



Semester - 1

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
	Environmental Science	0	1	0	0	-	-	50	-	-	20	-	50
	Engineering Graphics	3	2	2	0	20	20	20	60	30	40	25	150
	Computational Thinking for Structured Design-1	4	3	2	-	20	20	20	60	30	40	25	150
	Mathematics-I	4	4	-	-	20	-	20	60	-	40	-	100
	Communication Skills	2	-	-	2	-	-	100	-	-	40	-	100
	First Year Elective-1 (Compulsory Subjects :1)	4	3	2	0	20	20	20	60	30	40	25	150
	Total	17	13	6	2								700

Semester - 1 First Year Elective-1

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
	Basic Electrical and Electronics Engineering	4	3	2	0	20	20	20	60	30	40	25	150
	Engineering Physics-II	4	3	2	0	20	20	20	60	30	40	25	150

Lect - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE** - CE, **T** - Theory, **P** - Practical
Theory Passing % : 40 Practical Passing % : 50



Semester - 2

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
	Computational Thinking for Structured Design-2	4	3	2	-	20	20	20	60	30	40	25	150
	Mechanics of Solids	4	3	2	-	20	20	20	60	30	40	25	150
	Workshop (Mechanical + Electronics)	2	0	4	0	-	20	-	-	30	-	25	50
	Mathematics-II	4	4	-	-	20	-	20	60	-	40	-	100
	Advanced Communication & Technical Writing	2	-	-	2	-	-	100	-	-	40	-	100
	First Year Elective-2 (Compulsory Subjects :1)	4	3	2	0	20	20	20	60	30	40	25	150
	Total	20	13	10	2								800

Semester - 2 First Year Elective-2

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
	Basic Electrical and Electronics Engineering	4	3	2	0	20	20	20	60	30	40	25	150
	Engineering Physics-II	4	3	2	0	20	20	20	60	30	40	25	150

Lect - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE** - CE, **T** - Theory, **P** - Practical
Theory Passing % : 40 Practical Passing % : 50



Parul[®]
University

Subject Teaching & Examination Scheme

ENGG & TECH - BTech - CSE-AI -Robotics- - 2024 - 25

Semester - 3

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
	Design of Data Structures	3	3	0	0	20	-	20	60	-	40	-	100
	Design of Data Structures Laboratory	2.	0	4	0	-	20	-	-	30	-	25	50
	Database Management System	3	3	0	0	20	-	20	60	-	40	-	100
	Database Management System Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	Object Oriented Programming with Java	2	2	0	0	20	-	20	60	-	40	-	100
	Object Oriented Programming with Java Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	Analog and Digital Electronics	4	4	0	0	20	-	20	60	-	40	-	100
	Analog and Digital Electronics Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	Discrete Mathematics	4	4	-	-	20	-	20	60	-	40	-	100
	Professional Communication Skills	2	-	-	2	-	-	100	-	-	40	-	100
	Total	23	16	10	2								800

Lect - Lecture, **Tut** - Tutorial, **Lab** - Lab, **T** - Theory, **P** - Practical, **CE** - CE, **T** - Theory, **P** - Practical
Theory Passing % : 40 Practical Passing % : 50



ENGG & TECH - BTech - CSE-AI -Robotics- - 2024 - 25

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
	Operating System	3	3	0	0	20	-	20	60	-	40	-	100
	Operating System Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	Sensors and Transducers	2	2	0	0	20	-	20	60	-	40	-	100
	Sensors and Transducers Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	Communication Protocols	2	2	0	0	20	-	20	60	-	40	-	100
	Communication Protocols Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	Programming in Python with Full Stack Development	3	3	0	0	20	-	20	60	-	40	-	100
	Programming in Python with Full Stack Development Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	Probability, Statistics and Numerical Methods	4	4	0	0	20	-	20	60	-	40	-	100
	Professional Grooming and Personality Development	1	0	0	1	-	-	100	-	-	40	-	100
	Materials Engineering	2	2	0	0	20	-	20	60	-	40	-	100
	Materials Engineering Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	Total	23	16	12	1								950



Semester - 5

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
	Design and Analysis of Algorithms	3	3	0	0	20	-	20	60	-	40	-	100
	Design and Analysis of Algorithms Laboratory	2	0	4	0	-	20	-	-	30	-	25	50
	Microcontrollers and Interfacing	3	3	0	0	20	-	20	60	-	40	-	100
	Microcontrollers and Interfacing Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	Fundamentals of Robotics and Robot Kinematics	3	3	0	0	20	-	20	60	-	40	-	100
	Fundamentals of Robotics and Robot Kinematics Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	Professional Grooming and Personality Development	1	0	0	1	-	-	100	-	-	40	-	100
	Manufacturing Technology	3	3	0	0	20	-	20	60	-	40	-	100
	Manufacturing Technology Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	Open Elective 01 (Compulsory Subjects :1)	2	2	0	0	20	-	20	60	-	40	-	100
	Total	20	14	10	1								800

Semester – 5 Open Elective 1

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
	Basic Aircraft Science	2	2	0	0	20	-	20	60	-	40	-	100
	Disaster Preparedness and Planning	2	2	0	0	20	-	20	60	-	40	-	100
	Cyber Security	2	2	0	0	20	-	20	60	-	40	-	100
	Azure Fundamentals	2	2	0	0	20	-	20	60	-	40	-	100



Parul[®]
University

Subject Teaching & Examination Scheme
ENGG & TECH - BTech - CSE-AI -Robotics- - 2024 - 25

	Fundamentals of Communication Engineering	2	2	0	0	20	-	20	60	-	40	-	100
	Internet of Things	2	2	0	0	20	-	20	60	-	40	-	100

Semester - 6

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
	Project – I	3	0	6	0	-	100	-	-	100	-	100	200
	Artificial Intelligence	3	3	0	0	20	-	20	60	-	40	-	100
	Artificial Intelligence Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	Robot Dynamics	3	3	0	0	20	-	20	60	-	40	-	100
	Robot Dynamics Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	Computer Aided Design	3	3	0	0	20	-	20	60	-	40	-	100
	Computer Aided Design Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	PEC 01 (Compulsory Subjects :1)	3	3	0	0	20	-	20	60	-	40	-	100
	PEC 01-LAB (Compulsory Subjects :1)	1	0	2	0	-	20	-	-	30	-	25	50
	PEC 02 (Compulsory Subjects :1)	3	3	0	0	20	-	20	60	-	40	-	100
	PEC 02-LAB (Compulsory Subjects :1)	1	0	2	0	-	20	-	-	30	-	25	50
	Employability Skills	1	0	0	1	20	-	20	60	-	40	-	100
	Total	24	15	16	1								1050

Semester – 6 PEC 01

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
	Data Analytics and Visualization	3	3	0	0	20	-	20	60	-	40	-	100
	Cyber Security	3	3	0	0	20	-	20	60	-	40	-	100



Parul[®]
University

Subject Teaching & Examination Scheme

ENGG & TECH - BTech - CSE-AI -Robotics- - 2024 - 25

	Mobile Application Development	3	3	0	0	20	-	20	60	-	40	-	100
--	--------------------------------	---	---	---	---	----	---	----	----	---	----	---	-----

Semester – 6 PEC 01-LAB

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
	Data Analytics and Visualization Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	Cyber security Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	Mobile Application Development Laboratory	1	0	2	0	-	20	-	-	30	-	25	50

Semester – 6 PEC 02

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
	Computer Integrated Manufacturing	3	3	0	0	20	-	20	60	-	40	-	100
	Finite Element Analysis	3	3	0	0	20	-	20	60	-	40	-	100
	Hydraulic and Pneumatic Systems	3	3	0	0	20	-	20	60	-	40	-	100

Semester – 6 PEC 02-LAB

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
	Computer Integrated Manufacturing Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	Finite Element Analysis Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	Hydraulic and Pneumatic Systems Laboratory	1	0	2	0	-	20	-	-	30	-	25	50



Semester - 7

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
	Summer Internship	2	0	0	0	-	100	-	-	-	-	50	100
	Field and Service Robots	3	3	0	0	20	-	20	60	-	40	-	100
	Field and Service Robots Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	Project – II	6	0	12	0	-	100	-	-	100	-	100	200
	Machine Learning	3	3	0	0	20	-	20	60	-	40	-	100
	Machine Learning Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	PEC 03 (Compulsory Subjects :1)	3	3	0	0	20	-	20	60	-	40	-	100
	PEC 03-LAB (Compulsory Subjects :1)	1	0	2	0	-	20	-	-	30	-	25	50
	PEC 04 (Compulsory Subjects :1)	3	3	0	0	20	-	20	60	-	40	-	100
	PEC 04-LAB (Compulsory Subjects :1)	1	0	2	0	-	20	-	-	30	-	25	50
	Open Elective-2	3	3	0	0	20	-	20	60	-	40	-	100
	Total	27	15	20	0								1000

Semester – 7 PEC 03

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
	Augmented and Virtual Reality	3	3	0	0	20	-	20	60	-	40	-	100
	Modern Networks	3	3	0	0	20	-	20	60	-	40	-	100



Parul[®]
University

Subject Teaching & Examination Scheme

ENGG & TECH - BTech - CSE-AI -Robotics- - 2024 - 25

	Image Processing	3	3	0	0	20	-	20	60	-	40	-	100
--	------------------	---	---	---	---	----	---	----	----	---	----	---	-----

Semester – 7 PEC 03-LAB

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
	Augmented and Virtual Reality Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	Modern Networks Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	Image Processing Laboratory	1	0	2	0	-	20	-	-	30	-	25	50

Semester – 7 PEC 04

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
	Real Time Embedded Systems	3	3	0	0	20	-	20	60	-	40	-	100
	Robot Operating systems	3	3	0	0	20	-	20	60	-	40	-	100
	Micro Electro Mechanical Systems	3	3	0	0	20	-	20	60	-	40	-	100

Semester – 7 PEC 04-LAB

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
	Real Time Embedded Systems Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	Robot Operating systems Laboratory	1	0	2	0	-	20	-	-	30	-	25	50
	Micro Electro Mechanical Systems Laboratory	1	0	2	0	-	20	-	-	30	-	25	50



Semester – 7 Open Elective 2

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
	Remote Sensing and Geo Informatics	3	3	0	0	20	-	20	60	-	40	-	100
	Real Time Systems	3	3	0	0	20	-	20	60	-	40	-	100
	Cyber Physical Systems	3	3	0	0	20	-	20	60	-	40	-	100
	Computational Number Theory	3	3	0	0	20	-	20	60	-	40	-	100
	VLSI System Design	3	3	0	0	20	-	20	60	-	40	-	100

Semester – 8

						Internal Marks			External Marks		Passing Marks (Theory + CE)	Passing Marks (Practical)	Total Marks
Code	Subject	Credit	Lect	Lab	Tut	T	P	CE	T	P	Int. + Ext.	Int. + Ext.	
	Internship	14	0	28	0	-	200	-	-	300	-	250	500
	Total	14	0	28	0								500