POST GRADUATE DIPLOMA IN COMPUTER APPLICATIONS

(PGDCA_NEW)

PGDCA_NEW/ASSIGN/SEMESTER-I

ASSIGNMENTS

(January – 2026 & July – 2026)

MCS-201, MCS-202, MCS-203, MCSL-204, MCSL-205

SCHOOL OF COMPUTER AND INFORMATION SCIENCES
INDIRA GANDHI NATIONAL OPEN UNIVERSITY
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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 PGDCA_NEW Programme Guide.
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 PGDCA_NEW Programme Guide.
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	**:**	**MCS-201**
Course Title	**:**	**Programming in C and PYTHON**
Assignment Number	**:**	**PGDCA_NEW(I)/201/Assignment/2026**
Maximum Marks	**:**	**100**
Weightage	**:**	**30%**
Last Date of Submission	**:**	**30th April, 2026 (for January session)** **31st October, 2026 (for July session)**

There are ten questions in this assignment which carries 80 marks. Each question carries 8 marks. Rest 20 marks are for viva-voce. Answer all the questions from both the sections i.e. Section A and Section B. You may use illustrations and diagrams to enhance the explanations. Include the screen layouts also along with your assignment responses. Please go through the guidelines regarding assignments given in the Programme Guide for the format of presentation.

SECTION-A (C-Programming)

Question 1: Write an algorithm, draw a flow chart and write its corresponding C program to convert a decimal number to its equivalent Binary number. **(8 Marks)**

Question 2: Write an algorithm and its corresponding C program to generate students' Progress-Report for VIII standard (section of 20 students) of a CBSE school for all its 4 terms. Use Structures concept. Assumptions can be made wherever necessary. **(8 Marks)**

Question 3: Write a C program to generate the following pattern: **(8 Marks)**

1
1 2
1 2 3
1 2 3 4
1 2 3 4 5

Question 4: Write a C program to perform the following operation on matrices D = A + (B * C), where A, B and C are matrices of (3 X 3) size and D is the resultant matrix. **(8 Marks)**

Question 5: Write a C program to take a list of N numbers, separate even and odd numbers and put them in two appropriate files (evenfile and oddfile). Use File Handling concept. **(8 Marks)**

SECTION-B (PYTHON-Programming)

Question 6: Write a program in Python to check if a given year (entered by user) is a leap year or not, support your programme with suitable comments to improve readability **(8 Marks)**

Question 7: Write a program to prompt for a score between 0.0 and 1.0. If the score is out of range, print an error. If the score is between 0.0 and 1.0, print a grade using the following table **(8 Marks)**

Score	Grade
>= 0.9	A
>= 0.8	B
>= 0.7	C
>= 0.6	D
< 0.6	F

Question 8: Write a programme in Python to create a package named Area and create 3 module in it named – square, circle and rectangle each having a function to calculate area of square, circle and rectangle respectively. Import the module in separate location and use the functions. **(8 Marks)**

Question 9: Write a program in Python to perform following: **(8 Marks)**

- To find cube of numbers in a list using lambda function.
- To display frequency of each word in a file.
- To display first n lines from a file, where n is given by user.
- To display size of a file in bytes

Question 10: What are Co-routines? How Co-routines support cooperative multi-tasking in python? How Co-routines differ from threads? Compare Subroutines and Co-routines. **(8 Marks)**