

# **CERTIFICATE IN MOBILE APPLICATION DEVELOPMENT (CMAD)**

## **Assignments**

**(January, 2025 & July, 2025 sessions)**

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

**Assignments**



**SCHOOL OF COMPUTER AND INFORMATION SCIENCES  
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### 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.

<b>Course Code</b>	:	<b>BCSL-091</b>
<b>Course Title</b>	:	<b>Programming using Python</b>
<b>Assignment Number</b>	:	<b>CMAD/L-094/Assignment/2025</b>
<b>Maximum Marks</b>	:	<b>25</b>
<b>Last Dates for Submission</b>	:	<b>30<sup>th</sup> April, 2025 (for January session)</b> <b>30<sup>th</sup> October, 2025 (for July session)</b>

**This Assignment carries practical questions from the course BCS-092 for 5 marks, and from the courses BCS-093 and BCS-094 for 10 marks each, respectively. Answer all the questions. You may use illustrations and diagrams to enhance the explanations. Include the screen layouts also along with your assignment responses wherever necessary.**

### **Section-1: Database portion of Lab**

**Question 1:** **(2+3 Marks)**

Consider the following *relational schema*:

***Employee (Eid, Ename, DeptCode, DateofAppointment)*** – *Eid* is the employeeID, which is a unique identifier assigned by the Organisation when the employee joins (Primary Key), *Ename* is the employee name, *DeptCode* identifies the department of the employee (Foreign Key), *DateofAppointment* is the date when the employee joined the organisation.

***Department (DeptCode, DeptName, DeptLocation)***– *DeptCode* is the code allotted to a department and is the Primary Key, *DeptName* is the department's name, and *DeptLocation* is the city where the department office is located.

- (a) Create the tables using SQL from the schema above; you must include the primary key, foreign keys and constraints in your implementation. Enter a few sets of meaningful data in each table.
- (b) Write and run SQL statements for the following queries:
  - (i) List the name of the employees appointed before 1<sup>st</sup> January 2024.
  - (ii) List the name of all the departments located in “Delhi”.
  - (iii) Find the name of all the employees and the name of the department in which he/she works.
  - (iv) List the employee ID of all those employees who work in Delhi.
  - (v) Find the total number of employees in each department.
  - (vi) Find the total number of departments.

*Note: Make suitable assumptions, if any.*

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

**Question 2:** **(10 Marks)**

Develop a QUIZ mobile app. The App should display questions one after another with multiple options (each option is possible answer). You need to select the correct option. After 10 questions, it will display the correct score. Make assumptions, wherever necessary.

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

#### **Question 3:**

**(10 Marks)**

Develop a GUI (details given below) by Using wxPython and Tkinter, compare the code complexity of both and give your observations.

*Use suitable components like text box, combo box, list, Radio Button, Check Box, Buttons, etc. to develop the GUI*

**Details of GUI:** the GUI should accept the personal details of an Employee like Employee Name, DOB, Residential Address, Email, Mobile, Blood Group (A+, B+, O+, A-, B-, O-, etc.), Nature of Job (Permanent, Temporary, contractual, daily wage etc.), Diabetic (Yes, NO), Health Summary etc.

*Make suitable assumptions wherever necessary*