SRI KRISHNA COLLEGE OF ENGINEERING AND TECHNOLOGY,
COIMBATORE-641008
B.E. MECHATRONICS ENGINEERING
REGULATION 2020
CHOICE BASED CREDIT SYSTEM
I – VIII SEMESTER CURRICULUM AND SYLLABI

SEMESTER I							
S No.	**Course Code**	**Course**	**L/T/P**	**Contact hrs/week**	**Credit**	**Ext/Int**	**Category**
Theory cum Practical							
1.	20MA101	Engineering Mathematics – I	2/1/2	5	4	40/60	BSC
2.	20CH101	Engineering Chemistry	3/0/3	6	4.5	40/60	BSC
3.	20EN101	Technical Communication Skills	2/0/2	4	3	40/60	HSMC
4.	20CS111	Problem Solving Using C Programming	3/0/2	5	4.0	40/60	ESC
5.	20MT101	Production Technology	3/0/3	6	4.5	40/60	ESC
Practical							
6.	20MT102	Engineering Drawing and Graphics	1/0/3	4	2.5	40/60	ESC
Mandatory Course							
7.	20MC101	Mandatory Course – I	Three Weeks		0	0/100	MC
Total			**14/1/15**	**30**	**22.5**	**700**	

SEMESTER II							
S No.	**Course Code**	**Course**	**L/T/P**	**Contact hrs/week**	**Credit**	**Ext/Int**	**Category**
Theory							
1.	20MT201	Applied Mechanics	3/0/0	3	3	50/50	ESC
2.	20GE201	Universal Human Values	3/0/0	3	3	50/50	HSMC
Theory cum Practical							
3.	20MA201	Engineering Mathematics – II	2/1/2	5	4	40/60	BSC
4.	20PH201	Applied Physics	3/0/3	6	4.5	40/60	BSC
Practical							
5.	20MT203	Computer Aided Machine Drawing Laboratory	1/0/2	3	2	40/60	ESC
6.	20ME103	Engineering Practices Laboratory	0/0/3	3	1.5	40/60	ESC
Mandatory Course							
7.	20MC102	Mandatory Course – II	2/0/0	2	0	0/100	MC
Total			**14/1/10**	**25**	**18**	**700**	

SEMESTER III							
S No.	**Course Code**	**Course**	**L/T/P**	**Contact hrs/week**	**Credit**	**Ext/Int**	**Category**
Theory							
1.	20MT301	Electrical and Electronic Devices	3/0/0	3	3	50/50	ESC
2.	20MT302	Strength of Solids	3/0/0	3	3	50/50	PCC
Theory cum Practical							
3.	20MA301	Engineering Mathematics – III	2/1/2	5	4	40/60	BSC
4.	20MT303	Electrical Machines and Power Systems	3/0/3	6	4.5	40/60	PCC
5.	20MT304	Thermal and Fluid Engineering	3/0/3	6	4.5	40/60	PCC
6.	20IT101	Python Programming	3/0/2	5	4.0	40/60	ESC
Total			**17/1/10**	**28**	**23**	**600**	

SEMESTER IV							
S No.	**Course Code**	**Course**	**L/T/P**	**Contact hrs/week**	**Credit**	**Ext/Int**	**Category**
Theory							
1.	20MT401	Theory of Control Systems	3/0/0	3	3	50/50	PCC
2.	20XX0XX	Open Elective – I	3/0/0	3	3	50/50	OEC
Theory cum Practical							
3.	20MA401	Probability and Numerical Methods	2/1/2	5	4	40/60	BSC
4.	20MT402	Theory of Machines	3/0/3	6	4.5	40/60	PCC
5.	20MT403	Microcontroller and Its Applications	3/0/3	6	4.5	40/60	PCC
Mandatory Course							
6.	20MCXXX	Mandatory Course – III	2/0/0	2	0	0/100	MC
Project							
7.	20MT404	Industrial Field Training	0/0/2	2	1	0/100	PROJ
Total			**16/1/10**	**27**	**20**	**700**	

SEMESTER V							
S No.	**Course Code**	**Course**	**L/T/P**	**Contact hrs/week**	**Credit**	**Ext/Int**	**Category**
Theory							
1.	20MT501	Machine Design	3/0/0	3	3	50/50	PCC
2.	20MT502	Embedded System for Mechatronics	3/0/0	3	3	50/50	EEC
3.	20MT9XX	Professional Elective – I	3/0/0	3	3	50/50	PEC
4.	20XX0XX	Open Elective - II	3/0/0	3	3	50/50	OEC
Theory cum Practical							
5.	20MT503	Fluid Power Systems	3/0/3	6	4.5	40/60	PCC
6.	20MT504	Power Electronics and Electrical Drives	3/0/3	6	4.5	40/60	PCC
Mandatory Course							
7.	20MCXXX	Mandatory Course – IV	2/0/0	2	0	0/100	MC
Total			**20/0/6**	**26**	**21**	**700**	

SEMESTER VI							
S No.	**Course Code**	**Course**	**L/T/P**	**Contact hrs/week**	**Credit**	**Ext/Int**	**Category**
Theory							
1.	20MT9XX	Professional Elective – II	3/0/0	3	3	50/50	PEC
2.	20MT9XX	Professional Elective – III	3/0/0	3	3	50/50	PEC
3.	20MTXXX	Emerging Elective- I	3/0/0	3	3	50/50	EEC
Theory cum Practical							
4.	20MT601	Virtual Instrumentation and Its Application	3/0/3	6	4.5	40/60	PCC
5.	20MT602	Industrial Automation	3/0/3	6	4.5	40/60	PCC
6.	20MT603	Sensors, Measurements and Instrumentation	3/0/3	6	4.5	40/60	PCC
Project							
7.	20MT604	Mini Project	0/0/2	2	1	40/60	PROJ
Mandatory Course							
8	20MCXXX	Mandatory Course – V	2/0/0	2	0	0/100	MC
Total			**20/0/11**	**31**	**23.5**	**800**	

SEMESTER VII							
S No.	**Course Code**	**Course**	**L/T/P**	**Contact hrs/week**	**Credit**	**Ext/Int**	**Category**
Theory							
1.	20MT701	Industrial Management and Work Ethics	3/0/0	3	3	50/50	HSMC
2.	20MT9XX	Professional Elective – IV	3/0/0	3	3	50/50	PEC
3.	20MT9XX	Professional Elective – V	3/0/0	3	3	50/50	PEC
4.	20MT9XX	Professional Elective – VI	3/0/0	3	3	50/50	PEC
5.	20MTXXX	Emerging Elective – II	3/0/0	3	3	50/50	EEC
Theory cum Practical							
6.	20MT702	Computer Integrated Manufacturing	3/0/2	5	4	40/60	PCC
7.	20MT703	Robotics and Machine Vision System	3/0/2	5	4	40/60	PCC
Employability Enhancement Skills							
8	20EES01	Employability Enhancement Skills	-	-	2	0/100	EES
Total			**21/0/4**	**25**	**25**	**800**	

SEMESTER VIII							
S No.	**Course Code**	**Course**	**L/T/P**	**Contact hrs/week**	**Credit**	**Ext/Int**	**Category**
Project							
1.	20MT801	Industrial Project	0/0/24	24	12	40/60	PROJ
Total			**0/0/24**	**24**	**12**	**100**	

EMPLOYABILITY ENHANCEMENT SKILLS:

S. No	Course Code	Course Title	L/T/P	Contact Hrs/Wk	Credits	Category
1.	20EES01	International Conference/Journal Publication (National/ International)/ IPR	-	-	2	EES

PROFESSIONAL ELECTIVES (PE):

S. No	Course Code	Course Title	L/T/P	Contact Hrs/Wk	Credits	Category
Stream I: Manufacturing and Design						
1.	20MT901	Advanced Manufacturing Processes	3/0/0	3	3	PEC
2.	20MT902	Micro and Nano Manufacturing	3/0/0	3	3	PEC
3.	20MT903	Additive Manufacturing Processes	3/0/0	3	3	PEC
4.	20MT904	Integrated Product and Process Development	3/0/0	3	3	PEC
5.	20MT905	Product Design and Manufacturing	3/0/0	3	3	PEC
6.	20MT906	CNC Machines and Programming	3/0/0	3	3	PEC
7.	20MT907	Robotic System Design	3/0/0	3	3	PEC
8.	20MT908	Industrial Metrology	3/0/0	3	3	PEC
9.	20MT909	Mechanical Cost Estimation	3/0/0	3	3	PEC
Stream II: Automobile and Robotics						
1.	20MT910	Theory of Automobile Engineering	3/0/0	3	3	PEC
2.	20MT911	Autotronics	3/0/0	3	3	PEC
3.	20MT912	Autonomous Vehicle Guidance System	3/0/0	3	3	PEC
4.	20MT913	Basics of Machine Learning	3/0/0	3	3	PEC
5.	20MT914	Robotic Control System	3/0/0	3	3	PEC
6.	20MT915	Medical Mechatronics	3/0/0	3	3	PEC
7.	20MT916	Mobile Robotics	3/0/0	3	3	PEC
8.	20MT917	Cognitive Robotics	3/0/0	3	3	PEC
9.	20MT918	Cloud Robotics	3/0/0	3	3	PEC
Stream III :Intelligent Control System						
1.	20MT919	Integrated Electronic Circuit	3/0/0	3	3	PEC
2.	20MT920	Consumer Electronics	3/0/0	3	3	PEC
3.	20MT921	Wireless Sensor Networks for Robotics	3/0/0	3	3	PEC

4.	20MT922	Principles of AI And Expert Systems	3/0/0	3	3	PEC
5.	20MT923	Embedded System in Automation	3/0/0	3	3	PEC
6.	20MT924	Internet of Things for Mechatronics	3/0/0	3	3	PEC
7.	20MT925	Image Analytics	3/0/0	3	3	PEC
8.	20MT926	Intelligent Control System	3/0/0	3	3	PEC
9.	20MT927	Neural Network and Deep Learning	3/0/0	3	3	PEC

OPEN ELECTIVES (OE): Offered to other departments

SL. No.	Course Code	Course Title	L/T/P	Contact hrs./Wk.	Credits	Category
1.	20MT001	Basics of Robotics	3/0/0	3	3	OEC
2.	20MT002	Mechatronics Engineering Applications	3/0/0	3	3	OEC
3.	20MT003	Concepts of Virtual Instrumentation	3/0/0	3	3	OEC
4.	20MT004	Field and Service Robotics	3/0/0	3	3	OEC
5.	20MT005	Automation System	3/0/0	3	3	OEC
6.	20MT006	Intelligent Automotive Systems	3/0/0	3	3	OEC

EMERGING ELECTIVES (EE): Offered to MCT

SL. No.	Course Code	Course Title	L/T/P	Contact hrs./Wk.	Credits	Category
1.	20MT007	Basics of Digital Signal Processing	3/0/0	3	3	EEC
2.	20MT008	Industry 4.0 For Mechatronics	3/0/0	3	3	EEC
3.	20MT009	Soft Robotics	3/0/0	3	3	EEC
4.	20MT010	Design and Modelling of Mechatronics Systems	3/0/0	3	3	EEC
5.	20MT011	Robot Operating System	3/0/0	3	3	EEC
6.	20MT012	Supply Chain Management	3/0/0	3	3	EEC

MANDATORY COURSES (MC): MANDATORY COURSES (MC):

SL. No.	Course Code	Course Title	L/T/P	Contact hrs./Wk.	Credits	Category
1.	20MC101	Induction Program	3 weeks		0	MC
2.	20MC102	Environmental Sciences	2/0/0	2	0	MC
3.	20MC106	Life Skills and Ethics	2/0/0	2	0	MC
4.	20MC108	Constitution of India	2/0/0	2	0	MC
5.	20MC109	Essence of Indian Traditional Knowledge	2/0/0	2	0	MC
6.	20MC110	Biology	2/0/0	2	0	MC

VALUE ADDED COURSES (VAC):

S. No.	Course Code	Course Title	L/T/P	Contact hrs./Wk.	Credits	Category
1	20VA600	Solid works	0/0/2	2	1	VAC
2	20VA601	MATLAB programming	0/0/2	2	1	VAC
3	20VA602	Android Studio	0/0/2	2	1	VAC
4	20VA603	Intellectual Property Rights & Entrepreneurship	1/0/0	1	1	VAC
5	20VA604	Financial Literacy	1/0/0	1	1	VAC
6	20VA605	Automation Studio	0/0/2	2	1	VAC

Category wise Comparison of Courses and Credits

S.no	Category	AICTE- MECH R2018		SKCET-MCT R2020	
		No of Courses	No. of Credits	No of Courses	No. of Credits
1	Humanities (HSMC)	3	9	3	9
2	Basic Sciences (BSC)	7	30	6	25
3	Engineering Sciences (ESC)	6	24	8	24.5
4	Professional Core (PCC)	16	53.5	14	57.5
5	Professional Electives (PEC)	6	18	6	18
6	Open Electives (OEC)/ Emerging Elective (EEC)	3	9	5	15
7	Project Work (PROJ)	4	15	3	14
8	Employability Enhancement Skill (EES)			1	2
9	Mandatory Courses (MC)	3	0	5	Non credit
Total		**48**	**158.5**	**51**	**165**

Scheme of Credit Distribution- Summary

S. No	Stream	Credits/Semester								Credits	%
		I	II	III	IV	V	VI	VII	VIII		
1.	Humanities (HSMC)	3	3					3		9	**5.45**
2.	Basic Sciences (BSC)	8.5	8.5	4	4					25	**15.15**
3.	Engineering Sciences (ESC)	11	6.5	7						24.5	**14.84**
4.	Professional Core (PCC)			12	12	12	13.5	8		57.5	**34.84**
5.	Professional Electives (PEC)					3	6	9		18	**10.9**
6.	Open Electives (OEC)/ Emerging Elective (EEC)				3	6	3	3		15	**9.09**
7.	Project Work (PROJ)				1		1		12	14	**8.48**
8.	Employability Enhancement Skill (EES)							2		2	**1.21**
9.	Mandatory Courses (MC)										
Total		**22.5**	**18**	**23**	**20**	**21**	**23.5**	**25**	**12**	**165**	**100**