

CERTIFICATE IN MOBILE APPLICATION DEVELOPMENT (CMAD)

Assignments

(January, 2026 & July, 2026 sessions)

BCS-091, BCS-092, BCS-093, BCS-094, BCSL-091

Assignments



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

CONTENTS

Course Code	Assignment No.	Submission-Schedule		Page No.
		For January-June Session	For July-December Session	
BCS-091	CMAD/091/Assignment/2026	30 th April, 2026	31 st October, 2026	3
BCS-092	CMAD/092/Assignment/2026	30 th April, 2026	31 st October, 2026	4
BCS-093	CMAD/093/Assignment/2026	30 th April, 2026	31 st October, 2026	6
BCS-094	CMAD/094/Assignment/2026	30 th April, 2026	31 st October, 2026	7
BCSL-091	CMAD/L-091/Assignment/2026	30 th April, 2026	31 st October, 2026	8

Important Notes

1. Submit your assignments to the Coordinator of your Study Centre on or before the due date. Please refer to <http://www.ignou.ac.in> for latest updates
2. Assignment submission before due dates is compulsory to become eligible for appearing in corresponding Term End Examinations. For further details, please refer to CMAD 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 CMAD Programme Guide.

Course Code : **BCSL-091**
Course Title : **Laboratory Course**
Assignment Number : **CMAD/L-091/Assignment/2026**
Maximum Marks : **25**
Last Date of Submission : **30th April, 2026 (for January session)**
31st October 2026 (for July session)

This Assignment carries questions from the course BCS-092 for 5 marks, and from the course BCS-093 and BCS-094 for 10 marks each, respectively. In all the questions given in this assignment which carries 25 marks. Answer all the questions. You may use illustrations and diagrams to enhance the explanations. Include the screen layouts also along with your assignment responses.

Section-1: Database portion of Lab (BCS-092)

Question1: **(2+3 Marks)**

Consider the following Relational Schema for a Hospital:

- Doctor (*ID, DoctorName, Speciality, JoinDate*)

Where *ID* is the unique identifier for the doctor (Primary Key), and *Speciality* indicates the doctor's area of expertise.

- Patient (*PID, PatientName, Phone, ID*)

Where *PID* is the unique identifier for the patient (Primary Key), and *ID* links the patient to their primary care doctor (Foreign Key).

- a) Write the SQL statements to create these tables. You must include definitions for Primary Keys, Foreign Keys, and necessary constraints. Insert a few rows of meaningful data into each table.
- b) Write and execute SQL statements for the following queries:
 - i) List the names of doctors who joined before January 1st, 2026.
 - ii) List the names of all patients in alphabetical order.
 - iii) Find the name of every patient along with the name of their assigned doctor.
 - iv) List the ID of all doctors who have been assigned to more than five patients.
 - v) Find the total number of patients assigned to each doctor.
 - vi) Find the total number of doctors in the hospital.

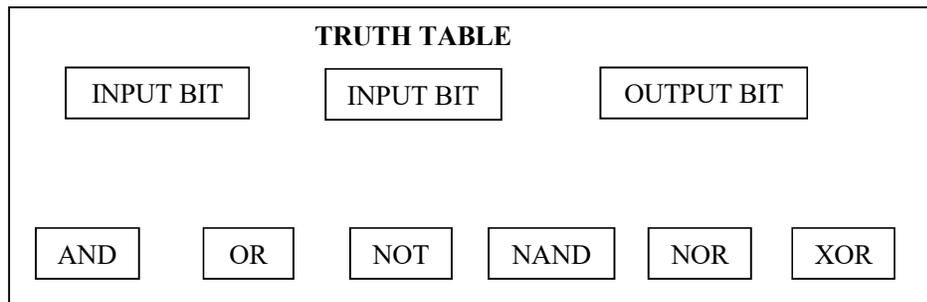
Note: Make suitable assumptions, if any.

Section-2: Introduction to Android (BCS-093)

Question 2: Develop an ADDRESS BOOK mobile app. It enables you to store addresses as well as list all of them. Make assumptions, wherever necessary **(10 Marks)**

Section-3: Programming using Python (BCS-094)

Question 3: Develop a GUI (details given below)by Using Tkinter and wxPython, compare the code complexity of both and give your observation. **(10 Marks)**



Details of GUI : the GUI for Truth table should accept two bits (0 or 1) as input and produce the Output as per the Logical operation to be chosen by pressing the button of that particular logical operation i.e. AND, OR, NOT,NAND, NOR, XOR. You may use other suitable components like text box, combo box, list, Radio Button, Check Box, Buttons etc. to implement the GUI.

(Note: Make suitable assumptions where ever necessary)