

**MCA-601**

# **MASTER OF COMPUTER APPLICATIONS**

**(MCA)**

## **SYSTEM DEVELOPMENT PROJECT**

### **GUIDELINES**

*[BATCH: 2019-2022]*



**DEPARTMENT OF COMPUTER SCIENCE  
HIMACHAL PRADESH UNIVERSITY,  
SUMMER-HILL SHIMLA – 171005**

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## CONTENTS

<i>S. No.</i>	<i>Topic</i>	<i>Page No.</i>
I	Message from the Project Coordinator(s)	1
II	Introduction and Objectives	2-3
III	Points to remember while preparing the ProjectReport	4-5
IV	Sample Project Trainee Letter	6
V	Sample Certificate of Originality	7
VI	Sample Cover Page of Report	8
VII	Allotment of Supervisor	9-12

## **I. MESSAGE FROM THE PROJECT CO-ORDINATOR**

The Master of Computer Applications (MCA) programme prepares the students to take up positions as Systems Analysts, Systems Designers, Software Engineers, Programmers and Project Managers in any field related to information technology.

The spread of COVID-19 poses a threat to humanity, as this pandemic has forced many global activities to close, including educational activities. To reduce the spread of the virus, education institutions have been forced to switch to e-learning using available educational platforms, despite the challenges facing this sudden transformation. A recent study results that e-learning has become popular among students in all educational institutions in the period of lockdown due to the COVID-19 pandemic.

We had therefore imparted you the comprehensive knowledge covering the skills and core areas of computer science courses with equal emphasis on the theory and practical. The MCA students are expected to spend last semester (6<sup>th</sup> semester) working on a project preferably in a software industry or any research organization. The theoretical background of various courses provides you the necessary foundation, principles, and practices to develop effective ways to solve computing problems.

The objective of the MCA project work is to develop quality software solution. During the development of the project, you should involve in all the stages of the software development life cycle like requirements analysis, systems analysis, systems design, software development, testing strategies and documentation with an overall emphasis on the development of reliable software systems.

Prepare your project proposal/report strictly as per guidelines. Disapproval of project proposal/report leads to loss of your valuable time. To avoid this loss take your proposal preparation very seriously and *consult for every point on which you have doubt, with your project guide/supervisor.*

You are advised to take this project work **very seriously**, as these efforts will be considered as 6-months experience in most of the software companies. Topics selected should be complex and large enough to justify as a MCA project. The project should be genuine and original in nature and should not be copied from anywhere else.

We wish you all the success.

**Prof. Arvind Kalia**

**Dr. Yogesh Mohan**

**MCA Project Coordinator(s)**

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## **II            INTRODUCTION AND OBJECTIVES**

The Project work constitutes a major component in most professional programmes. It needs to be carried out with due care, and should be executed with seriousness by the students. The project work is not only a partial fulfillment of the MCA requirements, but also provides a mechanism to demonstrate your skills, abilities and specialization. The project work should compulsorily include the software development. Physical installations or configuring the LAN/WAN or theoretical projects or study of the systems, which doesn't involve s/w development, are strictly not allowed.

### **OBJECTIVES**

**The objectives of the project is to help the student develop the ability to apply theoretical and practical tools/techniques to solve real life problems related to industry, academic institutions and research laboratories. After the completion of this project work, the student should be able to:**

- Describe the Systems Development Life Cycle (SDLC).
- Evaluate systems requirements.
- Complete a problem definition.
- Evaluate a problem definition.
- Determine how to collect information to determine requirements.
- Perform and evaluate feasibility studies like cost-benefit analysis, technical feasibility, time feasibility and Operational feasibility for the project.
- Work on data collection methods for fact finding.
- Decide the S/W requirement specifications and H/W requirement specifications.
- Plan the systems design phase of the SDLC.
- Distinguish between logical and physical design requirements.
- Design and evaluate system outputs.
- Design and evaluate systems inputs.
- Design and evaluate validity checks for input data.
- Design and evaluate user interfaces for input.
- Design and evaluate file structures to include the use of indexes.
- Estimate storage requirements.
- Explain the various file update processes based on the standard file organizations.
- Decide various data structures.
- Decide the various processing systems to include distributed, client/server, online and others.
- Perform coding for the project.
- Documentation requirements and prepare and evaluate systems documentation.

- Perform various systems testing techniques/strategies to include the phases of testing.
- Systems implementation and its key problems.
- Generate various reports.
- Be able to prepare and evaluate a final report.
- Brief the maintenance procedures and the role of configuration management in operations.
- To decide the future scope and further enhancement of the system.
- Plan for several appendices to be placed in support with the project report documentation.
- Work effectively as an individual or as a team member to produce correct, efficient, well-organized and documented programs in a reasonable time.
- Recognize problems that are amenable to computer solutions, and knowledge of the tools necessary for solving such problems.
- Develop of the ability to assess the implications of work performed.
- Get good exposure and command in one or more application areas and on the software
- Develop quality software using the software engineering principles.
- Develop of the ability to communicate effectively.
- And many more...

### **III POINTS TO REMEMBER WHILE PREPARING THE PROJECT REPORT**

#### **1. Project Work Assessment Guidelines:**

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

#### **System Development Project**

<b>System Design</b>	100 Marks
<b>Log Book and Interim Report</b>	100 Marks
<b>Seminars (2)</b>	100 Marks
<b>Project Report (3 + 1 Copies)</b>	200 Marks
<b>Viva-Voce</b>	100 marks
<b>Total</b>	<b>600 Marks</b>

*The project proposal/report should be prepared in consultation with your guide.*

2. In case the students require any project trainee letter from the Department for doing a project in any organization/software company, they can get a “**Project Trainee letter**” (*Format given on Page 06*) attested by the Project Coordinator/Chairman.

3. Students are advised to maintain a **Log Book** of activities carried out during the entire project and submit the same duly signed by the supervisor concerned. Refer to the *Page No. 9-12* for the list of supervisor allotted.

#### **4. Project Report Formulation:**

The project report **should** contain the following:

- (i) Certificate of Originality (*Format given on Page 07*).
- (ii) Project documentation (*Point 5 below*).
- (iii) A CD consisting of the executable and pdf file(s) of the complete project should be attached on the last page of the project report. The student needs to retain the identical copy of the CD that should be carried while appearing for the viva-voce along with the project report.

5. The **project documentation** may be about 100 to 125 pages (excluding coding). The project documentation details should not be too generic in nature. Appropriate project report documentation should be done, like, **how you have done the analysis, design, coding, use of testing techniques/strategies, etc., in respect of your project**. To be more specific, whatever the theory in respect of these topics is available in the reference books should be avoided as far as possible. **The project documentation should be in respect of your project only**. The project documentation should include the topics given below. Each and every component shown below carries certain weightage in the project report evaluation.

- ◆ Table of Contents/Index with page numbering
- ◆ Introduction/Objectives
- ◆ System Analysis
- ◆ System Design
- ◆ Coding
- ◆ Testing
- ◆ Reports
- ◆ Conclusion
- ◆ Future scope and further enhancement of the Project
- ◆ Bibliography
- ◆ Appendices (if any)
- ◆ Glossary.

*For sample cover page of the report refer to format given on page number 08.*

6. The project report should normally be printed with 1.5 line spacing on A4 paper (one side only). All the pages, tables and figures must be numbered. Tables and figures should contain titles. A common 12 point font (Times New Roman) should be preferred with Margins: 1.5 inches on the left, 1 inch each for top, bottom and right.
7. **Three copies of the original project report** in the bound form along with the CD (containing the executable / pdf file(s) of the project should be enclosed in the last page) is to be submitted to the department. One photocopy of the same Project Report and the CD must be retained by the student, which should be produced before the examiner at the time of viva-voce.
8. A photocopy of the project report is **not acceptable** for submission.
9. **Preferably, not more than one student is permitted to work on a project.** However, in case a project is comprehensive enough that requires one human-year or more time for its completion, then as per requirements of six human-months per student, at most two students may work on the same project. **In this regard, prior recommendation is mandatory and must be obtained from the respective supervisor(s) as well as MCA Project Coordinator** by both the students along with a hand-written application.
10. If 2 students have been allowed to work on a project, the project reports by them must include only different modules undertaken/worked upon **individually**. Each student must submit a **separate** project proposal and a separate project reports related to her/his modules. **Completely identical project reports are not allowed.** Only introductory and possibly concluding remarks may be similar or common. Each student has to undergo all the phases/stages of the software project development life cycle. In this case, both the students must attach **the prior recommendation obtained from the MCA Project Coordinator.** **A single copy of the project report comprising of work of two or more students shall not be entertained.**
11. **Unfair means**  
Students shall not use unfair means in connection with the project report.
12. **Violation of the project guidelines will lead to the rejection of the project at any stage.**

**Project Trainee Letter  
(MCA-601)**

**To**

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**Dear Sir/ Madam,**

This is to certify that Mr / Ms \_\_\_\_\_  
with Enrolment No. \_\_\_\_\_ is a Final Year / (6<sup>th</sup> Sem.) student from 2019-2022 batch of the **Master of Computer Applications (MCA)**, *Department of Computer Application, Himachal Pradesh University, Summer-Hill Shimla – 171005.*

*He/She* is required to do a six months MCA project work in his/her final year starting from January/July session. Her/His project must be undertaken in a software development Organization/ Industry/ Research Laboratory etc. under the supervision of Prof./Dr./Sh. \_\_\_\_\_.

During her/his course of study, the student has studied and gained knowledge on various Computer Science courses. She/he may please be given a chance to work in your esteemed organization and complete her/his project work.

I ensure you a sincere and quality output from Ms./Mr. \_\_\_\_\_.  
The experience gained by this project work, not only benefit the student to partially fulfill the requirements of the MCA of H.P. University, but also lay a foundation for her/his future career.

*Looking forward to your positive response, support and cooperation.*

**CHAIRMAN**

**DECLARATION**

This is to certify, that the Project Report titled “\_\_\_\_\_” submitted by me is an outcome of my independent and original work. I have duly acknowledged all the sources from which the ideas and extracts have been taken. The project is free from any plagiarism and has not been submitted elsewhere to any other University / Institute for the fulfillment of the requirements of any course of study.

*Dated:*

*Signature of Student with Full Name and Enrollment Number/Batch*

**CERTIFICATE**

This is to certify that the project report entitled “\_\_\_\_\_” submitted to **Department of Computer Science, Himachal Pradesh University, Shimla - 171005** in partial fulfillment of the requirement for the award of the degree of **MASTER OF COMPUTER APPLICATIONS ( MCA)**, is an authentic and original work carried out by Mr. / Ms./Mr. \_\_\_\_\_, with enrolment no. \_\_\_\_\_ under my guidance.

*Dated:*

*Signature and address of the Guide(s)*

“TITLE OF THE PROJECT”

A PROJECT REPORT

By

“NAME OF THE STUDENT”

“Enrollment Number”

*SUBMITTED TO*

**HIMACHAL PRADESH UNIVERSITY - SHIMLA**

*IN*

*PARTIAL FULFILLMENT OF THE REQUIREMENTS*

*FOR THE DEGREE*

*OF*

**MASTER OF COMPUTER APPLICATION**

**(MCA)**

**BATCH: 2019-2022**

**Under the Supervision of**

“NAME OF SUPERVISOR(s)”



**DEPARTMENT OF COMPUTER SCIENCE  
HIMACHAL PRADESH UNIVERSITY  
SHIMLA-171005, INDIA**

# Department of Computer Science

MCA Batch: 2019-2022

System Development Project - (MCA-601)

SN.	Roll No.	Exam Roll No.	Name of Student	Supervisor Name
1	8001	190581221220001	ABHAY SINGH PATHANIA	Prof. Arvind Kalia
2	8002	190581221220002	ABHISHEK KUMAR	Prof. Amar Jeet Singh
3	8003	190581221220003	AJAY KUMAR	Prof. Manu Sood
4	8004	190581221220004	AJAY KUMAR	Prof. Kishori Lal Bansal
5	8005	190581221220005	AMAN THAKUR	Prof. Aman Kumar Sharma
6	8006	190581221220006	AMIT BHATIA	Prof. Jawahar Thakur
7	8007	190581221220007	AMIT KUMAR	Prof. Anita Ganpati
8	8008	190581221220008	AMIT KUMAR	Dr. Sumesh Sood
9	8010	190581221220011	ANJALI	Dr. Naveen Kumar
10	8011	190581221220010	ANJALI	Dr. Anshul Kalia
11	8012	190581221220012	ANKUSH KUMAR	Dr. Yogesh Mohan
12	8013	190581221220013	ANKUSH THAKUR	Prof. Arvind Kalia
13	8014	190581221220014	ANSHUL CHAUHAN	Prof. Amar Jeet Singh
14	8015	190581221220015	ANSHUL THAKUR	Prof. Manu Sood
15	8017	190581221220017	ASHISH NARWAL	Prof. Kishori Lal Bansal
16	8019	190581221220018	BAVITA	Prof. Aman Kumar Sharma
17	8020	190581221220019	DEVASHISH SHARMA	Prof. Jawahar Thakur
18	8021	190581221220020	DIKSHA	Prof. Anita Ganpati
19	8022	190581221220021	DIKSHA GULERIA	Dr. Sumesh Sood
20	8023	190581221220023	DIVYA SHARMA	Dr. Naveen Kumar
21	8024	190581221220024	GAURAV CHANDEL	Dr. Anshul Kalia
22	8025	190581221220025	GAURAV THAKUR	Dr. Yogesh Mohan
23	8026	190581221220026	HEM LATA	Prof. Arvind Kalia
24	8027	190581221220027	JATIN BALOURIA	Prof. Amar Jeet Singh
25	8028	190581221220028	JYOTI BALA	Prof. Manu Sood
26	8029	190581221220029	KALPANA KUMARI	Prof. Kishori Lal Bansal
27	8030	190581221220030	KANAV SHARMA	Prof. Aman Kumar Sharma
28	8031	190581221220031	KAPIL KUMAR	Prof. Jawahar Thakur
29	8032	190581221220032	KARTIKAY GANDHI	Prof. Anita Ganpati
30	8033	190581221220033	KETAN DOGRA	Dr. Sumesh Sood
31	8034	190581221220034	KIRAN PRABHA	Dr. Naveen Kumar
32	8035	190581221220035	KRIKA THAKUR	Dr. Anshul Kalia

SN.	Roll No.	Exam Roll No.	Name of Student	Supervisor Name
33	8036	190581221220036	KUSUM	Dr. Yogesh Mohan
34	8037	190581221220037	MANISH CHAUDHARY	Prof. Arvind Kalia
35	8038	190581221220038	MANISH THAKUR	Prof. Amar Jeet Singh
36	8040	190581221220039	MEHAR SINGH	Prof. Manu Sood
37	8041	190581221220040	MINAKSHI RANA	Prof. Kishori Lal Bansal
38	8042	190581221220041	MOHIT RAAMOLA	Prof. Aman Kumar Sharma
39	8043	190581221220042	MUKESH	Prof. Jawahar Thakur
40	8044	190581221220043	MULKH RAJ	Prof. Anita Ganpati
41	8045	190581221220044	MUSKAN	Dr. Sumesh Sood
42	8046	190581221220045	NAMITA NEGI	Dr. Naveen Kumar
43	8048	190581221220046	NEHA SHARMA	Dr. Anshul Kalia
44	8049	190581221220047	NIKHIL SINGH THAKUR	Dr. Yogesh Mohan
45	8050	190581221220048	PALLVI SHARMA	Prof. Arvind Kalia
46	8051	190581221220049	PANKAJ	Prof. Amar Jeet Singh
47	8052	190581221220050	PANKAJ KUMAR	Prof. Manu Sood
48	8053	190581221220051	PARAS ABROL	Prof. Kishori Lal Bansal
49	8055	190581221220053	PRAKASH CHAND	Prof. Aman Kumar Sharma
50	8056	190581221220054	PRASHANT	Prof. Jawahar Thakur
51	8057	190581221220055	PRASHANT THAKUR	Prof. Anita Ganpati
52	8058	190581221220057	PRIYANKA SHARMA	Dr. Sumesh Sood
53	8059	190581221220058	PUSHAP RAJ SHARMA	Dr. Naveen Kumar
54	8060	190581221220059	RAGHAV THAKUR	Dr. Anshul Kalia
55	8061	190581221220060	RAJAT RESTA	Dr. Yogesh Mohan
56	8062	190581221220061	RAJEEV KUMAR	Prof. Arvind Kalia
57	8063	190581221220062	RAVEENA KUMARI	Prof. Amar Jeet Singh
58	8064	190581221220063	RHITIK JAMWAL	Prof. Manu Sood
59	8065	190581221220064	RINKESH KUMAR	Prof. Kishori Lal Bansal
60	8066	190581221220065	RISHABH	Prof. Aman Kumar Sharma
61	8067	190581221220066	RONIT RANA	Prof. Jawahar Thakur
62	8068	190581221220067	SACHIN KUMAR	Prof. Anita Ganpati
63	8069	190581221220068	SACHIN THAKUR	Dr. Sumesh Sood
64	8070	190581221220069	SAHIL THAKUR	Dr. Naveen Kumar
65	8071	190581221220070	SAMIKSHA BHIMTA	Dr. Anshul Kalia
66	8072	190581221220071	SANCHIT SHARMA	Dr. Yogesh Mohan
67	8073	190581221220072	SANJEEV KUMAR	Prof. Arvind Kalia
68	8074	190581221220073	SAURAV VERMA	Prof. Amar Jeet Singh

SN.	Roll No.	Exam Roll No.	Name of Student	Supervisor Name
69	8075	190581221220074	SHEETAL THAKUR	Prof. Manu Sood
70	8076	190581221220075	SHEETLA DEVI	Prof. Kishori Lal Bansal
71	8077	190581221220076	SHILPA THAKUR	Prof. Aman Kumar Sharma
72	8078	190581221220077	SHIWANI DHIMAN	Prof. Jawahar Thakur
73	8079	190581221220078	SHREYA GUPTA	Prof. Anita Ganpati
74	8080	190581221220080	SONALI	Dr. Sumesh Sood
75	8081	190581221220079	SONALI	Dr. Naveen Kumar
76	8082	190581221220081	SOURABH SHARMA	Dr. Anshul Kalia
77	8083	190581221220082	SOURAV SHARMA	Dr. Yogesh Mohan
78	8084	190581221220083	SRISHTI SHARMA	Prof. Arvind Kalia
79	8085	190581221220084	SUSHIL KUMAR JUSTA	Prof. Amar Jeet Singh
80	8086	190581221220085	TANVI	Prof. Manu Sood
81	8087	190581221220086	TANVI	Prof. Kishori Lal Bansal
82	8088	190581221220087	TANVI NEGI	Prof. Aman Kumar Sharma
83	8089	190581221220088	TANYA SHYAM	Prof. Jawahar Thakur
84	8090	190581221220089	URVASHI THAKUR	Prof. Anita Ganpati
85	8091	190581221220090	VAIBHAV SHARMA	Dr. Sumesh Sood
86	8092	190581221220091	VAISHALI THAKUR	Dr. Naveen Kumar
87	8093	190581221220092	VANEET KUMAR	Dr. Anshul Kalia
88	8094	190581221220093	VIKAS	Dr. Yogesh Mohan
89	8095	190581221220094	VIKAS SHARMA	Prof. Arvind Kalia
90	8096	190581221220095	VIKAS VERMA	Prof. Amar Jeet Singh
91	8097	190581221220096	VINAY KUMAR	Prof. Manu Sood
92	8098	190581221220097	VIPUL THAKUR	Prof. Kishori Lal Bansal
93	8099	190581221220098	VIVEK BHARDWAJ	Prof. Aman Kumar Sharma
94	8100	190581221220099	WANNI THAKUR	Prof. Jawahar Thakur
95	8102	190581221220056	PRIYANKA SHARMA	Prof. Anita Ganpati

**Prof. Arvind Kalia**

Project Co-ordinator(s)  
MCA (Batch: 2019-2022)

**Dr. Yogesh Mohan**