

BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT, BALLARI
(AN AUTONOMOUS INSTITUTION AFFILIATED TO VISVESVARAYA TECHNOLOGICAL UNIVERSITY)
COMPUTER SCIENCE & ENGINEERING

CURRICULUM FOR I- VIII SEMESTER

2021 SCHEME

SEMESTER I

Physics Cycle

SL.NO.	Course Code	Course Name
01	21MAT11	Calculus & Linear Algebra
02	21CHE12	Engineering Chemistry
03	21CPS13	C – Programming
04	21ELN14	Basic Electronics
05	21EME15	Elements of mechanical Engineering
06	21PEI16	Professional English - I
07	21CHEL17	Engineering chemistry Lab
08	21CPL18	C – Programming Lab
09	21CEP19	Communicative Enhancement Practice

SEMESTER II

Chemistry Cycle

SL.NO.	Course Code	Course Name
01	21MAT21	Advance Calculus & Numerical Methods
02	21PHY22	Engineering Physics
03	21FEE23	Fundamentals of Electrical Engineering
04	21CIV24	Elements of Civil Engineering
05	21EDL25	Computer Added Engineering Drawing
06	21PEII26	Professional English – 2
07	21PHYL27	Engineering Physics Lab
08	21BEL28	Basic Electrical Lab
09	21SSD29	Study Skill & Self Development

SEMESTER III

SL.NO.	Course Code	Course Name
01	21MCS31	Maths-3
02	21CS32	Object Oriented Concepts
03	21CS33	Data Structures and Applications
04	21CS34	Digital Systems Design and Computer Organization
05	21CSL35	Data Structures and Applications Lab
06	21CSL36	Digital Lab
07	21KSK37/47	Samskrutika Kannada
	21KBK37/47	Balake Kannada
	OR	
	21CIP37/47	Constitution of India and Professional Ethics
08	21ACS38	Unix and Shell Programming
09	21DTI39	Ability Enhancement Course (Design Thinking and social innovation)
Course prescribed to lateral entry Diploma holders admitted to III semester B.E./B.Tech programs		
10	21MATDIP3	Additional Mathematics-1

SEMESTER IV

SL.NO	Course Code	Course Name
01	21MCS41	Maths-4
02	21CS42	Software Engineering
03	21CS43	Design And Analysis Of Algorithms
04	21CS44	Microcontroller And Embedded Systems
05	21CSL45	Design And Analysis Of Algorithms Lab
06	21CSL46	Microcontroller and Embedded Systems Lab
07	21KSK37/47	Samskrutika Kannada
	21KBK37/47	Balake Kannada
	OR	
	21CIP37/47	Constitution of India and Professional Ethics
08	21SSA480	Soft skills and basic aptitude
09	21ACS48X	Biology for engineers / Department specific ability Enhancement Course
10	21UHV490	Universal Human Values
Course prescribed to lateral entry Diploma holders admitted to IV semester B.E./B. Tech. programs		
12	21MATDIP41	Additional Mathematics - II

SEMESTER V

SL.NO.	Course Code	Course Name
01	21CS51	Automata Theory & Compiler Design
02	21CS52	System Software and Operating System
03	21CS53 / 21AI53	Database Management System
04	21CS54X / 21AI54X	Professional Elective – 1
05	21CS55X /21AI55X	Open Elective - 1
06	21CSL56 / 21AIL56	DBMS Lab with Mini Project
07	21CSL57	System Software & Operating System Lab
08	21ADA580	Advanced Aptitude
09	21CS58X/ 21AI58X	AEC
10	21ENV59	Environmental Studies

Ability Enhancement Course

01	21CS581/ 21AI581	C# and .Net Framework
02	21CS582 / 21AI582	PYTHON Programming

Professional Elective – 1

01	21CS541 / 21AI541	Agile Technology
02	21CS542 / 21AI542	Introduction to Data Analytics
03	21CS543 / 21AI543	Cyber Security

Open Elective -1

01	21CS551	Introduction to Data Structures
02	21CS552	Introduction to Database Management Systems
03	21CS553	Introduction to PYTHON Programming
04	21CS554	Introduction to Operating System

SEMESTER VI

SL.NO.	Course Code	Course Name
01	21CS61 / 21AI61	Software Project Management
02	21CS62	Computer Networks
03	21CS63	Artificial Intelligence & Machine Learning
04	21CS64X /21AI64X	Professional Elective – 2
05	21CS65X /21AI65X	Open Elective – 2
06	21CSL66	Computer Networks Lab
07	21CSL67	AI&ML Lab
08	21MN68	Mini Project
09	21CS69X /21AI69X	
10	21INT691	Summer Internship-II

Ability Enhancement Course

01	21CS69A	Computer Graphics using Open GL
02	21CS69B	Mobile Application Development
03	21CS69C	Robotic Process Automation

Professional Elective – 2

01	21CS641 / 21AI641	Cloud Computing
02	21CS642 / 21AI642	Block Chain Technology
03	21CS643 / 21AI643	Natural Language Processing

01	21CS651	Programming in JAVA
02	21CS652	Introduction to Data Analytics
03	21CS653	Introduction to Artificial Intelligence & Machine Learning
04	21CS654	Introduction to Cyber Security

SEMESTER VII

SN.NO.	Course Code	Course Name
1	21CS71	Robotic Process Automation
2	21CS72	Big Data Analytics
3	21CS73X	Professional Elective
4	21XX74X	Open Elective
5	21CSL75	RPA Lab
6	21CSP76	Project Work

PROFESSIONAL ELECTIVE - 3

01	21CS731	DevOps
02	21CS732	Block Chain Technology
03	21CS733	Object Oriented Modelling and Design
04	21CS734	NoSQL
05	21CS735	Computer Vision

OPEN ELECTIVE -3

01	21CS741	Introduction to data Science
02	21CS742	Big Data Analytics
03	21CS743	Robotic Process Automation
04	21CS744	Cloud Computing with AWS

SEMESTER VIII

SN.NO.	Course Code	Course Name
1	21CS81	Storage Area Network
2	21CSS82	Technical Seminar
3	21CSINT83	Industry Internship

2022 SCHEME**BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT – BALLARI
(AN AUTONOMOUS INSTITUTION AFFILIATED TO VISVESVARAYA TECHNOLOGICAL UNIVERSITY)
COMPUTER SCIENCE & ENGINEERING****CURRICULUM FOR I- VI SEMESTER****SEMESTER I**

Sl. No	Course code	Course Name
1	**22MATS11	Mathematics for CSE Stream-I
2	22PHYS12	Physics for CSE stream
3	22POP13	Principles of Programming Using C
4	22ESC14x	Engineering Science Course-I
5	22ETC15x	Emerging Technology Course-I
	OR	
	22PLC15x	Programming Languages Course-I
6	22ENG16	Communicative English
7	22KSK17 22KBK17	Sanskrutika Kannada/ Balake Kannada
	OR	
	20IC017	Indian Constitution
8	22IDT18	Innovation and Design Thinking
	OR	
	22SFH18	Scientific Foundations of Health

SEMESTER II

Sl. No	Course Code	Course Name
1	**22MATS21	Mathematics for CSE Stream -II
2	22PHYS22	Physics for CSE Stream
3	22POP23	Principles of Programming Using C
4	22ESC24x	Engineering Science Course-II
5	22ETC25x	Programming Language Course-II
	OR	

	22PLC25x	Emerging Technology Course-II
6	22PWS26	Professional Writing Skills in English
7	22KSK27	Samskrutika Kannada/ Balake Kannada
	22KBK27	
	OR	
	20ICO27	Indian Constitution
8	22IDT28	Innovation and Design Thinking
	OR	
	22SFH28	Scientific Foundations of Health

SEMESTER III

SN	Course Code	Course Name
1	22MCS31	Graph theory and Discreet Mathematical Structures
2	22CS32	Digital System Design and Computer Organization
3	22CS33	Operating System
4	22CS34	Data Structures and Applications
5	22CSL35	Data Structures Lab
6	22CS36	ESC/ETC/PLC Object Oriented Programming With JAVA
7	22CS37	Social Connect and Responsibility
8	22CS38X	Ability Enhancement Course / Skill Enhancement Course - III
9	22NS39	National Service Scheme (NSS)
	22PE39	Physical Education (PE) (Sports and Athletics)
	22YO39	Yoga

SEMESTER IV

SL.NO.	Course Code	Course Name
1	22BB41	Biology for Engineers
2	22CS42	Micro Controllers and Embedded System
3	22CS43	Database Management Systems
4	22CS44	Analysis and Design of Algorithms
5	22CSL45	Algorithms Lab
6	22CS46X	ESC/ETC/PLC
7	22PSW4	Professional Skills for the work place
8	22UH48	Universal human values course
9	22NS49	National Service Scheme (NSS)
	22PE49	Physical Education (PE) (Sports and Athletics)

Engineering Science Course (ESC/ETC/PLC)

22CS461	System Software	22CS462	Object Oriented Programming with Python
22CS463	Introduction to Data Analytics		

SEMESTER V

SL.NO	Course and Course Code	Course Title
1	22CS51	Software Engineering & Project Management
2	22CS52	Computer Networks

3	22CS53	Artificial Intelligence
4	22CSL54	Artificial Intelligence Lab
5	22CS55X	Professional Elective Course
6	22CSMP56	Mini Project
7	22ADA57	Ability Enhancement Course / Skill Development Course
8	22ES58	Environmental Studies
9	22NS59	National Service Scheme (NSS)
	22PE59	Physical Education (PE) (Sports and Athletics)
	22YO59	Yoga

PROFESSIONAL ELECTIVE COURSES

22CS551	Automata Theory & Compiler Design
22CS552	Computer Graphics & Visualization
22CS553	NoSQL
22CS554	UI / UX

SEMESTER VI

SL.NO.	Course Code	Course Name
1	IPCC 22CS61	Cloud Computing with AWS
2	PCC 22CS62	Machine Learning
3	PEC 22CS63X	Professional Elective Course
4	OEC 22**64X	Open Elective Course
5	PROJ 22CSP65	Project Work – Phase I
6	PCCL 22CSL66	Machine Learning Lab
7	AEC 22RM67	Research Methodology & IPR
8	22NS68	National Service Scheme (NSS)
	22PE68	Physical Education (PE) (Sports and Athletics)
	22YO68	Yoga

--	--	--

PROFESSIONAL ELECTIVE COURSES

22CS631	DevOps
22CS632	Natural Language Processing
22CS633	Data Visualization with Power BI
22CS634	Block Chain Technology

OPEN ELECTIVE COURSES

22CS641	Data Structures and Applications
22CS642	Data Base Management System
22CS643	Operating System
22CS644	UI / UX