

FACULTY OF ENGINEERING
Scheme of Instructions
For
Four Year Degree Programme of Bachelor of Engineering (B.E)
in

INFORMATION TECHNOLOGY
(Accredited by NBA)
(With effect from the academic year 2023-24)
(Approved by College Academic Council on -- -- ----)

Empower Women – Impact the World



Stanley College of Engineering and Technology for Women (Autonomous)
(Affiliated to Osmania University)
(Accredited by NAAC with “A” Grade)
Abids, Hyderabad – 500 001, Telangana.

**B. E . 4 Year (8 semesters) Regular Programme in
INFORMATION TECHNOLOGY
Course Structure
(Applicable for the Batch admitted from the Academic Year 2023-24)**

Semester I										
S. NO	Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	D/P	CONTA CT HOURS	CIE	SEE	DURATION IN HOURS	Credits
Theory Courses										
1	SBS101MT	Mathematics-I	4			4	40	60	3	4
2	SES103EE	Fundamentals of Electrical Electronics Engineering	4			4	40	60	3	4
3	SBS902PH	Applied Physics	4			4	40	60	3	4
4	SES101IT	Programming for Problem Solving	3			3	40	60	3	3
Practical/Laboratory Courses										
5	SHS911EG	English Lab			2	2	40	60	3	1
6	SES113EE	Fundamentals of Electrical Electronics Engineering Lab			2	2	40	60	3	1
7	SBS912PH	Applied Physics Lab			2	2	40	60	3	1
8	SES111IT	Programming for Problem Solving Lab			4	4	40	60	3	2
9	SES914ME	Engineering Workshop			4	4	40	60	3	2
10	SHS916IT	Design Thinking			2	2	40	60	3	1
			15		16	31	400	600	30	23

**B. E . 4 Year (8 semesters) Regular Programme in
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Semester II

S. NO	Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	D/P	CONTA CT HOURS	CIE	SEE	DURATION IN HOURS	Credits
Theory Courses										
1	SBS202 MT	Mathematics-II	4			4	40	60	3	4
2	SES201IT	Data Structure	4			4	40	60	3	4
3	SBS904CH	Applied chemistry	4			4	40	60	3	4
4	SHS901EG	English	2	-		2	40	60	3	2
5	SHS902EG	Universal Human Values	2			2	40	60	3	2
Practical/Laboratory Courses										
6	SES211IT	Data Structures Lab			2	2	40	60	3	1
7	SBS914CH	Chemistry Lab			2	2	40	60	3	1
8	SES915ME	Engineering Graphics			4	4	40	60	3	2
9	SPW211IT	IDEA Lab			2	2	40	60	3	1
			16		10	26	360	540	27	21

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Semester III

S. NO	Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	D/ P	CONTA CT HOURS	CIE	SEE	DURATION IN HOURS	Credits
Theory Courses										
1	SPC301IT	Discrete Mathematics & Graph Theory	3			3	40	60	3	3
2	SPC302IT	OOPs using JAVA	3			3	40	60	3	3
3	SPC303IT	Database Management Systems	3			3	40	60	3	3
4	ES302EC	<i>Digital Electronics</i>	3	-		3	40	60	3	3
5	SPC304IT	Computer Architecture and Organization	3			3	40	60	3	3
6	SAU903CH	Environmental Science	2			2	50		2	0
Practical/Laboratory Courses										
7	SPC311IT	OOPs using JAVA			2	2	40	60	3	1
8	SPC312IT	Database Management Systems Lab			2	2	40	60	3	1
9	ES312EC	Digital Electronics Lab			2	2	40	60	3	1
10	SPC313IT	IT Work Shop			2	2	40	60	3	1
			17		8	25	410	540	29	19

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Semester IV

S. NO	Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits	
			L	T	D/P	CONTA CT HOURS	CIE	SEE	DURATION IN HOURS	Credits	
Theory Courses											
1	SBS401MT	Mathematics-III	4			4	40	60	3	4	
2	SHS901BM	Managerial Economics and Financial Accountancy	4			4	40	60	3	4	
3	SPC401IT	Operating Systems	3			3	40	60	3	3	
4	SPC402IT	Data Communication and Computer Networks	3	-		3	40	60	3	3	
5	SES401EC	Microprocessor and Microcontrollers	3			3	40	60	3	3	
6	SMC901HS	Indian Constitution	2			2	40	60	2	0	
Practical/Laboratory Courses											
7	SPC411IT	OS &CN Lab			2	2	40	60	3	1	
8	SES411EC	Micro processor Lab			2	2	40	60	3	1	
9	SPC412IT	Python Programming Lab		2	2	4	40	60	3	3	
10	SHS912EG	Advanced Communication Skills lab			2	2	40	60	2	1	
11		Internship-1	(to be evaluated in 5 th semester. To be carried out in summer after 4 th semester))								
			19	2	8	29	400	600	28	23	

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Semester V

S.NO	Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	D/P	CONTA CT HOURS	CIE	SEE	DURATION IN HOURS	Credits
Theory Courses										
1	SPC501IIT	Automata Theory and Compiler Design	3			3	40	60	3	3
2	SPC502IT	Design and Analysis of Algorithms	3			3	40	60	3	3
3	SPC503IT	Internet of Things	3			3	40	60	3	3
4	SPC504IT	Software Engineering	3	-		3	40	60	3	3
5	PE-1	Professional Elective -1	3			3	40	60	3	3
Practical/Laboratory Courses										
6	SPC511IIT	Internet of Things Lab			2	2	40	60	3	1
7	SPC 512IT	DAA Lab			2	2	40	60	3	1
8	SPC513IT	Full Stack Development Lab-1 (HTML,CSS, Bootstrap, JS, ReactJS)		2	2	4	40	60	3	3
9	SPW501IT	Internship -1 (to be evaluated in 5th semester. To be carried out in summer after 4 th semester))					50	-	3	1
			15	2	6	23	370	480	27	21

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Semester VI

S. NO	Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	D/P	CONTA CT HOURS	CIE	SEE	DURATION IN HOURS	Credits
Theory Courses										
1	SPC601IT	Block chain Technology	3			3	40	60	3	3
2	SPC602IT	Cloud Computing	3			3	40	60	3	3
3	SPC603IT	Cryptography and Network Security	3			3	40	60	3	3
4	PE-2	Professional Elective – 2	3	-		3	40	60	3	3
5	OE-1	Open Elective-1	3			3	40	60	3	3
Practical/Laboratory Courses										
6	SPC611IT	Block chain Technology Lab			2	2	40	60	3	1
7	SPC612IT	Cloud Computing Lab			2	2	40	60	3	1
8	SPC613IT	Full Stack Development Lab-2 (Angular Js,NodeJs, MongoDB , , VCS)		2	2	4	40	60	3	3
9	SPW611IT	Mini Project			2	2	40	60	3	1
10		Internship-2	The students have to undergo a Internship-2 of 6 week duration after VI-Semester SEE							
			15	2	8	25	360	540	27	21

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Semester VII

S.NO	Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	D/ P	CONTA CT HOURS	CIE	SEE	DURATION IN HOURS	Credits
Theory Courses										
1	SPC701IT	Cyber Security and Digital Forensics	3			3	40	60	3	3
2	SPC702IT	DevOps	3			3	40	60	3	3
3	PE-4	Professional Elective – 3	3			3	40	60	3	3
4	PE-5	Professional Elective – 4	3	-		3	40	60	3	3
5	OE-2	Open Elective-2	3			3	40	60	3	3
Practical/Laboratory Courses										
6	SPC711IT	Cyber Security Lab Lab			2	2	40	60	3	1
7	SPC712 IT	DevOps Lab			2	2	40	60	3	1
8	SPW711IT	Project work -1			6	6	50		3	3
9	SPW712IT	Internship -2 (to be evaluated in 7th semester. To be carried out in summer after 6th semester))					50		3	1
			15		10	25	380	420	27	21

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Semester VIII										
S.N O	Code	Course Title	Scheme of Instruction				Scheme of Examination			Credits
			L	T	D/ P	CON TAC T HOU RS	CI E	SEE	DURATI ON IN HOURS	Credits
Theory Courses										
1	OE-3	Open Elective-3	3			3	40	60	3	3
Practical/Laboratory Courses										
8	SPW81 1IT	Project work -2			16	16	40	120	3	8
			3		16	18	80	180	6	11

PC: Professional Course **PE:** Professional Elective **MC:** Mandatory Course

PW: Project Work **L:** Lecture **T:** Tutorial **P:** Practical **D:** Drawing

AU: Audit Course **CIE:** Continuous Internal Evaluation, **SEE:** Semester End Examination

Note:

1. Each contact hour is a Clock Hour
2. The duration of the practical class is two clock hours, however it can be extended wherever necessary, to enable the student to complete the experiment

Micro/Minor Specialization

Thread Name	PE-1	PE-2	PE-3	PE-4
Subject Code	SPE501IT	SPE601IT	SPE701IT	SPE702IT
AI&ML	Artificial Intelligence	Machine Learning	Natural Language Processing	Deep Learning
Data Engineers	Data Exploration and Visualization	No- SQL Databases	Data Analysis	Text and Speech Analysis
Cyber Security and Data Privacy	Digital & Mobile Forensics	Web Application Security	Crypto currency and Blockchain Technologies	Security and Privacy in Cloud
Software Engineering	Object Oriented Analysis and Design	Software Testing Methodologies	Scalable Services	Agile Software Processes
Miscellaneous	Principles of Programming Languages	Advanced Python	Augmented Reality/Virtual Reality	UI & UX Technologies

Comparison between AICTE Model curriculum CSE and Stanley IT Proposed

S. No	Category	Credits breakup for		
		AICTE -CSE	Stanley-IT (present)	Stanley -IT(new)
1.	Humanities and Social Sciences including Management courses	9.8 %(16)	5% (08)	7% (11)
2.	Basic Science courses	14.11% (23)	13.75% (22)	13.75% (22)
3.	Engineering Science courses including workshop, drawing, basics of electrical/mechanical/computer etc.	17.79%(29)	16%(24)	16.88% (27)
4.	Professional core courses	36.2% (59)	40% (64)	40% (64)
5.	Professional Elective courses relevant to chosen specialization / branch	7.36% (12)	10.63% (17)	7.50 % (12)
6.	Open subjects – Electives from other technical and /or emerging subjects	5.52 % (9)	5.63 % (9)	5.63 % (9)
7.	Project work, seminar and internship in industry or elsewhere	9.2 % (15)	10% (16)	9.38 % (15)
8.	Mandatory Courses /audit courses [Environmental Sciences, Induction Program, Indian Constitution, Essence of Indian Knowledge Tradition]	(non-credit)	(non-credit)	(non-credit)
	Total	163	160	160

HUMANITIES & SOCIAL SCIENCES COURSES [HS]	
AICTE Model Curriculum (CSE) (2022)	Stanley-R23 (IT)Proposed
HSMC-201 English (3)	English (3)
HSMC-102 Design Thinking (1)	Design Thinking (1)
HSMC (H-102) Universal Human Values (3)	Universal Human Values (2)
HSMC-301 Humanities – 1 (3)	Advanced Communication Skills (1)
HSMC-401 Management-I Finance & Accounting (3)	Finance & Accounting (4)
HSMC-501 Humanities – II (3)	-
TOTAL= 16	TOTAL= 11

BASIC SCIENCE COURSE [BSC]	
AICTE Model Curriculum (CSE) (2022)	Stanley-R23 (IT)Proposed
BSC-101 Physics-I (5)	BS101 Physics (5)
BSC-102 Mathematics-I (Calculus and Linear Algebra) (4)	BS102 Mathematics-I (4)
BSC-201 Mathematics-II (Probability and Statistics) (4)	BS201 Mathematics-II (4)
BSC-202 Chemistry-I (5)	BS202 Chemistry (5)
BSC-301 Mathematics-III (Differential Calculus) (2)	BS401 Mathematics-III (4)
BSC-701 Biology (3)	
TOTAL= 23	TOTAL= 22

ENGINEERING SCIENCE COURSES [ES]	
AICTE Model Curriculum (CSE) (2022)	Stanley-R23 (IT)Proposed
ESC-101 Basic Electrical Engineering (5)	ESC-101 Basic Electrical Engineering I (5)
ESC-102 Engineering Graphics & Design (3)	ESC-102 Engineering Graphics & Design (2)
ESC-201 Programming for Problem Solving (5)	ES101 Problem Solving and Programming (5)
ESC-202 Workshop/Manufacturing Practices (3)	ESC-202 Workshop/Manufacturing Practices(2)
ESC-301 Analog Electronic Circuits(5)	ESC Data Structures(5)
ESC-302 Digital Electronics (5)	ESC-302 Digital Electronics (4)
ESC-501 Signals and Systems (3)	Microprocessor and Micro Controllers (4)
TOTAL= 29	TOTAL= 27

PROFESSIONAL CORE COURSES [PCC]	
AICTE Model Curriculum (CSE) (2022)	Stanley-R23 (IT)Proposed
PCC CS-301 Data Structure and Algorithms (5)	
PCC CS-401 Discrete Mathematics (4)	PCC IT-301 Discrete Mathematics & Graph Theory (3)

PCC CS-302 IT Workshop – (Sci Lab / MATLAB) (3)	PCC IT-312 IT Workshop – (1)
PCC CS-402 Computer Organization and Architecture (5)	PCC CS- 304 Computer Organization and Architecture (3)
	PCC IT- 302 Java Programming (4)
PCC CS-505 Introduction to Database Systems (5)	PCC IT-303 Relational Database Management System (4)
PCC CS-403 Operating Systems (5)	PCC IT-401 Concepts of Operating Systems(4)
PCC CS-601 Computer Networks (5)	PCC IT-402 Data Communication and Computer Networks (3)
PCC CS-405 Advanced Programming (4)	
	PCC IT -412 Python Programming (3)
PCC CS-404 Design and Analysis of Algorithms (5)	PCC IT-502 Algorithm Analysis and Design (3)
PCC CS-504 Theory of Computation (4)	PCC IT-501 Automata Theory and Compiler Design(3)
	PCC IT-503 Software Engineering (4)
	PCC IT-504 Internet of Things (4)
	PCC IT-514 Full Stack Development-1(3)
PCC CS-602 Compiler Design (5)	
PCC CS-603 Machine Learning (4)	
PEC CS-601 Introductory Cyber Security (5)	PCC IT-701 Cyber Security and Digital Forensics (4)
	PCC IT-601 Programming with Raspberry-Pi (4)
	PCC IT-602 Cloud Computing (4)
	PCC IT-603 Cryptography and Network Security (3)
	PCC IT-614 Full Stack Development Lab-2(3)_
	DevOps (4)
TOTAL= 59	TOTAL= 64

PROFESSIONAL ELECTIVE COURSES[PEC]	
AICTE Model Curriculum (CSE) (2022)	Stanley-R23 (IT)Proposed
PE001 (3)	PE001 (3)
PE002 (3)	PE002 (3)
PE003 (3)	PE003 (3)
PE004 (3)	PE004 (3)
TOTAL= 12	TOTAL= 12

OPEN ELECTIVE COURSES[OEC]	
AICTE Model Curriculum (CSE) (2022)	Stanley-R23 (IT)Proposed
OEC Open Elective – I (3)	OEC Open Elective – I (3)
OEC Open Elective – II (3)	OEC Open Elective – II (3)
OEC Open Elective – III (3)	OEC Open Elective – III (3)
TOTAL= 09	TOTAL= 09

PROJECT WORK, SEMINAR AND INTERNSHIP IN INDUSTRY	
AICTE Model Curriculum (CSE) (2022)	Stanley-R23 (IT)Proposed
	Idea Lab / Field Work(1)
	PW IT-511 Summer Internship – I (1)
PROJ CS-601 Project-I (3)	PW IT-611 mini Project (1)
PROJ CS-601 Project-II (6)	PW IT-711 Summer Internship – 2 (1)
PROJ CS-601 Project-III (6)	PW IT-712 Project-I (3)
	PW IT-811 Project-II (8)
TOTAL= 15	TOTAL= 15

EM	MC (0C, 4S)	HS (9C, 4S)	BS (22C,5S)	ES (28C,8S)	PC (56C,14S)	PE (16C ,5S)	OE (9C, 3S)	Project (15)	Total CREDITS	Total Subjects
SEM 1		ENG Lab (1)	M1 (4), PHY(4) +LAB (1)	PPS (3) +Lab (2), WS LAB (2) + BEE(4)+Lab(1)					23	4 Th 5 Lab
SEM 2		ENG (2) +UHV (2)+DT(1)	M2 (4), CHE (4),CHE LAB(1)	DS (4) + Lab (1), Graphics Lab (2)					21	5 Th 5 Lab
SEM 3	MC-1			EDC (3) BE LAB (1), IT-workshop(1)	Java (4)+DBMS(4)+DM(3)+DL CD(3)			Field work(1)	19	5 Th 4 Lab MC-1
SEM 4	MC-2	MEFA (4)+ACK(1)	M3 (4)	MP&MC(4)	DCCN(3) + OS(3), + Lab (1) python(3)				23	5 Th 3 Lab MC-1
SEM 5					TC (3) + DAA(3)+SE(3)+lab(1)+IOT(3)+lab(1)+FSD-LAB(3)	PE I (3)		INTER N-1 (1) (Done at Sem4)	21	5 Th 3 Lab
SEM 6					PAR(3)+lab(1)+DS(3)+CNS(3)+lab(1)+MAD(3)	PE II (3)	OE I (3)	Mini- Proj(1)	21	5 Th 3 Lab
SEM 7					CC(3)+Lab(1) Devapp(4)	PE- III(3) + PE- IV(3) +	OE2 (3)	INTER N-2 (1) +Project -1 (3)	21	5 Th 2 Lab 1 proj
SEM 8							OE 3 (3)	Project (8)	11	1 Th 1 proj
Total	0	11	22	27	64	12	9	15	160	