Government College of Engineering, Karad

(An Autonomous Institute of Govt. of Maharashtra)

Department of Master OF Computer Applications

SYMCA Curriculum Structure

Academic Year: 2024-25

Institute Vision
To emerge as a technical Institute of national repute driven by excellence in imparting value based education and innovation in research to face the Global needs of profession.
Institute Mission
To create professionally competent engineers driven with the sense of responsibility towards nature and society.
Department Vision
To provide excellent information Technology and Computer Science education by building strong teaching and research environment.
Department Mission
To provide academic platform to graduate students to make them proficient in Information Technology equipped with applications of Computer Science.

Programme Educational Objectives (PEO):

PEO1	To Offer computer knowledge and skills that will helpful for students for becoming. Successful IT professional and continue further to grow as a research.
PEO2	To improve communication skills, development of leadership and team building activities.
PEO3	To exhibit Development of Entrepreneurship qualities and creation of social awareness

Programme Outcomes (PO):

Engineering Graduates will be able to:

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes (PSO):

PSO1	Graduate should be able to understand the structure, development methodologies of software systems, possess professional skills and obtain competency with a broad range of programming languages and platforms.
PSO2	Graduate should be able to apply design and development principles in the construction of software systems of varying complexity.
PSO3	Graduate should be able to use knowledge in various domains to identify research gaps and provide solutions and innovations

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SCHEME OF INSTRUCTION & SYLLABI

Programme: Master of Computer Applications

Proposed Scheme of Instructions: Second Year MCA (W.E.F. A.Y. 2024-25)

Semester – III

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME			
									MSE	ISE	ESE	TOTAL
1	PCC	MC3301	Data Science	3	-	-	3	3	20	20	60	100
2	PCC	MC3302	Mobile Technologies	3	-	-	3	3	20	20	60	100
3	ESC	MC3303	Information Security	3	-	-	3	3	20	20	60	100
4	PEC	MC33*4	Elective-II	3	-	-	3	3	20	20	60	100
5	PEC	MC33*5	Elective-III	3	-	-	3	3	20	20	60	100
6	PCC	MC3306	Data Science Lab	-	-	2	2	1	-	50	-	50
7	PCC	MC3307	Mobile Technologies Lab	-	-	2	2	1	-	50	-	50
8	PCC	MC3308	IoT Lab	-	1	2	3	2	-	25	25	50
9	P/S/IT	MC3309	Major Project	-	-	6	6	3	-	50	50	100
			Total	**15**	**1**	**16**	**32**	**22**	**100**	**275**	**375**	**750**

L- Lecture T-Tutorial P-Practical

MSE- Mid Semester Examination ISE - In Semester Evaluation

ESE- End Semester Examination (For Laboratory End Semester performance)

Course Category	HSMC (Hum., Soc. Sc, Mgmt.)	BSC (Basic Sc.)	ESC (Engg. Sc.)	PCC (Programme Core Courses)	PEC (Programme Elective Courses)	OEC (Open Elective courses from other discipline)	MCC (Mandatory Courses)	Project / Seminar / Industrial Training
Credits	-	-	3	10	6	-	-	3
Cumulative Sum	2	3	17	29	10	-	-	5

PROGRESSIVE TOTAL CREDITS: 66

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SCHEME OF INSTRUCTION & SYLLABI

Programme: Master of Computer Applications

Proposed Scheme of Instructions: Second Year MCA (W.E.F. A.Y. 2024-25)

Semester – IV

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME			
										ISE	ESE	TOTAL
1	P/S/IT	MC3401	Industrial Project	-	-	40	4	20		100	100	200
			Total	**-**	**-**	**40**	**4**	**20**		**100**	**100**	**200**

L- Lecture T-Tutorial P-Practical

MSE- Mid Semester Examination ISE - In Semester Evaluation

ESE- End Semester Examination (For Laboratory End Semester performance)

Course Category	HSMC (Hum., Soc. Sc, Mgmt.)	BSC (Basic Sc.)	ESC (Engg. Sc.)	PCC (Programme Core Courses)	PEC (Programme Elective Courses)	OEC (Open Elective courses from other discipline)	MCC (Mandatory Courses)	Project / Seminar / Industrial Training
Credits	-	-	-	-	-	-	-	20
Cumulative Sum	2	3	17	29	10	-	-	27

PROGRESSIVE TOTAL CREDITS: 86

Elective – I		Elective – II		Elective – III	
MC3215	Artificial Intelligence	MC3314	Soft computing	MC3315	Machine Learning
MC3225	Enterprise Resource Planning	MC3324	Business process management	MC3325	Business Intelligence
MC3235	Computer Organisation and Architecture	MC3334	Multimedia System	MC3335	Digital forensics
MC3245	Information Retrieval & web mining	MC3344	Data Mining & warehousing	MC3345	Big Data Analytics
MC3255	Design & Analysis of Algorithms	MC3354	Management Information System	MC3355	Intellectual Property Rights and Patents