CHOICE-BASED CREDIT SYSTEM

(Applicable to all students registering from the academic year 2023-24 onwards)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

B.E Computer Science Engineering

CURRICULUM

ACADEMY OF MARITIME EDUCATION AND TRAINING

DEEMED TO BE UNIVERSITY,

135, EAST COAST ROAD,

KANATHUR, CHENNAI - 603112

CBCS CURRICULUM (2023-24)

Basic Science Courses: (Credits to be earned: 24)

S.No	Course Code	Course Title	L	T	P	C
1.	UGPHC01	Engineering Physics	3	0	2	4
	UGPHCPA	Engineering Physics Lab				
2.	UGMTC01	Calculus and Linear Algebra	3	1	0	4
3.	UGCHC01	Engineering Chemistry	3	0	2	4
	UGCHCPA	Engineering Chemistry Lab				
4.	UGMTC02	Transforms and Differential Equations	3	1	0	4
5.	UGMTC03	Probability and Statistics	3	1	0	4
6.	UGMTC04	Mathematical foundation for AI andData science	3	0	0	3
7.	UGMTC05	Operation Research	3	1	0	4
8.	UGMTC06	Discrete Mathematics	3	1	0	4
9.	UGPHC02	Physics for Quantum Computing	3	0	2	4
	UGPHCPB	Physics for Quantum Computing Lab				
10.	UGBEC01	Biology for Engineers	2	0	0	2
11.	UGMTC07	Aptitude Training- I	1	1	0	2
12.	UGMTC08	Aptitude Training- II	1	1	0	2

Humanities and Social Science including Management Courses: (Credits to be earned: 04)

S.No	Course Code	Course Title	L	T	P	C
1.	UGLEC01	Technical English	2	0	2	3
	UGLECPA	Communication Skills Lab - I				
2.	UGLECPB	Communication Skills Lab - II	0	0	2	1
3.	UGBSC01	Professional Ethics and Human Values	3	0	0	3
4.	UGBSC02	Total Quality Management	3	0	0	3
5.	UGBSC01	Principles of Management	3	0	0	3
6.	UGBSC02	Intellectual Property Rights	3	0	0	3
7.	UGBSC03	Entrepreneurship and Startups	3	0	0	3
8.	UGLECPC	Interpersonal Communication	0	0	2	1
9.	UGLECPD	Professional Communication	0	0	2	1
10.	UGBSC04	Universal Human Values- 2 (Understanding Harmony and Ethical Human Contact)	3	0	0	3
11.	UGBSCPA	Design Thinking	0	0	2	1
12.	UGBSC05	Project Management	3	0	0	3
13.	UGBSC06	Engineering Economics	3	0	0	3
14.	UGBSC07	Psychology	3	0	0	3
15.	UGBSC08	Catering and Hotel Management	3	0	0	3

Engineering Science Courses: (Credits to be earned: 23)

S.No	Course Code	Course Title	L	T	P	C
1.	UGCSC01	Object oriented Programming using C++	3	0	2	4
	UGCSCPA	Object oriented Programming using C++ Lab				
2.	UGWSCPA	Workshop Practices	0	0	4	2
3.	UGMCCPA	Engineering Drawing and Computer Graphics	1	0	4	3
4.	UGMCC01	Engineering Mechanics	3	0	0	3
5.	UGMCC02	Thermodynamics	3	0	0	3
6.	UGMCC03	Fluid Mechanics	3	0	0	3
7.	UGCSC02	Python Programming for Problem Solving	3	0	2	4
	UGCSCPB	Python Programming for Problem Solving Lab				
8.	UGCSC03	Data Science	3	0	0	3
9.	UGCSC04	Artificial Intelligence	3	0	0	3
10.	UGEEC01	Basic Electrical Engineering	3	0	2	4
	UGEECPA	Basic Electrical Engineering Lab				
11.	UGMCC04	Mechanics of materials	3	0	0	3
12.	UGMCC05	Material Science and Engineering	3	0	0	3
13.	UGCSC05	R Programming	3	0	2	4
	UGCSCPC	R Programming Lab				

Professional Core - 1: (Credits to be earned: 36)

S.No	Course Code	Course Title	L	T	P	C
1.	UGAIPC05	Data Structures and Algorithms	3	0	1	4
2.	UGAIPC08	Database Management Systems	3	0	1	4
3.	UGAIPC22	Design and Analysis ofAlgorithms	3	0	0	3
4.	UGAIPC06	Operating Systems	3	0	0	3
5.	UGAIPC07	Computer Networks	3	0	0	3
6.	UGAIPC11	Compiler Design	3	0	0	3
7.	UGAIPC09	Theory of Computation	3	0	0	3
8.	UGAIPC12	Java Programming	3	0	1	4
9.	UGAIPC15	Computer Graphics and Multimedia	3	0	1	4
10.	UGAIPC18	Object Oriented Analysis and Design	3	0	1	4
11.	UGCSPC01	Mobile Application Development	3	0	1	4
12.	UGAIPC13	Web Programming	3	0	1	4
13.	UGAIPC02	Computer Architecture	3	0	0	3

Professional Core - 2: (Credits to be earned: 18)

S.No	Course Code	Course Title	L	T	P	C
1.	UGAIPC10	Software Engineering	3	0	0	3
2.	UGCSPC03	Bio Informatics	3	0	0	3
3.	UGCSPC04	Software Testing	3	0	0	3
4.	UGAIPC21	Mobile Computing	3	0	0	3
5.	UGAIPC19	Cryptography and Network Security	3	0	0	3
6.	UGAIPC25	Cloud Computing	3	0	0	3
7.	UGCSPC06	Digital Signal Processing	3	0	0	3

Core Elective - I: (Credits to be earned: 3)

S.No	Course Code	Course Title	L	T	P	C
1.	UGAIPC17	Embedded Systems	3	0	0	3
2.	UGCSPE02	Data Warehousing and Data Mining	3	0	0	3
3.	UGAIPE12	Cyber Security	3	0	0	3
4.	UGCSPE03	Agile Methodologies	3	0	0	3
5.	UGAIPC24	Graph Theory and Applications	3	0	0	3

Core Elective - II: (Credits to be earned: 6)

S.No	Course Code	Course Title	L	T	P	C
1.	UGCSPE04	Big data Analytics	3	0	0	3
2.	UGCSPE05	Machine Learning Techniques	3	0	0	3
3.	UGAIPE05	Human Computer Interaction	3	0	0	3
4.	UGAIPE03	Industrial Internet of Things	3	0	0	3

Core Elective - III: (Credits to be earned: 6)

S.No	Course Code	Course Title	L	T	P	C
1.	UGCSPE06	C# and .Net Programming	3	0	0	3
2.	UGCSPE07	Wireless Adhoc and SensorNetworks	3	0	0	3
3.	UGCSPE08	Digital Image Processing	3	0	0	3
4.	UGCSPE09	Data Mining Using R	3	0	0	3
5.	UGCSPE10	Information Security	3	0	0	3
6.	UGAIPE11	Soft Computing	3	0	0	3

Core Elective - IV: (Credits to be earned: 9)

S.No	Course Code	Course Title	L	T	P	C
1.	UGCSPE11	Service Oriented Architecture	3	0	0	3
2.	UGAIPE20	Social Networks Analysis	3	0	0	3
3.	UGCSPE12	Fuzzy Logic and Neural Networks	3	0	0	3
4.	UGCSPE13	Cyber Forensics	3	0	0	3
5.	UGAIPE14	Information Retrieval	3	0	0	3
6.	UGCSPE15	Natural Language Processing	3	0	0	3

Open Elective - I: (Credits to be earned: 6)

S.No	Course Code	Course Title	L	T	P	C
1.	UGAIOE03	Introduction to Artificial Intelligence	3	0	0	3
2.	UGCSOE01	Block chain Technologies	3	0	0	3
3.	UGCSOE02	Deep Learning	3	0	0	3
4.	UGCSOE03	Computer Forensics	3	0	0	3
5.	UGCSOE04	Advanced python programming	3	0	0	3

Internship: (Credits to be earned: 4 to 6)*

S. No	Course Code	Course Title	C	Remarks
1	UGCSI01	Internship - I	1	During II Year Summer/ Winter Vacation
2	UGCSI02	Internship - II	1	During III Year Summer / Winter Vacation
3	UGCSI03	Internship - III	4	During VII Sem (pre final Semester)

Project: (Credits to be earned: 10 to 16)*

S. No	Course Code	Course Title	L	T	P	C	Remarks
1	UGCSP001	Mini project	0	0	0	3	III Year
2	UGCSP002	Project phase-1	0	0	0	3	Pre final Semester
3	UGCSP003	Project phase-2	0	0	0	10	Final Semester

Mandatory Courses: (Credits to be earned: 0

S. No	Course Code	Course Title	L	T	P	C
1	UGMDC01	Universal Human values – Induction Program	3 weeks			
2	UGMDC02	Environmental Studies	2	0	0	0
3	UGMDC03	Indian Constitution	2	0	0	0
4	UGMDC04	Essence of Indian Traditional Knowledge	2	0	0	0
5	UGMDC05	Gender Sensitivity	2	0	0	0
6	UGMDC06	Paper Publication	0	0	0	0

Employment Opportunity Courses: (Credits to be earned: 0)

S. No	Course Code	Course Title	L	T	P	C
1.		Value Added Courses	2	0	0	0
2.		Skill Development Courses	2	0	0	0
3.		Professional Development Course	2	0	0	0
4.		Foreign Languages/Hindi/Tamil	2	0	0	0

As Per	Humanities	Basic Science	Engineering Science	Professional Core	Core Elective	Open Elective	Project /Internship	Total
AICTE	12	25	24	48	18	18	15	160
AMET (proposed)	04	24	23	54	24	9	22	160