



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



Department of Master of Computer Applications
Structure & Syllabi
F.Y. MCA Patten: 2019-20
w.e.f. Academic Year 2019-2020


Prof. Rinku Dulloo
Chairman BOS


Dr. Seemah Kedar
Academic Dean


Dr. Rakesh Jain
Director





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Department of Master 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

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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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.


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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

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


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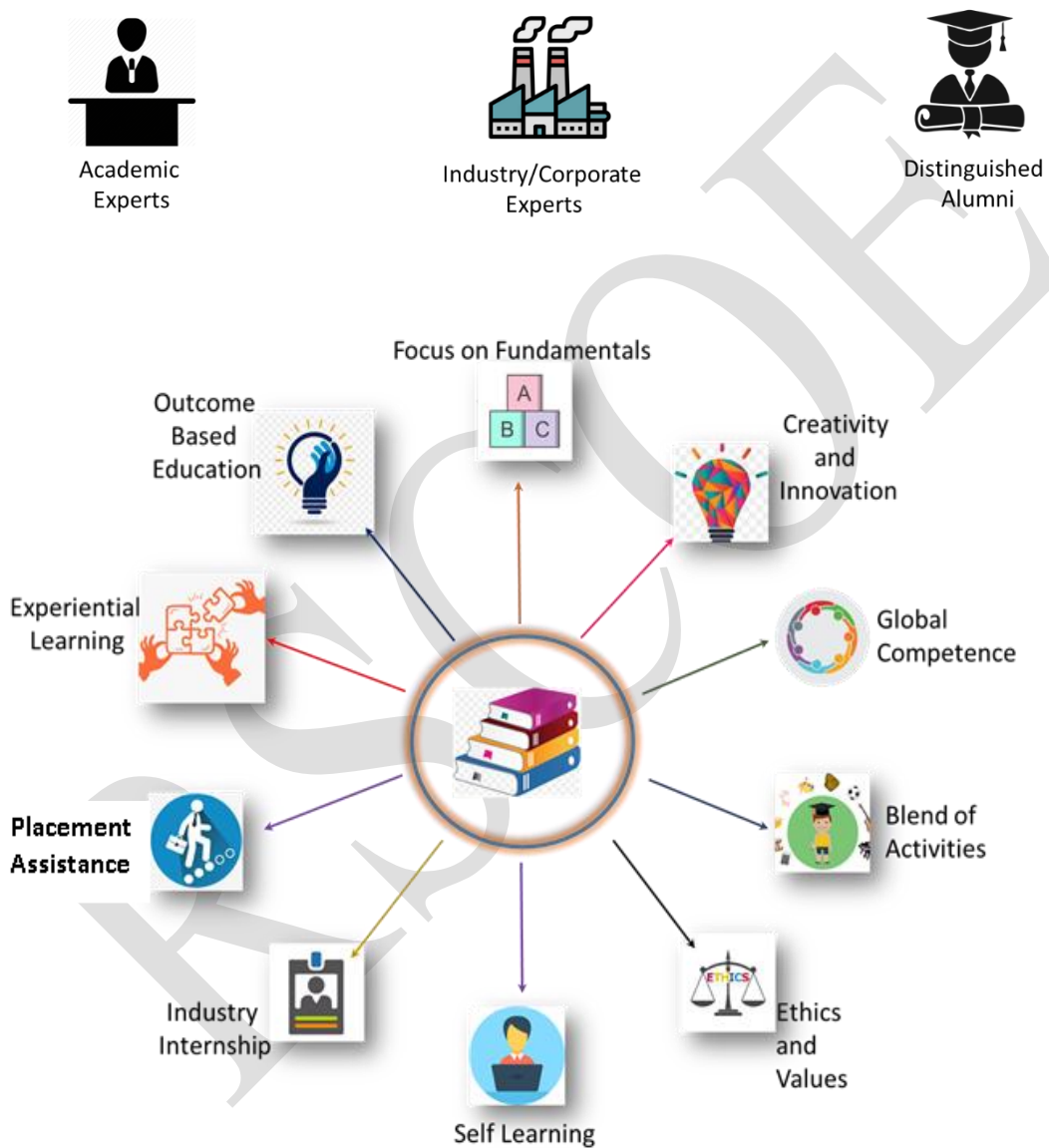

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Highlights of the Syllabus

Curriculum of MCA is designed in consultation with



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Everybody knows Technology but “Application makes a Difference”

- 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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Master of Computer Applications (MCA)

Semester-I

Course Code	Course	Teaching Scheme			Semester Examination Scheme of Marks						Credits			
		TH	TU	PR	ISE (15)	MSE (25)	ESE (60)	TW	PR	TOTAL	TH	TU	PR	TOTAL
MCA1101	Discrete Mathematics	3	1	-	15	25	60	-	-	100	3	1	-	4
MCA1102	C Programming	3	-	-	15	25	60	-	-	100	3	-	-	3
MCA1103	Web Programming	3	-	-	15	25	60	-	-	100	3	-	-	3
MCA1104	Software Engineering	3	-	-	15	25	60	-	-	100	3	-	-	3
MCA1105	Principles of Management	3	-	-	15	25	60	-	-	100	3	-	-	3
MCA1106	C Programming Lab	-	-	2	-	-	-	20	20	40	-	-	2	2
MCA1107	Mini Project using Web Programming Lab	-	-	2	-	-	-	20	20	40	-	-	2	2
HSMCA1101	Open Course -1 English 1	-	-	1	-	-	-	10	10	20	-	-	1	1
MCA1108	Audit Course- I Open Course	-	-	1	-	-	-	-	-	-	-	-	-	Grade
Total		15	01	06	75	125	300	50	50	600	15	01	05	21

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Semester-II

Course Code	Course	Teaching Scheme			Semester Examination Scheme of Marks						Credits			
		TH	TU	PR	ISE (15)	MSE (25)	ESE (60)	TW	PR	TOTAL	TH	TU	PR	TOTAL
MCA1109	Statistics	3	1	-	15	25	60	-	-	100	3	1	-	4
MCA1110	Advanced Data Structure	3	-	-	15	25	60	-	-	100	3	-	-	3
MCA1111	Database Management	3	-	-	15	25	60	-	-	100	3	-	-	3
MCA1112	Operating System	3	-	-	15	25	60	-	-	100	3	-	-	3
MCA1113	Organization Behavior	3	-	-	15	25	60	-	-	100	3	-	-	3
MCA1114	Mini Project using ADS-	-	-	2	-	-	-	20	20	40	-	-	2	2
MCA1115	DBMS Lab	-	-	2	-	-	-	20	20	40	-	-	2	2
HSMCA1102 (ENGLISH)	Open Course English-2 / Foreign Language	-	-	1	-	-	-	10	10	20	-	-	1	1
HSMCA1103 (GERMAN)														
HSMCA1104 (FRENCH)														
HSMCA1105 (JAPANESE)														
MCA1116	Audit Course-II Open	-	-	1	-	-	-	-	-	-	-	-		Grade
Total		15	01	06	75	125	300	50	50	600	15	1	05	21

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S. Y. MCA AY 2020-21
Semester-III- Syllabus Structure

Course Code	Course	Teaching Scheme		Semester Examination Scheme of Marks					Credits
		TH	LAB	ISE (15)	MSE (25)	ESE (60)	LAB	TOTAL	
MCA2101	Optimization Techniques	3	-	15	25	60	-	100	3
MCA2102	Advance Web Programming	3	4	15	25	60	100	200	5
MCA2103	Object Oriented Analysis and Design	3	-	15	25	60	-	100	3
MCA2104	Core Java	3	4	15	25	60	100	200	5
MCA2105	Computer Networks	3	-	15	25	60	-	100	3
MCA2106	Problem Solving Techniques - I	-	2	-	-	-	25	25	1
MCA2107	Online Professional Training Courses (MOOC/NPTEL/SWAYAM)	-	2	-	-	-	25	25	1
Total		15	12	75	125	300	250	750	21

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S. Y. MCA AY 2020-21
Semester-IV- Syllabus Structure

Course Code	Course	Teaching Scheme		Semester Examination Scheme of Marks					Credits
		TH	LAB	ISE (15)	MSE (25)	ESE (60)	LAB	TOTAL	
MCA2108	Advance Database Management System	3	-	15	25	60	-	100	3
MCA2109	Advance Java	3	4	15	25	60	100	200	5
MCA2110	Python Programming	3	4	15	25	60	100	200	5
MCA2111	Cloud Computing	3	-	15	25	60	-	100	3
MCA2112	Elective - I	3	-	15	25	60	-	100	3
MCA2113	Problem Solving	-	2	-	-	-	25	25	1
MCA2114	Technical Seminar	-	2	-	-	-	25	25	1
Total		15	12	75	125	300	250	750	21

Elective-I

Course Code	Course	Course Code	Course
MCA2112A	Internet of Things	MCA2112D	Agile Software Development
MCA2112B	Artificial Intelligence & Machine Learning	MCA2112E	Research Methodology
MCA2112C	Data Mining and Data Warehousing	MCA2112F	Cyber Security


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Semester-V

Course Code	Course	Teaching Scheme		Semester Examination Scheme of Marks						Credits		
		TH	PR	ISE (15)	MSE (25)	ESE (60)	TW	PR	TOTAL	TH	PR	TOTAL
MCA3101	Software Testing & Quality Assurance	3	-	15	25	60	-	-	100	3	-	3
MCA3102	Mobile Application Development	3	4	15	25	60	50	50	200	3	2	5
MCA3103	Application Development Technology	3	4	15	25	60	50	50	200	3	2	5
MCA3104	Service Oriented Architecture	3	-	15	25	60	-	-	100	3	-	3
MCA3105	Elective II	3	-	15	25	60	-	-	100	3	-	3
MCA3106	Soft Skills	-	2	-	-	-	25	-	25	-	1	1
MCA3107	Technical Seminar	-	2	-	-	-	25	-	25	-	1	1
Total		15	12	75	125	300	150	100	750	15	6	21

Elective-II	
Course Code	Course
MCA3105A	Big Data Analytics
MCA3105B	Data Science
MCA3105C	Block Chain
MCA3105D	DevOps
MCA3105E	Design Analysis and Algorithm
MCA3105F	Entrepreneurial Development



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Semester-VI

Course Code	Course	Teaching Scheme		Semester Examination Scheme of Marks						Credits		
		TH	PR	ISE	MSE	ESE	TW	PR	TOTAL	TH	PR	TOTAL
MCA3108	Industrial Internship	-	-	-	-	-	250	250	500	-	19	19
Total		-	-	-	-	-	250	250	500	-	19	19