

**GOVERNMENT COLLEGE OF ENGINEERING, AURANGABAD**  
(An Autonomous Institute of Govt. of Maharashtra)  
Station Road, Osmanpura, Aurangabad- 431005 (M.S.)  
(0240) 2366101, 2366111, Fax: (0240) 2332835

---

**Scheme & Syllabus of**  
**Master of Computer Applications**  
**(MCA)**  
**2 Years Batch 2020 onwards**

**By**  
**Departmental Board of Study**  
**(Master of Computer Applications)**  
**Department of Master of Computer Application**

  
Approved in XXIII<sup>rd</sup> Academic  
Council, Dated 23 June 2021

# Government College of Engineering, Aurangabad

## 1. AFFILIATION

The proposed programme shall be governed by the Department of Computer Application, Government College of Engineering, Aurangabad and is affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad.

## 2. PROGRAMME STRUCTURE

The Master of Computer Application Programme is divided into two parts as under. Each part will consist of two semesters to be known as Semester-1 and Semester-2.

Part	Year	Odd Semester	Even Semester
Part-I	First Year	Semester-I	Semester-II
Part-II	Second Year	Semester-III	Semester-IV

## 3. REQUIREMENTS FOR EARNING THE MCA DEGREE

The total credits required for the MCA programme are 96. The credits are distributed over three categories:

Description	Credits
Humanities and Management	04
Core Departmental Courses	56
Elective Departmental Courses	09
Project / Dissertation / Seminar Courses	27
Total	96

## 4. COURSE CREDITS ASSIGNMENT

Lectures and Tutorials: One lecture or tutorial hour per week per semester is assigned one credit.

Practical/Laboratory: Two laboratory hours per week per semester is assigned one credit.

## 5. EXAMINATION:

Performance of the students will be evaluated based on a comprehensive system of continuous evaluation. The student shall be continuously evaluated during the conduct of each course on the basis of his/her performance as follows:

For Theory Courses-

Description	Syllabus to be covered	Time Allotted	Weightage of marks
Class Test	Up to 40%	1 Hour	20%
Teachers Assessment	100%	Throughout the semester	20%
End Semester Examination	100%	3 Hours	60%

For Practical Courses-

Description	Syllabus to be covered	Time Allotted	Weightage of marks
Timely submission of practical records	--	--	80% of TW marks
Practical File	--	--	20% of TW marks
External Evaluation	100%	3 Hours	100% of ESE marks

**Government College of Engineering, Aurangabad**  
**Structure & Syllabus**  
**Programme: Master of Computer Applications**  
**First Year MCA (W.E.F. A.Y. 2020-21) [Two Years]**

<b>Semester – I</b>											
Sr. No	Course Code	Course Title	L	T	P	Contact Hrs/Week	Course Credits	Examination Scheme			
								CT	TA/TW	ESE	Total
		<i>Theory Courses</i>									
1	MC1101	Data Structures & Algorithms	3	-	-	3	3	20	20	60	100
2	MC1102	Computer Programming	3	1	-	4	4	20	20	60	100
3	MC1103	Data Base Management System	3	1	-	4	4	20	20	60	100
4	MC1104	System Software and Operating System	3	-	-	3	3	20	20	60	100
5	MC1105	Software Engineering	4	-	-	4	4	20	20	60	100
		<i>Practical Courses</i>									
6	MC1106	Lab: Data Structures & Algorithms	-	-	2	2	1		25	25	50
7	MC1107	Lab: Computer Programming	-	-	4	4	2		50	25	75
8	MC1108	Lab: Data Base Management System	-	-	4	4	2		50	25	75
9	MC1109	Lab: Communication Skills	-	-	2	2	1		25	25	50
<b>Total</b>			<b>-16</b>	<b>2</b>	<b>12</b>	<b>30</b>	<b>24</b>	<b>100</b>	<b>250</b>	<b>400</b>	<b>750</b>

**Abbreviations-**

L – Lecture      T- Tutorial      P- Practical  
 CT- Class Test      TA/TW- Teachers Assessment /Term Work      ESE- End Semester Examination

  
 Approved in XXIII<sup>rd</sup> Academic  
 Council, Dated 23 June 2021

**Government College of Engineering, Aurangabad**  
**Structure & Syllabus**  
**Programme: Master of Computer Applications**  
**First Year MCA (W.E.F. A.Y. 2020-21) [Two Years]**

<b>Semester-II</b>											
Sr No	Course Code	Course Title	L	T	P	Contact Hrs/ Week	Course Credits	Examination Scheme			
								CT	TA/ TW	ESE	Total
<b><i>Theory Courses</i></b>											
1	MC1111	Object Oriented Programming with Java	3	1	-	4	4	20	20	60	100
2	MC1112	Internet of Things (IOT)	3	-	-	3	3	20	20	60	100
3	MC1113	Python Programming	3	1	-	4	4	20	20	60	100
4	MC1114	Information Security	4	-	-	4	4	20	20	60	100
5	MC1115 To MC1117	Elective- I	3	-	-	3	3	20	20	60	100
<b><i>Practical Courses</i></b>											
6	MC1118	Lab: Object Oriented Programming with Java	-	-	4	4	2		50	25	75
7	MC1119	Lab: Internet of Things (IOT)	-	-	2	2	1		25	25	50
8	MC1120	Lab: Python Programming	-	-	4	4	2		50	25	75
9	MC1121	Seminar	-	-	2	2	1		50	-	50
<b>Total</b>			<b>-16</b>	<b>2</b>	<b>12</b>	<b>30</b>	<b>24</b>	<b>100</b>	<b>275</b>	<b>375</b>	<b>750</b>

Elective- I	
MC1115	Data Science
MC1116	Soft Computing
MC1117	Big Data Analytics

**Abbreviations-**

L – Lecture      T- Tutorial      P- Practical  
 CT- Class Test      TA/TW- Teachers Assessment /Term Work      ESE- End Semester Examination

  
 Approved in XXIII<sup>rd</sup> Academic  
 Council, Dated 23 June 2021

**Government College of Engineering, Aurangabad**  
**Structure & Syllabus**  
**Programme: Master of Computer Applications**  
**Second Year MCA (W.E.F. A.Y. 2020-21) [Two Years]**

Semester-III											
Sr No	Course Code	Course Title	L	T	P	Contact Hrs/Week	Course Credits	Examination Scheme			
								CT	TA/TW	ESE	Total
<b><i>Theory Courses</i></b>											
1	MC2101	Advance Java	3	1	-	4	4	20	20	60	100
2	MC2102	ASP.Net and C#	4	-	-	4	4	20	20	60	100
3	MC2103	Cloud Computing	3	1	-	4	4	20	20	60	100
4	MC2104 To MC2106	Elective – II	3	-	-	3	3	20	20	60	100
5	MC2107 To MC2109	Elective – III	3	-	-	3	3	20	20	60	100
<b><i>Practical Courses</i></b>											
6	MC2110	Lab: Advance Java	-	-	4	4	2		50	25	75
7	MC2111	Lab: ASP.Net and C#	-	-	2	2	1		25	25	50
8	MC2112	Lab: Cloud Computing	-	-	2	2	1		25	25	50
9	MC2113	Minor Project	-	-	4	4	2		50	25	75
<b>Total</b>			<b>16</b>	<b>2</b>	<b>12</b>	<b>30</b>	<b>24</b>	<b>100</b>	<b>250</b>	<b>400</b>	<b>750</b>

Elective- II		Elective – III	
MC2104	Software Quality Assurance	MC2107	Mobile Technology
MC2105	Enterprise Resource Planning	MC2108	Block Chain
MC2106	E-Governance	MC2109	Machine Learning

**Abbreviations-**

L – Lecture      T- Tutorial      P- Practical  
 CT- Class Test      TA/TW- Teachers Assessment /Term Work      ESE- End Semester Examination

  
 Approved in XXIII<sup>rd</sup> Academic  
 Council, Dated 23 June 2021

**Government College of Engineering, Aurangabad**  
**Structure & Syllabus**  
**Programme: Master of Computer Applications**  
**Second Year MCA (W.E.F. A.Y. 2020-21) [Two Years]**

<b>Semester-IV</b>											
Sr No	Course Code	Course Title	L	T	P	Contact Hrs/Week	Course Credits	Examination Scheme			
								CT	TA/TW	ESE	Total
1	MC2114	Dissertation	-	-	30	-	24	-	100	100	200
<b>Total</b>			<b>-</b>	<b>-</b>	<b>30</b>		<b>24</b>	<b>-</b>	<b>100</b>	<b>100</b>	<b>200</b>

**Abbreviations-**

L – Lecture      T- Tutorial      P- Practical  
 CT- Class Test      TA/TW- Teachers Assessment /Term Work      ESE- End Semester Examination

  
 Approved in XXIII<sup>rd</sup> Academic  
 Council, Dated 23 June 2021