

**BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT, BALLARI**  
**(AN AUTONOMOUS INSTITUTION AFFILIATED TO VISVESVARAYA TECHNOLOGICAL**  
**UNIVERSITY) MASTER OF COMPUTER APPLICATIONS**

**CURRICULUM FOR I-IV SEMESTER**

**2023 SCHEME**

**SEMESTER I**

<b>SL.NO.</b>	<b>Course Code</b>	<b>Course Name</b>
01	23MCA11	Mathematical Foundation for Computer Applications
02	23MCA12	Operating System with UNIX
03	23MCA13	Data Structures and Applications
04	23MCA14	Software Engineering & Project Management
05	23MCA15	Web Technologies
06	23MCAL16	Data Structures - Lab
07	23MCAL17	Web Technologies - Lab
08	23MCA18	Research Methodology and IPR
09	23MCA19	BOS Recommended ONLINE Courses
10	23MCA110-BC*	Basics of Programming and Computer Organization (Bridge Course)

**SEMESTER II**

<b>SL.NO.</b>	<b>Course Code</b>	<b>Course Name</b>
01	23MCA21	Database Management System
02	23MCA22	Object Oriented Programming with JAVA
03	23MCA23	Computer Networks
04	23MCA24	Introduction to Python
05	23MCA25X	Professional Elective – 1
06	23MCA26X	Professional Elective – 2
07	23MCAL27	DBMS Lab
08	23MCAL28	JAVA Programming Lab

09	23MCA29	Seminar
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PROFESSIONAL ELECTIVE-1		
SL.NO.	Course Code	Course Name
01	23MCA251	Computer Graphics with Open GL
02	23MCA252	Cyber Security
03	23MCA253	Software Testing
04	23MCA254	Introduction to Data Analytics
PROFESSIONAL ELECTIVE-2		
SL.NO.	Course Code	Course Name
01	23MCA261	Introduction to Artificial Intelligence
02	23MCA262	Mobile Application Development
03	23MCA263	Distributed Operating System
04	23MCA264	Natural Language

### SEMESTER III

SL.NO.	Course Code	Course Name
01	23MCA31	Data Analytics with Python
02	23MCA32	Internet of Things
03	23MCA33X	Professional Elective - 3
04	23MCA34X	Professional Elective - 4
05	23MCAP35	Project Work Phase - 1
06	23MCAL36	Data Analysis Lab
07	23MCAL37	IoT Lab
08	23MCAMP38	Mini Project
09	23MCAINT39	Internship
PROFESSIONAL ELECTIVE-3		

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SL.NO.	Course Code	Course Name
01	23MCA331	Block Chain Technology
02	23MCA332	Big Data Analytics
03	23MCA333	Cloud Computing with AWS
04	23MCA334	NOSQL

**PROFESSIONAL ELECTIVE-4**

SL.NO.	Course Code	Course Name
01	23MCA341	Advanced JAVA and J2EE
02	23MCA342	Object Oriented Modeling and Design
03	23MCA343	Robotic Process Automation
04	23MCA344	Virtual Reality

**SEMESTER IV**

SL.NO	Course Code	Course Name
01	23MCA41X	PROFESSIONAL ELECTIVE-5
02	23MCA42X	PROFESSIONAL ELECTIVE-6
03	23MCAS43	Technical Seminar
04	23MCP44	Project Work Phase - 2

**PROFESSIONAL ELECTIVE-5**

SL.NO.	Course Code	Course Name
01	23MCA411	Introduction to Data Science
02	23MCA412	Deep Learning
03	23MCA413	Software Project Management
04	23MCA414	Software Defined Networks

PROFESSIONAL ELECTIVE-6		

<b>SL.NO.</b>	<b>Course Code</b>	<b>Course Name</b>
01	23MCA421	<b>Introduction to DevOps</b>
02	23MCA422	Storage Area Networks
03	23MCA423	Agile Technology
04	23MCA424	UI/UX Design