

DEPARTMENT OF COMPUTER APPLICATIONS

Department of Computer Applications **M.C.A Structure** **(2024 Pattern)**



JSPM's
RAJARSHI SHAHU COLLEGE OF ENGINEERING
TATHAWADE, PUNE-33
(An Autonomous Institute Affiliated to Savitribai Phule Pune University, Pune)



Department of Computer Applications

Vision

To progress as a center of brilliance in computing education producing globally proficient professionals contributing to the betterment of the society.

Mission of Department

1. To educate students in the basic standards of Software Engineering
2. To educate students to become successful professionals
3. To propel students for research and entrepreneurship



Dr. Rinku Dulloo
Chairman BOS

Dr. Ram Joshi
Dean Academics

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Jyoti Shiksha Prasarak Mandal's
Rajawade Shahu College of Engineering
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Dr. Rakesh Jain
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Department of Computer Application

Program Outcomes (POs)

- PO1: Computational Knowledge: Apply knowledge of computing fundamentals and domain knowledge.
- PO2: Problem Analysis: Identify, formulate and solve complex computing problems reaching substantiated conclusions.
- PO3: Development of Solutions: Design and evaluate solutions for complex computing problems with appropriate consideration.
- PO4: Investigations of complex Computing problems: Use research-based knowledge and research methods for analysis and interpretation of data, and synthesis of the information to provide valid conclusions
- PO5: Modern Tool Usage: Create, identify and apply appropriate techniques, resources, and modern computing tools to complex computing activities.
- PO6: Professional Ethics: Understand and commit to professional ethics and cyber regulations for professional computing practices.
- PO7: Life-long Learning: Identify the need and have the ability, to engage in independent learning as a computing professional.
- PO8: Project management and finance: Understand and apply computing, management principles to manage multidisciplinary projects.
- PO9: Communication Efficacy: Communicate effectively with the computing community, and with society.
- PO10: Societal and Environmental Concern: Understand and assess societal, environmental, health, safety, legal, and cultural issues
- PO11: Individual and Team Work: Function effectively in diverse teams and in multidisciplinary environments.
- PO12: Innovation and Entrepreneurship: Identify a timely opportunity and using innovation to pursue that opportunity.

Department of Computer Applications

Program Specific Outcomes (PSOs)

Upon successful completion of PG MCA program, the students will attain following program specific outcomes.

PSO1: Professional Skills-

To provide an opportunity to work effectively with teams and group with better communication skills in written and oral form. Also, to develop an appreciation of ethics and social awareness needed and with this to develop master for successful career and leadership position.

PSO2: Problem-Solving Skills-

To prepare the students for technical and managerial skills necessary to design and implement computer applications to conduct open ended problem solving and applying critical thinking.

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PSO3: Professional Career and Entrepreneurship-

The ability to employ modern computer languages, environments, and platforms in creating innovative career paths to be an entrepreneur, and zest for the higher studies and research and entrepreneurship.

Highlights of the Syllabus

Curriculum of PG program for Computer Applications is designed in association with



Academic Experts



Industry/Corporate Experts



Distinguished Alumni

Features of **MCA** curriculum are designed in association with the **Industry**.



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Unique features of the curriculum

- The curriculum of MCA is designed in a way such that, students will get knowledge of most trending and “in use” industrial technologies and practices by the time they complete their post-graduation. Keeping this goal in mind updates the curriculum as and when required.
- MCA curriculum is designed to build a strong basic and clear all the fundamental concepts.
- Bridge course is introduced during the induction program for two weeks to learn basic concepts.
- Mini Projects- To understand the importance of working in teams and being part of collective success, we have incorporated Mini projects in each semester where student will work together and implement it.
- Human Values Course- RSCOE focus on the all-around development of our students. This includes refining their technical skills as well as their personal development. Human Values courses will teach them how to handle stressful situations, ethics of a professional and how to give back to the society. This will also motivate them to join the various CSR activities conducted by the company they join and help in achieving the different organizational goals of the company they join.
- Electives offered on emerging technologies. Students can opt any one as per his/her choice.
- Online Professional certification courses are enabled curriculum for all students.
- Language Proficiency courses - English, German and Japanese are introduced in curriculum. Student can opt any one of them.
- In order to make students ready for placement, gateway to industry course is given where basic aptitude and technical concepts are introduced.
- Professional communication skills course help students to develop over all personality and groom them.

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F. Y. M.C.A
Academic Year -2024-2025 (Semester –I)

Course Code	Course	Teaching Scheme				Credit	Examination Scheme				Total Marks	Ownership
		L	T	P	Hr		C	ISE	MSE	ESE		
MCA241101T	Data Structure with C++	3	-	-	3	3	20	30	50	-	100	MCA Department
MCA241101L	Data Structure with C++	-	-	4	4	2	ICSE:60		40	-	100	MCA Department
MCA241102T	Advance Database Management System	3	-	-	3	3	20	30	50	-	100	MCA Department
MCA241102L	Advance Database Management System	-	-	4	4	2	ICSE:60		40	-	100	MCA Department
MCA241103T	Core Java	3	-	-	3	3	20	30	50	-	100	MCA Department
MCA241103L	Core Java	-	-	4	4	2	ICSE:60		40	-	100	MCA Department
MCA241104T	Computer Networks	3	-	-	3	3	20	30	50	-	100	MCA Department
MCA241105T	Object Design & Agile Development	3	-	-	3	3	20	30	50	-	100	MCA Department
HS241101L	Language Proficiency-I (ENGLISH) ,									-		Humanities
HS241102L	(GERMAN)	-	-	2	2	1	ICSE:30		20		50	
HS241103L	(JAPANESE)											
MCA241106L	MOOC	-	-	2	2	1	ICSE:30		20	-	50	MCA Department
	Bridge Course			Non-credit course								
Total		15	-	16	32	23	-		-	-	900	

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Academic Year -2024-2025 (Semester –II)

Course Code	Course	Teaching Scheme				Credit C	Examination Scheme				Total Marks	Ownership
		L	T	P	Hr		ISE	MSE	ESE	TW		
MCA241201T	Advance JAVA Programming(Mini Project)	3	-	-	3	3	20	30	50	-	100	MCA Department
MCA241201L	Advance JAVA Programming(Mini Project)	-	-	4	4	2	ICSE:60		40	-	100	MCA Department
MCA241202T	Python Programming	3	-	-	3	3	20	30	50	-	100	MCA Department
MCA241202L	Python Programming	-	-	4	4	2	ICSE:60		40	-	100	MCA Department
MCA241203T	Web Design Technology(Mini Project)	3	-	-	3	3	20	30	50	-	100	MCA Department
MCA241203L	Web Design Technology(Mini Project)	-	-	4	4	2	ICSE:60		40	-	100	MCA Department
MCA241204T	Optimization Technique	3	-	-	3	3	20	30	50	-	100	MCA Department
MCA241205T	Elective-I	3	-	-	3	3	20	30	50	-	100	MCA Department
HS241206L	IKS	-	-	4	4	2	ICSE:60		40	-	100	MCA Department
MCA241207L	Professional communication Skills	-	-	2	2	1	ICSE:30		20	-	50	MCA Department
Total		15	-	18	33	24			470	-	950	

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Professional Elective I		Professional Elective I	
Course Code	Course Name	Cours	Course Name
MCA241205A	Internet Of Things	MCA241205E	Block Chain Technology
MCA241205B	Design and Analysis of Algorithm	MCA241205F	Big Data Analytics
MCA241205C	Cyber Security and Cyber Law	MC A241205G	Entrepreneurship Development
MCA241205D	Dev Ops		

S. Y. M.C.A
Academic Year -2024-2025 (Semester –III)

Course Code	Course	Teaching Scheme				Credit C	Examination Scheme				Total Marks	Ownership
		L	T	P	Hr		ISE	MSE	ESE	TW		
MCA242101T	Research Methodology	3	-	-	3	3	20	30	50	-	100	MCA Department
MCA242102T	Elective-II(Mini Project)	3	-	-	3	3	20	30	50	-	100	MCA Department
MCA242102L	Elective-II(Mini Project)	-	-	4	4	2	ICSE:60		40	-	100	MCA Department
MCA242103T	Emerging Software Testing and Tools	3	-	3	3	3	20	30	50	-	100	MCA Department
MCA242103L	Emerging Software Testing and Tools	-	-	2	2	1	ICSE:30		20	-	50	MCA Department
MCA242104T	Principles & practices of Management & Organization Behaviour	3	-	-	3	3	20	30	50	-	100	MCA Department
MCA242105T	Cloud Computing	3	-	-	3	3	20	30	50	-	100	MCA Department
MCA242106L	Research Project	-	-	6	6	6	ICSE:60		40	100	200	MCA Department
HS242107L	Universal Human Values	-	-	2	2	1	ICSE:30		20	-	50	Humanities
Total		15	-	17	29	25					900	

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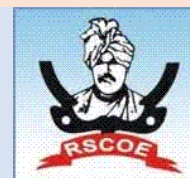
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Professional Elective II		Professional Elective II	
Course Code	Course Name	Course	Course Name
MCA242102A	Advance Development Technology	MCA242102D	Framework – Springboot
MCA242102B	Mobile Application Development	MCA242102E	Framework – React JS
MCA242102C	Artificial Intelligence and Machine Learning	MCA242102F	Data Science

S. Y. M.C.A

Academic Year -2024-2025 (Semester –IV)

Course Code	Course	Teaching Scheme				Credit	Examination Scheme				Total Marks	Ownership
		L	T	P	Hr		ISE	MSE	ESE	TW		
MCA242201	Self-Learning Course		-	-	-	2	ICSE:60		40		100	MCA Department
MCA242202	Industrial Internship		-	-	-	12	ICSE:200		200		400	MCA Department
Total		-	-	-	-	14					500	

	Total marks	Credits
Sem I	900	23
Sem II	950	24
Sem III	900	25
Sem IV	500	14
Total	3250	86

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Abbreviations:

L – Lecture, **T** – Tutorial, **P** – Practical, **Hr** – Hours, **C** – Credits, **TuT** – Tutorial, **ISE** – In Semester Evaluation, **MSE** – Mid Semester Evaluation, **ESE** – End Semester Evaluation

Notes:

For Theory courses: There shall be MSE, ISE and ESE. The ESE is a separate head of passing.

For Lab courses: There shall be continuous assessment (ISCE consists of ISE and MSE). The ESE is a separate head of passing.

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