DEPARTMENT OF COMPUTER APPLICATIONS

Department of Computer Applications
M.C.A Structure
(2025 Pattern)

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

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Chairman BOS	Dean Academics	Director RSCOE

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.**

Focus on Fundamentals

Outcome Based Education

Creativity and Innovation

Experiential Learning

Global Competence

Placement Assistance

Blend of Activities

Industry Internship

Self Learning

Ethics and Values

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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.
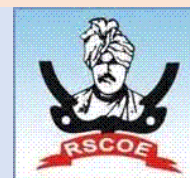
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F. Y. M.C.A
Academic Year -2025-2026 (Semester –I)

Course Code	Course Type	Course	Teaching Scheme		Examination Scheme				Total Marks	Credits
			TH	Lab	ISE	MSE	ESE	Laboratory		
MCA1101T	SEC	Data Structure with C++	3	-	20	30	50	-	100	3
MCA1101L		Data Structure with C++ Lab	-	2	ICSE:60	40		100	100	1
MCA1102T	CC	Advance Database Management System	3	-	20	30	50	-	100	3
MCA1102L		Advance Database Management System Lab	-	2	ICSE:60	40		100	100	1
MCA1103T		Core Java	3	-	20	30	50	-	100	3
MCA1103L		Core Java Lab	-	2	ICSE:60	40		100	100	1
MCA1104T		Computer Networks	3	-	20	30	50	-	100	3
MCA1105T		Object Design & Agile Development	3	-	20	30	50	-	100	3
HSCA1204L HSCA1205L HSCA1206L	AEC	Language Proficiency-I (ENGLISH) , (GERMAN) (JAPANESE)	-	2	ICSE:30	20		50	50	2
MCA1106L	AEC	Online Professional Training Course	-	2	ICSE:30	20		50	50	2
		Bridge Course			Non-credit course					
		Total	**15**	**10**	**-**		**410**	**400**	**900**	**22**

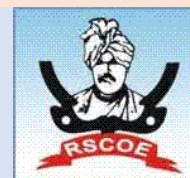Dr.Rinku Dulloo
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JSPM's
RAJARSHI SHAHU COLLEGE OF ENGINEERING
TATHAWADE, PUNE-33
(An Autonomous Institute Affiliated to Savitribai Phule Pune University, Pune)

F. Y. M.C.A
Academic Year -2025-2026 (Semester –II)

Course Code	Course Type	Course	Teaching Scheme		Examination Scheme				Total Marks	Credits
			TH	Lab	ISE	MSE	ESE	Laboratory		
MCA1107T	SEC	Advance JAVA Programming	3	-	20	30	50	-	100	3
MCA1107L		Advance JAVA Programming Lab	-	2	ICSE:60		40	100	100	1
MCA1108T	CC	Python Programming	3	-	20	30	50	-	100	3
MCA1108L		Python Programming Lab	-	2	ICSE:60		40	100	100	1
MCA1109T		Web Technology	3	-	20	30	50	-	100	3
MCA1109L		Web Technology Lab	-	2	ICSE:60		40	100	100	1
MCA1110T		Optimization Technique	3	-	20	30	50	-	100	3
MCA1111T		Elective-I	3	-	20	30	50	-	100	3
HSCA1202L	MDC	Indian Knowledge System	-	4	ICSE:60		40	100	100	3
HSCA1207L	AEC	Professional communication Skills	-	2	ICSE:30		20	50	50	2
		Total	15	12			470	450	950	23

Professional Elective I		Professional Elective I	
Course Code	Course Name	Cours	Course Name
MCA1111AT	Internet Of Things	MCA1111ET	Block Chain Technology
MCA1111BT	Design and Analysis of Algorithm	MCA1111FT	Big Data Analytics
MCA1111CT	Cyber Security and Cyber Law	MCA1111GT	Entrepreneurship Development
MCA1111DT	Dev Ops		

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Academic Year -2025-2026 (Semester –III)

Course Code	Course Type	Course	Teaching Scheme		Examination Scheme				Total Marks	Credit
			TH	Lab	ISE	MSE	ESE	Laboratory		
MCA2101T	CC	Research Methodology	3	-	20	30	50	-	100	3
MCA2102T		Elective-II(Mini Project)	3	-	20	30	50	-	100	3
MCA2102L		Elective-II(Mini Project) Lab	-	2	ICSE:60		40	100	100	1
MCA2103T		Emerging Software Testing and Tools	3		20	30	50	-	100	3
MCA2103L		Emerging Software Testing and Tools Lab	-	2	ICSE:30		20	50	50	1
MCA2104T		Principles & practices of Management & Organization Behaviour	3	-	20	30	50	-	100	3
MCA2105T	SEC	Cloud Computing	3	-	20	30	50	-	100	3
MCA2106L	CC	Research Project	-	6	ICSE:120		80	200	200	6
HSCA2201T	HSSM	Universal Values & Ethics	2	-	ICSE:60		40	100	100	2
		Total	17	10			430	450	950	25

Professional Elective II		Professional Elective II	
Course Code	**Course Name**	**Course**	**Course Name**
MCA2102A	Advance Development Technology	MCA2102D	Framework – Springboot
MCA2102B	Mobile Application Development	MCA2102E	Framework – React JS
MCA2102C	Artificial Intelligence and Machine Learning	MCA2102F	Data Science

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S. Y. M.C.A
Academic Year -2025-2026 (Semester –IV)

Course Code	Course	Teaching Scheme		Examination Scheme			Total Marks	Credit
		TH	Lab	ISE	MSE	ESE		
MCA2107	Self-Learning Course	-	-	ICSE:60		40	100	2
MCA2108	Industrial Internship	-	-	ICSE:250		250	500	18
Total		-	-				600	20

Abbreviations:

CC-Core Course SEC- Skill Enhancement course   MDC- Multi Disciplinary Course

HSSM : Humanities Social Science and Management **AEC** : Ability Enhancement Course

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

Note:

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.

Self-Learning Course **:** online courses from Swayam/NPTEL/Coursera/Udemy

As a part of MCA2107 Self-Learning Course students will prepare and publish research paper in this.

	Total marks	Credits
Sem I	900	22
Sem II	950	23
Sem III	950	25
Sem IV	600	20
Total	**3400**	**90**

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