3	1		4	40	60	3	4
2.	SPC602EC	Computer Networks	3			3	40	60	3	3
3.	SPC603EC	Microwave Techniques	3			3	40	60	3	3
4.	PE5XXEC	Professional Elective –II	3			3	40	60	3	3
5.	OE6XX YY	Open Elective –II	3	1		4	40	60	3	4
Practical/Laboratory Course										
1.	SPC611EC	Communications Lab			2	2	40	60	3	1
2.	SPC612EC	Computer Networks Lab			2	2	40	60	3	1
3.	SPC613EC	Microwave Lab			2	2	40	60	3	1
4.	SPW615EC	Internship- 2	The students have to undergo an Internship of 4 week duration after VI- Semester SEE				50		-	1
Total			15	2	6	23	370	480	24	21

B.E. VII- Semester

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	SEE Duration in Hrs	
Theory Course										
1.	SPC701EC	VLSI Design	3			3	40	60	3	3
2.	SPE5XXEC	Professional Elective –III	3			3	40	60	3	3
3.	SPE5XXEC	Professional Elective –IV	3			3	40	60	3	3
4.	SOE6XX YY	Open Elective-III	3	1		4	40	60	3	4
5.	SOE6XX YY	Open Elective-IV	3	1		4	40	60	3	4
Practical/Laboratory Course										
1.	SPC711EC	VLSI Design Lab	-	-	2	2	40	60	3	1
2.	SPC712EC	Internet of Things Lab			2	2	40	60	3	1
3.	SPW716EC	Project-1			6	6	40			3
4.	SPW717EC	Technical Seminar			2	2	50			1
	Total		**15**	**2**	**12**	**29**	**370**	**420**	**21**	**23**

B.E. VIII- Semester

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	SEE Duration in Hrs	
Theory Course										
1.	SPE5XXEC	Professional Elective-V	3	-	-	3	40	60	3	3
2.	SPW818EC	Project -2	-	-	16	-	40	120	-	8
Total			3	-	16	3	80	180	3	11

List of Project Works (PW)

S No	Course Code	Semester	Name of the Course
1	SPW211EC	II	Field Work
2	SPW412EC	IV	Internship - 1
3	SPW513EC	V	Mini Project & Industrial Visit
4	SPW615EC	VI	Internship - 2
5	SPW716EC	VII	Project-1
6	SPW717EC	VII	Technical Seminar
7	SPW818EC	VIII	Project -2

List of Mandatory Course (MC)

S No	Course Code	Mandatory Course -Subject Name
1	MC 904	Induction Program
2	MC 905 CE	Environmental Science
3	MC 906 PO	Indian Constitution
4	MC 907 PY	Essence of Indian Traditional Knowledge

List of Audit Course (AC)

S No	Course Code	Audit Course -Subject Name
1	MC 908 EC	Design Thinking
2	SAC903ME	Elements of Mechanical Engineering

List of Professional Electives

	Professional Elective -1		
S.No	Course Code	Domain	Name of the Course
1	SPE501EC	IoT	Real Time Operating Systems
2	SPE502EC	VLSI	Analog VLSI Design
3	SPE503EC	Wireless communication	Satellite Communication And RADAR Engineering
4	SPE504EC	Image processing	Array signal processing
5	SPE505EC	ML & DS	Information Theory Coding

	Professional Elective -2		
S No	Course Code	Domain	Name of the Course
1	SPE506EC	IoT	Robotics Automation
2	SPE507EC	VLSI	Low Power VLSI Design
3	SPE508EC	Wireless communication	Wireless Ad Hoc Sensor Networks
4	SPE509EC	Image processing	Modern digital signal processing
5	SPE 510 EC	ML & DS	Soft Computing Techniques

	Professional Elective -3		
S No	Course Code	Domain	Name of the Course
1	SPE511EC	IoT	Embedded Security
2	SPE512EC	VLSI	ASIC Design
3	SPE513EC	Wireless communication	Spread Spectrum Communication
4	SPE514EC	Image processing	Digital image processing
5	SPE515EC	ML & DS	Statistical Data Analysis

	Professional Elective -4		
S No	Course Code	Domain	Name of the Course
1	SPE 516EC	IoT	IoT Protocols
2	SPE 517 EC	VLSI	Design For Testability
3	SPE 518 EC	Wireless communication	Telecommunication Switching, Traffic & Networks
4	SPE 519 EC	Image processing	Multi-rate signal processing
5	SPE 520 EC	ML & DS	Artificial Neural Networks

	Professional Elective -5		
S No	Course Code	Domain	Name of the Course
1	SPE 521 EC	IoT	Smart Cities
2	SPE 522 EC	VLSI	Mixed Signal Circuits & Systems
3	SPE 523 EC	Wireless communication	Radio Navigation Systems
4	SPE 524 EC	Image processing	Speech and video processing
5	SPE 525 EC	ML & DS	ML and Advanced ANN Models

List of Open Electives

Open Elective -1			
S No	Course Code	Name of the Course	Course Offered By the Department
1	SOE 601 EE	Illumination and Electric Traction systems	EEE
2	SOE 602 IT	Operating Systems	IT
3	SOE 603 CS	OOP using Java	**CSE/CME/AIDS**
4	SOE604CM	IAFM	MBA
5	SOE 605ME	Industrial Robotics	Mechanical Engineering

Open Elective -2			
S No	Course Code	Name of the Course	Course Offered By the Department
1	SOE606 CM	Digital Marketing	MBA
2	SOE607CS	Data Science Using R Programming	CSE/CME/ AIDS
3	SOE 608IT	Cyber Security	IT
4	SOE 609 AD	Data Base Management	AIDS
5	SOE 610EE	Non-Conventional Energy Sources	EEE

Open Elective -3			
S No	Course Code	Name of the Course	Course Offered By the Department
1	SOE 611ME	Mechatronics	Mechanical Engineering
2	SOE 612CE	Road Safety Engineering	Civil Engineering
3	SOE 613IT	Software Engineering	IT
4	SOE 614CE	Disaster Management	Civil Engineering
5	SOE 615CM	Intellectual Property Rights	MBA

Open Elective -4			
S No	Course Code	Name of the Course	Course Offered By the Department
1	SOE 616CE	Geo Spatial Techniques	Civil Engineering
2	SOE 617EE	Reliability Engineering	EEE
3	SOE 618EE	Basics of Power Electronics	EEE
4	SOE 619HS	Soft Skills & Interpersonal Skills	H & S
5	SOE 620CM	Entrepreneurship	MBA

Open Electives not for ECE		
S No	Course Code	Name of the Course
1	SOE621EC	Signal Analysis and Transforming Techniques
2	SOE622EC	Digital System Design Using Verilog HDL
3	SOE623EC	Internet Of Things
4	SOE624EC	Embedded Systems
5	SOE625EC	Fundamentals of IOT

Stanley College of Engineering and Technology for Women (Autonomous)

FACULTY OF ENGINEERING

Scheme of Instruction & Examination

For
Four Year Degree Programme of

Bachelor of Engineering (B.E)

in

Electrical and Electronics Engineering
(Accredited by NBA)

(With effect from the academic year 2021–22)

Estd. 2008

STANLEY COLLEGE OF ENGINEERING AND TECHNOLOGY FOR WOMEN (AUTONOMOUS)

(Affiliated to Osmania University)

(Accredited by NAAC with "A" Grade)

ABIDS, HYDERABAD-500001,Telangana.

Abbreviation	Meaning
HS	Humanities, Social Sciences and Management
BS	Basic Sciences including Mathematics, Physics and Chemistry
ES	Engineering Sciences including Workshop, Drawing, Basic Electrical / Electronics
PC	Professional Core Courses
PE	Professional Elective Courses
OE	Open Elective Courses
PW	Project Work
MC	Mandatory Courses
AC	Audit Courses
PY	Philosophy
EC	Electronics and Communication Engineering.
CE	Civil Engineering,
MP	Mechanical / Production Engineering
IT	Information Technology
CS	Computer Science Engineering
EE	Electrical and Electronics Engineering
CM	Computer Engineering
AD	Artificial Intelligence and Data Science
L	Lecture
T	Tutorial
P	Practical
G	Grade
D	Drawing
CIE	Continuous Internal Evaluation
SEE	Semester End Evaluation
	Each contact hour is a clock hour
	The duration of the Practical class is two hours; however, it can be extended wherever necessary, to enable the student to complete the experiment.

Keywords	Definition
HS	Courses offered in the area of humanities and social sciences like communication & managerial skills.
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PC	Courses that are fundamental and compulsory constituents of the respective engineering discipline.
PE	Courses those are discipline-specific to stream line the graduates to different emerging fields as per their choice.
OE	Courses of interdisciplinary nature offered to all the students of various programmes across the Institute.
PW	To make a perfect, Hands-on experienced Professionals.
MC	Compulsory non-credit courses that a student need to study to become a responsible citizen, as per supreme court guidelines.
AC	An audit course (Non-credit) facilitates the student to get awareness of different issues which enhance their skill sets to improve their employability.

Induction Program

SMC900XX Induction Program (Mandatory)	3 weeks' duration
Induction program for students to be offered rightat the start of the first year	• Physical Activity • Creative Arts • Universal Human Values • Literary • Proficiency Modules • Lectures by Eminent People • Visits to local Areas • Familiarization to Dept./Branch & Innovations

I Semester

S.No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hours per week	CIE	SEE	SEE Duration in Hours	
Theory Courses										
Three Week Induction Program										
1	SBS101MT	Mathematics – I	3	1	-	4	40	60	3	4
2	SBS903CH	Chemistry	3	-	-	3	40	60	3	3
3	SES101CS	Programming for Problem Solving	3	-	-	3	40	60	3	3
4	SES102EE	Fundamentals of ElectricalEngineering	3	-	-	3	40	60	3	3
5	SMC905CE	Environmental Science	2	-	-	2	40	60	3	-
6	SAC901EE	Design Thinking	2	-	-	2	40	60	3	-
Practical/Laboratory Courses										
7	SBS913CH	Chemistry Lab	-	-	4	4	40	60	3	2
8	SES915ME	Engineering Graphics & Design	1	-	4	5	40	60	3	3
9	SES111CS	Programming for Problem SolvingLab	-	-	4	4	40	60	3	2
10	SES112EE	Fundamentals of ElectricalEngineering Lab	-	-	4	4	40	60	3	2
TOTAL			**17**	**1**	**16**	**34**	**400**	**600**	**30**	**22**

S.No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hours per week	CIE	SEE	SEE Duration in Hours	
Theory Courses										
1	SHS901EG	English	2	-	-	2	40	60	3	2
2	SBS909PH	Engineering Physics	3	-	-	3	40	60	3	3
3	SBS201MT	Mathematics – II	3	1	-	4	40	60	3	4
4	SES201ME	Engineering Mechanics	3	-	-	3	40	60	3	3
5	SMC906PO	Indian Constitution	2	-	-	2	40	60	3	-
6	SMC907PY	Essence of Indian Traditional Knowledge	2	-	-	2	40	60	3	-
Practical/Laboratory Courses										
7	SHS911EG	English Lab	-	-	2	2	40	60	3	1
8	SBS919PH	Physics Lab	-	-	4	4	40	60	3	2
9	SES914ME	Workshop	-	-	6	6	40	60	3	3
10	SES212EE	Simulation of Basic Electrical Concepts Lab	-	-	2	2	40	60	3	1
11	SPW211EE	Field Work	The students have to undergo a Field work of 2-week duration after II- Semester SEE				50	-	-	1
TOTAL			15	1	14	30	450	600	30	20

III Semester

S.No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hours per week	CIE	SEE	SEE Duration in Hours	
Theory Courses										
1	SBS301MT	Probability Theory and Stochastic Process	3	1	-	4	40	60	3	4
2	SPC301EE	Electrical CircuitAnalysis	3	-	-	3	40	60	3	3
3	SPC302EE	Electromagnetic Fields	3	-	-	3	40	60	3	3
4	SPC303EE	Signals and Systems Analysis	3	-	-	3	40	60	3	3
5	SPC304EC	Analog Electronics	3	-	-	3	40	60	3	3
6	SAC904CS	Fundamentals of Computer Science	3	-	-	3	-	-	-	-
Practical/Laboratory Courses										
7	SES311CS	Data Structures Lab	2	-	2	4	40	60	3	3
8	SPC311EE	Circuits & Simulation Lab	-	-	4	4	40	60	3	2
9	SPC312EC	Analog Electronics Lab	-	-	3	3	40	60	3	1.5
TOTAL			20	1	9	30	320	480	24	22.5

IV Semester

S.No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hours per week	CIE	SEE	SEE Duration in Hours	
Theory Courses										
1	SHS401EG	Effective Technical Communication	3	-	-	3	40	60	3	3
2	SPC401EE	Electrical Machines – I	3	-	-	3	40	60	3	3
3	SPC402EE	Control Systems	3	-	-	3	40	60	3	3
4	SPC403EC	Switching Theory and Logic Design	3	-	-	3	40	60	3	3
5	SOE4xxxx	Open Elective – I	3	-	-	3	40	60	3	3
Practical/Laboratory Courses										
6	SPC411EE	Electrical Machines – I Lab	-	-	4	4	40	60	3	2
7	SPC412EE	Control Systems Lab	-	-	3	3	40	60	3	1.5
8	SPC413EC	Switching Theory and Logic Design Lab	-	-	3	3	40	60	3	1.5
9	SPW511EE	Internship- 1	The students have to undergo an Internship of 2 week duration after IV-Semester SEE				50	-	-	1
TOTAL			15	-	10	25	370	480	24	21

Stanley College of Engineering and Technology for Women (Autonomous)

V Semester

S.No.	Course Code	Course Title	L	T	P/D	Contact Hours per week	CIE	SEE	SEE Duration in Hours	Credits
			Scheme of Instruction				Scheme of Examination			
Theory Courses										
1	SPC501EE	Electrical Machines – II	3	-	-	3	40	60	3	3
2	SPC502EE	Power Electronics	3	-	-	3	40	60	3	3
3	SPC503EE	Measurements & Instrumentation	3	-	-	3	40	60	3	3
4	SPC504EE	Power Systems – I	3	-	-	3	40	60	3	3
5	SOE5xxxx	Open Elective – II	3	-	-	3	40	60	3	3
Practical/Laboratory Courses										
6	SPC511EE	Electrical Machines – II Lab	-	-	4	4	40	60	3	2
7	SPC512EE	Power Electronics Lab	-	-	3	3	40	60	3	1.5
8	SPC513EE	Measurements & Instrumentation Lab	-	-	3	3	40	60	3	1.5
9	SPW511EE	Industrial Visit			2	2	50	-	-	1
TOTAL			15	-	12	27	370	480	24	21

VI Semester

S.No.	Course Code	Course Title	L	T	P/D	Contact Hours per week	CIE	SEE	SEE Duration in Hours	Credits
			Scheme of Instruction				Scheme of Examination			
Theory Courses										
1	SHS601BM	Finance & Accounting	3	-	-	3	40	60	3	3
2	SPC601EE	Power Systems–II	3	-	-	3	40	60	3	3
3	SPC602EC	Microprocessors and Micro Controllers	3	-	-	3	40	60	3	3
4	SPC603EE	Digital Signal Processing	3	-	-	3	40	60	3	3
5	SPE6xxEE	Professional Elective – I	3	-	-	3	40	60	3	3
Practical/Laboratory Courses										
6	SPC611EE	Digital Signal Processing Lab	-	-	3	3	40	60	3	1.5
7	SPC612EC	Microprocessors and Micro Controllers Lab	-	-	4	4	40	60	3	2
8	SPW611EE	Mini Project	-	-	2	2	50	-	-	1
9	SPW612EE	Internship- 2	The students have to undergo an Internship of 2 week duration after VI- Semester SEE				50	-	-	1
TOTAL			15	-	9	24	380	420	21	20.5

S.No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hours per week	CIE	SEE	SEE Duration in Hours	
Theory Courses										
1	SPC701EE	Power Systems – III	3	-	-	3	40	60	3	3
2	SPC702EE	Control of Electric Drives	3	-	-	3	40	60	3	3
3	SPE7xxEE	Professional Elective – II	3	-	-	3	40	60	3	3
4	SPE7xxEE	Professional Elective – III	3	-	-	3	40	60	3	3
5	SPE7xxEE	Professional Elective – IV	3	-	-	3	40	60	3	3
Practical/Laboratory Courses										
6	SPC711EE	Power Systems Lab	-	-	4	4	40	60	3	2
7	SPC712EE	Electrical Simulation Lab	-	-	4	4	40	60	3	2
8	SPW711EE	Project – I	-	-	6	6	40	-	-	3
TOTAL			15	-	14	29	320	420	21	22

S.No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hours per week	CIE	SEE	SEE Duration in Hours	
Theory Courses										
1	SOE8xxxx	Open Elective – III (Online Course)	3	-	-	3	40	60	3	3
Practical/Laboratory Courses										
2	SPW811EE	Project – II	-	-	16	16	40	120	-	8
TOTAL			3	-	16	19	80	180	03	11

List of Professional Electives and Open Electives

Professional Elective – I

Course Code	Course Title
SPE601EE	Linear Integrated Circuits
SPE602EE	Renewable Energy Sources
SPE603EE	Special Electrical Machines
SPE604EE	High Voltage Engineering

Professional Elective – II

Course Code	Course Title
SPE701EE	Utilization of Electric Energy
SPE702EE	Digital Control Systems
SPE703EE	Electrical Distribution Systems
SPE704EE	Advanced Power Electronics

Professional Elective – III

Course Code	Course Title
SPE705EE	Flexible AC Transmission Systems
SPE706EE	Power Quality
SPE707EE	Introduction to Smart Grid
SPE708EE	HVDC Transmission and Control

Professional Elective – IV

Course Code	Course Title
SPE709EE	AI Techniques in Electrical Engineering
SPE710EE	Advanced Power System Analysis
SPE711EE	Hybrid Electrical Vehicles
SPE712EE	Electrical Machine Design

Open Elective – I

Course Code	Course Title	Course Offered by the Department
SOE401EC	Principles of Electronic Communication	ECE
SOE401CS	OOPs using Java	CSE
SOE401IT	Operating Systems	IT
SOE401CE	Disaster Mitigation	CE

Open Elective – II

Course Code	Course Title	Course Offered by the Department
SOE501EC	Fundamentals of IoT	ECE
SOE501CS	Software Engineering	CSE
SOE501IT	Cyber Security	IT
SOE501ME	Industrial Robotics	ME
SOE501EG	Soft Skills and Interpersonal Skills	HS

Open Elective – III (Online Course)

Mandatory Courses		
Course Code	Course Title	Course Offered by the Department
SMC905CE	Environmental Science	HS
SMC906PO	Indian Constitution	HS
SMC907PY	Essence of Indian Traditional Knowledge	HS

Audit Courses		
Course Code	Course Title	Course Offered by the Department
SAC901EE	Design Thinking	EE
SAC904CS	Fundamentals of Computer Science	CS

List of open electives offered to other departments

Open Electives I, II, III, IV	
Course Code	**Course Title**
SOExxxEE	Illumination and Electric Traction Systems
SOExxxEE	Non-Conventional Energy Sources
SOExxxEE	Electrical Energy Conservation and Safety
SOExxxEE	Programmable Logic Controllers
SOExxxEE	Reliability Engineering
SOExxxEE	Basis of Power Electronics
SOExxxEE	Transducers and Sensors
SOExxxEE	Industrial Instrumentation
SOExxxEE	Smart Building Systems
SOExxxEE	Introduction to Electric Vehicles

FACULTY OF ENGINEERING

Scheme of Instruction & Examination

For
Four Year Degree Programme of

Bachelor of Engineering (B.E)

in

Information Technology
(Accredited by NBA)

(With effect from the academic year 2021–22)

STANLEY COLLEGE OF ENGINEERING AND TECHNOLOGY FOR WOMEN (AUTONOMOUS)
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CM	Computer Engineering
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	Each contact hour is a clock hour
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BE (INFORMATION TECHNOLOGY)
I.   Induction Program

SMC900XX**Induction Program (Mandatory)**	3 weeks duration
I Induction program for students to be offered right at the start of the first year	• Physical Activity • Creative Arts • Universal Human Values • Literary • Proficiency Modules • Lectures by Eminent People • Visits to local Areas • Familiarization to Dept./Branch & Innovations

IT: SEMESTER –I

S.No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hours/ Week	CIE	SEE	SEE Duration in Hours	
Theory Courses										
Three Week Induction Program										
1	SBS101MT	Mathematics-I	3	1	-	4	40	60	3	4
2	SBS903CH	Chemistry	3	-	-	3	40	60	3	3
3	SES 101CS	Programming for Problem Solving	3	-	-	3	40	60	3	3
4	SES901EC	Basic Electrical and Electronics Circuits	3	-	-	3	40	60	3	3
5	SMC905CE	Environmental Science	2	0	-	2	40	60	3	0
6	SAC901IT	Design Thinking	2	0	-	2	40	-	0	0
Practical/Laboratory Courses										
7	SBS913CH	Chemistry Lab			4	4	40	60	3	2
8	SES915ME	Engineering Graphics & Design	1	-	4	5	40	60	3	3
9	SES911EC	Basic Electrical and Electronics Circuits Lab	-	-	4	4	40	60	3	2
10	SES111CS	Programming for Problem Solving Lab	-	-	4	4	40	60	3	2
Credits			17	01	16	34	400	540	-	22

IT: SEMESTER– II

S.No.	Course Code	Course Title	L	T	P/D	Contact Hours/Week	CIE	SEE	SEE Duration	Credits
						Theory Courses				
1	SHS901EG	English	2	-	-	2	40	60	3	2
2	SBS902PH	Applied Physics	3	-	-	3	40	60	3	3
3	SBS201MT	Mathematics-II	3	1	-	4	40	60	3	4
4	SPC201IT	Data Structures with C	3	-	-	3	40	60	3	3
5	SMC907PY	Essence of Indian Traditional Knowledge	2	-	-	2	40	60	-	-
6	SMC906PO	Indian Constitution	2	-	-	2	40	60	-	-
						Practical/Laboratory Courses				
7	SHS911EG	English lab	-	-	2	-	40	60	3	1
8	SBS912PH	Physics Lab			4	4	40	60	3	2
9	SES914ME	Workshop	-	-	6	6	40	60	3	3
10	SPC211IT	Data Structures with C Programming lab			2	-	40	60	3	1
11	SPW211IT	Field Work	The students have to undergo a Field work of 2 week duration after II- Semester SEE				50	-	-	1
		Total	15	01	14	26	450	600	21	20

IT: SEMESTER– III

S. No.	Course Code	Course Title	L	T	P/D	Contact Hours/	CIE	SEE	SEE Duration in Hours	Credits
			Scheme of Instruction				Scheme of Examination			
theory		Theory Courses								
1	SBS301MT	Probability and statistics	3	-	-	3	40	60	3	3
2	SPC301IT	OOPS using JAVA	3	-	-	3	40	60	3	3
3	SES302EC	Digital Electronics & Logic Design	3	-	-	3	40	60	3	3
4	SPC301IT	Database Management Systems	3	-	-	3	40	60	3	3
5	SPC302IT	Discrete Mathematics	3	-	-	3	40	60	3	3
6	SAC902EE	Electrical Technology	2	-	-	2	40	-	-	-
		Practical/Laboratory Courses								
6	SPC311IT	OOPS using JAVA Lab	-	-	3	3	40	60	3	1.5
7	SPC311IT	Database Management Systems Lab	-	-	3	3	40	60	3	1.5
8	SHS902EG	Soft Skills Lab	1	-	2	3	40	60	3	2
		Total	18	-	6	24	320	480		20

IT: SEMESTER–IV

S.No.	Course Code	Course Title	L	T	P/D	Contact Hrs/ Wk	CIE	SEE	SEE Duration in Hours	Credits
			Scheme of Instruction				Scheme of Examination			
		Theory Courses								
1	SES401EC	Techniques on Signals and Systems	3	-	-	3	40	60	3	3
2	SPC401IT	Theory of Automata	3	-	-	3	40	60	3	3
3	SPC402IT	Operating Systems	3		-	3	40	60	3	3
4	SES402EC	Fundamentals of Digital Image Processing	3	-	-	3	40	60	3	3
5	SPC404IT	Computer Organization and Microprocessor	3	-	-	3	40	60	3	3
		Practical/Laboratory Courses								
6	SPC414IT	Python Lab	1		2	5	40	60	3	2
7	SPC412IT	Operating Systems Lab	-	-	3	3	40	60	3	1.5
8	SPC413IT	Microprocessor Lab	-	-	3	3	40	60	3	1.5
9	==SPW511IT==	==Internship- 1==	The students have to undergo a Internship of 4 week duration after IV-Semester SEE				50	-		1
		Total	15	-	10	25	370	540		21

IT: SEMESTER –V

S.No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	D/P	Contact Hrs/Wk	CIE	SEE	SEE Duration in Hours	Credits
Theory Courses										
1	SHS501BM	Finance & Accounting	3	-	-	4	40	60	3	3
2	SPC501IT	Compiler Construction	3	1	-	4	40	60	3	4
3	SPC502IT	Data Communications& Computer Networks	3	1	-	4	40	60	3	4
4	SPC503IT	Design and Analysis of Algorithms	3	-	-	3	40	60	3	3
5	SPE1501IT	PE-1	3	-	-	3	40	60	3	3
Practical/Laboratory Courses										
6	SPC511IT	Compiler Construction Lab	-	-	2	2	40	60	3	1
7	SPC512IT	Web Application Development Lab	1	-	3	4	40	60	3	2.5
8	SPC513 IT	Data Communications& Computer Networks Lab	-	-	3	3	40	60	3	1.5
Total			16	2	8	27	320	480		22

IT: SEMESTER –VI

S.No	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	D/P	Contact Hrs/Wk	CIE	SEE	SEE Duration in Hrs	Credits
Theory Courses										
1	SPC601IT	Embedded Systems	3	-	-	3	40	60	3	3
2	SPC602IT	Software Engineering	3	-	-	3	40	60	3	3
3	SPC603IT	Artificial Intelligence & Machine Learning	3	1	-	4	40	60	3	3
4	SPE-II	PE-II	3	-	-	3	40	60	3	3
5	SOE-I	OE-I	3	-	-	3	40	60	3	3
Practical/Laboratory Courses										
6	SPC611IT	Embedded Systems Lab	-	-	3	3	40	60	3	1.5
7	SPC612IT	Artificial Intelligence & Machine Learning Lab	-	-	3	3	40	60	3	1.5
8	SPW613IT	Mini Project Lab (Software Engineering)	-	-	4	4	40	60	3	2
9	SPW614IT	Technical Seminar	-	-	2	2	50	-	3	1
10	SPW611IT	Internship- 2	The students have to undergo a Internship of 4 week duration after VI- Semester SEE				50	-		1
Total			15	1	12	28	420	480		22

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contac tHrs/	CIE	SEE	SEE Duratoni nHrs	
Theory Courses										
1	SPC701IT	Internet of Things	3	-	-	3	40	60	3	3
2	SPE-III	PE-3	3	-	-	3	40	60	3	3
3	SPE-IV	PE-4	3	-	-	3	40	60	3	3
4	SPE-V	PE-5	3	-	-	3	40	60	3	3
5	SOE-II	OE-2	3	-	-	3	40	60	3	3
Practical/Laboratory Courses										
6	SPC711IT	Internet of Things LAB	-	-	4	4	40	60	3	2
7	SPE-III711IT	PE-III LAB	-	-	2	2	40	60	3	1
8	SPE-IV712IT	PE-IV LAB	-	-	2	2	40	60	3	1
9	SPW711IT	Project Work -1	-	-	6	6	50	-	-	3
Total			15	-	14	29	370	480		22

IT-SEMESTER-VIII

S. No.	Course Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Conta ct tHrs/	CIE	SEE	SEE Duration in Hrs	
Theory Courses										
1	SOE-III	**Open Elective –III**	3	-	-	3	40	60	3	3
Practical/Laboratory Courses										
2	SPW811IT	Project Work- 2	-	-	4	8	40	120	-	8
Total			3	-	4	11	80	180		11

Professional Elective - I	
SPE 521 IT	Network security & cryptography
SPE 522 IT	Computational Intelligence
SPE 523 IT	Advanced databases
SPE 524 IT	Wireless mobile communications
SPE 525 IT	Principles of Programming

Professional Elective - II	
SPE 621 IT	Information Security
SPE 623 IT	Natural Language Processing.
SPE 624 IT	Information retrieval systems
SPE 625 IT	Ad-hoc and Sensor Networks
SPE 626 IT	Parallel Algorithms

Professional Elective- III	
SPE 721 IT	Database Security
SPE 722 IT	Deep learning
SPE 723 IT	Data mining and Data ware housing
SPE 724 IT	Cloud computing
SPE 725 IT	PHP

Professional Elective -IV	
SPE 731 IT	IOT Security
SPE 732 IT	Big Data Analytics
SPE 733 IT	Data Science using R
SPE 734 IT	VLSI Design
SPE 735 IT	Agile Software Development

Professional Elective -V	
SPE 741 IT	Computer Forensics
SPE 742 IT	Semantic Web
SPE 743 IT	Data Science & Virtualization
SPE 744 IT	Block chain Technology
SPE 745 IT	Software Quality Assurance and Testing

SNO	Mandatory course and Code	Mandatory Course -Subject Name
1	MC 904	Induction Program
2	MC 905 CE	Environmental Science
3	MC 906 PO	Indian Constitution
4	MC 907 PY	Essence of Indian Traditional Knowledge

SNO	Audit course and Code	Audit Course -Subject Name
1	S AC901IT	Design Thinking
2	S AC902EE	Electrical Technology

SNO	Course Code	Course Name	Course Offered By the Department
1	SOE601 IT	Database Management Systems	IT
2	SOE 602EE	Reliability Engineering	EEE
3	SOE 603EC	Telecommunication Network Management	ECE
4	SOE 604CS	Open Source Technologies	CSE/CME/AIDS
5	SOE 605 HS	Industrial Safety & Disaster Management	
6	SOE 606 HS	Project and Proposal Writing	H&S

List of Open Electives

Open Elective – I

Open Elective – II

SNO	Course Code	Course Name	Course Offered By the Department
1	SOE701 IT	Software Engineering	IT
2	SOE702EE	Introduction to Renewable Energy Systems	EEE
3	SOE703EC	Medical Electronics	ECE
4	SOE 704CS	Quantum Computing	CSE/CME/AIDS
5	SOE705HS	Quantitative Analysis for Business Decisions [OR]	
6	SOE706LW	Intellectual Property Rights	H & S

Open Elective – III

SNO	Course Code	Course Name	Course Offered By the Department
1	SOE801 IT	Python Programming	IT
2	SOE 802EE	Energy Conservation and Management	EEE
3	SOE 803EC	Consumer Electronics	ECE
4	SOE804CS	Basics Of 3-D Printing	CSE/CME/AIDS
5	SOE805 HS	Basics of Entrepreneurship	
6	SOE 806CE	Industrial Pollution Prevention and Control	H & S

Stanley College of Engineering & Technologyforwomen

Schemeof Instruction&Examination

(CurriculumfortheAcademicYear2021-2022)

M.Tech. I to IV

Semester of

Two Year Post Graduate Degree Programme

in

Computer Science and Engineering

SCHEMEOFINSTRUCTION &EXAMINATION
M.Tech.(Computer Science and Engineering)I–Semester

S.No.	Course Type/Code	CourseName	Scheme of Instruction				Scheme of Examination			
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration in Hrs	Credits
Theory Courses										
1	Core	ProgramCore–I	3	1	-	3	40	60	3	4
2	Core	ProgramCore–II	3	1	-	3	40	60	3	4
3	Elective	Professional Elective –I	3	-	-	3	40	60	3	3
4	Elective	ProfessionalElective–II	3	-	-	3	40	60	3	3
5	CC	Research Methodology& IPR	2	-	-	2	40	60	3	2
6	Audit	Audit Course –I	2	-	-	2	40	60	3	0
Practical/LaboratoryCourses										
7	Lab	Laboratory– I	-	-	2	2	50	-	3	1
8	Lab	Laboratory–II			2	2	50		3	1
9	STS1CS	Seminar	-	-	2	2	50	-	3	2
		Total	16	02	06	22	390	360		20

PC: ProgramCore   **PE:**ProfessionalElective   **OE**:OpenElective   **AD**:AuditCourse
CC: Compulsory Course   **HS**: Humanities and social science

L:Lecture   **T**: Tutorial   **P**:Practical   **D**: Drawing
CIE: ContinuousInternalEvaluation   **SEE:**SemesterEndExamination(Univ.Exam)

Note:
1. Eachcontacthourisa ClockHour.
2. Thepractical class can beoftwoand halfhour(clockhours)durationas pertherequirement of a particularlaboratory.

 **CC Research Methodology& IPR is compulsory course for all M.E/M.Tech Programs.

SCHEMEOFINSTRUCTION &EXAMINATION
M.Tech(Computer Science and Engineering)II–Semester

S.No.	Course Type/Code	CourseName	Scheme ofInstruction				Scheme ofExamination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration inHrs	
Theory Courses										
1	Core	ProgramCore –III	3	1	-	4	40	60	3	4
2	Core	ProgramCore –IV	3	1	-	4	40	60	3	4
3	Elective	ProfessionalElective –III	3	-	-	3	40	60	3	3
4	OE	OpenElective	3	-	-	3	40	60	3	3
5	Audit	AuditCourse–II	2	-	-	2	40	60	3	0
Practical/LaboratoryCourses										
6	Lab	Laboratory–III	-	-	2	2	50	-	3	1
7	Lab	Laboratory–IV	-	-	2	2	50	-	3	1
8	SMPTP1CS	MiniProjectwithSeminar	-	-	4	4	50	-	3	2
		Total	14	02	08	24	350	300		18

PC: ProgramCore   **PE:**ProfessionalElective   **OE**:OpenElective   **AD**:AuditCourse
CC: Compulsory Course   **HS**:Humanitiesandsocialscience

L:Lecture   **T**: Tutorial   **P**:Practical   **D**: Drawing
CIE: ContinuousInternalEvaluation   **SEE:**SemesterEndExamination(Univ.Exam)

Note:
1. Eachcontacthourisa ClockHour.
2. The practical class can be of two and half hour (clock hours) duration as per the requirement of aparticularlaboratory.

SCHEMEOFINSTRUCTION &EXAMINATION
M.Tech.(Computer Science and Engineering)III–Semester

S.No.	Course Type/Code	CourseName	Scheme ofInstruction				Scheme ofExamination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration inHrs	
Theory Courses										
1	Elective	ProfessionalElective–IV	3	-	-	3	40	60	3	3
2	Elective	ProfessionalElective–V	3	-	-	3	40	60	3	3
3	SPW1CS	MajorProject Phase–I	-	-	20	20	100	-	3	10
		Total	**06**	**-**	**20**	**26**	**180**	**120**		**16**

M.Tech.(Computer Science and Engineering)IV–Semester

S.No.	Course Type/Code	CourseName	Scheme ofInstruction				Scheme ofExamination			Credits
			L	T	P/D	Contact Hrs/Wk	CIE	SEE	Duration inHrs	
Theory Courses										
1	SPW2CS	Major Project Phase – II(Dissertation)	-	-	32	32	-	200	3	16
		Total	**-**	**-**	**32**	**32**	**-**	**200**		**16**

PC: ProgramCore   **PE:**ProfessionalElective   **OE**:OpenElective   **AD**:AuditCourse
CC: Compulsory Course   **HS**: Humanitiesandsocialscience

L:Lecture   **T**: Tutorial   **P**:Practical   **D**: Drawing
CIE: ContinuousInternalEvaluation   **SEE:**SemesterEndExamination(Univ.Exam)

Note:

1. Eachcontacthour isa ClockHour

2. Thepracticalclasscanbe oftwoandhalfhour (clockhours) durationaspertherequirement ofaparticularlaboratory.

3. The students who are willing to register for MOOCs in the M. Tech (CSE) III – semester instead ofProfessional Electives – IV & V, should register for those of the courses, approved by the department.Those students are strictly not permitted to appear for either CIE or SEE of Professional Electives – IV&Vif theyabstainfromattendingthe semester classwork.Further,forstudents willingtoappearfor
bothMOOCSandProfessional Electives,theyshouldfulfil theminimumattendancecriteria.

Listof subjectsofProfessionalCore

S.No.	Course Code	CourseTitle
1	SPC01CS	Python Programming
2	SPC02CS	Cryptographyand NetworkSecurity
3	SPC03CS	DataStructures &Algorithms
4	SPC04CS	Machine Learning&Techniques

Listof subjectsofProfessionalElectivesItoV

S.No.	Course Code	CourseTitle
1	SPE01CS	Software Requirements Engineering
2	SPE02CS	Agile Software Engineering
3	SPE03CS	Software Design Architecture
4	SPE04CS	**Software Security Engineering**
5	SPE05CS	Software Project Management
6	SPE06CS	Mathematical Foundation of Computer Science Data Science
7	SPE07CS	Data Science
8	SPE08CS	Artificial Intelligence
9	SPE09CS	**Predicative Analytics using R**
10	SPE10CS	Soft Computing & Techniques
11	SPE11CS	**Distributed Computing**
12	SPE12CS	MobileComputing
13	SPE13CS	**Cloud Computing**
14	SPE14CS	**Parallel Computing**
15	SPE15CS	**Pervasive Computing**
16	SPE16CS	**Distributed Databases**
17	SPE17CS	**Exploratory data analysis**
18	SPE18CS	**Data Engineering**
19	SPE19CS	**Information Retrieval Systems**
20	SPE20CS	**Principles of Data Intensive Systems**
21	SPE21CS	**Natural Language Processing**
22	SPE22CS	**Digital Image Processing**
23	SPE23CS	**Computer Vision**
24	SPE 2139 CS	**Expert Systems**
25	SPE 2140 CS	**Deep Learning**
26	SPE 2141 CS	**Number Theory and Cryptography**
27	SPE 2142 CS	**Network Security**
28	SPE 2143 CS	**Cyber Security**
29	SPE 2144 CS	**Block Chain Technology**

List of Compulsory Course

S.No.	Course Code	CourseTitle
1	S CC5161ME	ResearchMethodology& IPR

ListofOpenElectives

S.No.	Course Code	CourseTitle
1	SOE 9101 CE	CostManagementofEngineeringProjects
2	SOE 9102 EC	InternetofThings
3	SOE 9103 EC	EmbeddedSystemDesign
4	SOE 9104 EE	WastetoEnergy
5	SOE9105 ME	Industrial Safety

Listof subjectsofAuditCourse-I

S.No.	Course Code	CourseTitle
1	SAD9001 HS	Englishfor ResearchPaperWriting
2	SAD9002 CE	DisasterManagement
3	SAD9003 HS	SanskritforTechnicalKnowledge
4	SAD9004 HS	ValueEducation

Listof subjectsofAuditCourse-II

S.No.	Course Code	CourseTitle
5	SAD9011 HS	ConstitutionofIndiaandFundamentalRights
6	SAD9012 HS	PedagogyStudies
7	SAD9013 HS	StressManagementbyYoga
8	SAD9014 HS	PersonalityDevelopmentthroughlifeEnlightenmentSkills

ListofLaboratoryCourses

S.No.	Course Code	CourseTitle
1	SPC2151CS	NetworkSecurityLab
2	SPC2152CS	MachineLearningLab
3	SPC2153CS	AdvancedAlgorithmsLab
4	SPC2154CS	AdvancedDataStructures

Scheme of Instruction & Examination

MBA I – IV Semester of

Two Year Post Graduate Degree Programme

in

Department of Business Management

Course Code	Course Title	Nature	Credits	HPW	Max. Marks (CIE+SEE) 100
MB101	Management &Organizational Behaviour	Core	5	5	40+60
MB102	Accounting for Management	Core	5	5	40+60
MB103	Marketing Management	Core	5	5	40+60
MB104	**Elective -I** 1. Business Law & Ethics 2. Fundamentals of Technology Management 3. Managerial Economics 4. Business Process Re engineering	Elective	5	5	40+60
MB105	**Elective -II** 1. IT Applications for Management 2. Business Communication 3. Customer Relationship Management 4. Statistics for Management	Elective	5	5	40+60
MB106	Computer Practicals	Practical	2	4	40+60
Total credits at the end of I Semester			**27**	**29**	**600**

Year I Semester II

Course Code	Course Title	Nature	Credits	HPW	Max. Marks (CIE+SEE) 100
MB201	Human Resources Management	Core	5	5	40+60
MB202	Financial Management	Core	5	5	40+60
MB203	Business Research Methods	Core	5	5	40+60
MB204	**Elective -III** 1. Economic Environment and Policy 2. International Business 3. Financial Markets & Services 4. Digital Marketing	Elective	5	5	40+60
MB205	**Elective -IV** 1. Total Quality Management 2. Strategic Management Accounting 3. Startup Management 4. Retail Management	Elective	5	5	40+60
MB206	**Mini Project**	------	2	2	100
			27	27	600
Total credits at the end of II Semester			54		1200

- HPW – Hours Per Week
- CIT – Continuous Internal Exam
- SEE – Semester End Exam

Year II Semester III

Course Code	Course Title	Nature	Credits	HPW	Max. Marks (CIE+SEE) 100
MB301	Operations Management	Core	5	5	40+60
MB302	E- Business	Core	5	5	40+60
MB303	Quantitative Techniques for Business Decisions	Core	5	5	40+60
MB304	**Discipline Specific Elective -I** 1. Investment Management (Finance) 2. Product and Brand Management (Marketing) 3. Compensation Management (Human resource) 4. Decision Support Systems(Systems)	DSE	5	5	40+60
MB305	**Discipline Specific Elective -II** 1. International Finance (Finance) 2. Product and Distribution Management (Marketing) 3. Organization Development(Human Resource) 4. Business Analytics (Systems)	DSE	5	5	40+60
MB306	Innovation Management	**Core**	5	5	40+60
MB307	**Project Synopsis Presentation**		2	2	50
MB308	**Seminar on Contemporary Topics**		2	2	50
			35	30	700
	Total credits at the end of III Semester		118		1900

Year II Semester IV

Course Code	Course Title	Nature	Credits	HPW	Max. Marks(CIE+SEE) 100
MB401	Strategic Management	Core	5	5	40+60
MB402	Business Intelligence	Core	5	5	40+60
MB403	Supply Chain Management	Core	5	5	40+60
MB404	**Discipline Specific Elective -III** 1. Financial Risk Management (Finance) 2. Consumer Behaviour (Marketing) 3. Performance Management (Human Resource) 4. Data Base Management Systems (Systems)	DSE	5	5	40+60
MB405	**Discipline Specific Elective -IV** 1. Banking & Insurance (Finance) 2. Services and Global Marketing (Marketing) 3. Talent and Knowledge Management (Human Resource) 4. Software Project Management (Systems)	DSE	5	5	40+60
MB406	Project Work and Pre-Submission Seminar	------	5	5	100
MB407	Comprehensive Viva-Voce	------	5	----	100
			35	30	700
Total credits at the end of IVand Final Semester			123		2600

FACULTY OF ENGINEERING

Scheme of Instruction & Examination

and

Syllabus

M.E. I – IV Semester

of

Two Year Post Graduate Degree Programme

in

Electronics and Communication Engineering Specialization in Embedded Systems

SCHEME OF INSTRUCTION & EXAMINATION
M.E. (Electronics and Communication Engineering) Semester I
Specialization in Embedded Systems

S. No.	Course Type/Code	Course Name	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs./W	CIE	SEE	Duration in Hrs.	
Theory Courses										
1	Program Core – I	Micro Controllers for Embedded System Design	3	1	-	4	40	60	3	4
2	Program Core – II	Smart Sensors and Internet of Things	3	1	-	4	40	60	3	4
3	Elective	Professional Elective – I	3	-	-	3	40	60	3	3
4	Elective	Professional Elective – II	3	-	-	3	40	60	3	3
5	CC	Research Methodology & IPR	3	-	-	3	40	60	3	2
6	Audit	Audit Course – I	2	-	-	2	40	60	3	-
Practical/ Laboratory Courses										
7	Lab-I	Embedded System Laboratory – I	-	-	2	2	50	-	3	1
8	Lab-II	IOT Laboratory – I	-	-	2	2	50	-	3	1
9	S PC 3255 ES	Seminar/Self Learning	-	-	4	4	50	-	3	2
		Total	17	02	08	27	390	360		20

PC: Program Core **PE:** Professional Elective **OE**: Open Elective **AD**: Audit Course

CC: Compulsory Course **HS**: Humanities and social science

L: Lecture **T**: Tutorial **P**: Practical **D**: Drawing
CIE: Continuous Internal Evaluation **SEE:** Semester End Examination (Univ. Exam)

Note:
1. Each contact hour is a Clock Hour.
2. The practical class can be of two and half hour (clock hours) duration as per the requirement of a laboratory.
3. Open Elective Subject is not offered to the students of ECE Department.

SCHEME OF INSTRUCTION & EXAMINATION
M.E. (Electronics and Communication Engineering) Semester II
Specialization in Embedded Systems

S. No.	Course Type/Code	Course Name	Scheme of Instruction				Scheme of Examination			
			L	T	P/D	Contact Hrs./Wk.	CIE	SEE	Duration in Hrs.	Credits
Theory Courses										
1	Program Core – III	Programming and Interfacing with Microcontroller	3	1	-	4	40	60	3	4
2	Program Core – IV	IoT Applications and Communication Protocols	3	1	-	4	40	60	3	4
3	Elective	Professional Elective – III	3	-	-	3	40	60	3	3
4	OE	Open Elective	3	-	-	3	40	60	3	3
5	Audit	Audit Course – II	2	-	-	2	40	60	3	-
Practical/ Laboratory Courses										
6	Lab-III	Embedded System Laboratory – II	-	-	2	2	50	-	3	1
7	Lab-IV	IOT Laboratory – II	-	-	2	2	50	-	3	1
8	S PC 3256 ES	Mini Project with Seminar	-	-	4	4	50	-	3	2
		Total	14	02	08	24	350	300	-	18

PC: Program Core   **PE:** ProfessionalElective   **OE**: Open Elective   **AD**: Audit Course
CC: Compulsory Course   **HS**: Humanities and Social Science

L: Lecture   **T**: Tutorial   **P**: Practical   **D**: Drawing
CIE: Continuous Internal Evaluation   **SEE:** Semester End Examination (Univ. Exam)

Note:
1. Each contact hour is a Clock Hour.
2. The practical class can be of two and half hour (clock hours) duration as per the requirement of a laboratory.
3. ** Open Elective Subject is not offered to the students of ECE Department.

SCHEME OF INSTRUCTION & EXAMINATION
M.E. (Electronics and Communication Engineering) Semester III
Specialization in Embedded Systems

S. No.	Course Type/Code	Course Name	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs./W	CIE	SEE	Duration in Hrs.	
Theory Courses										
1	Elective	Professional Elective – IV	3	-	-	3	40	60	3	3
2	Elective	Professional Elective – V	3	-	-	3	40	60	3	3
3	S PC 3257 ES	Major Project Phase – I	-	-	20	20	100	-	3	10
		Total	06	-	20	26	180	120	-	16

M.E. (Electronics and Communication Engineering)Semester IV
Specialization in Embedded Systems

S. No.	Course Type/Code	Course Name	Scheme of Instruction				Scheme of Examination			Credits
			L	T	P/D	Contact Hrs./W	CIE	SEE	Duration in Hrs.	
Theory Courses										
1	S PC 3258 ES	Major Project Phase – II (Dissertation)	-	-	32	32	-	200	3	16
		Total	-	-	32	32	-	200		16
		Grand Total								70

PC: Program Core   **PE:** Professional Elective   **OE**: Open Elective   **AD**: Audit Course
CC: Compulsory Course   **HS**: Humanities and Social Science

L: Lecture   **T**: Tutorial   **P**: Practical   **D**: Drawing
CIE: Continuous Internal Evaluation   **SEE:** Semester End Examination (Univ. Exam)

Note:
1. Each contact hour is a Clock Hour.
2. The practical class can be of two and half hour (clock hours) duration as per the requirement of a laboratory.
3. ** Open Elective Subject is not offered to the students of ECE Department.

SCHEME OF INSTRUCTION & EXAMINATION
M.E. (Electronics and Communication Engineering)
Specialization in Embedded Systems

List of subjects of Professional Core

S. No.	Course Code	Course Title
1	S PC 3301 ES	Micro Controllers for Embedded System Design
2	S PC 3202 ES	Smart Sensors and Internet of Things
3	S PC 3203 ES	Programming and Interfacing with Microcontroller
4	S PC 3204 ES	IoT Applications and Communication Protocols

List of subjects of Professional Electives I to V

S. No.	Course Code	Course Title
1	S PE 3216 ES	Wireless Sensor Protocols and Programming
2	S PE 3217 ES	Advance Wireless and Mobile Networks
3	S PE 3218 ES	Wireless Access Technologies
4	S PE 3219 ES	Embedded Linux and Basics of Device Drivers
5	S PE 3220 ES	Neural Networks and Fuzzy Logic
6	S PE 3221 ES	Privacy and Security in IoT
7	S PE 3222 ES	IoT: Sensing and Actuator Devices
8	S PE 3223 ES	Energy Harvesting Technology and Power Management for IoT Devices
9	S PE 3224 ES	Scripting Languages
10	S PE 3225 ES	Image and Video Processing
11	S PE 3226 ES	Kernel and Driver Programming
12	S PE 3227 ES	Cloud Computing
13	S PE 3228 ES	Mobile Computing
14	S PE 3319 ES	SoC Design
15	S PE 3303 ES	Real Time Operating Systems (Elective)
16	S PE 3304 ES	Programming Languages for Embedded Software
17	S PE 3305 ES	Machine Learning

List of Compulsory Courses

S. No.	Course Code	Course Title
1	S CC 5161 ES	Research Methodology & IPR

List of Open Electives

S. No.	Course Code	Course Title
1	S OE 9101 CE	Cost Management of Engineering Projects
2	S OE 9102 CS	Business Analytics
3	S OE 9103 EC**	Embedded System Design
4	S OE 9104 EE	Waste to Energy
5	S OE 9105 ME	Industrial Safety

Note: ** Open Elective Subject is not offered to the students of ECE Department.

SCHEME OF INSTRUCTION & EXAMINATION
M.E. (Electronics and Communication Engineering)
Specialization in Embedded Systems

List of subjects of Audit Course-I

S. No.	Course Code	Course Title
1	S AD 9001 HS	English for Research Paper Writing
2	S AD 9002 CE	Disaster Management
3	S AD 9003 HS	Sanskrit for Technical Knowledge
4	S AD 9004 HS	Value education

List of subjects of Audit Course-II

S. No.	Course Code	Course Title
1	S AD 9011 HS	Constitution of India and Fundamental Rights
2	S AD 9012 HS	Pedagogy Studies
3	S AD 9013 HS	Stress Management by Yoga
4	S AD 9014 HS	Personality Development through life Enlightenment Skills

List of Laboratory Courses

S. No.	Lab No.	Course Code	Course Title
1	I	S PC 3251 ES	Embedded Systems Lab – I
2	II	S PC 3252 ES	IoT Lab-I
3	III	S PC 3253 ES	Embedded Systems Lab – II
4	IV	S PC 3254 ES	IoT Lab-II