

# Government College of Engineering, Karad

## SCHEME OF INSTRUCTION & SYLLABI

### Programme: Master of Computer Applications

Proposed Scheme of Instructions: First Year MCA (W.E.F. A.Y. 2023-24)

Semester – I

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME			
									MSE	ISE	ESE	TOTAL
1	ESC	MC3101	Data Structure	3	-	-	3	3	20	20	60	100
2	BSC	MC3102	Mathematical Foundations for Computer Science	3	-	-	3	3	20	20	60	100
3	ESC	MC3103	Software Engineering and Quality Assurance	3	-	-	3	3	20	20	60	100
4	PCC	MC3104	Python Programming	3	-	-	3	3	20	20	60	100
5	PCC	MC3105	Computer Network	3	-	-	3	3	20	20	60	100
6	ESC	MC3106	Data StructureLab	-	-	2	2	1	-	50	-	50
7	PCC	MC3107	Python Programming lab	-	-	4	4	2	-	25	50	75
8	PCC	MC3108	Web Programming & Scripting Lab	-	1	2	3	2	-	25	50	75
9	P/S/IT	MC3109	Seminar	-	1	-	1	1	-	25	-	25
10	HSMC	MC3110	Soft Skills and Business Communication	-	-	2	2	1	-	25	-	25
			<b>Total</b>	<b>15</b>	<b>2</b>	<b>10</b>	<b>27</b>	<b>22</b>	<b>100</b>	<b>250</b>	<b>400</b>	<b>750</b>

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	1	3	7	10	-	-	-	1
Cumulative Sum	1	3	7	10	-	-	-	1

**PROGRESSIVE TOTAL CREDITS: 22**

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## SCHEME OF INSTRUCTION & SYLLABI

### Programme: Master of Computer Applications

Proposed Scheme of Instructions: First Year MCA (W.E.F. A.Y. 2023-24)

#### Semester – II

Sr. No.	Course Category	Course Code	Course Title	L	T	P	Contact Hrs/Wk	Course Credits	EXAM SCHEME			
									MSE	ISE	ESE	TOTAL
1	PCC	MC3201	Cloud Computing	3	-	-	3	3	20	20	60	100
2	PCC	MC3202	Object Oriented Programming	3	-	-	3	3	20	20	60	100
3	ESC	MC3203	Research Methodology	3	-	-	3	3	20	20	60	100
4	ESC	MC3204	Database Management System	3	-	-	3	3	20	20	60	100
5	PEC	MC32*5	Elective-I	3	-	-	3	3	20	20	60	100
6	PEC	MC3206	SWAYAM/MOOC Course	-	-	-	-	1	-	-	100	100
7	PCC	MC3207	Object Oriented Programming Lab	-	-	2	2	1	-	25	-	25
8	ESC	MC3208	Database Management System Lab	-	-	2	2	1	-	25	25	50
9	PCC	MC3209	Java Programming Lab	-	1	2	4	2	-	25	-	25
10	P/S/IT	MC3210	Mini Project	-	-	2	2	1	-	25	25	50
11	HSMC	MC3211	Professional Communication		-	2	2	1	-	50	-	50
			<b>Total</b>	<b>15</b>	<b>1</b>	<b>12</b>	<b>29</b>	<b>22</b>	<b>100</b>	<b>250</b>	<b>450</b>	<b>800</b>

**Note:** 1. Students are expected to get MOOC certificate from reputed authorities such as NPTEL/ SWAYAM only. The title of the MOOC course should be approved by Course Teacher/Co-ordinator.

2.If MOOC course(s) is not available, the department will offer the course against MOOC and will be assessed as per regular theory mode. The student has to study the course(s) in self-learning mode.

3. If the assessment of the MOOC course(s) offered by another agency is delayed, the department shall assess the same.

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	1	-	7	9	4	-	-	1
Cumulative Sum	2	3	14	19	4	-	-	2

**PROGRESSIVE TOTAL CREDITS: 44**

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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
<b>Total</b>				<b>15</b>	<b>1</b>	<b>12</b>	<b>28</b>	<b>22</b>	<b>100</b>	<b>275</b>	<b>375</b>	<b>750</b>

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			
									MSE	ISE	ESE	TOTAL
1	P/S/IT	MC3401	Industrial Project	-	-	40	6	20	50	50	100	200
			<b>Total</b>	-	-	<b>40</b>	<b>6</b>	<b>20</b>	<b>50</b>	<b>50</b>	<b>100</b>	<b>200</b>

L- Lecture

T-Tutorial

P-Practical

MSE- Mid Semester Examination

ISE - In Semester Evaluation

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

\*40 Practical hours meaning student supposed to work in Industry for 8 hrs per week (5 days) for Industrial Project work

\* 6 contact hrs meaning Internal Guide will be available for students 6 hrs per week for Industrial Project work

\* Students are supposed to work in Industry for 16-20 weeks for Industrial Project work

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	-	-	-	-	-	-	-	22
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	MC3346	Big Data Analytics
MC3255	Design & Analysis of Algorithms	MC3354	Management Information System / Entrepreneurship Management	MC3355	Intellectual Property Rights and Patents

# Government College of Engineering, Karad

## SCHEME OF INSTRUCTION & SYLLABI

Programme: Master of Computer Applications

### **Choice Based Credit System with Multiple Entry and Multiple Exit Option (NEP-2020)**

- Requirement for Entry at Level 6: Completed all requirements of the Bachelor's degree (Level 5).
- Exit Option at Level 6: Students can exit after Level 6 with Post Graduate Diploma in Computer Applications if he/she completes the courses equivalent to minimum of 44 credits
  
- Requirement for Entry at Level 6.5: Completed all requirements of the relevant Post Graduate Diploma in Computer Application (Level 6)
- Exit at Level 6.5: Students will exit after Level 6.5 with Master's Degree in Computer Applications if he/she completes the courses equivalent to Minimum of 86 credits.