CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY
(AUTONOMOUS)
DEPARTMENT OF INFORMATION TECHNOLOGY
(Inline with AICTE Model Curriculum with effect from AY 2024-25)
(R-22A Regulation)

SEMESTER – I

S.No.	Course Code	Title of the Course	Hours per Week L	Hours per Week T	Hours per Week P/D	Duration of SEE in Hours	CIE	SEE	Credits
			Scheme of Instruction			**Scheme of Examination**	**Maximum Marks**		
THEORY									
1	22MTC01	Linear Algebra and Calculus	3	1	-	3	40	60	4
2	22PYC01	Optics and Semiconductor Physics	3	-	-	3	40	60	3
3	22CSC01N	Problem Solving and Programming using C	2	1	-	3	40	60	3
4	22EGC01N	English	2	-	-	3	40	60	2
PRACTICAL									
5	22PYC03	Optics and Semiconductor Physics Lab	-	-	3	3	50	50	1.5
6	22EGC02N	English lab	-	-	2	3	50	50	1
7	22CSC02N	Problem Solving and Programming using C Lab	-	-	3	3	50	50	1.5
8	22MEC01N	Engineering Graphics	-	1	3	3	50	50	2.5
9	22MEC38N	Digital Fabrication Workshop	-	-	3	3	50	50	1.5
TOTAL			**10**	**3**	**14**	**-**	**410**	**490**	**20**
Clock Hours per Week: 27									

L: Lecture   T: Tutorial   P: Practical   CIE: Continuous Internal Evaluation
D: Drawing   SEE: Semester End Examination

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SEMESTER-II

S. No	Course Code	Title of the Course	Scheme of Instruction Hours per Week L	T	P	Scheme of Examination Duration of SEE in Hours	Maximum Marks CIE	SEE	Credits
THEORY									
1	22MTC04	Differential Equations and Numerical Methods	3	1	-	3	40	60	4
2	22CYC01	Chemistry	3	-	-	3	40	60	3
3	22EEC01	Basic Electrical Engineering	2	1	-	3	40	60	3
4	22ITC20N	Data Structures using C ++	3	-	-	3	40	60	3
PRACTICAL									
5	22CYC02	Chemistry Lab	-	-	3	3	50	50	1.5
6	22MBC02N	Community Engagement	-	-	2	-	50	-	1
7	22ITC21N	Data Structures using C++ Lab	-	-	2	3	50	50	1
8	22MEC37N	Robotics and Drones Lab	-	1	3	-	100	-	2.5
9	22EEC02	Basic Electrical Engineering Lab	-	-	2	3	50	50	1
	TOTAL		11	3	12	-	460	390	20
Clock Hours per Week: 26									

L: Lecture   **T: Tutorial**   **P: Practical**   **CIE: Continuous Internal Evaluation**
SEE-Semester End Examination

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SEMESTER – III

S. No	Course Code	Title of the Course	Scheme of Instruction Hours per Week L	T	P	Scheme of Examination Duration of SEE in Hours	Maximum Marks CIE	SEE	Credits
THEORY									
1.	22ECC40	DC Circuits, Sensors and Transducers.	3	-	-	3	40	60	3
2.	22ITC01N	Digital Logic and Computer Architecture	3	-	-	3	40	60	3
3.	22MEC39N	Design Thinking	2	-	-	3	40	60	2
4.	22CSC32N	Discrete Mathematics	3	-	-	3	40	60	3
5.	22ITC02N	Java Programming	3	-	-	3	40	60	3
6.	22CSC14N	Design and Analysis of Algorithms	3	-	-	3	40	60	3
7.	22EGM01	Indian Constitution and Fundamental Principles	2	-	-	2	-	50	No Credit
PRACTICAL									
8.	22ITC03N	Java Programming Lab	-	-	2	3	50	50	1
9.	22CSC34N	Design and Analysis of Algorithms Lab	-	-	2	3	50	50	1
10.	22ITI01	Moocs / Training / Internship	3 to 4 weeks / 90 Hours			-	50	-	2
		TOTAL	**19**	**0**	**4**	**-**	**390**	**510**	**21**
Clock Hours per Week: 23									

L: Lecture   T: Tutorial   P: Practical   CIE: Continuous Internal Evaluation
SEE-Semester End Examination

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SEMESTER – IV

S. No	Course Code	Title of the Course	L	T	P/D	Duration of SEE in Hours	CIE	SEE	Credits
			Hours per Week			Scheme of Examination	Maximum Marks		
THEORY									
1.	22MTC15	Probability and Queueing Theory	3	1	-	3	40	60	4
2.	22ADC06	Exploratory Data Analysis and Visualization	3	-	-	3	40	60	3
3.	22CSC11N	Database Management Systems	3	-	-	3	40	60	3
4.	22CSC15N	Operating Systems	3	-	-	3	40	60	3
5.	23MBC01	Engineering Economics & Accountancy	3	-	-	3	40	60	3
6.	22CEM01	Environmental Science	2	-	-	3	-	50	NC
7.		Professional Elective – I	3	-	-	3	40	60	3
PRACTICAL									
8.	22CSC33N	Database Management Systems Lab	-	-	2	3	50	50	1
9.	22CSC18N	Operating Systems Lab	-	-	2	3	50	50	1
10.	22ADC07	Exploratory Data Analysis and Visualization Lab	-	-	2	3	50	50	1
11.	22ITC07	Mini Project – I	-	-	2	-	50	-	1
12.	22ITU01	Up Skill Certification Course-I		-		-	25	-	0.5
		TOTAL	**20**	**1**	**8**	**-**	**465**	**560**	**23.5**
Clock Hours per Week: 29									

L: Lecture   T: Tutorial   P: Practical   CIE: Continuous Internal Evaluation
NC : Non Credits   SEE-Semester End Examination

Professional Elective - I	
22ITE01	Data Mining
22CAE17	Image Processing
22ITE03	Fundamentals of Cryptography
22ITE04	Mobile Application Development
22ITE20	Advanced Data structures

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SEMESTER -V

S.no	Course Code	Title of the Course	Scheme of Instruction Hours Per Week			Scheme of Examination Duration of SEE in Hours	Maximum Marks		Credits
			L	T	P/D		CIE	SEE	
THEORY									
1	22CSC21	Software Engineering	3	-	-	3	40	60	3
2	22ITC08	Enterprise Application Development	3	-	-	3	40	60	3
3	22CAC17	Machine Learning	3	-	-	3	40	60	3
4	22ITC10	Computer Networks	3	-	-	3	40	60	3
5	22ITC12	Formal Languages and Automata Theory	3	-	-	3	40	60	3
6		Professional Elective - 2	3	-	-	3	40	60	3
PRACTICALS									
7	22CSC23	CASE Tools Lab	-	-	2	3	50	50	1
8	22ITC09	Enterprise Application Development Lab	-	-	2	3	50	50	1
9	22ITC11	Computer Networks Lab	-	-	2	3	50	50	1
10	22CAC18	Machine Learning Lab	-	-	2	3	50	50	1
11	22ITC16	Competitive coding	-	-	2	-	50	-	1
12	22ITI02	Industrial / Rural Internship-II	3-4 weeks/ 90 Hours				50	-	2
Total			18	-	10	-	540	560	25
Clock Hours per Week: 28									

L: Lecture   **D: Drawing**   **CIE: Continuous Internal Evaluation**
T: Tutorial   **P: Practical/Project Seminar/Dissertation**   **SEE: Semester End Examination**

Professional Elective – 2	
22ITE05	Service Oriented Architecture
22ITE06	Software Project Management
22ADE34	Information Retrieval Systems
22CIE55	Cyber Security
22CIE15	Extended Reality

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SEMESTER – VI

S.No	Course Code	Title of the Course	Scheme of Instruction			Scheme of Examination			Credits
			Hours Per Week			Duration of SEE in Hours	Maximum Marks		
			L	T	P		CIE	SEE	
THEORY									
1	22ADC12	Big Data Analytics	3	-	-	3	40	60	3
2	22ITC13	Embedded Systems and Internet of Things	3	-	-	3	40	60	3
3	22CAC04	Deep Learning	3	-	-	3	40	60	3
4	22CSC24	Compiler Design	3	-	-	3	40	60	3
5	22EEM01	Universal Human Values II: Understanding Harmony	-	1	-	-	50	-	1
6	22CAC15	Artificial Intelligence	3	-	-	3	40	60	3
7		Professional Elective - 3	3	-	-	3	40	60	3
PRACTICALS									
8	22ADC13	Big Data Analytics Lab	-	-	2	3	50	50	1
9	22ITC14	Embedded Systems and IoT Lab	-	-	2	3	50	50	1
10	22CAC05	Deep Learning Lab	-	-	2	3	50	50	1
11	22ITC15	Mini Project II	-	-	2	3	50	-	1
12	22EGC03	Employability Skills	-	-	2	3	50	50	1
13	22ITU02	Up-Skill Certification Course-II	-				25	-	0.5
Total			**18**	**1**	**10**	**-**	**565**	**560**	**24.5**
Clock Hours per Week: 29									

L: Lecture   T: Tutorial   P: Practical   CIE: Continuous Internal Evaluation

SEE: Semester End Examination

Professional Elective -3	
22ITE07	Cloud Computing
22ITE09	Advanced Computer Networks
22CIE07	Ethical Hacking
22ITE10	Scalable Web Application Development
22CAE19	Natural Language Processing

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SEMESTER – VII

S. No	Course Code	Title of the Course	Scheme of Instruction Hours per Week			Scheme of Examination Duration of SEE in Hours	Maximum Marks		Credits
			L	T	P		CIE	SEE	
THEORY									
1		Professional Elective - 4	3	-	-	3	40	60	3
2		Professional Elective - 5	3	-	-	3	40	60	3
3		Professional Elective - 6	3	-	-	3	40	60	3
4		Open Elective – 1	3	-	-	3	40	60	3
PRACTICAL									
5		Professional Elective – 4 Lab	-	-	2	3	50	50	1
6	22ITC26	Project Part -I	-	-	4	-	50	-	2
TOTAL			12	-	6	-	260	290	15
Clock Hours per Week: 18									

L: Lecture   T: Tutorial   P: Practical   CIE: Continuous Internal Evaluation

SEE-Semester End Examination

Professional Elective -4			
22ADE29	Computer Vision	22ADE30	Computer Vision Lab
22ITE11	Devops Tools	22ITE12	Devops Tools Lab
22ADE23	Applied Predictive Analytics	22ADE37	Applied Predictive Analytics Lab
22CIE53	BlockChain Technology	22CIE54	Block Chain Technology Lab
22ITE13	Unmanned Aerial Vehicles	22ITE14	Unmanned Aerial Vehicles Lab

Professional Elective – 5		Professional Elective - 6	
22ITE15	Mobile Computing	22CIE03	Digital Forensics
22ADE32	Social Network Analytics	22ITE17	Serverless Computing
22CIE14	Robotic Process Automation	22ADE14	Generative AI
20ITE16	Fundamentals of Business Intelligence	22CAE08	Reinforcement Learning
22ADE33	Explainable Artificial Intelligence	22CAE21	Ethical Intelligence

Open Elective -1	
22MEO05	Research Methodologies and Innovation
22ECO07	Neural Networks and Fuzzy Logic
22EEO07	Fundamentals of Electrical Vehicles
22BTO01	Biology for Engineers
22EGO02	Gender Sensitization

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SEMESTER - VIII

S. No	Course Code	Title of the Course	Scheme of Instruction Hours per Week			Scheme of Examination			Credits
			L	T	P	Duration of SEE in Hours	CIE	SEE	
THEORY									
1		**Open Elective – 2**	3	-	-	3	40	60	3
	22MTO01	Fundamentals of Quantum Computing							
	22MEO04	Introduction to Operations Research							
	22EEO02	Energy Conservation							
	22BTO04	Bioinformatics							
	22EGO01	Technical Writing Skills							
2		**Open Elective – 3**	3	-	-	3	40	60	3
	22MEO06	Principles of Entrepreneurship and Startups							
	22ECO02	Remote Sensing and GIS							
	22CEO02	Disaster Risk Reduction and Management							
	22BTO05	Cognitive Neuroscience							
	22EGO03	Indian Traditional Knowledge							
PRACTICAL									
3	22ITC27	Technical Seminar	-		2	-	50	-	1
4	22ITC28	Project Part-2	-		8	-	100	100	4
		TOTAL	**6**	**-**	**10**	**-**	**230**	**220**	**11**
Clock Hours per Week: 16									

D: Drawing   **CIE: Continuous Internal Evaluation**
P: Practical/Project Seminar/Dissertation   **SEE: Semester End Examination**

R22-A Credit Distribution

Semester	Total no. of credits
I	20
II	20
III	21
IV	23.5
V	25
VI	24.5
VII	15
VIII	11
Total Credits	**160**

S.No.	Category	R22(A) Credit Distribution	R22- Credit Distribution	AICTE-Credit Distribution-2022-CSE
1	Humanities and Social Sciences including Management courses (HSS)	9	9.5	16
2	Basic Science Courses (BSc)	21	21	23
3	Engineering Science Courses (ESC)	24	22.5	29
4	Professional Core Courses (PCC)	63	64	59
5	Professional Elective Courses (PEC): Relevant to the chosen specialization/branch	19	19	12
6.	Open Elective Courses (OEC)– Electives from other technical and /or emerging subjects	9	9	9
7.	Mini Projects, Project Seminar, Internships, Projects and Seminars	15	15	15
8.	Mandatory Courses (MC)	00	00	NC
	Total Credits	**160**	**160**	163