



ADHIYAMAAN COLLEGE OF ENGINEERING

[An Autonomous Institution Affiliated to Anna University, Chennai] [Accredited by NACC]

Dr.M.G.R Nagar, Hosur, Krishnagiri[Dt] - 635019, Tamil Nadu.

B.Tech - INFORMATION TECHNOLOGY

REGULATIONS 2022 CHOICE BASED CREDIT SYSTEM

VISION

To become a globally recognized Centre of excellence in the field of Information Technology, providing technology excellence that advances learning, teaching, research to produce budding IT professionals, researchers, innovators and entrepreneurs.

MISSION

- M1:** To produce competent IT professionals with the potential of Programming and Problem solving skills.
- M2:** To facilitate the students to work with modern tools, inventive technologies and innovative research capabilities.
- M3:** To build leadership abilities by inculcating the spirit of ethical values.

PROGRAM EDUCATIONAL OBJECTIVES [PEOs]

- PEO1:** Graduates will be able to analyze and solve computing problems by applying the principles of mathematics, information technology and engineering.
- PEO2:** Graduates will be globally competent to use recent information technologies to design quality software systems that are economically feasible and socially acceptable through their innovations.
- PEO3:** Graduates will be excellent in their career or higher education by acquiring communication and interpersonal skills to work in team ethically by engaging in lifelong learning.

PROGRAMME OUTCOMES[POs]

- PO1 Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
- PO2 Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
- PO3 Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
- PO4 Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
- PO5 Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
- PO6 The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
- PO7 Environment and sustainability:** understand the impact of the professional engineering solutions in societal and environmental contexts, demonstrate the knowledge of, and need for sustainable development.
- PO8 Ethics:** Apply ethical principles and commit to professional ethics, responsibilities, and norms of the engineering practice.
- PO9 Individual and teamwork:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
- PO10 Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

PO11 Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12 Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PROGRAM SPECIFIC OUTCOME [PSO]

PSO-1: Professional Skills: Ability to identify, analyze, design, model, develop, test and manage complex software and information management systems.

PSO-2: Web Designing Skill: Possess knowledge of software design process using open-ended programming and to use the web designing skill to establish new solutions for the societal needs.

PSO-3: Successful Career and Entrepreneurship: Capable of adapting to new technologies and constantly upgrade their skills with an attitude towards lifelong learning.

MAPPING OF PROGRAMME EDUCATIONAL OBJECTIVES WITH PROGRAMME OUTCOMES

PROGRAMME EDUCATIONAL OBJECTIVES	PROGRAMME OUTCOMES											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
PEO1	3	2	2	3	3		1	1	3		2	3
PEO2			2	3	3	2	2	1	3	2	3	3
PEO3			3		3	2		2		3	3	3

MAPPING OF PROGRAM SPECIFIC OBJECTIVES WITH PROGRAMME OUTCOMES:

PROGRAMME SPECIFIC OUTCOMES	PROGRAMME OUTCOMES											
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
PSO1	3	3	3	3	2	1	2	2	3	1	2	3
PSO2			3	3	3	2	1		1		3	3
PSO3			3	3	3			2	3	3	3	3

Contribution

1: Reasonable

2: Significant 3: Strong

SEMESTER – I

S. No	CAT	COURSE CODE	COURSE TITLE	L	T	P	C	MARKS		
								CA	EA	TOT
THEORY										
1	HS	122ENI01	Technical English- I	3	0	2	3	40	60	100
2	BS	122MAT01	Matrices and Calculus	3	1	0	4	40	60	100
3	BS	122PHT03	Engineering Physics	3	0	0	2	40	60	100
4	BS	122CYT04	Engineering Chemistry	3	0	0	2	40	60	100
5	ES	122PPT05	Python Programming	3	0	0	3	40	60	100
6	ES	122ESE06	Basic Electrical Electronics & Instrumentation	3	0	0	3	40	60	100
7	HS	122HST07	Scientific Thoughts in Tamil	1	0	0	1			
PRACTICALS										
8	BS	122PHP08	Engineering Physics Laboratory	0	0	2	1	60	40	100
9	ES	122PPP09	Python Programming Laboratory	0	0	2	1	60	40	100
			TOTAL MANDATORY CREDITS				20			

SEMESTER – II

S. No	CAT	COURSE CODE	COURSE TITLE	L	T	P	C	MARKS		
								CA	EA	TOT
THEORY										
1	HS	222ENI01	Professional English-II	2	0	2	3	40	60	100
2	BS	222MAT02	Probability and Statistics	3	1	0	4	40	60	100
3	BS	222EST03	Environmental Science and Sustainability	2	0	0	2	40	60	100
4	ES	222EGT04	Engineering Graphics	2	0	4	4	40	60	100
5	BS	222PIT05	Physics for Information Science	2	0	0	2	40	60	100
6	ES	222CPI06	Programming in C	3	0	2	3	40	60	100
7	HS	222HST07	Tamils and Technology	1	0	0	1			
PRACTICALS										
8	BS	222CYP08	Engineering Chemistry Laboratory	0	0	2	1	60	40	100
9	ES	222EPP09	Engineering Practice Laboratory	0	0	2	1	60	40	100
			TOTAL MANDATORY CREDITS				21			

SEMESTER – III

S. No	CAT	COURSE CODE	COURSE TITLE	L	T	P	C	MARKS		
								CA	EA	TOT
THEORY										
1	ES	322DMT01	Discrete Mathematics	3	1	0	4	40	60	100
2	ES	322ITI02	Digital Electronics	3	0	2	4	40	60	100
3	PC	322ITT03	Object Oriented Software Engineering	3	0	0	3	40	60	100
4	PC	322CIT04	Object Oriented Programming	3	0	0	3	40	60	100
5	PC	322CIT05	Data Structures	3	0	0	3	40	60	100
6	PC	322CIT06	Computer Organization	3	0	0	3	40	60	100
PRACTICALS										
7	PC	322CIP07	Object Oriented Programming Laboratory	0	0	2	1	60	40	100
8	PC	322CIP08	Data Structures Laboratory	0	0	2	1	60	40	100
9	EEC	322GEV01	Professional Development	0	0	2	1	100	-	100
			TOTAL MANDATORY CREDITS				22			

SEMESTER – IV

S. No	CAT	COURSE CODE	COURSE TITLE	L	T	P	C	MARKS		
								CA	EA	TOT
THEORY										
1	PC	422ITT01	Foundations of Data Science	3	1	0	4	40	60	100
2	PC	422CIT02	Design and Analysis of Algorithm	3	0	0	3	40	60	100
3	PC	422CIT03	Database Management Systems	3	0	0	3	40	60	100
4	PC	422CIT04	Operating System	3	0	0	3	40	60	100
5	PC	422CII05	Network Essentials	3	0	2	4	40	60	100
6	PC	422ITT06	Compiler Engineering	3	0	0	3	40	60	100
7	EEC	422GEV02	Math's Solver Software	0	0	2	1	100	-	
PRACTICALS										
8	PC	422CIP07	Database Management System Laboratory	0	0	2	1	60	40	100
9	PC	422CIP08	Operating Systems Laboratory	0	0	2	1	60	40	100
			TOTAL MANDATORY CREDITS				22			

SEMESTER – V

S. No	CAT	COURSE CODE	COURSE TITLE	L	T	P	C	MARKS		
								CA	EA	TOT
1	PC	522CIT01	Artificial Intelligence & Machine Learning	3	0	0	3	40	60	100
2	PC	522ITI02	Embedded Systems and IoT	3	0	2	4	40	60	100
3	PC	522ITT03	Digital Marketing	3	0	0	3	40	60	100
4	PC	522CIT04	Web Essentials	3	0	0	3	40	60	100
5	PE	522XXXXX	Professional Elective –I	3	0	0	3	40	60	100
6	OE	522XXOXX	Open Elective -I	3	0	0	3	40	60	100
7	MC	522MCTXX	Mandatory Course-I	1	0	0	1	100	-	100
PRACTICALS										
8	PC	522ITP07	Artificial Intelligence & Machine Learning Laboratory	0	0	2	1	60	40	100
9	PC	522CIP08	Web Essentials Laboratory	0	0	2	1	60	40	100
10	EEC	522ITP09	Internship	0	0	4	2	100	-	100
			TOTAL MANDATORY CREDITS				21			

SEMESTER – VI

S. No	CAT	COURSE CODE	COURSE TITLE	L	T	P	C	MARKS		
								CA	EA	TOT
THEORY										
1	PC	622CIT01	Full Stack Development	3	0	0	3	40	60	100
2	PC	622ITT02	Cloud Computing	3	0	0	3	40	60	100
3	PC	622ITT03	Data warehousing and Data Mining	3	0	0	3	40	60	100
4	PC	622ITI04	Object Oriented Analysis and Design	3	0	2	4	40	60	100
5	PE	622XXXXX	Professional Elective - II	3	0	0	3	40	60	100
6	OE	622XXOXX	Open Elective –II	3	0	0	3	40	60	100
7	MC	622MCTXX	Mandatory Course II	1	0	0	1	100	-	100
PRACTICALS										
8	PC	622CIP07	Full Stack Development Laboratory	0	0	2	1	60	40	100
9	PC	622ITVXX	Value Added Course	0	0	2	1	60	40	100
			TOTAL MANDATORY CREDITS				20			

SEMESTER – VII

S. No	CAT	COURSE CODE	COURSE TITLE	L	T	P	C	MARKS		
								CA	EA	TOT
THEORY										
1	PC	722CII01	AR,VR and Metaverse	3	0	2	4	40	60	100
2	PC	722ITT02	Mobile Application Development	3	0	0	3	40	60	100
3	PC	722ITT03	Cryptography and Network Security	3	0	0	3	40	60	100
4	PE	722XXXXX	Professional Elective- III	3	0	0	3	40	60	100
5	PE	722XXXXX	Professional Elective- IV	3	0	0	3	40	60	100
6	OE	722XXOXX	Open Elective III(Management)	3	0	0	3	40	60	100
PRACTICALS										
7	PC	722ITP07	Mobile Application Development Laboratory	0	0	2	1	60	40	100
8	EEC	722ITP08	Professional readiness for Innovation,Employability and Entrepreneurship	0	0	4	2	60	40	100
			TOTAL MANDATORY CREDITS				22			

SEMESTER – VIII

S. No	CAT	COURSE CODE	COURSE TITLE	L	T	P	C	MARKS		
								CA	EA	TOT
THEORY										
1	PE	822XXX	Professional Elective- V	3	0	0	3	40	60	100
2	PE	822XXX	Professional Elective- VI	3	0	0	3	40	60	100
PRACTICALS										
3	EEC	822ITP01	Project Work & Viva Voce	0	0	20	9	40	60	100
			TOTAL MANDATORY CREDITS				15			

List of Mandatory Course

S. No	CAT	COURSE CODE	COURSE TITLE	L	T	P	C	MARKS		
								CA	EA	TOT
1.	MC	X22MCT01	Introduction to Women and Gender Studies	3	0	0	1	40	60	100
2	MC	X22MCT02	Elements of Literature	3	0	0	1	40	60	100
3	MC	X22MCT03	Film Appreciation	3	0	0	1	40	60	100
4	MC	X22MCT04	Disaster Management	3	0	0	1	40	60	100
5	MC	X22MCT05	Political and Economic Thoughts for Human Society	3	0	0	1	40	60	100
6	MC	X22MCT06	Health, Wellness and Fitness Management	3	0	0	1	40	60	100
7	MC	X22MCT07	Sustainable Development	3	0	0	1	40	60	100
8	MC	X22MCT08	Ethics and Human Values	3	0	0	1	40	60	100
9	MC	X22MCT09	Innovation on Bio Technology	3	0	0	1	40	60	100
10	MC	X22MCT10	Scientific Reading and Writing	3	0	0	1	40	60	100
11	MC	X22MCT11	Integrated Yoga for Promotion of Positive Health	3	0	0	1	40	60	100
12	MC	X22MCT12	Fundamentals of Research Methodology	3	0	0	1	40	60	100
13	MC	X22MCT13	Well Being with traditional Practices(Yoga)	3	0	0	1	40	60	100
14	MC	X22MCT14	History of Science and Technology in India	3	0	0	1	40	60	100
15	MC	X22MCT15	State, Nation Building and Politics in India	3	0	0	1	40	60	100
16	MC	X22MCT16	Industrial Safety	3	0	0	1	40	60	100
17	MC	X22MCT17	Indian Constitution	3	0	0	1	40	60	100
18	MC	X22MCT18	Human Values and Professional Ethics	3	0	0	1	40	60	100
19	MC	X22MCT19	Intellectual Property Rights	3	0	0	1	40	60	100

VII Semester – Management Elective

S. No	CAT	COURSE CODE	COURSE TITLE	L	T	P	C	MARKS		
								CA	EA	TOT
1.	MC	722BAO01	Human Values and Ethics	3	0	0	0	40	60	100
2	MC	722BAO02	Principles of Management	3	0	0	0	40	60	100
3	MC	722BAO03	Total Quality Management	3	0	0	0	40	60	100
4	MC	722BAO04	Knowledge Management	3	0	0	0	40	60	100
5	MC	722BAO05	Human Resource Management	3	0	0	0	40	60	100
6	MC	722BAO06	Industrial Management	3	0	0	0	40	60	100
7	MC	722BAO07	E-Waste Management	3	0	0	0	40	60	100

PROFESSIONAL ELECTIVE COURSES- VERTICALS

Vertical –I	Vertical –II	Vertical-III	Vertical IV	Vertical- V	Vertical-VI
AI & Data Science	Full Stack Development	Cloud and Data Center Technologies	Cyber Security and Data Privacy	Creative Media	Emerging Technologies
Neural Network and Deep Learning	Advanced Scripting	Stream Processing	Cyber Security	Multimedia and Animation	Software Testing and Automation
Big Data Analytics	Cloud Service and Management	Virtualization	Digital and Mobile Forensics	Multimedia Data Compression and Storage	Big Data Analytics
Business Analytics	Dev-ops	Storage Technologies	Ethical Hacking	Video Creation and Editing	Robotic Process Automation
Computer Vision	Software Testing and Automation	Software Defined Networks	Security and Privacy in Cloud	Visual Effects	IoT Based Smart Systems
Exploratory Data Analysis	Web Application Security	Network Engineering	Cryptocurrency and Block Chain Technology	UI and UX Design	Cyber Security
Cognitive Science	UI and UX Design	Security and Privacy in cloud	Information Security	Mixed Reality	Design Thinking
Text and Speech Analysis	C# and .NET	Cloud Service and Management	Social Network Security	Game Development	Game Development

ADHIYAMAAN COLLEGE OF ENGINEERING - HOSUR

(Autonomous)

B.Tech. Information Technology

CURRICULUM –R2022

(Applicable to the students admitted from the Academic year 2022-2023 onwards)

S.NO.	Semester	Credits
1	I	20
2	II	21
3	III	22
4	IV	22
5	V	21
6	VI	20
7	VII	22
8	VIII	15
	TOTAL	163

S.No	SUBJECT AREA	CREDITS AS PER SEMESTER								TOTAL CREDITS	%
		I	II	III	IV	V	VI	VII	VIII		
1	HS	3	3							06	03.68
2	BS	9	9							18	11.04
3	ES	7	10	8						25	15.34
4	PC			14	22	15	14	11		76	46.63
5	PE					3	3	6	6	18	11.04
6	OE					3	3	3		09	05.52
7	EEC							2	9	11	06.75
	TOTAL CREDIT	20	21	22	21	21	20	22	15	163	100

Value added Courses offered by the Information Technology Department:

Course Code	Course Title	No. of Hours	Credits
X22OC01	Aptitude I	30	1
X22OC02	Aptitude II	30	1
X22OC03	Data mining Tools	30	1
X22OC04	Photoshop	30	1
X22OC05	PHP and MySQL	30	1
X22OC05	Android Development	30	1
X22OC06	Basic of C Programming	30	1
X22OC07	R-Programming	30	1
X22OC08	Web Designing	30	1
X22OC09	Ethical Hacking	30	1

Courses offered by IT Department as Open Elective for Other Departments

S. No	CAT	COURSE CODE	COURSE TITLE	L	T	P	C	MARKS		
								CA	EA	TOT
THEORY										
1	OE	X22OE01	Object Oriented Programming	3	0	0	3	40	60	100
2	OE	X22OE02	Web Essentials	3	0	0	3	40	60	100
3	OE	X22OE03	Foundation of Data Science	3	0	0	3	40	60	100
4	OE	X22OE04	Cyber Security	3	0	0	3	40	60	100
5	OE	X22OE05	Software Testing and Automation	3	0	0	3	40	60	100
6	OE	X22OE06	Cryptocurrency and Block Chain Development	3	0	0	3	40	60	100
7	OE	X22OE07	Cloud Essentials	3	0	0	3	40	60	100
8	OE	X22OE08	Design Thinking	3	0	0	3	40	60	100
9	OC	X22OE09	IoT based Smart Systems	3	0	0	3	40	60	100
10	OE	X22OE10	Ethical Hacking	3	0	0	3	40	60	100
11	OE	X22OE11	Digital and Mobile Forensics	3	0	0	3	40	60	100
12	OE	X22OE12	Big Data Analytics	3	0	0	3	40	60	100
13	OE	X22OE13	Full Stack Development	3	0	0	3	40	60	100
14	OE	X22OE14	Artificial Intelligence & Machine Learning	3	0	0	3	40	60	100
15	OE	X22OE15	Augmented Reality and Virtual reality	3	0	0	3	40	60	100

PROFESSIONAL ELECTIVE COURSES- VERTICALS**VERTICAL 1: AI & DATA SCIENCE**

S. No	CAT	COURSE CODE	COURSE TITLE	L	T	P	C	MARKS		
								CA	EA	TOT
THEORY										
1	PC	X22CIE01	Big Data Analytics	3	0	0	3	40	60	100
2	PC	X22CIE02	Exploratory Data Analysis	3	0	0	3	40	60	100
3	PC	X22CIE03	Neural Networks and Deep Learning	3	0	0	3	40	60	100
4	PC	X22CIE04	Text and Speech Analysis	3	0	0	3	40	60	100
5	PC	X22CIE05	Image and Video Analytics	3	0	0	3	40	60	100
6	PC	X22CIE06	Business Analytics	3	0	0	3	40	60	100
7	PC	X22CIE07	Cognitive Science	3	0	0	3	40	60	100

VERTICAL 2: FULL STACK DEVELOPMENT

S. No	CAT	COURSE CODE	COURSE TITLE	L	T	P	C	MARKS		
								CA	EA	TOT
THEORY										
1	PC	X22CIE08	C# & .NET	3	0	0	3	40	60	100
2	PC	X22CIE09	Advanced Scripting	3	0	0	3	40	60	100
3	PC	X22CIE10	UI & UX Design	3	0	0	3	40	60	100
4	PC	X22CIE11	Dev-Ops	3	0	0	3	40	60	100
5	PC	X22CIE12	Cloud Services and Management	3	0	0	3	40	60	100
6	PC	X22CIE13	Web Application Security	3	0	0	3	40	60	100
7	PC	X22CIE14	Software Testing and Automation	3	0	0	3	40	60	100

VERTICAL 3: CLOUD AND DATA CENTER TECHNOLOGIES

S. No	CAT	COURSE CODE	COURSE TITLE	L	T	P	C	MARKS		
								CA	EA	TOT
THEORY										
1	PC	X22CIE15	Network Engineering	3	0	0	3	40	60	100
2	PC	X22CIE16	Virtualization	3	0	0	3	40	60	100
3	PC	X22CIE17	Cloud Services and Management	3	0	0	3	40	60	100
4	PC	X22CIE18	Storage Technologies	3	0	0	3	40	60	100
5	PC	X22CIE19	Software Defined Networks	3	0	0	3	40	60	100
6	PC	X22CIE20	Stream Processing	3	0	0	3	40	60	100
7	PC	X22CIE21	Security and Privacy in Cloud	3	0	0	3	40	60	100

VERTICAL 4: CYBER SECURITY AND DATA PRIVACY

S. No	CAT	COURSE CODE	COURSE TITLE	L	T	P	C	MARKS		
								CA	EA	TOT
THEORY										
1	PC	X22CIE22	Ethical Hacking	3	0	0	3	40	60	100
2	PC	X22CIE23	Digital and Mobile Forensics	3	0	0	3	40	60	100
3	PC	X22CIE24	Cyber Security and Law	3	0	0	3	40	60	100
4	PC	X22CIE25	Security and Privacy in Cloud	3	0	0	3	40	60	100
5	PC	X22CIE26	Social Network Security	3	0	0	3	40	60	100
6	PC	X22ITE27	Cryptocurrency and Block Chain Technology	3	0	0	3	40	60	100
7	PC	X22ITE28	Information Security	3	0	0	3	40	60	100

VERTICAL 5: CREATIVE MEDIA

S. No	CAT	COURSE CODE	COURSE TITLE	L	T	P	C	MARKS		
								CA	EA	TOT
THEORY										
1	PC	X22CIE29	Multimedia and Animation	3	0	0	3	40	60	100
2	PC	X22CIE30	Multimedia Data Compression and Storage	3	0	0	3	40	60	100
3	PC	X22CIE31	UI and UX Design	3	0	0	3	40	60	100
4	PC	X22CIE32	Visual Effects	3	0	0	3	40	60	100
5	PC	X22CIE33	Game Development	3	0	0	3	40	60	100
6	PC	X22CIE34	Video Creation and Editing	3	0	0	3	40	60	100
7	PC	X22ITE35	Mixed Reality	3	0	0	3	40	60	100

VERTICAL 6: EMERGING TECHNOLOGIES

S. No	CAT	COURSE CODE	COURSE TITLE	L	T	P	C	MARKS		
								CA	EA	TOT
THEORY										
1	PC	X22CIE36	Big Data Analytics	3	0	0	3	40	60	100
2	PC	X22CIE37	Neural Networks and Deep Learning	3	0	0	3	40	60	100
3	PC	X22CIE38	Cyber Security and Law	3	0	0	3	40	60	100
4	PC	X22CIE39	Robotic Process Automation	3	0	0	3	40	60	100
5	PC	X22CIE40	Game Development	3	0	0	3	40	60	100
6	PC	X22CIE41	Design Thinking	3	0	0	3	40	60	100
7	PC	X22ITE42	IoT Based Smart Systems	3	0	0	3	40	60	100