

**National University**  
B.Sc.(Hons.) in Computer Science and Engineering  
Part-IV, 7<sup>th</sup> Semester Examination- 2021  
CSE- 540202  
(Artificial Intelligence Lab)

Time: 3 hours

Full Marks: 40

[N.B. : Answer ~~answer~~ *anyone* from each section.  
Each question indicates equal marks]

**Section-A**

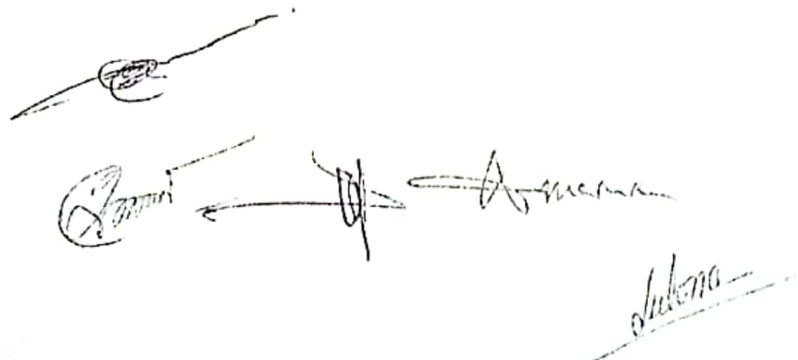
1. Write a program using PROLOG/LISP for addition and multiplication of two numbers.
2. Write a program using PROLOG/LISP for finding the sum of all numbers in a given list.
3. Write a program using PROLOG/LISP for comparing character and string.
4. Write a program using PROLOG/LISP to count number of elements in a list.
5. Write a program using PROLOG/LISP whether an element is a member of list.
6. Write a program using PROLOG/LISP to reverse a list.
7. Write a program using PROLOG/LISP to find out Union and Intersection of two lists.
8. Write a program using PROLOG/LISP to determine the Greatest Common Divisor of two positive integer numbers.

**Section-B**

1. Write a program using PROLOG/LISP to solve 4-queen problem.
2. Write a program using PROLOG/LISP to solve 8-puzzle problem.
3. Write a program using PROLOG/LISP to solve Tower of Hanoi problem.
4. Write a program using PROLOG/LISP to solve Traveling Salesman problem.
5. Write a program using PROLOG/LISP to implement Depth First Search.
6. Write a program using PROLOG/LISP to implement Breadth First Search.
7. Write a program using PROLOG/LISP to implement Hill Climbing Algorithm.
8. Write a program using PROLOG/LISP to show Tic-tac-toe game for O and X.

**Marks Distribution:** (For Each Section)

Source Code	: 10
Result	: 05
Viva-voce	: 05
Total	: 20

The block contains several handwritten signatures and marks. At the top, there is a large, stylized signature that appears to be 'S. S. S.'. Below it, there are three smaller signatures: 'S. S. S.', 'S. S. S.', and 'S. S. S.'. At the bottom right, there is a signature that looks like 'S. S. S.'.

# National University

B.Sc.(Hons) in Computer Science and Engineering

4<sup>th</sup> Year, 7<sup>th</sup> Semester Examination 2021

CSE-540204 ( Compiler Design Lab)

N.B: (Answer any two questions.) Each question indicates equal marks.

1. Write a simple lex specification to recognize the following verb: is, am, are, were. Write a lex program to recognize different types of operator.
2. Write a simple lex specification to recognize different keyword.
3. Write a simple lex specification to recognize the identifier.
4. Write a simple lex specification to recognize real numbers.
5. Write a simple lex specification to recognize integer.
6. Write a simple lex specification to recognize float.
7. Write a simple lex specification to recognize for the positive and negative integer and float number.
8. Write a simple lex specification to recognize different punctuation symbol.
9. Write a simple lex specification to recognize digit.
10. Write a lex program to recognize different types of operator.

## Marks Distribution:

- |                 |    |
|-----------------|----|
| (i) Source Code | 20 |
| (ii) Result     | 20 |
| (iii) Viva-voce | 20 |

Total =

40 40



# National University

B.Sc. (Hons) in CSE, Part-4, 7<sup>th</sup> Semester Examination, 2021

Course Code: CSE-540206 (New Syllabus)

Course Title: Computer Graphics Lab

Time: 3 hours

Full Marks: 40

*[Implement any two of the following experiments.]*  
*(Each experiment indicates equal Marks.)*

1. Write a program to implement Bresenham's line drawing algorithm.
2. Write a program to implement DDA (Digital Differential Analyzer) line drawing algorithm.
3. Write a program to implement Bresenham's circle drawing algorithm.
4. Write a program to implement Midpoint line drawing algorithm.
5. Write a program to implement Polygon (Rectangle) filling algorithm.
6. Write a program to implement Midpoint ellipse drawing algorithm.
7. Write a program to implement 2D transformations (Translation, Rotation).
8. Write a program to implement 2D transformations (Scaling, Rotation).
9. Write a program to implement composite (Translation, Rotation) transformation.
10. Write a program to implement Cohen-Sutherland line clipping algorithm.
11. Write a program to implement Sutherland-Hodgmen polygon line clipping algorithm.

*[N.B: Source code should be written in C/C++/Open GL Programming Language]*

## Marks Distribution

Algorithm	: 10
Source Code	: 10
Result	: 10
<u>Viva-Voce</u>	<u>: 10</u>
Total	= 40

# National University

B.Sc. (Hons) in CSE, Part-IV, 7<sup>th</sup> Semester Examination, 2021

Course Title :E-Commerce and Web Engineering Lab

Course Code: 540208

Time-3 Hours

Full Marks-40

(N.B: Students must answer one question from each section below.)

## Section A: HTML (Answer any one question.)

10X1=10

1. Design a simple webpage using only HTML tags for Computer Science and Engineering Department of your institute or college where <head><title>, <body> and divisional tags like <div>, <span>, <table> should be used as needed. (Using HTML5 is recommended).
2. Using text links design a simple website to navigate between different pages (minimum two pages and one page must contain an image link and another page contain 2x3 table)

## Section B: CSS (Answer any one question.)

10X1=10

3. Design a simple website using CSS containing formatted text, forms, tables and link styles. (Must use three ways of inserting CSS external, internal and inline style).
4. Using CSS menu, design a website to navigate between different pages. (Minimum three pages and each page must contain heading, paragraph, text formatting tags and mouse over links to back homepage).

## Section C: PHP, MySQL (Answer any one question.)

10X1=10

5. Design a form that contains "Text Fields", "Text Area", "Check boxes", "Multiple Checkboxes", "Radio Buttons", "List Boxes", "Password Fields", "Submit button", "Reset Buttons" and store the value of this form into MySQL database and show the stored information into another page using PHP program.
6. Design a webpage that collects student information and subject marks and stores the information and marks to MySQL database. Show the results in grading (GPA) system to another page using PHP program

## Section D: Java Scripts (Answer any one question.)

10X1=10

7. Design a page where user can input his/her personal information like name, address, email, gender, mobile number, etc. and perform common input validation using JavaScripts like valid email, mobile number should be 11 digits, mandatory field check etc.
8. Design a webpage containing JavaScripts function that performs various actions like changetext, change color, remove tag, insert new tag by different events like mouse click, mouseover etc.

## Distribution of marks for each question:-

1. Source Coding and Output: 06

2. Viva -Voce : 04

Total : 10