COURSE OUTCOMES FOR M.TECH-CYBER SECURITY R20 FOR THE YEAR 2018-2020

Course	Year/Semester	Subject Name (Subject Code)	No. of Hours	Credits: 3	
Outcome	I Sem	Mathematical Foundation for Cyber	L:3 T:0 P:0		
		Security (M20CY01)			
On success	ful completion of th	nis course, students will be able to:			
1	Define the concepts r	elated to the basics of group theory.			
2	Develop understandi	ng of number theory algorithms.			
3	Discover different o	operations on algebraic structure			
4	Derive the probabi	lity density function of transformation of rando	om variables.		
5	Develop understan	ding of Bayesian framework.			
Course	Year /Semester	Subject Name (Subject Code)	No. of Hours	Credits:3	
Outcom	I Sem	Network Security and Cryptography	L:3 T:0 P:0		
0		(M20CS08)			
·					
On success	ful completion of t	his course, students are able to:			
1	Identifies various t	ypes of vulnerabilities, attacks, mechanisms ar	nd security service	S	
2	Compare and contrast	st symmetric and asymmetric encryption algorithms	•		
3	Implementation of message authentication, hashing algorithms and able to understand kerberos				
4	Explore the attacks and controls associated with IP, transport level, web and E-mail security				
5	Develop intrusion detection system, solutions for wireless networks and designing of various types of firewalls.				
6	Understand the varion techniques to improv	us wireless network vulnerabilities and implements we wireless network security.	different types of cr	ryptographic	
Course	Year / semester	Subject Name (Subject Code)	No. of Hours	Credits:3	
Outcome	I Sem	Cloud computing (M20CS03)	L:3 T:0 P:0		
After the	completion of this (course, the students should be able to	1		
1	Discuss main concep	ots, key strengths, and limitations for cloud computing	ng.		
2	. Develop the archite	cture along with specific infrastructure on cloud con	mputing, including S	SaaS, PaaS,	
3	Explain the issues of	on cloud computing along with security, privac	y, and interoperal	bility	
4	Choose and use the a	ppropriate technology, methods on these issues			
5	Identify problems, and explain, analyze, and evaluate various cloud computing solutions.				
6	Provide the appropri-	ate solutions on cloud computing based on the appli	cation.		
Course	Year / semester	Subject Name (Subject Code)	No. of Hours	Credits: 3	
Outcome	I Sem	Python Programming (M20CS04)	L:3 T:0 P:0		
1	Defining the funda	mentals of writing Python scripts.	1	I	
2	Expressing the Core Python scripting elements such as variables and flow control structures				
· · ·	Entressing the core ration benaring elements such us functions and non-control studentes.				

3	Apply Python functions to facilitate code reuse.
4	Extending how to work with lists and sequence data.
5	Implement file operations such as read and write
6	Implementing and Adapting the code robust by handling errors and exceptions properly.

Course	Year/Semester	Subject Name (Subject Code)	No. of Hours	Credits: 3		
Outcome	I Sem	Internet of Things (M20CS05)	L:3 T:0 P:0			
On successf	ful completion of th	nis course, students will be able to:				
1	Describe the basic to	Describe the basic terminology, latest technology along with its applications.				
2	Discuss the protocol	Discuss the protocols based on the concepts such as machine to machine.				
3	Illustrate the IOT of	devices using Python Scripting Language.				
4	Develop an applications of lo	ation with Raspberry PI platform which can be T devices.	widely used in ma	any		
5	Implement it wide	ly that can be used in many applications of Io	Г devices			
6	Design a web appl	ication framework on REST ful web API.				
Course Outcome	Year /SemesterI Sem	Subject Name (Subject Code) Secure Software Design and Development (M20CY02)	No. of Hours L:3 T:0 P:0	Credits:3		
On success	ful completion of t	his course, students are able to:	1	<u> </u>		
1	Differentiate betw	een various software vulnerabilities.				
2	Explain the Software	Explain the Software process vulnerabilities for an organization				
3	Demonstrate the Mo	nitor resources consumption in software				
4	Explain the Interrela	te security and software development process.				
5	Discuss the Case stu	dy of DNS server, DHCP configuration and SQL in	jection attack.			
Course	Year / semester	Subject Name (Subject Code)	No. of Hours	Credits:3		
Outcome	I Sem	Operating System Security(W20C 105)	L:3 T:0 P:0			
After the o	completion of this	course, the students should be able to				
1	Explain the overview	v of operating system				
2	Demonstrate the Acc	cess control matrix, access control list and Lampson	's access matrix			
3	Identify the Encryp	Identify the Encryption Techniques, Authentication and Password Security issues				
4	Identify the Encryption Techniques and apply the real time applications•					
5	Know the role and re both a Linux and Wi	Know the role and responsibilities of a system administrator and Create and administer user accounts on both a Linux and Windows platform				
Course Outcome	Year / semester I Sem	Subject Name (Subject Code) Artificial Intelligence (M20CS07)	No. of Hours L:3 T:0 P:0	Credits: 3		
1	Remember various AI concepts like the AI technique, level of models, there underlying					

	assumptions etc					
2	Understand the concepts of AI search techniques					
3	Apply knowledge Representation techniques					
4	Analyze different s	Analyze different structures of representation				
5	Evaluate AI search	techniques				
6	Understand the cor	cepts of Natural Language Processing				
Course	Vear/Semester	Subject Name (Subject Code)	No. of Hours	Credits: 2		
Outcome	I Sem	Network Security and Cryptography Lab (M20CY04)	L:0 T:0 P:4			
On successf	ul completion of th	is course, students will be able to:				
1	Implement the cipher	techniques.				
2	Apply the mathemati	cal foundation required for various cryptographi c a	algorithms.			
3	Develop the variou	s security algorithms.				
4	Use different open	source tools for network security and analysis	5			
Course	Year /Semester	Subject Name (Subject Code)	No. of Hours	Credits:2		
Outcome	I Sem	Cloud computing Lab(M20CS10)	L:0 T:0 P:4			
On successf	ful completion of th	nis course, students are able to:	1			
1	Develop the archit	ecture along with specific infrastructure on clo	oud computing,			
	including SaaS, Paa	IS, IaaS, public cloud, private cloud, hybrid clou	ud,etc.			
2	Explain the issues on	cloud computing along with security, privacy, and	interoperability			
3	Identify problems, a	nd explain, analyze, and evaluate various cloud con	nputingsolutions.			
4	Provide the appropria	ate solutions on cloud computing based on theapplic	cation.			
Course	Year / semester	Subject Name (Subject Code)	No. of Hours	Credits:2		
Outcome	I Sem	Python Programming Lab (M20CS11)	L:0 T:0 P:4			
After the o	completion of this o	course, the students should be able to				
1	Expressing the Core	Python scripting elements such as variables and flo	w control structures.			
2	Apply Python function	ons to facilitate code reuse				
3	Extending how to v	work with lists and sequence data.				
4	Implement file operations such as read and write and Adapting the code robust by handling errors and exceptions properly.					
Course	Year / semester	Subject Name (Subject Code)	No. of Hours	Credits:2		
Outcome	I Sem	Internet of Things Lab (M20CS12)	L:0 T:0 P:4			
1	Demonstrate the s window.	tarting of Raspberry Pi and practice Linux c	commands in com	mand terminal		
2	Develop and run all basic python programs on RaspberryPi					
3	Build real time app	lications on Light an LED using Pythonprogra	mming			
4	Experiment with implementation of intruder system and various sensors like temperature, humidity, smoke.					

Course	Year/Semester	Subject Name (Subject Code)	No. of Hours	Credits: 0
Outcome	I Sem	Research Methodology and IPR(M20MC01)	L:2 T:0 P:0	
outcome				
On success	ful completion of th	is course, students will be able to:		
1	Acquire knowledge of	on Research Design and statistical methods in resear	ch.	
2	Analyze the various Representation	methods in Data Collection, Data Organization and	different approache	s of Data
3	Understand all the	basic concepts required to prepare		
	a. Research synops	is		
	b. Dissertation			
	c. Writing a good re	esearch proposal		
4	Interpret the Scope	e of Patent Rights and Administration of Paten	t System	
Course Outcome	Year /Semester I Sem	Subject Name (Subject Code) English for Research Paper Writing	No. of Hours L:2 T:0 P:0	Credits:0
		(M20AC01)		
0				
On success	ful completion of th	ns course, students are able to:		
1	Obtain complete k	nowledge on Definition of a research paper, Pu	urpose of writing a	any
	research paper, it	s Scope and Benefits.		
2	Understand the stand	ard English formats .for scripting the best research	paper.	
3	Analyze all the Quali	itative and Quantitative Research Methodologies an	d the ethics of plagi	arism
4	Explain the detailed paper writing	process of writing and publishing any research pape	r and perform a case	e study on
Course	Year / semester	Subject Name (Subject Code)	No. of Hours	Credits:3
Outcome	II Sem	Cyber Security (M20CS27)	L:3 T:0 P:0	
After the	completion of this o	ourse the students should be able to		
1	Outline key terms and	concepts in cyber law intellectual property and cy	ber crimes	
2	Eurlore the uninershi	litical threats and sub-regimes pound by ariminals	ber ernnes.	
2	Explore the vulnerabl	unities, threats and cybercrities posed by critiniais.		
3	Identity various sec	unity challenges phased by mobile devices.	41	
-	maintain security prot	tection.	the secure counter	methods to
5	Analyze and evaluate	the cyber security needs of an organization.		
6	Design operational and strategic cyber security risk management policies in order to adequately protect an organization's critical information and assets.			
Course	Year / semester	Subject Name (Subject Code)	No. of Hours	Credits: 3
Outcom	II Sem	Web Application and Penetrating Testing (M20CY05)	L:3 T:0 P:0	
e				
1	Explain threats, vul	nerabilities and breaches to design database		
2	Discuss Relational D	Data Model and concurrency controls and locki	ing, SQL extension	is to
	security			
3	Demonstrate the Browser security principles.			

4	How to provide software centric security and mobile web browser security in real time applications				
5	Construct the penetrating testing workflows with examples.				
Course	Year/Semester	Subject Name (Subject Code)	No. of Hours	Credits: 3	
Outcom	II Sem		L:3 T:0 P:0		
e		Machine Learning (M20CS16)			
		• • • • • • • • • • •			
On successi	Ul completion of th	lis course, students will be able to:			
2	Discuss unicient app	orithms on Machine Learning mentioning its strengt	hs and weaknesses		
			ins and weathresses.		
3	Illustrate the basic	theory focused on Machine Learning.			
4	Improve the perfor	mance of Machine Learning algorithms with d	ifferent paramete	ers.	
5	Analyze current res	search papers.			
6	Understand the lat	est issues raised by current researchers.	1		
Course	Year /Semester	Subject Name (Subject Code)	No. of Hours	Credits:3	
Outcome	II Sem	Digital Forensics (M20CS17)	L:5 1:0 P:0		
On success	 ful completion of th	nis course, students are able to:			
On success	ful completion of th	is course, students are able to.			
1	Discuss digital fore	nsics related to investigative process.			
2	Explain the legal is	sues to prepare, perform digital forensic analys	sis based on thein	vestigator's	
	position				
3	Demonstrate the t	echniques, usage of digital forensics tools.			
4	Elaborate digital fo	rensics in detail.			
5	Analyze the state o	f the practice, gaps in technology, policy, and	legal issues		
6	Develop technique	s used on Data Analysis, cybercrime.			
Course	Year / semester	Subject Name (Subject Code)	No. of Hours	Credits:3	
Outcome	I Sem	Blockchain Technology (M20CS18)	L·3 T·0 P·0	creation	
After the	a pompletion of this c	pourse, the students should be able to			
1	Introduce the fund	amentals of blockchain, history technology an	nd decentralization	n	
2	Revise cryptograph	ic concents and its use in blockchain		•	
3	Define bitcoin and	understand structure of blockchain			
4	Understand alternatives to proof of work				
5	Introduce cmart contracts, colidity and Web2 to implement blockshoin				
6	Lindorstand applic	views of blockchain and its shallongos			
0					
Course	Year / semester	Subject Name (Subject Code)	No. of Hours	Credits: 3	
Outcome	II Sem	(M20CY06)	L:3 T:0 P:0		
1	Understand key ter	rms and concepts in cyber law, intellectual pro	perty and cybercr	imes,	
	trademarks and do	main theft			
2	Determine computer technologies, digital evidence collection, and evidentiary reporting in				

	forensic acquisition.				
3	Secure both clean and corrupted systems, protecting personal data, securing simple computer				
	networks, and safe Internet usage.				
4	Incorporate approa	aches for incident analysis and response.			
Course	Year/Semester	Subject Name (Subject Code)	No. of Hours	Credits: 3	
Outcome	II Sem	Firewall and VPN Security (M20CY07)	L:3 T:0 P:0		
On successf	ul completion of th	is course, students will be able to:			
1	To show the funda	mental knowledge of Firewalls and it types			
2	Construct a VPN to Authorization	allow Remote Access, Hashing, connections w	vith Cryptography	and VPN	
3	Elaborate the knov Detection	vledge of depths of Firewalls, Interpreting firev	wall logs, alerts, Ir	trusion and	
4	Infer the design of	Control Systems of SCAD, DCS, PLC's and ICS's			
5	Evaluate the SCAD	A protocols like RTU, TCP/IP, DNP3, OPC,DA/H	AD		
Course	Vear /Semester	Subject Name (Subject Code)	No. of Hours	Credits:3	
Outcome	II Som	Big Data Analytics (M20CY08)	L:3 T:0 P:0		
Outcome	II Selli				
On successf	ful completion of the	nis course, students are able to:			
1					
2					
3					
4					
5					
6					
Course	Veen/gemeeten	Subject Name (Subject Code)	No of House	Creditar	
Course	Tear / semester	Ethical Hacking and Cyber Security Lab	No. of Hours	Creans:2	
Outcome	I Sem	(M20CY09)	L:0 1:0 P:4		
After the o	completion of this o	course, the students should be able to			
1					
2					
3					
4					
Course	Year / semester	Subject Name (Subject Code)	No. of Hours	Credits: 2	
Outcome	I I Sem	Digital Forensics Lab (M20CS24)	L:0 T:0 P:4		
1	Understand the meth	ods available for retrieving the lost data.		l	
2	Classify the various	mobile forensic techniques and how to handle them.			
3	Identify the different Open-source intelligence techniques				

4	Demonstrate how to develop certification for Cyber Forensic.			
Course	Year / semester	Subject Name (Subject Code)	No. of Hours	Credits: 2
Outcome	I I Sem	Machine Learning Lab (M20CS23)	L:0 T:0 P:4	
1	Discuss different app	lication on Machine Learning problems	1	
2	Describe various algo	orithms on Machine Learning mentioning its streng	ths and weaknesses.	
3	Improve the perfo	rmance of Machine Learning algorithms with o	different paramete	ers
4	Understand the latest	issues raised by current researchers.		
Course	Year / semester	Subject Name (Subject Code)	No. of Hours	Credits: 2
Outcome	I I Sem	Block Chain Techology Lab(M20CY10)	L:0 T:0 P:4	
1	Explain design princ	iples of Bitcoin and Ethereum	1	
2	Explain Nakamoto co	onsensus.		
3	Explain the Simplified Payment Verification protocol.			
4	List and describe diff	ferences between proof-of-work and proof-of-stake	consensus	
5	Interact with a block	chain system by sending and reading transactions.		
6	Design, build, and de	ploy a distributed application		
7	Evaluate security, pr	ivacy, and efficiency of a given Blockchain system.		
Course	Year / semester	Subject Name (Subject Code)	No. of Hours	Credits: 2
Outcome	I I Sem	Mini Project with seminar (M20CY11)	L:0 T:0 P:4	
1				
2				
3				
4				
Course	Year / semester	Subject Name (Subject Code)	No. of Hours	Credits: 0
Outcome	I I Sem	Stress Management(M20AC02)	L:2 T:0 P:0	
1	Maintain a stress awa	areness log. Include identification of causes, sympto	oms, and analysis of	effects
2	Gather information on current stress management techniques and evaluate personal relevance.			
3	Practice specific techniques, track effectiveness, and revise to meet personal preferences.			
4	Choose an adaptable stress management plan for academic success incorporating selected techniques.			

III-SEMESTER

Course Outcom	Year/Semester ∎ Sem	Subject Name (Subject Code) Information Warfare(M20CY12)	No. of Hours L:3 T:0 P:0	Credits: 3	
On success	Full completion of t	his course, students will be able to:	ortain to informat	ion warfaro	
1		of data, information and knowledge as they pe			
2	Apply strategies of	using information as a weapon and a target			
3	Apply the principle	s of offensive and defensive information warfa	are for a given cor	itext	
4	Discuss the social,	legal and ethical implications of information w	arfare		
5	Evaluate contempo environment	prary information warfare concepts for their ap	oplication in a cor	porate	
Course	Year /Semester	Subject Name (Subject Code)	No. of Hours	Credits: 3	
Outcom	III Sem	Intrusion Detection (M20CY13)	L:3 T:0 P:0		
е					
On success	ful completion of t	his course, students are able to:			
1		views to man of introdeur and introdeur datastic			
1	Understating of val	hous types of intruders and intrusion detection	n systems.		
2	Implementation of	Intrusion detection architecture.			
3	Identifying the Sec	d fan intrusion data stien system			
4	Exploring tools use	d for intrusion detection system			
5	Develop the under	standing of organizations standards and its leg	ai issues.	Creditar 2	
Course	Year /Semester	Subject Name (Subject Code)	No. of Hours	Creuits. 5	
Outcom	III Sem	Social, Web and Mobile Analytics	L:3 T:0 P:0		
e		(M20C114)			
After the	completion of this	course, the students should be able to			
1	Apply best practice	es in Search Engine Optimization			
2	Apply ethical princ	iples to the use of web and social media data			
3	Use different tool for capturing data from various resources				
4	Perform Mobile Application analysis using different tool and techniques				
5	Analysis report generation and presentations.				
Course	Year /Semester	Subject Name (Subject Code)	No. of Hours	Credits: 3	
Outcom	III Sem	Advanced Optimization (M20MA01)	L:3 T:0 P:0		
е					
On successful completion of this course, students will be able to:					

1	Describe problem clearly, identify and analyze the individual functions.					
2	Analyze study on so	olving optimization problem				
3	, Translate verbal fo	Translate verbal formula on optimization problem.				
4	Design algorithms,	reliably to find an approximate solution				
5	Compare the perfo	rmance of an algorithm.				
6	Discovery, study, u	nderstandand solve optimization techniques	using algorithms			
Course	Year /Semester	Subject Name (Subject Code)	No. of Hours	Credits: 3		
Outcom	III Sem	Waste Management (M20CE27)	L:3 T:0 P:0			
e						
On success	ful completion of t	his course, students are able to:				
1	•					
1	Compare the subject	ct from the technical, legal and economical po	ints.			
2	Learn solid waste r	nanagement.				
3	Describe environm	ent for sound management				
4	Understand a muni	cipal solid waste management system.				
5	Plan a solid waste 1	management system for decision makers.				
6	Design an incinerat	tion facility.				
Course	Year /Semester	Subject Name (Subject Code)	No. of Hours	Credits: 3		
Outcom	III Sem	Embedded System Design (M20CE27)	L:3 T:0 P:0			
e						
-						
After the	completion of this	course, the students should be able to				
After the	completion of this Describe embedded	course, the students should be able to d systems, design, technology to explain its mo	etrics or challenges			
After the 1 2	completion of this Describe embedded Design custom sing	course, the students should be able to d systems, design, technology to explain its me gle–purpose processors using combinational as	etrics or challenges s well as sequential	logic.		
After the 1 2 3	completion of this Describe embedded Design custom sing Discuss about optin	course, the students should be able to d systems, design, technology to explain its magle–purpose processors using combinational as nizing single – purpose processors. Discuss al	etrics or challenges s well as sequential pout the basic archi	logic. tecture and		
After the 1 2 3	completion of this Describe embedded Design custom sing Discuss about optin operation of genera	course, the students should be able to d systems, design, technology to explain its mo gle–purpose processors using combinational as nizing single – purpose processors. Discuss al d purpose processors.	etrics or challenges s well as sequential pout the basic archi	logic. tecture and		
After the 1 2 3 4	completion of this Describe embedded Design custom sing Discuss about optin operation of genera Define and distingu	course, the students should be able to d systems, design, technology to explain its mage- gle-purpose processors using combinational as nizing single – purpose processors. Discuss al d purpose processors. ush between a timer and a counter, various typ	etrics or challenges s well as sequential bout the basic archi	tecture and		
After the 1 2 3 4 5	completion of this Describe embedded Design custom sing Discuss about optin operation of genera Define and distingu Asynchronous Rec	course, the students should be able to d systems, design, technology to explain its mo gle–purpose processors using combinational as nizing single – purpose processors. Discuss al l purpose processors. hish between a timer and a counter, various typeiver/Transmitter.Explain controllers for LCD	etrics or challenges s well as sequential bout the basic archi pes of timers and U O,Keypad and Stepp	logic. tecture and niversal per Motor.		
After the 1 2 3 4 5	completion of this Describe embedded Design custom sing Discuss about optin operation of genera Define and distingu Asynchronous Rec Discuss common m interfacing and arb	course, the students should be able to d systems, design, technology to explain its me gle–purpose processors using combinational as mizing single – purpose processors. Discuss al ul purpose processors. uish between a timer and a counter, various type eiver/Transmitter.Explain controllers for LCD memory types ROM, RAM, advanced RAM. E pitration methods, various protocols like serial	etrics or challenges s well as sequential pout the basic archi pes of timers and U ,Keypad and Stepp xplain microproces l, parallel.	logic. tecture and niversal per Motor. ssor		
After the 1 2 3 4 5 6	completion of this Describe embedded Design custom sing Discuss about optin operation of genera Define and distingu Asynchronous Rec Discuss common m interfacing and arb Explain basics of in	course, the students should be able to d systems, design, technology to explain its mo gle–purpose processors using combinational as nizing single – purpose processors. Discuss al d purpose processors. hish between a timer and a counter, various typeiver/Transmitter.Explain controllers for LCD nemory types ROM, RAM, advanced RAM. E bitration methods, various protocols like serial neterrupts, architectures like Round Robin, Rea	etrics or challenges s well as sequential pout the basic archi pes of timers and U b,Keypad and Stepp explain microproces l, parallel. 1 – Time Operating	logic. tecture and niversal per Motor. ssor		
After the 1 2 3 4 5 6	completion of this Describe embedded Design custom sing Discuss about optin operation of genera Define and distingu Asynchronous Rec Discuss common n interfacing and art Explain basics of in architecture.	course, the students should be able to d systems, design, technology to explain its mo gle–purpose processors using combinational as nizing single – purpose processors. Discuss al d purpose processors. aish between a timer and a counter, various typ eiver/Transmitter.Explain controllers for LCD nemory types ROM, RAM, advanced RAM. E bitration methods, various protocols like seria interrupts, architectures like Round Robin, Rea	etrics or challenges s well as sequential pout the basic archi pes of timers and U O,Keypad and Stepp Explain microproces I, parallel. 1 – Time Operating	logic. tecture and niversal per Motor. ssor g System		
After the 1 2 3 4 5 6 Course	completion of this Describe embedded Design custom sing Discuss about optin operation of genera Define and distingu Asynchronous Rec Discuss common m interfacing and arb Explain basics of in architecture. Year /Semester	course, the students should be able to d systems, design, technology to explain its mo gle–purpose processors using combinational as nizing single – purpose processors. Discuss al l purpose processors. uish between a timer and a counter, various typ eiver/Transmitter.Explain controllers for LCD nemory types ROM, RAM, advanced RAM. E bitration methods, various protocols like seria nterrupts, architectures like Round Robin, Rea	etrics or challenges s well as sequential bout the basic archi pes of timers and U D,Keypad and Stepp Explain microproces 1, parallel. 1 – Time Operating No. of Hours	logic. tecture and iniversal per Motor. ssor g System Credits: 10		
After the 1 2 3 4 5 6 Course Outcom	completion of thisDescribe embeddedDesign custom singDiscuss about optinoperation of generalDefine and distinguAsynchronous RecDiscuss common minterfacing and arbExplain basics of inarchitecture.Year /SemesterIII Sem	course, the students should be able to d systems, design, technology to explain its me gle-purpose processors using combinational as mizing single – purpose processors. Discuss al al purpose processors. hish between a timer and a counter, various typ eiver/Transmitter.Explain controllers for LCD nemory types ROM, RAM, advanced RAM. E bitration methods, various protocols like seria nterrupts, architectures like Round Robin, Rea Subject Name (Subject Code) Project / Dissertation Phase-I (M20CY15)	etrics or challenges s well as sequential pout the basic archi pes of timers and U O,Keypad and Stepp Explain microproces I, parallel. I – Time Operating No. of Hours L:0 T:0 P:20	logic. tecture and niversal per Motor. ssor g System Credits: 10		
After the 1 2 3 4 5 6 Course Outcom e	completion of thisDescribe embeddedDesign custom singDiscuss about optinoperation of generaDefine and distinguAsynchronous RecDiscuss common minterfacing and arthExplain basics of inarchitecture.Year /SemesterIII Sem	course, the students should be able to d systems, design, technology to explain its mage-purpose processors using combinational as mizing single – purpose processors. Discuss al d purpose processors. uish between a timer and a counter, various typeiver/Transmitter.Explain controllers for LCD memory types ROM, RAM, advanced RAM. Explain terrupts, architectures like Round Robin, Real Subject Name (Subject Code) Project / Dissertation Phase-I (M20CY15)	etrics or challenges s well as sequential pout the basic archi pes of timers and U 0,Keypad and Stepp Explain microproces 1, parallel. 1 – Time Operating No. of Hours L:0 T:0 P:20	logic. tecture and iniversal per Motor. ssor g System Credits: 10		
After the 1 2 3 4 5 6 Course Outcom e 1	completion of this Describe embedded Design custom sing Discuss about optin operation of genera Define and distingu Asynchronous Rec Discuss common m interfacing and arb Explain basics of in architecture. Year /Semester III Sem	course, the students should be able to d systems, design, technology to explain its me gle-purpose processors using combinational as mizing single – purpose processors. Discuss al d purpose processors. mish between a timer and a counter, various typ eiver/Transmitter.Explain controllers for LCD memory types ROM, RAM, advanced RAM. E bitration methods, various protocols like seria nterrupts, architectures like Round Robin, Rea Subject Name (Subject Code) Project / Dissertation Phase-I (M20CY15)	etrics or challenges s well as sequential pout the basic archi pes of timers and U O,Keypad and Stepp Explain microproces 1, parallel. 1 – Time Operating No. of Hours L:0 T:0 P:20	logic. tecture and niversal per Motor. ssor g System Credits: 10		
After the 1 2 3 4 5 6 Course Outcom e 1 2	completion of this Describe embedded Design custom sing Discuss about optin operation of genera Define and distingu Asynchronous Rec Discuss common n interfacing and arb Explain basics of in architecture. Year /Semester III Sem	course, the students should be able to d systems, design, technology to explain its me gle-purpose processors using combinational as mizing single – purpose processors. Discuss al d purpose processors. uish between a timer and a counter, various type eiver/Transmitter.Explain controllers for LCD memory types ROM, RAM, advanced RAM. E bitration methods, various protocols like serial meterrupts, architectures like Round Robin, Rea Subject Name (Subject Code) Project / Dissertation Phase-I (M20CY15)	etrics or challenges s well as sequential pout the basic archi pes of timers and U 0,Keypad and Stepp Explain microproces 1, parallel. 1 – Time Operating No. of Hours L:0 T:0 P:20	logic. tecture and (niversal per Motor. ssor g System Credits: 10		
After the 1 2 3 4 5 6 Course Outcom e 1 2	completion of this Describe embedded Design custom sing Discuss about optin operation of genera Define and distingu Asynchronous Rec Discuss common m interfacing and arb Explain basics of in architecture. Year /Semester III Sem	course, the students should be able to d systems, design, technology to explain its me gle-purpose processors using combinational as nizing single – purpose processors. Discuss al d purpose processors. hish between a timer and a counter, various typ eiver/Transmitter.Explain controllers for LCD nemory types ROM, RAM, advanced RAM. E bitration methods, various protocols like seria nterrupts, architectures like Round Robin, Rea Subject Name (Subject Code) Project / Dissertation Phase-I (M20CY15)	etrics or challenges s well as sequential pout the basic archi pes of timers and U O,Keypad and Stepp Explain microproces 1, parallel. 1 – Time Operating No. of Hours L:0 T:0 P:20	logic. tecture and niversal per Motor. ssor g System Credits: 10		
After the 1 2 3 4 5 6 Course Outcom e 1 2 3	completion of this Describe embedded Design custom sing Discuss about optin operation of genera Define and distingu Asynchronous Rec Discuss common n interfacing and art Explain basics of in architecture. Year /Semester III Sem	course, the students should be able to d systems, design, technology to explain its me gle-purpose processors using combinational as mizing single – purpose processors. Discuss al d purpose processors. aish between a timer and a counter, various type eiver/Transmitter.Explain controllers for LCD nemory types ROM, RAM, advanced RAM. E bitration methods, various protocols like seria nterrupts, architectures like Round Robin, Rea Subject Name (Subject Code) Project / Dissertation Phase-I (M20CY15)	etrics or challenges s well as sequential pout the basic archi pes of timers and U 0,Keypad and Stepp (xplain microproces 1, parallel. 1 – Time Operating No. of Hours L:0 T:0 P:20	logic. tecture and niversal per Motor. ssor g System Credits: 10		
After the 1 2 3 4 5 6 Course Outcom e 1 2 3	completion of this Describe embedded Design custom sing Discuss about optin operation of genera Define and distingu Asynchronous Rec Discuss common m interfacing and arb Explain basics of in architecture. Year /Semester III Sem	course, the students should be able to d systems, design, technology to explain its me gle-purpose processors using combinational as mizing single – purpose processors. Discuss al d purpose processors. mish between a timer and a counter, various type eiver/Transmitter.Explain controllers for LCD memory types ROM, RAM, advanced RAM. E bitration methods, various protocols like serial nterrupts, architectures like Round Robin, Rea Subject Name (Subject Code) Project / Dissertation Phase-I (M20CY15)	etrics or challenges s well as sequential pout the basic archi pes of timers and U 0,Keypad and Stepp (xplain microproces 1, parallel. 1 – Time Operating No. of Hours L:0 T:0 P:20	logic. tecture and niversal per Motor. ssor g System Credits: 10		
After the 1 2 3 4 5 6 Course Outcom e 1 2 3 4	completion of this Describe embedded Design custom sing Discuss about optin operation of genera Define and distingu Asynchronous Rec Discuss common m interfacing and arb Explain basics of in architecture. Year /Semester III Sem	course, the students should be able to d systems, design, technology to explain its me gle-purpose processors using combinational as mizing single – purpose processors. Discuss al al purpose processors. hish between a timer and a counter, various type eiver/Transmitter.Explain controllers for LCD nemory types ROM, RAM, advanced RAM. E bitration methods, various protocols like seria nterrupts, architectures like Round Robin, Rea Subject Name (Subject Code) Project / Dissertation Phase-I (M20CY15)	etrics or challenges s well as sequential pout the basic archi pes of timers and U 0,Keypad and Stepp Explain microproces 1, parallel. 1 – Time Operating No. of Hours L:0 T:0 P:20	logic. tecture and oer Motor. ssor g System Credits: 10		

IV-SEMESTER

Course Outcome	Year/Semester I Sem	Subject Name (Subject Code) Project / Dissertation Phase-II (M20CY16)	No. of Hours L:0 T:0 P:32	Credits: 16
On successf	ul completion of th	nis course, students will be able to:		
1				
2				
3				
4				
5				