

BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT, BALLARI
(AN AUTONOMOUS INSTITUTION AFFILIATED TO VISVESVARAYA TECHNOLOGICAL UNIVERSITY)
ARTIFICIAL INTELLIGENCE & MACHINE LEARNING

CURRICULUM FOR I- VIII SEMESTER

2021 SCHEME

SEMESTER I

Physics Cycle

SL.NO .	Course Code	Course Name
1	21MAT11	Calculus & Linear Algebra
2	21CHE12	Engineering Chemistry
3	21CPS13	C – Programming
4	21ELN14	Basic Electronics
5	21EME15	Elements of mechanical Engineering
6	21PEI16	Professional English - I
7	21CHEL17	Engineering chemistry Lab
8	21CPL18	C – Programming Lab
9	21CEP19	Communicative Enhancement Practice

SEMESTER II

Chemistry Cycle

SL.NO .	Course Code	Course Name
2	21PHY22	Engineering Physics
3	21FEE23	Fundamentals of Electrical Engineering
4	21CIV24	Elements of Civil Engineering
5	21EDL25	Computer Added Engineering Drawing
6	21PEII26	Professional English – 2
7	21PHYL27	Engineering Physics Lab
8	21BEL28	Basic Electrical Lab
9	21SSD29	Study Skill & Self Development

SEMESTER III

SL.NO.	Course Code	Course Name
01	21MCS31	Maths-3
02	21CS32	Object Oriented Programming using JAVA
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	21MATDIP31	Additional Mathematics-1

SEMESTER IV

SL.NO	Course Code	Course Name
01	21MCE41	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
1	21AI51	Artificial Intelligence
2	21AI52	Digital Image Processing
3	21CS53 /21AI53	Database Management System
4	21CS54X /21AI54X	Professional Elective – 1
5	21CS55X/21AI55X	Open Elective - 1
6	21CSL56 /21AIL56	DBMS Lab with Mini Project
7	21AIL57	Artificial Intelligence Lab
8	21ADA580	Advanced Aptitude
9	21CS58X/21AI58X	AEC
10	21ENV59	Environmental Studies

Ability Enhancement Course

SL.NO	Course Code	Course Name
1	21CS581/ 21AI581	C# and .Net Framework
2	21CS582 / 21AI582	PYTHON Programming

Professional Elective – 1

SL.NO	Course Code	Course Name
1	21CS541 / 21AI541	Agile Technology
2	21CS542 / 21AI542	Introduction to Data Analytics
3	21CS543 / 21AI543	Cyber Security

Open Elective -1

SL.NO	Course Code	Course Name
1	21CS551	Introduction to Data Structures

2	21CS552	Introduction to Database Management Systems
3	21CS553	Introduction to PYTHON Programming
4	21CS554	Introduction to Operating System

SEMESTER VI

SL.NO	Course Code	Course Name
1	21CS61 /21AI61	Software Project Management
2	21AI62	Machine Learning
3	21AI63	Java for Mobile Applications
4	21CS64X/21AI64X	Professional Elective – 2
5	21CS65X /21AI65X	Open Elective – 2
6	21AIL66	Machine Learning Lab
7	21AIL67	Mobile Application Development Lab
8	21AIMN68	Mini Project
9	21CS69X /21AI69X	
10	21INT691	Summer Internship-II

Ability Enhancement Course

SL.NO	Course Code	Course Name
1	21CS69A	Computer Graphics using Open GL
2	21CS69B	Mobile Application Development
3	21CS69C	Robotic Process Automation

Professional Elective – 2

SL.NO	Course Code	Course Name
1	21CS641 / 21AI641	Cloud Computing
2	21CS642 / 21AI642	Block Chain Technology
3	21CS643 / 21AI643	Natural Language Processing

Open Elective – 2

SL.NO	Course Code	Course Name
1	21CS651	Programming in JAVA
2	21CS652	Introduction to Data Analytics
3	21CS653	Introduction to Artificial Intelligence & Machine Learning
4	21CS654	Introduction to Cyber Security

SEMESTER VII

SN.NO.	Course Code	Course Name
1	21AI71	Cloud Computing
2	21AI72	Neural Network & Deep Learning
3	21CS7XX	Professional Elective
4	21CS7XX	Open Elective
5	21AIL75	NN & DL Lab
6	21AIP76	Project Phase 1

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	21AI81	Generative AI
2	21AIS82	Technical Seminar
3	21AIINT83	Industry Internship

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CURRICULUM FOR I- VI SEMESTER

2022 SCHEME

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	
	20ICO17	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	Sanskrutika 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	22MDA31	Graph theory and Discreet Mathematical Structures
2	22AI32	Digital System Design and Computer Organization
3	22AI33	Operating System
4	22AI34	Data Structures and Applications
5	22AIL35	Data Structures Lab
6	22AI36	ESC/ETC/PLC Object Oriented Programming With JAVA
7	22SC37	Social Connect and Responsibility
8	22AI38X	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	22AI42	Principles of Artificial Intelligence
3	22AI43	Database Management Systems
4	22AI44	Analysis and Design of Algorithms
5	22AIL45	Algorithms Lab
6	22AI46X	ESC/ETC/PLC
7	22PSW47	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)
	22YO49	Yoga

Engineering Science Course (ESC/ETC/PLC)

22AI461	System Software	22AI462	Object Oriented Programming with Python
22AI463	Introduction to Data Analytics		

SEMESTER V

SL.NO	Course and Course Code	Course Title
1	22AI51	Software Engineering & Project Management
2	22AI52	Computer Networks
3	22AI53	Machine Learning
4	22AIL54	Machine Learning Lab
5	22AI55X	Professional Elective Course
6	22AIMN56	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

22AI551	Automata Theory & Compiler Design
22AI552	Computer Graphics & Visualization
22AI553	NoSQL
22AI554	UI / UX

SEMESTER VI

SL.NO.	Course Code	Course Name
1	IPCC 22AI61	Cloud Computing with AWS
2	PCC 22AI62	Android Mobile Application Development
3	PEC 22AI63X	Professional Elective Course
4	OEC 22EC64X	Open Elective Course
5	PROJ 22AIP65	Project Work – Phase I
6	PCCL 22AILL66	Android Mobile Application Development Laboratory
7	AEC 22RM67	Research Methodology & IPR
8	22NS68	National Service Scheme (NSS)
	22PE68	Physical Education (PE) (Sports and Athletics)
	22YO68	Yoga for a better life

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PROFESSIONAL ELECTIVE COURSES

22AI631	DevOps
22AI632	Natural Language Processing
22AI633	Data Visualization with Power BI
22AI634	Block Chain Technology

OPEN ELECTIVE COURSES

22AI641	Data Structures and Applications
22AI642	Data Base Management System
22AI643	Operating System
22AI644	UI / UX