



**BMS COLLEGE OF ENGINEERING BENGALURU-19**  
**(Autonomous College under VTU)**  
**SCHEME OF INSTRUCTION**

**Department:** Computer Applications

**Semester:** I

Sl. No.	Subject Code	Course Title	Teaching Department	Credits					Contact Hrs./Wk.	Marks			SEE Duration in Hrs.
				L	T	P	S	Total		CIE	SEE	Total	
1.	16MCA1DCPS	Problem Solving	CA	3	1	1	-	5	7	50	50	100	3
2.	16MCA1DCOS	Operating System Concepts	CA	3	1	1	-	5	7	50	50	100	3
3.	16MCA1DCW1	Web Application Development-I	CA	3	1	1	-	5	7	50	50	100	3
4.	16MCA1DCCO	Fundamentals of Computer Organization	CA	4	-	-	-	4	4	50	50	100	3
5.	16MCA1DCM1	Mathematical Foundation for Computer Applications-I	CA	3	1	-	-	4	5	50	50	100	3
6.	16MCA1DCPC	Professional Communication	Humanities	1	1	-	-	2	3	25	25	50	2
<b>Total</b>				<b>17</b>	<b>5</b>	<b>3</b>	<b>-</b>	<b>25</b>	<b>33</b>	<b>275</b>	<b>275</b>	<b>550</b>	

**Abbreviations used:**

L: Lecture  
T: Tutorial  
P: Practical  
S: Self-Study  
CIE: Continuous Internal Evaluation  
SEE: Semester End Examination



**BMS COLLEGE OF ENGINEERING BENGALURU-19**  
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**SCHEME OF INSTRUCTION**

**Department:** Computer Applications

**Semester:** II

Sl. No.	Subject Code	Course Title	Teaching Department	Credits					Contact Hrs./Wk.	Marks			SEE Duration in Hrs.
				L	T	P	S	Total		CIE	SEE	Total	
1.	16MCA2DCOP	Object Oriented Programming With C++	CA	3	1	1	-	5	7	50	50	100	3
2.	16MCA2DCDS	Data Structures using C	CA	3	1	1	-	5	7	50	50	100	3
3.	16MCA2DCDB	Database Management System	CA	3	1	1	-	5	7	50	50	100	3
4.	16MCA2DCSE	Software Engineering	CA	3	1	-	-	4	5	50	50	100	3
5.	16MCA2DCM2	Mathematical Foundation for Computer Applications-II	CA	4	-	-	-	4	4	50	50	100	3
6.	16MCA2DCIE	Innovation and Entrepreneurship	CA/Industry	1	1	-	-	2	3	25	25	50	2
<b>Total</b>				<b>17</b>	<b>5</b>	<b>3</b>	<b>-</b>	<b>25</b>	<b>33</b>	<b>275</b>	<b>275</b>	<b>550</b>	



**BMS COLLEGE OF ENGINEERING BENGALURU-19**  
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**SCHEME OF INSTRUCTION**

**Department:** Computer Applications

**Semester:** III

Sl. No.	Subject Code	Course Title	Teaching Department	Credits					Contact Hrs./Wk.	Marks			SEE Duration in Hrs.
				L	T	P	S	Total		CIE	SEE	Total	
1.	16MCA3DCN1	Computer Networks	CA	4	-	1	-	5	6	50	50	100	3
2.	16MCA3DCJ1	Java Programming-I	CA	4	-	1	-	5	6	50	50	100	3
3.	16MCA3DCOM	Object Oriented Modelling & Design	CA	4	-	1	-	5	6	50	50	100	3
4.	16MCA3DCDA	Data Science	CA	3	-	-	1	4	3	50	50	100	3
5.	16MCA3DEXX	Elective-I	CA	4	-	-	1	5	4	50	50	100	3
6.	16MCA3DCS1	Seminar – I*	CA	-	-	1	-	1	2	25	-	25	-
<b>Total</b>				<b>19</b>	<b>-</b>	<b>4</b>	<b>2</b>	<b>25</b>	<b>27</b>	<b>275</b>	<b>250</b>	<b>525</b>	

\*Students should present a seminar on any of the current technologies in the field of Computer Science and Applications for about 30 minutes and submit the write up on the same.



**BMS COLLEGE OF ENGINEERING BENGALURU-19**  
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**LIST OF COURSES: ELECTIVE - I**

**Department:** Computer Applications

**Semester:** III

Sl. No.	Subject Code	Course Title	Teaching Department	Credits					Contact Hrs./Wk.	Marks			SEE Duration in Hrs.
				L	T	P	S	Total		CIE	SEE	Total	
1.	16MCA3DEAS	Agile Software Development	CA	4	-	-	1	5	4	50	50	100	3
2.	16MCA3DEOR	Operations Research	CA	4	-	-	1	5	4	50	50	100	3
3.	16MCA3DEUX	User Interface & User Experience	CA	4	-	-	1	5	4	50	50	100	3
4.	16MCA3DEUP	UNIX System Programming	CA	4	-	-	1	5	4	50	50	100	3



**BMS COLLEGE OF ENGINEERING BENGALURU-19**  
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**Department:** Computer Applications

**Semester:** IV

Sl. No.	Subject Code	Course Title	Teaching Department	Credits					Contact Hrs./Wk.	Marks			SEE Duration in Hrs.
				L	T	P	S	Total		CIE	SEE	Total	
1.	16MCA4DCAD	Analysis and Design of Algorithms	CA	3	-	1	-	4	5	50	50	100	3
2.	16MCA4DCW2	Web Application Development-II	CA	3	1	1	-	5	7	50	50	100	3
3.	16MCA4DCJ2	Java Programming-II	CA	3	-	1	-	4	5	50	50	100	3
4.	16MCA4DEXX	Elective – II	CA	3	-	-	1	4	4	50	50	100	3
5.	16MCA4DEXX	Elective-III	CA	3	-	-	1	4	4	50	50	100	3
6.	16MCA4DCS2	Seminar - II*	CA	-	-	-	2	2	-	50	-	50	-
7.	16MCA4DCCR	Cyber Regulations & Professional Ethics	CA/MBA	2	-	-	-	2	2	25	-	25	-
<b>Total</b>				<b>17</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>25</b>	<b>27</b>	<b>325</b>	<b>250</b>	<b>575</b>	

\*Students should present a seminar by surveying minimum of six current research papers in the domain of Computer Science and Applications for about 30 minutes and submit a report on research findings.



**BMS COLLEGE OF ENGINEERING BENGALURU-19**  
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**LIST OF COURSES: ELECTIVE - II**

**Department:** Computer Applications

**Semester:** IV

Sl. No.	Subject Code	Course Title	Teaching Department	Credits					Contact Hrs./Wk.	Marks			SEE Duration in Hrs.
				L	T	P	S	Total		CIE	SEE	Total	
1.	16MCA4DESM	Simulation & Modelling	CA	3	-	-	1	4	4	50	50	100	3
2.	16MCA4DEST	Software Testing	CA	3	-	-	1	4	4	50	50	100	3
3.	16MCA4DEMC	Mobile Computing & Wireless Communication	CA	3	-	-	1	4	4	50	50	100	3
4.	16MCA4DEEC	E-Commerce	CA	3	-	-	1	4	4	50	50	100	3



**BMS COLLEGE OF ENGINEERING BENGALURU-19**  
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**LIST OF COURSES: ELECTIVE - III**

**Department:** Computer Applications

**Semester:** IV

Sl. No.	Subject Code	Course Title	Teaching Department	Credits					Contact Hrs./Wk.	Marks			SEE Duration in Hrs.
				L	T	P	S	Total		CIE	SEE	Total	
1.	16MCA4DEBA	Big-Data Analytics and NOSQL	CA	3	-	-	1	4	4	50	50	100	3
2.	16MCA4DECC	Cloud Computing	CA	3	-	-	1	4	4	50	50	100	3
3.	16MCA4DESA	Software Architectures	CA	3	-	-	1	4	4	50	50	100	3
4.	16MCA4DEIT	Internet of Things	CA	3	-	-	1	4	4	50	50	100	3



**BMS COLLEGE OF ENGINEERING BENGALURU-19**  
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**SCHEME OF INSTRUCTION**

**Department:** Computer Applications

**Semester:** V

Sl. No.	Subject Code	Course Title	Teaching Department	Credits					Contact Hrs./Wk.	Marks			SEE Duration in Hrs.
				L	T	P	S	Total		CIE	SEE	Total	
1.	16MCA5DCSP	Software Project Management	CA	3	-	-	1	4	3	50	50	100	3
2.	16MCA5DCWD	Windows Application Development with C#.NET	CA	3	-	1	-	4	5	50	50	100	3
3.	16MCA5DPMP	Mini Project	CA	-	-	2	-	2	4	50	-	50	2
4.	16MCA5DEXX	Elective-IV	CA	4	-	-	1	5	4	50	50	100	3
5.	16MCA5DEXX	Elective-V	CA	4	-	-	1	5	4	50	50	100	3
6.	16MCA5DEXX	Elective-VI	CA	4	-	-	1	5	4	50	50	100	3
<b>Total</b>				<b>18</b>	<b>-</b>	<b>3</b>	<b>4</b>	<b>25</b>	<b>24</b>	<b>300</b>	<b>250</b>	<b>550</b>	





**BMS COLLEGE OF ENGINEERING BENGALURU-19**  
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**LIST OF COURSES: ELECTIVE - IV**

**Department:** Computer Applications

**Semester:** V

Sl.N o.	Subject Code	Course Title	Teaching Department	Credits					Contact Hrs./Wk.	Marks			SEE Duration in Hrs.
				L	T	P	S	Total		CIE	SEE	Total	
1.	16MCA5DEMM	Multimedia Systems	CA	4	-	-	1	5	4	50	50	100	3
2.	16MCA5DEMS	Mobile Ad Hoc & Sensor Networks	CA	4	-	-	1	5	4	50	50	100	3
3.	16MCA5DEWS	Web Services	CA	4	-	-	1	5	4	50	50	100	3
4.	16MCA5DESC	Soft Computing	CA	4	-	-	1	5	4	50	50	100	3



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**LIST OF COURSES: ELECTIVE - V**

**Department:** Computer Applications

**Semester:** V

Sl. No.	Subject Code	Course Title	Teaching Department	Credits					Contact Hrs./Wk.	Marks			SEE Duration in Hrs.
				L	T	P	S	Total		CIE	SEE	Total	
1.	16MCA5DEAN	Advanced Computer Networks	CA	4	-	-	1	5	4	50	50	100	3
2.	16MCA5DEIS	Information Systems Security	CA	4	-	-	1	5	4	50	50	100	3
3.	16MCA5DERP	Enterprise Resource Planning	CA	4	-	-	1	5	4	50	50	100	3
4.	16MCA5DEBE	Building Enterprise Applications	CA	4	-	-	1	5	4	50	50	100	3



**BMS COLLEGE OF ENGINEERING BENGALURU-19**  
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**LIST OF COURSES: ELECTIVE - VI**

**Department:** Computer Applications

**Semester:** V

Sl. No.	Subject Code	Course Title	Teaching Department	Credits					Contact Hrs./Wk.	Marks			SEE Duration in Hrs.
				L	T	P	S	Total		CIE	SEE	Total	
1.	16MCA5DEMA	Mobile Applications	CA	4	-	-	1	5	4	50	50	100	3
2.	16MCA5DEML	Machine Learning	CA	4	-	-	1	5	4	50	50	100	3
3.	16MCA5DEMS	Micro Services	CA	4	-	-	1	5	4	50	50	100	3
4.	16MCA5DEOB	Organizational Behaviour	CA	4	-	-	1	5	4	50	50	100	3



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**Department:** Computer Applications

**Semester:** VI

Sl. No.	Subject Code	Course Title	Teaching Department	Credits	Marks		
					CIE	SEE	Total
1.	16MCA6DPIP	Internship*	CA	5	50	-	50
2.	16MCA6DPPW	Project Work	CA	20	100	100	200
<b>Total</b>				<b>25</b>	<b>150</b>	<b>100</b>	<b>250</b>

\*Internship will be carried out for six weeks immediately after IV Semester End Examination and before the commencement of V semester.