MASTER OF COMPUTER APPLICATIONS (MCA_NEW)

MCA_NEW 3rd Semester Assignments

(January,2026 & July,2026 sessions)

MCS-224, MCS-225, MCS-226, MCS-227

MCSL-228, MCSL-229

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

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Important Notes

1. Submit your assignments to the Coordinator of your Study Centre on or before the due date. Also, be in touch with concerned IGNOU RC for any updates on Assignments schedule etc.
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_NEW.
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_NEW.
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-228**
Course Title	**:**	**AI and Machine Learning Lab**
Assignment Number	**:**	**MCA_NEW(III)/L-228/Assign/2026**
Maximum Marks	**:**	**100**
Weightage	**:**	**30%**
Last Dates for Submission	**:**	**30th April, 2026 (for January session)** **31st October, 2026 (for July session)**

This assignment has eight questions. Answer all the questions. The total marks for all the questions are 40, and the maximum marks for each question are mentioned. Your Lab Records will carry 40 Marks. The remaining 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.

Q1: Write a Python Program to implement Depth First Search. **(4 Marks)**

Q2: Implement the Water Jug problem in Python. **(4 Marks)**

Q3: Write a Python Program to implement the Min-Max Algorithm. **(4 Marks)**

Q4: Write a Python Program to implement the Backtracking approach to solve the N Queens problem **(6 Marks)**

Q5: Discuss the Naïve Bayes algorithm and write the Python code to demonstrate the execution of the Naïve Bayes algorithm on the dataset of your choice. **(6 Marks)**

Q6: Implement multiple regression in Python. Take the dataset of your choice as input. **(4 Marks)**

Q7: Take a real-time example to implement the ID3 decision tree classification algorithm in Python. **(6 Marks)**

Q8: Write a Python Program to implement the Apriori algorithmona dataset of your own choice. **(6 Marks)**