MASTER OF COMPUTER APPLICATIONS (MCA_NEW)

ASSIGNMENTS
OF MCA_NEW (2Yrs) PROGRAMME
SEMESTER-I

(January - 2025 & July - 2025)

MCS-211, MCS-212, MCS-213, MCS-214, MCS-215

MCSL-216, MCSL-217

ignou
THE PEOPLE'S
UNIVERSITY

**SCHOOL OF COMPUTER AND INFORMATION SCIENCES
INDIRA GANDHI NATIONAL OPEN UNIVERSITY
MAIDAN GARHI, NEW DELHI – 110 068**

CONTENTS

Important Notes

1. Submit your assignments to the Coordinator of your Study Centre on or before the due date.

2. Assignment submission before due dates is compulsory to become eligible for appearing in corresponding Term End Examinations. For further details, please refer to Programme Guide of MCA (2Yrs).

3. To become eligible for appearing the Term End Practical Examination for the lab courses, it is essential to fulfill the minimum attendance requirements as well as submission of assignments (on or before the due date). For further details, please refer to the Programme Guide of MCA (2yrs).

4. The viva voce is compulsory for the assignments. For any course, if a student submitted the assignment and not attended the viva-voce, then the assignment is treated as not successfully completed and would be marked as ZERO.

Course Code	:	MCSL-216
Course Title	:	**DAA and Web Design Lab**
Assignment Number	:	**MCA_NEW(I)/L-216/Assign/2025**
Maximum Marks	:	**100**
Weightage	:	**30%**
Last Dates for Submission	:	**30th April 2025 (for January session)**
		31st October 2025 (for July session)

This assignment has two sections. Answer all questions in each section. Each Section is of 20 marks. Your Lab Records will carry 40 Marks (20 Marks for each section). Rest 20 marks are for viva voce. You may use illustrations and diagrams to enhance the explanations. Please go through the guidelines regarding assignments given in the programme guide for the format of presentation.

Note: You must execute the program and submit the program logic, sample input and output along with the necessary documentation. Assumptions can be made wherever necessary.

<div align="center">

Section-1

</div>

Q1: Implement Quick Sort's algorithm on your machine to sort the following list of elements

<div align="center">

12   20   22   16   25   18   8   10   6   15

</div>

Also, compare the performance of Quick Sort algorithm implemented for the data given above with the performance of the Quick Sort algorithm when used to sort the data given below

<div align="center">

6   8   10   12   15   16   18   20   22   25

</div>

Note :
- Performance Comparison is required in terms of a number of comparisons, exchange operations and the number of times the loop will iterate?
- Show step by step processes, and support your code with suitable comments for better readability.

Q2: Apply Huffman's algorithm to construct an optimal binary prefix code for the letters and its frequencies in the table given below (Show the complete steps).

Letters	A	B	C	D	E	F	G
Frequency	15	25	5	7	10	13	9

Find out an average number of bits required per character. Also, Implement Huffman's coding algorithm and run for the given problem instance. Support your code with suitable comments for better readability

<div align="center">

Section-2

</div>

Q3: Design a form for the Patient Satisfaction Survey for a particular hospital having the following fields:
- Patient's name
- Patient's File number (Issued by the hospital)
- Which Unit of the hospital the patient was admitted Select V (Surgery, Medicine, etc.)
- Are you satisfied with overall treatment :
  - Very Satisfied   Satisfied   Not Satisfied
- Are you satisfied with medical facilities in the hospital :
  - Very Satisfied   Satisfied   Not Satisfied
- Overall Comments
- Submit
- Reset

Note : you are required judiciously choose the options for Text Box, Combo Box, Radio Button, Check Box, Buttons etc. for the respective fields required in the form

a) Submit button should enter all the fields' data to the database.
b) Error message should be shown if a text field is left blank.
c) Reset button resets all the fields to the blank.
d) Use JavaScript to validate the fields.

Q4: Create an HTML web page, as shown below. The cookie1 and cookie2 will be set on pressing Set Cookie1or Set Cookie2 button and the stored cookie value will be displayed on pressing Get Cookie1 or Get Cookie2 button respectively. On the other hand selectively cookie can be deleted by pressing Delete Cookie1 or Delete Cookie2 button. Display all cookies button will show all the stored cookies.