



19.11.2024

Semester-I

- Students should choose Level – I and Level - II of same outreach course in the semester 1 and 2 respectively

Semester-II											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	II	BS	TP	EMA51002	Analytical Mathematics	3	0	2	4	2	5
2	II	BS	TP	Any one course to be opted		3	0	2	4	2	5
				EPH51001	Engineering Physics						
				ECT51001	Engineering Materials						
3	II	HS	TH	GLS51019	Advanced Communication Skill	3	0	0	1	1	3
4	II	PC	TP	EMD51001	Mechatronic Systems Engineering	3	0	2	4	2	5
5	II	ES	TP	Any one course to be opted		2	0	2	3	2	4
				ECS51009	Programming Fundamentals using C						
				ECS51010	Programming in Python						
				OR							
				EME51001	Engineering Graphics and Computer Aided Design						
6	II	ES	PR	Any one course to be opted		0	0	4	2	2	4
				EGE51406	Engineering Practices Lab						
				EGE51408	Fab Lab for Core Engineering						
7	II	HS	PR	Any one course to be opted(Outreach)		0	0	2	1	4	2
				GGE51403	Outreach (NCC) – Level II #						
				GGE51404	Outreach (NSS, Y's Men, Rotaract) – Level II #						
8	II	HS	TH	Any one course to be opted (Indian or Foreign Language)		2	0	0	2	2	2
				GLS51008	Tamil						
				GLS51009	Hindi						
				GLS51010	Telugu						
				GLS51011	French						
				GLS51012	German						
				GLS51013	Spanish						
				GLS51014	Korean						
				GLS51015	Mandarin						
				GLS51016	Japanese						
				OR							
				GGE51001	Universal Human Values						
9	II	MC	TH	*****	Mandatory Course I is a Non-credit course (Student shall select one course from the list given under Mandatory Course I)	3	0	0	*	2	3
					Total	19	0	14	21	19	33
L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours											
* – Non Credit Course # - Students should choose Level – I and Level - II of same outreach course in the semester 1 and 2 respectively											

SEMESTER - III											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	III	BS	TH	EMA51004	Applied Mathematics and Transforms	3	1	0	4	2	4
2	III	HS	PR	GLS51400	Public Speaking and Group Discussion	0	0	3	1	1	3
3	III	PC	TP	EMD51002	Embedded Systems for Mechatronics	2	0	2	3	2	4
4	III	PC	TP	EMD51003	Applied Mechanics	2	1	2	4	2	5
5	III	PC	TH	EMD51004	Manufacturing Technology	3	0	0	3	2	3
6	III	DE	TP	EMD515xx	Department Elective - 1	2	0	2	3	2	4
7	III	ES	TH	GGE51003	Environmental Science and Sustainable Development	2	0	0	2	2	2
8	III	EEC	DP	EMD51800	Design Project – 1	0	0	2	1	6	2
9	III	EEC	IN	EMD51801	Internship -1 (To be carried out in summer after 2 nd semester and evaluated in 3 rd semester)	#			1	2	0
10	III	MC	TH	*****	Mandatory Course- II is a Non-credit course (Student shall select one course from the list given under Mandatory Course II)	3	0	0	*	2	3
					Total	17	2	11	22	23	30
L – Lecture		T – Tutorial		P – Practical		C – Credit		S – Self Study		TCH – Total Contact Hours	
* – Non Credit Course						# - 15 Days Minimum					

SEMESTER - V											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	V	HS	TP	ETP51852	Logical Reasoning and Verbal Ability	1	0	2	1	1	3
2	V	PC	TP	EMD51008	Control Systems	3	0	2	4	2	5
3	V	PC	TH	EMD51009	Industrial Automation	2	1	0	3	2	3
4	V	PC	TH	EMD51010	Design of Mechanical Elements	2	1	0	3	2	3
5	V	DE	TP	EMD515xx	Department Elective - 3	2	0	2	3	2	4
6	V	NE	TP	Exx517xx	Non-Department Elective - 2	2	0	2	3	2	4
7	V	EEC	DP	EMD51804	Design Project – 3	0	0	2	1	6	2
8	V	ES	TH	EGE51004	Entrepreneurship	2	0	0	2	6	2
9	V	HS	TP	ETP51855	Problem Solving using Quantitative Techniques	1	0	2	1	2	3
10	V	EEC	IN	EMD51803	Internship -2 (to be evaluated in 5 th semester. To be carried out in summer after 4 th semester)	#			1	0	0
					Total	15	2	12	22	25	29
L – Lecture		T – Tutorial		P – Practical		C – Credit		S – Self Study		TCH – Total Contact Hours	
* – Non Credit Course						# - 15 Days Minimum					

SEMESTER - VII											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	VII	HS	PR	GLS51006	English for Competitive Examinations	0	0	2	1	1	2
2	VII	PC	TP	EMD51015	Principles of Robotics	2	1	2	4	2	5
3	VII	PC	TP	EMD51016	Artificial Intelligence for Mechatronics	2	0	2	3	2	4
4	VII	PC	TP	EMD51017	Design of Mechatronics System	2	0	2	3	2	4
5	VII	DE	TP	EMD515xx	Department Elective - 5	2	0	2	3	2	4
6	VII	NE	TP	Exx517xx	Non-Department Elective - 4	2	0	2	3	2	4
7	VII	ES	TH	EGE51005	Research Methodology & IPR	2	0	0	2	2	2
8	VII	EEC	PJ	EMD51806	Project Phase 1	0	0	6	3	6	6
					Total	12	1	18	22	19	31
L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours											
* Non Credit Course											

Mandatory Course-I

SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	II	MC	TH	GGE51011	Introduction to Women and Gender Studies	3	0	0	Non credit Course	2	3
2	II	MC	TH	GGE51012	Public and Personal Administration	3	0	0	Non credit Course	2	3
3	II	MC	TH	GGE51013	Constitution of India	3	0	0	Non credit Course	2	3
4	II	MC	TH	EGE51006	Law for Engineers	3	0	0	Non credit Course	2	3
5	II	MC	TH	GGE51015	Indian Knowledge System (IKS)	3	0	0	Non credit Course	2	3

L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours

Mandatory Course-II

SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	III	MC	TH	GGE51021	Traditional Indian Systems of Medicine and Therapies	3	0	0	Non credit Course	2	3
2	III	MC	TH	GGE51022	History of Science and Technology in India	3	0	0	Non credit Course	2	3
3	III	MC	TH	GGE51023	Political and Economic Thought for a Humane Society	3	0	0	Non credit Course	2	3
4	III	MC	TH	GGE51024	State, Nation-Building and Politics in India	3	0	0	Non credit Course	2	3
5	III	MC	TH	GGE51025	Industrial Safety	3	0	0	Non credit Course	2	3

L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours

Mandatory Course-III											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	IV	MC	TH	GGE51031	Principles of Management	3	0	0	Non credit Course	2	3
2	IV	MC	TH	GGE51032	Human Resource Management	3	0	0	Non credit Course	2	3
3	IV	MC	TH	GGE51033	Green Technology	3	0	0	Non credit Course	2	3
4	IV	MC	TH	GGE51034	Industrial Management	3	0	0	Non credit Course	2	3
5	IV	MC	TH	GGE51035	Fintech and Financing new Business	3	0	0	Non credit Course	2	3
L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours											

LIST OF DEPARTMENT ELECTIVES											
DEPARTMENTAL ELECTIVE - 1											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	III	DE	TP	EMD51500	Mobile Robots ¹	2	0	2	3	2	4
2	III	DE	TP	EMD51501	Industrial Measurements ²	2	0	2	3	2	4
3	III	DE	TP	EMD51502	Modern Manufacturing Systems ³	2	0	2	3	2	4
4	III	DE	TP	EMD51503	Sensor Signal Processing and Signal Conditioning ⁴	2	0	2	3	2	4
L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours											
¹ Intelligent Robotics. ² Intelligent Automation. ³ Modern Manufacturing. ⁴ Industrial Systems & IOT											

LIST OF DEPARTMENT ELECTIVES											
DEPARTMENTAL ELECTIVE - 2											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	IV	DE	TP	EMD51504	Industrial Robotics ¹	2	0	2	3	2	4
2	IV	DE	TP	EMD51505	Process Automation ²	2	0	2	3	2	4
3	IV	DE	TP	EMD51506	Industrial Practices ³	2	0	2	3	2	4
4	IV	DE	TP	EMD51507	Programming for Microcontrollers ⁴	2	0	2	3	2	4
L – Lecture		T – Tutorial		P – Practical		C – Credit		S – Self Study		TCH – Total Contact Hours	
¹ Intelligent Robotics, ² Intelligent Automation, ³ Modern Manufacturing, ⁴ Industrial Systems & IOT											

LIST OF DEPARTMENT ELECTIVES											
DEPARTMENTAL ELECTIVE - 3											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	V	DE	TP	EMD51508	Robotic Operating System ¹	2	0	2	3	2	4
2	V	DE	TP	EMD51509	Factory Automation ²	2	0	2	3	2	4
3	V	DE	TP	EMD51510	Design for Manufacturing ³	2	0	2	3	2	4
4	V	DE	TP	EMD51511	Machine Vision ⁴	2	0	2	3	2	4
L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours											
¹ Intelligent Robotics, ² Intelligent Automation, ³ Modern Manufacturing, ⁴ Industrial Systems & IOT											

LIST OF DEPARTMENT ELECTIVES											
DEPARTMENTAL ELECTIVE - 4											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	VI	DE	TP	EMD51512	AI and Robotics ¹	2	0	2	3	2	4
2	VI	DE	TP	EMD51513	NDT and Condition Monitoring ²	2	0	2	3	2	4
3	VI	DE	TP	EMD51514	Computer Integrated Manufacturing ³	2	0	2	3	2	4
4	VI	DE	TP	EMD51515	Robotic Process Automation ⁴	2	0	2	3	2	4
L – Lecture		T – Tutorial		P – Practical		C – Credit		S – Self Study		TCH – Total Contact Hours	
¹ Intelligent Robotics, ² Intelligent Automation, ³ Modern Manufacturing, ⁴ Industrial Systems & IOT											

LIST OF DEPARTMENT ELECTIVES											
DEPARTMENTAL ELECTIVE - 5											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	VII	DE	TP	EMD51516	Field and Aerial Robotics ¹	2	0	2	3	2	4
2	VII	DE	TP	EMD51517	Industrial IOT ²	2	0	2	3	2	4
3	VII	DE	TP	EMD51518	Digital Manufacturing ³	2	0	2	3	2	4
4	VII	DE	TP	EMD51519	Human Robot Interaction ⁴	2	0	2	3	2	4
L – Lecture		T – Tutorial		P – Practical		C – Credit		S – Self Study		TCH – Total Contact Hours	
¹ Intelligent Robotics. ² Intelligent Automation. ³ Modern Manufacturing. ⁴ Industrial Systems & IOT											

LIST OF NON-DEPARTMENT ELECTIVES											
NON-DEPARTMENT ELECTIVE-1											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	IV	NE	TP	EMD51700	Applications of AI in Robotics	2	0	2	3	2	4
2	IV	NE	TP	EMD51701	New Product Development	2	0	2	3	2	4
L – Lecture T – Tutorial P – Practical C – Credit S – Self Study						TCH – Total Contact Hours					

NON-DEPARTMENT ELECTIVE-2											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	V	NE	TP	EMD51702	Building of Mobile Robots	2	0	2	3	2	4
2	V	NE	TP	EMD51703	Motion Control for Automation Industry	2	0	2	3	2	4
L – Lecture		T – Tutorial		P – Practical		C – Credit		S – Self Study		TCH – Total Contact Hours	

NON-DEPARTMENT ELECTIVE-3											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	VI	NE	TP	EMD51704	Industry 4.0 for Engineers	2	0	2	3	2	4
2	VI	NE	TP	EMD51705	Virtual Reality	2	0	2	3	2	4
L – Lecture		T – Tutorial		P – Practical		C – Credit		S – Self Study		TCH – Total Contact Hours	

NON-DEPARTMENT ELECTIVE-4											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	VII	NE	TP	EMD51706	Robotic Process Automation	2	0	2	3	2	4
2	VII	NE	TP	EMD51707	Mechatronic System Design	2	0	2	3	2	4
L – Lecture		T – Tutorial		P – Practical		C – Credit Hours		S – Self Study		TCH – Total Contact	

LIST OF HONORS COURSES											
HONORS IN DIGITAL MANUFACTURING											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	VI	HN	TH	EMD51900	Automation in Manufacturing	3	0	0	3	0	3
2	VI	HN	TH	EMD51901	Engineering Project Management - I	3	0	0	3	0	3
3	VII	HN	TH	EMD51902	Advanced Manufacturing	3	0	0	3	0	3
4	VII	HN	TH	EMD51903	Engineering Project Management - II	3	0	0	3	0	3
L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours											

LIST OF MINOR COURSES											
MINOR IN MANUFACTURING & DESIGN TECHNOLOGY											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TC H
1	III	MN	TH	EMD51951	Digital Manufacturing	3	0	0	3	0	3
2	IV	MN	TH	EMD51952	Intelligent Machining	3	0	0	3	0	3
3	V	MN	TH	EMD51953	Mechatronic Systems Design	3	0	0	3	0	3
L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours											

S. No.	Course Category	Course Category	Credits
1	HS	Humanities & Social Science Courses	16
2	BS	Basic Science Courses	24
3	ES	Engineering Science Courses	19
4	PC	Programme Core Courses	57
5	DE	Department Elective Courses	15
6	NE	Non-Department Elective Courses	12
7	EEC	Employment Enhancement Courses	22
8	MC	Mandatory Courses	*
		TOTAL	165
9	HN	Honors Courses	12
10	MN	Minors Courses	9
* Non-Credit Course			

COURSE TYPE	
TP	Theory with Practical Course
TH	Theory Course
PR	Practical Course
DP	Design Project
PJ	Project Phase - 1 & Phase - 2
IN	Internship

Coordinator

HOD

DEAN

IQAC Coordinator

Vice Chancellor