

**List of Practical for
Master in Computer Application
(5 Year Integrated)
(Through Distance Education)**



**Directorate of Distance Education
Guru Jambheshwar University of
Science & Technology, Hissar**

First Year

**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION**

**Programme: MCA 5 year Integrated Course
Code: MCA-107**

**Course: Practical (Based on MCA-101)
Max Marks: 100**

Computer Fundamentals Lab (MCA-107)

1. To study History of Computer.
2. To study various Input/output devices.
3. To study Microsoft word.
4. To study Microsoft access.
5. To study Microsoft power point.
6. To study Microsoft Excel.
7. To study various MS DOS commands.
8. To study Floppy Disk Drive.
9. To study Motherboard.
10. To check and measure various supply voltages of a personal computer.

**Prepared By: Manoj
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**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION**

**Programme: MCA 5 year Integrated Course
Code: MCA-108**

**Course: Practical (Based on MCA-102)
Max Marks: 100**

Computer Programming and C Lab (MCA-108)

1. WAP to find the largest of three numbers (if-then-else).
2. WAP to find roots of quadratic equation using functions and switch statements.
3. WAP to multiply two matrices.
4. WAP to read a string and write it in reverse order.
5. WAP to concatenate two strings.
6. WAP to sort a list of numbers.
7. WAP to check that the input string is palindrome or not.
8. WAP to calculate factorial of a number.
9. WAP to calculate length of a string.
10. WAP to compare two strings.

**Prepared By: Mr. Vinod
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2nd Year

GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION

Programme: MCA 5 year Integrated Course

Course: Practical (Based on MCA-201)

Code: MCA 207

Total Marks=100

Data Structure & Algorithms Lab

1. Write a C program to implement the following string manipulation functions:
a) String copy b) String concatenation and c) String compare.
2. Write a C program that uses functions to perform the following:
a) Matrix Addition
b) Matrix Subtraction
c) Matrix Multiplication
Display results after every operation on matrices.
3. Write a C program that uses functions to perform the following:
a) Create a singly linked list of integers.
b) Insert an integer in the above linked list in the beginning.
c) Insert an integer in the above linked list in the end.
d) Insert an integer in the above linked list before a given element.
e) Insert an integer in the above linked list after a given element.
f) Display the contents of the above list after every insertion.
4. Write a C program that uses functions to perform the following:
a) Create a singly linked list of integers.
b) Delete an integer from the beginning of above linked list.
c) Delete the last integer from the above linked list.
d) Delete a given integer from the above linked list.
e) Display the contents of the above list after every deletion.
5. Write a C program that uses functions to perform the following:
a) Create a binary search tree of characters.
b) Traverse the above Binary search tree recursively in Preorder, Inorder and Postorder.
6. Write C programs for implementing the Quick sort sorting methods to arrange a list of integers in ascending order.
7. Write C programs for implementing the following searching methods:
a) Linear Search b) Binary search
8. Write a C program that accepts the vertices and edges for a graph and stores it as an adjacency matrix. Implement functions to print indegree, outdegree and to display the adjacency matrix.

Prepared By: Dr. Jyoti
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GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION

Programme: MCA (5-year integrated course)
Code: MCA-208

Course: Practical (Based on MCA - 202)
Max Marks: 100

DBMS Lab (MCA-208)

1. Define various Database Languages.
2. Write a program to create a database.
3. Write a program to create table with constraints such as 'NOT NULL', 'UNIQUE', 'DEFAULT', 'PRIMARY KEY', 'CHECK' etc.
4. Write a program to add a few record to the database.
5. Write a program to insert values into a specific column.
6. Write a program to study the viewing commands (select, update) and executes the following queries:
 - Find the names of all students who study in MCA 3rd year.
 - Find the student names whose age is greater than 20 years.
7. Write a program for following query to modify the structure of table using Alter or Delete command:
 - Add an attribute named 'Phone' to the table 'Student'.
 - Drop the attribute 'Gender' from the table 'Student'.
 - Delete the entries from the table 'Student' who left the course in between.
8. Write a program to Update the record using 'WHERE' clause and without using 'WHERE' clause.
9. Write a program to Update the record using Sub Query.
10. Write a program to add and remove a 'FOREIGN KEY'.
11. Write a program to order the records in ascending and descending order.
12. Write a program to Group the records using 'HAVING' clause.
13. Write programs for various Aggregate functions such as 'SUM', 'COUNT', 'AVG', 'MAX', 'MIN'.
14. Write programs for various relational algebraic operations such as 'UNION', 'INTERSECT', 'EXCEPT'.
15. Write a program for Join operation as 'INNER JOIN', 'OUTER JOIN', 'CROSS JOIN'.

Prepared By: Abhishek Kajal

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3rd Year

Programme: MCA 5 year Integrated Course

Course: Practical (Based on MCA-401)

Code: MCA 407

Total Marks=100

Computer Graphics & Multimedia LAB (MCA-407)

1. Write a program to draw a line using DDA algorithm.
2. Draw a triangle inside other triangle.
3. Write a program to draw a cube in using Bresenham's algorithm.
4. Write a program for clock with hours, minute and second hand.
5. Write a program to rotate a circle around to a triangle lines.
6. Write a program to implement polygon filling.
7. Write a program for window clipping.
8. Write a program using painter algorithm for depth reducing of an shape.
9. Write a program for transformations of triangle- translation, scaling, and rotation.
10. Write a program for converting the shape of an object.

**Prepared By: Sunil Verma
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**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION**

Programme: MCA 5 year Integrated Course

Course: Practical (Based on MCA-402)

Code: MCA 408

Total Marks=100

Artificial Intelligence Lab

1. Turbo Prolog features and format.
2. Write a program for usage of rules in prolog.
3. Write a program for using Input, Output and fail predicates in prolog.
4. Write a program for studying usage if arithmetic operators in prolog.
5. Write a program to study usage of Cut, Not, Fail predicates in prolog.
6. Write a program to study usage of recursion in prolog.
7. Write a program to implement DFS/ BFS.
8. Write a program to implement A* algorithm.
9. Write a program to solve 8 queens problem.
10. Write a program to solve travelling salesman problem.

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