

DAYANANDA SAGAR COLLEGE OF ENGINEERING
(An Autonomous Institute affiliated to VTU, Approved by AICTE & ISO 9001:2008 Certified)
Accredited by National Assessment & Accreditation Council (NAAC) with 'A' grade
CHOICE BASED CREDIT SYSTEM (CBCS)
SCHEME OF TEACHING AND EXAMINATION 2015-2016/2016-17
POST GRADUATE PROGRAM
MASTER OF COMPUTER APPLICATIONS

DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS
SUMMARY OF SCHEME (AUTONOMOUS) 2016

SEMESTER	TOTAL MARKS	CREDITS
I	800	26
II	800	26
III	800	26
IV	800	26
V	800	26
VI	400	20
TOTAL	4400	150

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MASTER OF COMPUTER APPLICATIONS

Department: MCA
Course: MCA

I SEMESTER

Sl.No	Subject Code	Name of the Subject	Teaching Dept.	Board	Teaching hours/week			SEE Hours	Examination			CREDITS
					L	T	P		CIE	SEE	Total	
1	15MCA11	Data Structures Using C	MCA	MCA	4	0	0	3	50	100	100	4
2	15MCA12	Discrete Mathematical Structures	MCA	MCA	4	0	0	3	50	100	100	4
3	15MCA13	Digital Logic and Computer Architecture	MCA	MCA	4	0	0	3	50	100	100	4
4	15MCA14	UNIX Programming	MCA	MCA	4	0	0	3	50	100	100	4
5	15MCA15	Web Technologies	MCA	MCA	4	0	0	3	50	100	100	4
6	15MCA16	Data Structures Laboratory	MCA	MCA	1	0	2	3	50	50	100	2
7	15MCA17	Unix Programming Laboratory	MCA	MCA	1	0	2	3	50	50	100	2
8	15MCA18	Web Programming Laboratory	MCA	MCA	1	0	2	3	50	50	100	2
TOTAL									400	650	800	26

CIE: Continuous Internal Evaluation, SEE: Semester End Examination, L: Lecture, T: Tutorial, P: Practical
 1Hr. Theory= 1 credit, 2Hrs. Practical=1 credit, 1Hr. Tutorial =1 credit

[All Labs will have 1hr instruction class]

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Department :MCA
Course :MCA

II SEMESTER

Sl.No	Subject Code	Name of the Subject	Teaching Dept.	Board	Teaching hours/week			SEE Hours	Examination			CREDITS
					L	T	P		CIE	SEE	Total	
1	15MCA21	Python Programming	MCA	MCA	4	0	0	3	50	100	100	4
2	15MCA22	Object Oriented Programming using C++	MCA	MCA	4	0	0	3	50	100	100	4
3	15MCA23	Operating System	MCA	MCA	4	0	0	3	50	100	100	4
4	15MCA24	System Software	MCA	MCA	4	0	0	3	50	100	100	4
5	15MCA25	Database Management System	MCA	MCA	4	0	0	3	50	100	100	4
6	15MCA26	Python Programming Laboratory	MCA	MCA	1	0	2	3	50	50	100	2
7	15MCA27	Database Laboratory	MCA	MCA	1	0	2	3	50	50	100	2
8	15MCA28	OOP Using C++ Laboratory	MCA	MCA	1	0	2	3	50	50	100	2
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III SEMESTER

Sl.No	Subject Code	Name of the Subject	Teaching Dept.	Board	Teaching hours/week			SEE Hours	Examination			CREDITS
					L	T	P		CIE	SEE	Total	
1	15MCA31	Computer Networks	MCA	MCA	4	0	0	3	50	100	100	4
2	15MCA32	Java Programming-I	MCA	MCA	4	0	0	3	50	100	100	4
3	15MCA33	Analysis and Design of Algorithms	MCA	MCA	4	0	0	3	50	100	100	4
4	15MCA34	Software Engineering	MCA	MCA	4	0	0	3	50	100	100	4
5	15MCA35	Elective-1	MCA	MCA	4	0	0	3	50	100	100	4
6	15MCA36	Networks Laboratory	MCA	MCA	1	0	2	3	50	50	100	2
7	15MCA37	Java Laboratory	MCA	MCA	1	0	2	3	50	50	100	2
8	15MCA38	Analysis and Design Laboratory	MCA	MCA	1	0	2	3	50	50	100	2
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Elective-1

15MCA351	UNIX system Programming	15MCA354	Operations Research
15MCA352	Advanced Topics in DBMS	15MCA355	Principles of User Interface Design
15MCA353	Probability Statistics		

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Sl.No	Subject Code	Name of the Subject	Teaching Dept.	Board	Teaching hours/week			SEE Hours	Examination			CREDITS
					L	T	P		CIE	SEE	Total	
1	15MCA41	Java programming-II	MCA	MCA	4	0	0	3	50	100	100	4
2	15MCA42	Web Application Development	MCA	MCA	4	0	0	3	50	100	100	4
3	15MCA43	Software Testing	MCA	MCA	4	0	0	3	50	100	100	4
4	15MCA44	Elective- 2	MCA	MCA	4	0	0	3	50	100	100	4
5	15MCA45	Elective-3	MCA	MCA	4	0	0	3	50	100	100	4
6	15MCA46	Java 2 Laboratory	MCA	MCA	1	0	2	3	50	50	100	2
7	15MCA47	Web Application Development Laboratory	MCA	MCA	1	0	2	3	50	50	100	2
8	15MCA48	Software Testing Laboratory	MCA	MCA	1	0	2	3	50	50	100	2
TOTAL									400	650	800	26

ELECTIVE-II		ELECTIVE-III	
15MCA441	Internetworking	15MCA451	Cryptography & Network Security
15MCA442	Data Science	15MCA452	Network Management
15MCA443	Web Engineering	15MCA453	NOSQL
15MCA444	Software Architecture	15MCA454	Internet of Things
15MCA445	Theory of Computation (FAFL)	15MCA455	System Simulation and Modeling

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V SEMESTER

Sl.No	Subject Code	Name of the Subject	Teaching Dept.	Board	Teaching hours/week			SEE Hours	Examination			CREDITS
					L	T	P		CIE	SEE	Total	
1	15MCA51	Object-Oriented Modeling and Design Patterns	MCA	MCA	4	0	0	3	50	100	100	4
2	15MCA52	Programming using C#.& .NET	MCA	MCA	4	0	0	3	50	100	100	4
3	15MCA53	Mobile Applications	MCA	MCA	4	0	0	3	50	100	100	4
4	15MCA54	Elective-4	MCA	MCA	4	0	0	3	50	100	100	4
5	15MCA55	Elective-5	MCA	MCA	4	0	0	3	50	100	100	4
6	15MCA56	Software Project Management Laboratory	MCA	MCA	1	0	2	3	50	50	100	2
7	15MCA57	.NET Laboratory	MCA	MCA	1	0	2	3	50	50	100	2
8	15MCA58	Mobile Applications Laboratory	MCA	MCA	1	0	2	3	50	50	100	2
TOTAL									400	650	800	26

ELECTIVE-IV		ELECTIVE-V	
15MCA541	Mobile and Adhoc Sensor Networks	15MCA551	Cloud Computing
15MCA542	Parallel Computing	15MCA552	Web2.o and Rich Internet Applications
15MCA543	Big Data Analytics	15MCA553	Information Retrieval & Search Engines
15MCA544	Services Oriented Architecture	15MCA554	Soft Computing
15MCA545	Artificial Intelligence	15MCA555	Software Project Management
15MCA546	Management Information System	15MCA556	R Programming

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VI SEMESTER

VI Semester (Internship & Major Project)

Subject Code	Course	No. of Hrs./Week		Duration of Exam in Hours	Marks for			CREDITS	
		Lecture	Field Work / Assignment / Tutorials		CIE	Synopsis/Dissertation SEE	Presentation / Demonstration and Viva - Voce SEE		Total
15MCA61	Phase – I Internship and Synopsis	-	-	-	50	50 (SEE)	--	100	04
15MCA62	Phase – II Project Dissertation	-	-	-	50	150 (SEE)	100 (50 + 50)	300	16
Total		-	--	03	100	200	100	400	20
Grand Total (I to VI Sem.) : 4400 Marks; 150 Credits									

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Guidelines for Internship and Project (6th Semester):

1. The student shall undergo Internship for 4-6 weeks during vacations and project for minimum 12 weeks.
2. The internal guide for 50 Marks evaluates internal Assessment (Presentation/Seminar) of the internship.
3. The Internship should be carried out in Industry/R&D Labs/ Institution
4. Internship report and Synopsis of the project has to be submitted before the end of the first month of 6th semester and evaluated by a panel comprising Internal Guide, a senior faculty from the department and HOD for 50 marks.
5. The synopsis of the project should include:
 - a. Project Problem formulation.
 - b. Training undergone on required tools and technologies for the development of his/her project.
6. The SEE Assessment of Phase I of the project is evaluated by a committee consisting of the internal guide, senior faculty along with HOD as chairperson for 50 Marks.
7. The Internal Examiner (the project guide with at least 3 years experience) and External Examiner will perform the Final Evaluation of Project.
8. Internal and External Examiner shall carry out the evaluation of Dissertation Report for 150 Marks individually. The average of the marks allotted by the Internal Examiner and the External examiner shall be the final marks of the Project dissertation report evaluation.
9. Internal Examiner shall evaluate the Project Presentation / Demonstration and Viva-Voce jointly and External Examiner for 50 Marks each adding to 100 marks.
10. The Project should be carried out in his/her Institution or any Industry/R&D Labs based on relevant tools and techniques learned in MCA courses/internship.
11. The outcome of the project should be encouraged to present/publish in reviewed Conferences/Journals as papers.