

**MASTER OF COMPUTER APPLICATIONS (M CA)
Effective from 2009 onwards**

Scheme of Examination:

English shall be the medium of instruction and examination.

Theory Papers:

Each paper will be of 100 marks (75 marks for theory exam and 25 marks for internal assessment) and duration of each paper will be 3 hours.

In each theory paper, nine questions are to be set. Two questions are to set from each Unit and candidate is required to attempt at least one question from each unit. Question number nine will be compulsory, which will be of short answer type with 5-10 parts, out of the entire syllabus. In all, five questions are to be attempted.

Practical Examination

Max. Marks: 100 (50 marks for practical and 50 marks for internal assessment).

Duration: 3 hours.


Conduct: Practical exam will be conducted by the external examiner from the panel submitted by Chairman, Computer Science Department, Himachal Pradesh University and duly approved by the university authority/evaluation branch, Himachal Pradesh University, Shimla.

Project Work:

In 3rd year (sixth semester) the student has to develop one project, which will be evaluated by the external examiner from the panel submitted by Chairman, Computer Science Department, Himachal Pradesh University, and duly approved by the university authority/evaluation branch, Himachal Pradesh University, Shimla on the following basis:

System Development Project

System Design	100 Marks
Log Book and Interim Report	100 Marks
Seminars (2)	100 Marks
Project Report (3 Copies)	200 Marks
Viva-Voce	100 marks



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600 Marks

In respect of theory papers 25 marks in each paper shall be reserved for award of internal assessment based on such work as assignments/practical/periodical tests/quiz etc.

In respect of practical papers, 50 marks shall be reserved for internal assessment in similar manner.

The marks awarded by the teacher on account of internal assessment in relation to theory/practical paper as mentioned above shall be submitted to the office of Chairman.

In sixth semester, the Chairman/Head of the Department will assign a guide/supervisor, to each candidate for his/her project work. The candidate shall be required to maintain his/her project diary (logbook) of work in the organization. Each student will be required to give at least two seminars on his/her project work. Each student is required to submit three copies of his/her project reports in the Department after completion of the project work which will be evaluated by external examiner.

No.		per	Lecture Hrs/week	Tutorial Hrs/week	Univ. Exam Marks	Internal Assessment
First Year						
Semester 1						
1	MCA-101	Programming Methodologies Using C	3	1	75	25
2	MCA-102	Digital Organization	3	1	75	25
3	MCA-103	Introduction to Organizational Structure & Personnel Management	3	1	75	25
4	MCA-104	PC Packages	3	1	75	25
5	MCA-105	Effective Communication Skills	3	1	75	25
6	MCA-106	Practical-1(C-Language)	6		50	50
7	MCA-107	Practical-2(PC Packages)	6		50	50
Semester 2						
1	MCA-201	Data Structure	3	1	75	25
2	MCA-202	Computer Architecture	3	1	75	25
3	MCA-203	Programming in Visual Basic	3	1	75	25
4	MCA-204	Discrete Mathematics	3	1	75	25
5	MCA-205	Accounting & Financial Management	3	1	75	25
6	MCA-206	Practical-3(Data Structure)	6		50	50
7	MCA-207	Practical-4(Visual Basic)	6		50	50

NO	NO.	per	Lecture Hrs/week	Tutorial Hrs/week	Univ. Exam Marks	Internal Assessment
Second Year						
Semester 3						
1	MCA-301	Operating System	3	1	75	25
2	MCA-302	Data Communication & Computer Networks	3	1	75	25
3	MCA-303	Data Base Management System	3	1	75	25
4	MCA-304	Software Engineering	3	1	75	25
5	MCA-305	Object Oriented Programming Using JAVA	3	1	75	25
6	MCA-306	Practical-5(DBMS)	6		50	50
7	MCA-307	Practical-6(JAVA)	6		50	50
Semester - 4						
1	MCA-401	Programming Using C#	3	1	75	25
2	MCA-402	.NET Technology	3	1	75	25
3	MCA-403	Computer Oriented Optimization Methods	3	1	75	25
4	MCA-404	Internet Technologies & Web Page Designing	3	1	75	25
5	MCA-405	Elective -I	3	1	75	25
6	MCA-406	Practical-7(C#)	6		50	50
7	MCA-407	Practical-8(Internet & Web page design)	6		50	50

NO	NO.	per	Lecture Hrs/week	Tutorial Hrs/week	Univ. Exam Marks	Internal Assessment
Third Year						
		Semester - 5				
1	MCA-501	Data Warehouse & Mining	3	1	75	25
2	MCA-502	Computer Graphics	3	1	75	25
3	MCA-503	Elective – II	3	1	75	25
4	MCA-504	Elective – III	3	1	75	25
5	MCA-505	Elective – IV	3	1	75	25
	MCA-406	Practical-9	6		50	50
	MCA-407	Practical-10	6	1	50	50

S. No	Course No.	Paper	Univ. Exam Marks
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Semester – 6			
1	MCA-601	System Development Project	
	(a)	System Design	100
	(b)	Log Book and Interim Report	100
	(c)	Seminars (2)	100
	(d)	Project Report (3 Copies)	200
	(e)	Viva-Voce	100

ELECTIVES

S. No	Course	Paper
1	MCA-E01 Computer Oriented Numerical Methods	
2	MCA-E02 Artificial Intelligence & Expert Systems	
3	MCA-E03 Component Based Software System	
4	MCA-E04 Software Quality	
5	MCA-E05 Software Testing	
6	MCA-E06 Automata Theory & Compiler Design	
7	MCA-E07 Computer Algorithms	
8	MCA-E08 Cyber Law	
9	MCA-E09 Distributed Data Base Management System	
10	MCA-E10 Management of Software Projects	
11	MCA-E11 Open Source Software	
12	MCA-E12 Image Processing	
13	MCA-E13 Managerial Economics	