

MCA CURRICULUM R-2024**SEMESTER I****Table – I**

Subject Code	Course Title	Category	L	T	P	C
Theory						
124CAT01	Mathematical Foundations Of Computer Science	FC	3	1	0	4
124CAT02	Database Management Systems	PCC	3	0	0	3
124CAT03	Advanced Data Structures and Algorithms	PCC	3	0	0	3
124CAT04	Research Methodology and IPR	RMC	2	0	0	2
124CAI01	Python Programming	PCC	3	0	2	4
124CAE--	Choice – 1 (Professional Elective - I)	PEC	3	0	0	3
Audit - I Course (Optional)						
124CAE--	Choice – 2 (Audit Courses – I)	AC	2	0	0	0
Practical						
124CAP01	Database Management Systems Lab	PCC	0	0	4	2
124CAL--	Choice – 3 (Professional Elective Lab – I)	PEC	0	0	4	2
124CAL--	Choice – 4 (Employability Enhancement Lab – I)	EEC	0	0	4	2

Table – II

Subject Code	Course Title	Category	L	T	P	C
Professional Elective - I Courses						
124CAE01	Object Oriented Software Engineering	PEC	3	0	0	3
124CAE02	Computer Networks	PEC	3	0	0	3
124CAE03	Operating System	PEC	3	0	0	3
124CAE04	Cyber Security	PEC	3	0	0	3
124CAE05	Artificial Intelligence	PEC	3	0	0	3
Professional Elective Lab – I Courses						
124CAL01	Advanced Data Structures and Algorithms Lab	PEC	0	0	4	2
124CAL02	Network Programming Lab	PEC	0	0	4	2
124CAL03	Software Testing Lab	PEC	0	0	4	2
Employability Enhancement Lab - I Courses						
124CAL04	Executive Communication Lab	EEC	0	0	4	2
124CAL05	Report Writing Lab	EEC	0	0	4	2

SEMESTER II**Table – I**

Subject Code	Course Title	Category	L	T	P	C
Theory						
224CAT01	Applied Statistics For Data Analysis	FC	3	1	0	4
224CAT02	Advanced Java Programming	PCC	3	0	0	3
224CAT03	Big Data Analytics	PCC	3	0	0	3
224CAT04	Service Oriented Architecture	PCC	3	0	0	3
224CAI01	Full Stack Web Development	PCC	3	0	2	4
224CAE--	Choice – 5 (Professional Elective - II)	PEC	3	0	0	3
Audit - II Course (Optional)						
224CAE--	Choice – 6 (Audit Courses – II)	AC	2	0	0	0
Practical						
224CAP01	Advanced Java Programming Lab	PCC	0	0	4	2
224CAL--	Choice – 7 (Professional Elective Lab – II)	PEC	0	0	4	2
224CAL--	Choice – 8 (Professional Elective Lab – II)	PEC	0	0	4	2

Table – II

Subject Code	Course Title	Category	L	T	P	C
Professional Elective - II Courses						
224CAE01	Machine Learning Techniques	PEC	3	0	0	3
224CAE02	Internet of Things	PEC	3	0	0	3
224CAE03	C# and Dot Net Programming	PEC	3	0	0	3
224CAE04	Cloud Computing	PEC	3	0	0	3
224CAE05	Block Chain Technology	PEC	3	0	0	3
Professional Elective Lab – II Courses						
224CAL01	Machine Learning Techniques Lab	PEC	0	0	4	2
224CAL02	Big Data Analytics Lab	PEC	0	0	4	2
224CAL03	C# and Dot Net Programming Lab	PEC	0	0	4	2
224CAL04	Cloud Computing Lab	PEC	0	0	4	2
224CAL05	Internet of Things Lab	PEC	0	0	4	2

SEMESTER III**Table – I**

Subject Code	Course Title	Category	L	T	P	C
Theory						
324CAT01	DevOps and Microservices	PCC	3	0	0	3
324CAT02	Software Development Methodology	PCC	3	0	0	3
324CAT03	Data Science	PCC	3	0	0	3
324CAI01	Smart Device Programming	PCC	3	0	2	4
324CAE--	Choice – 9 (Professional Elective - III)	PEC	3	0	0	3
324CAE--	Choice – 10 (Open Elective - I)	OEC	3	0	0	3
IKS Course (Optional)						
324CAE--	Choice – 11 (IKS Course)	IKS	2	0	0	0
Practical						
324CAP01	Mini Project	EEC	0	0	4	2
324CAL--	Choice – 12 (Professional Elective Lab – III)	PEC	0	0	4	2
324CAL--	Choice – 13 (Professional Elective Lab – III)	PEC	0	0	4	2

Table – II

Subject Code	Course Title	Category	L	T	P	C
Professional Elective - III Courses						
324CAE01	Deep Learning	PEC	3	0	0	3
324CAE02	Digital Forensics	PEC	3	0	0	3
324CAE03	Soft Computing Technologies	PEC	3	0	0	3
324CAE04	Human Computer Interaction	PEC	3	0	0	3
324CAE05	Digital Image Processing	PEC	3	0	0	3
Open Elective - I Courses						
324CAO01	Digital Marketing	OEC	3	0	0	3
324CAO02	Human Resource Management	OEC	3	0	0	3
324CAO03	Fundamentals of Accounting	OEC	3	0	0	3
324CAO04	Business Processes	OEC	3	0	0	3
324CAO05	Professional Ethics in IT	OEC	3	0	0	3
Professional Elective Lab – III Courses						
324CAL01	Deep Learning Lab	PEC	0	0	4	2
324CAL02	DevOps and Microservices Lab	PEC	0	0	4	2
324CAL03	Soft Computing Technologies Lab	PEC	0	0	4	2
324CAL04	Data Science Lab	PEC	0	0	4	2
324CAL05	Digital Image Processing Lab	PEC	0	0	4	2

SEMESTER IV**Table – I**

Subject Code	Course Title	Category	L	T	P	C
Project						
424CAP01	Project Work	ECC	0	0	35	15

BRIDGE COURSES
(For the Students admitted under Non-Computer background)

Table – I

Subject Code	Course Title	Category	L	T	P	C
Semester - I						
124CAB01	Fundamentals of Computing And Programming - I	BC	2	0	0	0
124CBP01	Fundamentals of Computing And Programming Lab – I	BC	0	0	2	0
Semester - II						
224CAB01	Fundamentals of Computing And Programming - II	BC	2	0	0	0
224CBP01	Fundamentals of Computing And Programming Lab – II	BC	0	0	2	0

AUDIT COURSES (Optional)

Table – I

Subject Code	Course Title	Category	L	T	P	C
Audit – I Courses						
124CAE06	Constitution Of India	AC	2	0	0	0
124CAE07	Disaster Management	AC	2	0	0	0
Audit – II Courses						
224CAE06	Waste to Energy	AC	2	0	0	0
224CAE07	Fundamentals Law and Ethics	AC	2	0	0	0

IKS COURSES (Optional)

Table – I

Subject Code	Course Title	Category	L	T	P	C
IKS Courses						
324CAE06	Physical Fitness	IKSC	2	0	0	0
324CAE07	Foundations Of Ayurveda	IKSC	2	0	0	0

EXTRA CREDIT COURSES (Optional)

- Students may opt for **one Computer Science course** from **SWAYAM–NPTEL** (approved by BoS and Apex Committee).
- Applicable during **2nd and 3rd semesters** only.
- **Credits earned** will be considered **over and above** the regular curriculum.
- Maximum: **3 credits per semester**.
- Only **one course per semester** is allowed.

Total Credit Summary

S.No.	Category	Credits per Semester				Total Credits
		I	II	III	IV	
1.	FC	04	04	00	00	08
2.	PCC	12	15	13	00	40
3.	RMC	02	00	00	00	02
4.	PEC	05	07	07	00	19
5.	EEC	02	00	02	15	19
6.	OEC	00	00	03	00	03
7.	ECC	00	(0-3)	(0-3)	00	(0-6)
8.	AC	00	00	00	00	00
9.	IKSC	00	00	00	00	00
10.	BC	00	00	00	00	00
Total Credits		25	26 (0-3)	25 (0-3)	15	91 (0-6)

- FC Foundation Courses
- PCC Professional Core Courses
- RMC Research Methodology Courses
- PEC Professional Elective Courses
- EEC Employability Enhancement Courses
- OEC Open Elective Courses
- ECC Extra Credit Courses
- AC Audit Courses
- IKSC IKS Courses
- BC Bridge Courses (Only for Non-Computer Students)