Maharaja Education Trust (R), Mysuru
MAHARAJA INSTITUTE OF TECHNOLOGY MYSORE
An Autonomous Institute, affiliated to Visvesvaraya Technological University, Belagavi
Belawadi, Srirangapatna Taluk, Mandya – 571 477
Approved by AICTE, New Delhi |Recognized by Govt. of Karnataka|

1. **Mini Project Timeline**

			Scheme of Teaching and Examination for Master of Computer Applications (Autonomous Scheme-2023)											
			Master of Computer Applications											
			(Effective from the Academic Year 2023-24)											
			I-Semester – Master of Computer Applications											
Sl. No.	**Course Area**	**Course Code**	**Course Title**	**TD/ PSB**	**Teaching Hours/Week**				**Examination**					**Credits**
					Theory/ Lecture	**Tutorial**	**Practical/ Drawing**	**SDA**	**Duration in hours**	**CIE Marks**	**SEE Marks**	**Total Marks**	
1	BS	M23MCA101	Mathematical Foundation for Computer Applications	Mathematics	03	--	--	--	03	50	50	100	3
2	IPC	M23MCA102	Operating System Concepts	MCA	03	--	02	--	03	50	50	100	4
3	PC	M23MCA103	Data Structures	MCA	04	--	--	--	03	50	50	100	4
4	PC	M23MCA104	Computer Networks	MCA	04	--	--	--	03	50	50	100	4
5	PC	M23MCA105	Design and Analysis of Algorithms	MCA	04	---	--	--	03	50	50	100	4
6	PCL	M23MCAL106	Data Structures Laboratory	MCA	--	--	03	--	03	50	50	100	2
7	PCL	M23MCAL107	Computer Networks Laboratory	MCA	--	--	03	--	03	50	50	100	2
8	MC	M23MCA108	Professional Communication and Skill Enhancement-1	MCA	02	--	--	02	01	50	50	100	1
9	BC	M23MCA109	Basics of Programming & Computer Organization	MCA	02	--	--	02	--	100	--	100	--
				Total	**22**	**--**	**08**	**04**	**--**	**500**	**400**	**900**	**24**

L: Lecture, **T**: Tutorial, **P**: Practical, **S= SDA**: Skill Development Activity, **CIE**: Continuous Internal Evaluation, **SEE**: Semester End Evaluation.

Basic Science Course (BS) : Refers to basic science course theory
Professional Core Course (PC): Refers to Professional Core Course Theory, its Teaching– Learning hours (L : T : P) can be considered as (3 : 0 : 2) or (2 : 2 : 2). The theory part of the IPC shall be evaluated both by CIE and SEE.
Integrated Professional Core Course (IPC): Integrated Professional Core Course (IPC): Refers to Professional Theory Core Course Integrated with practical of the same course. The theory part of the IPCC shall be evaluated both by CIE and SEE. The practical part shall be evaluated by only CIE (no SEE). However, questions from the practical part of IPCC shall be included in the SEE question paper.

Professional Core Course Laboratory (PCL)

Audit Courses /Ability Enhancement Courses Suggested by BOS (ONLINE courses): Audit Courses: These are prerequisite courses suggested by the concerned Board of Studies. Ability Enhancement Courses will be suggested by the BoS if prerequisite courses are not required for the programs.

Ability Enhancement Courses:

a) These courses are prescribed to help students to enhance their skills in in fields connected to the field of specialization as well allied fields that leads to employable skills. Involving in learning such courses are impetus to lifelong learning.

b) The courses under this category are online courses published in advance and approved by the concerned Board of Studies.

c) Registration to Audit /Ability Enhancement Course shall be done in consultation with the mentor and is compulsory during the concerned semester.

d) In case a candidate fails to appear for the proctored examination or fails to pass the selected online course, he/she can register and appear for the same course if offered during the next session or register for a new course offered during that session, in consultation with the mentor.

e) The Audit Ability Enhancement Course carries no credit and is not counted for vertical progression. However, a pass in such a course is mandatory for the award of the degree.

Skill development activities: Under Skill development activities in a concerning course, the students should

1. Interact with industry (small, medium, and large).

2. Involve in research/testing/projects to understand their problems and help creative and innovative methods to solve the problem.

3. Involve in case studies and field visits/ fieldwork.

4. Accustomed to the use of standards/codes etc., to narrow the gap between academia and industry.

5. Handle advanced instruments to enhance technical talent.

6. Gain confidence in modeling of systems and algorithms for transient and steady-state operations, thermal study, etc.

7. Work on different software/s (tools) to simulate, analyze and authenticate the output to interpret and conclude.

All activities should enhance student's abilities to employment and/or self-employment opportunities, management skills, Statistical analysis, fiscal expertise, etc.

Students and the course instructor/s to involve either individually or in groups to interact together to enhance the learning and application skills of the study they have undertaken. The students with the help of the course teacher can take up relevant technical –activities which will enhance their skill. The prepared report shall be evaluated for CIE marks.

Bridge Course: Bridge course is a non-credit course introduced to the students who admits into MCA program from non-computer science background. Students have to secure eligibility by scoring 50% marks in CIE (No SEE for this course). Exemption for BCA/BSc (computer science) students.

Maharaja Education Trust (R), Mysuru
MAHARAJA INSTITUTE OF TECHNOLOGY MYSORE
An Autonomous Institute, affiliated to Visvesvaraya Technological University, Belagavi
Belawadi, Srirangapatna Taluk, Mandya – 571 477
Approved by AICTE, New Delhi |Recognized by Govt. of Karnataka|

Scheme of Teaching and Examination for Master of Computer Applications (Autonomous Scheme-2023)
Master of Computer Applications
(Effective from the Academic Year 2023-24)

II-Semester - Master of Computer Applications

Sl. No.	Course Area	Course Code	Course Title	TD/ PSB	Teaching Hours/Week				Examination					Credits
					Theory/ Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks		
1	PC	M23MCA201	Relational Database Management System	MCA	04	--	--	--	03	50	50	100		4
2	PC	M23MCA202	Object Oriented Programming using JAVA	MCA	04	--	--	--	03	50	50	100		4
3	PC	M23MCA203	Agile Software Engineering	MCA	03	--	--	--	03	50	50	100		3
4	IPC	M23MCA204	Python Programming	MCA	03	--	02	--	03	50	50	100		4
5	PE	M23MCA205X	Elective Course – I	MCA	03	--	--	--	03	50	50	100		3
6	PE	M23MCA206X	Elective Course – II	MCA	03	--	--	--	03	50	50	100		3
7	PCL	M23MCAL207	Database Laboratory	MCA	--	--	03	--	03	50	50	100		2
8	PCL	M23MCAL208	JAVA Programming Laboratory with Mini Project	MCA	--	03	03	--	03	50	50	100		4
9	MC	M23MCA209	Professional communication and Skill Enhancement-2	MCA	02	--	--	02	01	50	50	100		1
					22	**03**	**08**	**02**	**--**	**450**	**450**	**900**		**28**

Professional Elective 1		Professional Elective 2	
Course Code under M23MCA205X	Course title	Course Code under M23MCA206X	Course title
M23MCA205A	Software Development and DevOps	M23MCA206A	Big Data Analytics
M23MCA205B	Data Warehouse and Data Mining	M23MCA206B	Cyber Security
M23MCA205C	UNIX and Shell Programming	M23MCA206C	Artificial Intelligence
M23MCA205D	Data Science	M23MCA206D	Statistical and Numerical Methods

Maharaja Education Trust (R), Mysuru
MAHARAJA INSTITUTE OF TECHNOLOGY MYSORE
An Autonomous Institute, affiliated to Visvesvaraya Technological University, Belagavi
Belawadi, Srirangapatna Taluk, Mandya – 571 477
Approved by AICTE, New Delhi |Recognized by Govt. of Karnataka|

Professional Core Course (PC): Refers to Professional Core Course Theory, its Teaching– Learning hours (L : T : P) can be considered as (3 : 0 : 2) or (2 : 2 : 2). The theory part of the IPC shall be evaluated both by CIE and SEE.

Integrated Professional Core Course (IPC): Integrated Professional Core Course (IPC): Refers to Professional Theory Core Course Integrated with practical of the same course. The theory part of the IPCC shall be evaluated both by CIE and SEE. The practical part shall be evaluated by only CIE (no SEE). However, questions from the practical part of IPCC shall be included in the SEE question paper.

Audit Courses /Ability Enhancement Courses Suggested by BOS (ONLINE courses): Audit Courses: These are prerequisite courses suggested by the concerned Board of Studies. Ability Enhancement Courses will be suggested by the BoS if prerequisite courses are not required for the programs.

Ability Enhancement Courses:

a) These courses are prescribed to help students to enhance their skills in in fields connected to the field of specialization as well allied fields that leads to employable skills. Involving in learning such courses are impetus to lifelong learning.

b) The courses under this category are online courses published in advance and approved by the concerned Board of Studies.

c) Registration to Audit /Ability Enhancement Course shall be done in consultation with the mentor and is compulsory during the concerned semester.

d) In case a candidate fails to appear for the proctored examination or fails to pass the selected online course, he/she can register and appear for the same course if offered during the next session or register for a new course offered during that session, in consultation with the mentor.

e) The Audit Ability Enhancement Course carries no credit and is not counted for vertical progression. However, a pass in such a course is mandatory for the award of the degree.

Skill development activities: Under Skill development activities in a concerning course, the students should

1. Interact with industry (small, medium, and large).

2. Involve in research/testing/projects to understand their problems and help creative and innovative methods to solve the problem.

3. Involve in case studies and field visits/ fieldwork.

4. Accustomed to the use of standards/codes etc., to narrow the gap between academia and industry.

5. Handle advanced instruments to enhance technical talent.

6. Gain confidence in modeling of systems and algorithms for transient and steady-state operations, thermal study, etc.

7. Work on different software/s (tools) to simulate, analyze and authenticate the output to interpret and conclude.

All activities should enhance student's abilities to employment and/or self-employment opportunities, management skills, Statistical analysis, fiscal expertise, etc.

Students and the course instructor/s to involve either individually or in groups to interact together to enhance the learning and application skills of the study they have undertaken. The students with the help of the course teacher can take up relevant technical –activities which will enhance their skill. The prepared report shall be evaluated for CIE marks.

Maharaja Education Trust (R), Mysuru

MAHARAJA INSTITUTE OF TECHNOLOGY MYSORE

An Autonomous Institute, affiliated to Visvesvaraya Technological University, Belagavi

Belawadi, Srirangapatna Taluk, Mandya – 571 477

Approved by AICTE, New Delhi |Recognized by Govt. of Karnataka|

	Scheme of Teaching and Examination for Master of Computer Applications (Autonomous Scheme-2023)

Master of Computer Applications

(Effective from the Academic Year 2023-24)

III-Semester- Master of Computer Applications

Sl. No.	Course Area	Course Code	Course Title	TD/ PSB	Teaching Hours/Week				Examination				Credits
					Theory/ Lecture	Tutorial	Practical/ Drawing	SDA	Duration in hours	CIE Marks	SEE Marks	Total Marks	
1	PC	M23MCA301	Machine Learning	MCA	04	--	--	--	03	50	50	100	4
2	PC	M23MCA302	Internet of Things	MCA	03	--	--	--	03	50	50	100	3
3	PC	M23MCA303	Cloud Computing	MCA	04	--	--	--	03	50	50	100	4
4	IPC	M23MCA304	Web Technologies	MCA	03	--	02	--	03	50	50	100	4
5	PE	M23MCA305X	Elective Course – III	MCA	03	--	--	--	03	50	50	100	3
6	PE	M23MCA306X	Elective Course – IV	MCA	03	--	--	--	03	50	50	100	3
7	PCL	M23MCAL307	ML Laboratory	MCA	--	--	03	--	03	50	50	100	2
8	PCL	M23MCAL308	IoT Laboratory	MCA	--	--	03	--	03	50	50	100	2
9	MP	M23MCA309	Mini Project	MCA	--	--	03	--	03	50	50	100	3
				Total	**20**	**--**	**11**	**02**	**--**	**450**	**450**	**900**	**28**

PC: Professional Core Course, **PCL**: Professional Core Course laboratory, **AE**: Ability Enhancement Course, **L:** Lecture, **T**: Tutorial, **P**: Practical **S= SDA**: Skill Development Activity, **CIE**: Continuous Internal Evaluation, **SEE**: Semester End Evaluation, **MP:** Mini Project, **IN:** Internship, **PW:** Project Work

Professional Elective III		Professional Elective IV	
Course Code under M23MCA305X	**Course title**	**Course Code under M23MCA306X**	**Course title**
M23MCA305A	Advanced Programming (C#.NET)	M23MCA306A	User Interface Design
M23MCA305B	Enterprise Resource Planning	M23MCA306B	Software Testing and Practices
M23MCA305C	Cryptography and Network Security	M23MCA306C	Project Management and Report Writing
M23MCA305D	NO SQL	M23MCA306D	Business Intelligence

Maharaja Education Trust (R), Mysuru
MAHARAJA INSTITUTE OF TECHNOLOGY MYSORE
An Autonomous Institute, affiliated to Visvesvaraya Technological University, Belagavi
Belawadi, Srirangapatna Taluk, Mandya – 571 477
Approved by AICTE, New Delhi |Recognized by Govt. of Karnataka|

	Scheme of Teaching and Examination for Master of Computer Applications (Autonomous Scheme-2023) Master of Computer Applications (Effective from the Academic Year 2023-24)													
	IV-Semester- Master of Computer Applications													
Sl. No.	**Course Area**	**Course Code**	**Course Title**	**TD/ PSB**	**Teaching Hours/Week**				**Examination**					**Credits**
					Theory/ Lecture	**Tutorial**	**Practical/ Drawing**	**SDA**	**Duration in hours**	**CIE Marks**	**SEE Marks**	**Total Marks**	
1	PC	M23MCA401	Research Learning & Problem Formulation	MCA	3	--	--	--	03	50	50	100	2
2	SR	M23MCA402	Technical Seminar	MCA	--	--	--	2	03	50	--	50	1
3	PW	M23MCA403	Project Work	MCA	--	--	15	--	03	100	200	300	15
4	AE	M23MCA404	BOS Recommended Online MOOC Course	MCA	--	--	2	--	--	--	--	--	2
			Total		**--**	**--**	**17**	**02**	**--**	**200**	**250**	**450**	**20**

1. **Technical Seminar (SR):**. The CIE marks awarded for technical Seminar shall be based on the evaluation of Report, Presentation skill and performance in Question and Answer session in the ratio 50:25:25. Technical Seminar shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take-up/ complete shall be declared as fail in the seminar course and have to complete the same during the subsequent semester. Also Students are supposed to make a poster about the seminar topic as per the template and guidelines.

2. **Project Work (PW):** CIE marks shall be awarded by a committee comprising of HoD as Chairman, Guide/co-guide if any, and a senior faculty of the department. The CIE marks awarded for project work shall be based on the evaluation of Project Report subjected to plagiarism check, Project Presentation skill and performance in the Question and Answer session in the ratio 50:25:25. SEE shall be at the end of IV semester. Project work evaluation and Viva-Voce examination (SEE), after satisfying the plagiarism check, shall be as per the Institute norms.

3. **Ability Enhancement (AE) Online MOOC Course:**
   ➢ Each student has to register and complete any online technical / professional course of their choice individually in any online Platform.
   ➢ The course can be registered and completed anytime during the entire span of duration between 1st semesters to 2nd semester.

Maharaja Education Trust (R), Mysuru

MAHARAJA INSTITUTE OF TECHNOLOGY MYSORE

An Autonomous Institute, affiliated to Visvesvaraya Technological University, Belagavi

Belawadi, Srirangapatna Taluk, Mandya – 571 477

Approved by AICTE, New Delhi |Recognized by Govt. of Karnataka|

➢ Online Course is a mandatory head of passing for the award of degree.

➢ The Chosen MOOC Course duration must be for a minimum of 25 hours

➢ This course does not have any CIE or SEE; however, student must produce the completion certificate for the course taken up at the end of 2nd semester.