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

STANLEY COLLEGE OF ENGINEERING AND TECHNOLOGY FOR WOMEN (AUTONOMOUS)
(Affiliated to Osmania University)
(Accredited by NAAC with "A" Grade, Accredited by NBA)
ABIDS, HYDERABAD-500001, Telangana.
Academic Year 2021-2022

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			Credits
			L	T	P/D	Contact Hrs./Wk.	CIE	SEE	Duration in Hrs.	
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)
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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