ARISE & SHINE

ST VINCENT PALLOTTI COLLEGE OF ENGINEERING & TECHNOLOGY

DEPARTMENT OF INDUSTRIAL INTERNET OF THINGS (IIoT)

PROPOSED DRAFT OF THE SCHEME OF IIoT

SESSION 2022-2023

ANNEXURE – I

Teaching Scheme for First Year (Semester I and II) Bachelor of Technology

GROUP 1: SEMESTER I / GROUP 2: SEMESTER II

Sr No	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Continual Assessment	End Sem Examination	Total
1	AS101T	Engineering Physics& Material Sciences	4	1	-	5	30	70	100
2	AS101P	Engineering Physics& Material Sciences Lab	-	-	2	1	25	25	50
3	AS102T	Applied Mathematics – I	4	-	-	4	30	70	100
4	AS103T	Engineering Practices-I (Electrical & Electronics)	4		-	4	30	70	100
5	AS103P	Engineering Practices-I Lab(Electrical & Electronics)	-	-	2	1	25	25	50
6	AS104T	Logic building with C	3	-		3	15	35	50
7	AS104P	Logic building with C Lab			2	1	25	25	50
8	AS105T	Communication Skills	2	-	-	2	15	35	50
9	AS106P	Communication Skills Lab			2	1	25	25	50
10	AS107P	Sports / Yoga / Library			2	0			
Total			**17**	**1**	**10**	**22**	**220**	**380**	**600**

Induction Training 3 weeks

GROUP 1: SEMESTER II / GROUP 2: SEMESTER I

Sr No	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Continual Assessment	End Sem Examination	Total
1	AS201T	Engineering Chemistry& Environmental Science	4	1	-	5	30	70	100
2	AS201P	Engineering Chemistry & Environmental Science Lab	-	-	2	1	25	25	50
3	AS202T	Applied Mathematics – II	4	-	-	4	30	70	100
4	AS202P	Computational Mathematics Lab	-	-	2	1	25	25	50
5	AS203T	Engineering Practices-I (Mechanics & drawing)	4		-	4	30	70	100
6	AS203P	Engineering Practices-I Lab(Mechanics & drawing)	-	-	2	1	25	25	50
7	AS204T	Problem Solving with Python	3	-	-	3	30	70	100
8	AS204T	Problem Solving with Python Lab	-	-	2	1	25	25	50
10	AS205T	Essence of Indian Knowledge Tradition	2			0			
11	AS206P	Sports / Yoga			2	0			
12	AS207P	Library / Tinkering &Model Lab			1	0			

| Total | 17 | 1 | 11 | 20 | 220 | 380 | 600 |

* Induction Training 3 weeks

III Semester B. Tech. (Industrial Internet of Things)

Sr No	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Continual Assessment	End Sem Examination	Total
1	AS301T	Applied Mathematics – III	4			4	30	70	100
2	II301T	Digital Circuits	3			3	30	70	100
3	II301P	Digital Circuits Lab			2	1	25	25	50
4	II302T	Electronics and Mechanical Measurements	3			3	30	70	100
5	II303T	Database Management Systems	3			3	30	70	100
6	II303P	Database Management Systems Lab			2	1	25	25	50
7	II304T	Analog and Digital Communication	2			2	15	35	50
9	II305T	Fundamentals of Internet of Things	2			2	15	35	50
10	AS302T	Constitution of India	2			0	25	25	50
11	H 102	Universal Human Values - 2	3			3	25	25	50
12		Sports / Yoga / Library / Career Development			2	0			
		Total	**22**		**6**	**22**	**250**	**450**	**700**

* Interpersonal Skills, Aptitude, and Logical Thinking

IV Semester B. Tech. (Industrial Internet of Things)

Sr No	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Continual Assessment	End Sem Examination	Total
1	II401T	Microprocessor & Microcontrollers	3			3	30	70	100
2	II401P	Microprocessor & Microcontrollers Lab			2	1	25	25	50
3	II402T	IoT Sensors and Actuators	3			3	30	70	100
4	II402P	IoT Sensors and Actuators Lab			2	1	25	25	50
5	II403T	Mechanical Structure Design	3			3	30	70	100
6	II404T	Data Structure & Algorithms	3			3	30	70	100
7	II404P	Data Structure & Algorithms Lab			2	1	25	25	50
8	II405T	Data Communication and Networking	3			3	30	70	100
9	II406P	Python Programming Lab.			2	1	25	25	50
10	II407P	Industrial Training Skill Development			2	1		50	50
11	II408P	Career Development * (Audit Course)	2			0			
Total			17		10	20	250	500	750

* Interpersonal Skills, Aptitude, and Logical Thinking

V Semester B. Tech. (Industrial Internet of Things)

Sr No	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Continual Assessment	End Sem Examination	Total
1	II501T	Hardware for IoT	3			3	30	70	100
2	II501P	Hardware for IoT Lab			2	1	25	25	50
3	II503T	Operating Systems	3			3	30	70	100
4	H103/4T	Foundational Humanities Elective	2			0			
5	II504T	Elective – I	3			3	30	70	100
6	II505T	Open Elective - I	3			3	30	70	100
7	II505P	Open Elective - I			2	1	25	25	50
8	AS501T	Economics and Management	4			4	15	35	50
9	AS502T	English for Engineers	2			2	25	25	50
10	II506P	Industry Training & Skill Development			2	1		50	50
11	II507P	Career Development *			4	0			
Total			**20**		**10**	**21**	**210**	**440**	**650**

* Advanced Interpersonal Skills and Advanced Aptitude

Open Elective - I		Open Elective – I Lab.	
II505T (i)	Protocols and Architecture for IoT	II505P (i)	Protocols and Architecture for IoT
II505T (ii)	Embedded and Real Time Systems	II505P (ii)	Embedded and Real Time Systems Lab.
Elective - I			
II504T (i)		Wireless Sensor Networks	
II504T (ii)		Information Security	
Foundational Humanities Elective			
H-103		Development of Societies	
H 104		Philosophy	

VI Semester B. Tech. (Industrial Internet of Things)

Sr No	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Continual Assesment	End Sem Examination	Total
1	II601T	Machine Learning	3			3	30	70	100
2	II601P	Machine Learning Lab			2	1	25	25	50
3	II602T	Dashboard & Mobile Application Development	2	1		3	30	70	100
4	II602P	Dashboard & Mobile Application Development Lab			2	1	25	25	50
5	II603T	Cloud & Fog Computing	3			3	30	70	100
6	II604T	Elective – II	3			3	30	70	100
7	II605T	Open Elective-II	3	1		4	30	70	100
8	II606P	Project - I			2	1	50	50	100
9	II607P	Career Development*			4	0			
10	II608P	Capstone Course **			2	1	25	25	50
Total			**14**	**2**	**12**	**20**	**275**	**475**	**750**

* Advanced Interpersonal Skills and Advanced Aptitude
** Comprehensive Online Exam

Open Elective - II		Elective II	
II605T (i)	Privacy and Security in IoT	II604T (i)	Manufacturing Processes - I
II605T (ii)	Cyber Physical System and Digital Twin	II604T (ii)	Digital Image Processing
II605T (iii)	Intelligent Transport Systems	II604T (iii)	Edge Computing

VII Semester B. Tech. (Industrial Internet of Things)

Sr No	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Continual Assessment	End Sem Examination	Total
1	II701T	Industrial IoT and Industry 4.0	3			3	30	70	100
2	II702T	Artificial Intelligence	3			3	30	70	100
3	II702P	Artificial Intelligence Lab			2	1	25	25	50
4	II703T	Data Analytics for IoT	3			3	30	70	100
5	II703P	Data Analytics for IoT Lab			2	1	25	25	50
6	II704T	Elective- III	3			3	30	70	100
7	II705T	Open Elective - III	4			4	30	70	100
8	II706P	Project - II			2	1	75	75	150
9	II707P	Summer / Winter Internship *				2		50	50
10	II708P	Capstone Course **			2	1	25	25	50
Total			16		08	22	300	550	850

*Four weeks Internship Completion till 6th Semester

** Comprehensive Online Exam

Open Elective - III			Elective - III	
II705T (i)	Deep Learning	II704T (i)	Manufacturing Processes - II	
II705T (ii)	Software Defined Networks	II704T (ii)	PLC & SCADA Systems	
II705T (iii)	Industrial Robotics	II704T (iii)	Computer Vision	

VIII Semester B. Tech. (Industrial Internet of Things)

Option A

Sr No	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Continual Assessment	End SemAssessment	Total
1	II801P	Project based on one semester internship in Industry/Research Institute/ National Laboratories/ Incubation Center	-	-	-	12	200	200	400
Total			-	-	-	12	200	200	400

*End Semester Examination will consist of evaluation of Seminar and Project Report

Option B is available to students only after recommendation of the concerned Head of the department. The project and internship should contribute towards career development plan of the students.

Sr No	Course Code	Course Title	Hours per Week			Credits	Maximum Marks		
			L	T	P		Continual Assessment	End SemAssessment	Total
1	II802P	Institutional Internship	-	-	-	6	100	100	200
2	II803P	Project - III	-	-	-	6	100	100	200
Total			-	-	-	12	200	200	400

B. Tech. (Industrial Internet of Things)

LIST OF OPEN ELECTIVES

Sl. No.	Course Code	Course Name	Semester
1.	II505T (i)	Protocols and Architecture for IoT	V
2.	II505T (ii)	Embedded and Real Time Systems	V
3.	II605T (i)	Privacy and Security in IoT	VI
4.	II605T (ii)	Cyber Physical System and Digital Twin	VI
5.	II605T (iii)	Intelligent Transport Systems	VI
6.	II705T (i)	Deep Learning	VII
7.	II705T (ii)	Software Defined Networks	VII
8.	II705T (iii)	Industrial Robotics	VII