



End Term (Odd) Semester Examination December 2024

Roll no.....

Name of the Course and semester: MCA 3rd Sem

Name of the Paper: Mobile Application Development

Paper Code: TMC-302

Time: 3-hour

Maximum Marks: 100

Note:

- (i) All the questions are compulsory.
- (ii) Answer any two sub questions from a, b and c in each main question.
- (iii) Total marks for each question is 20 (twenty).
- (iv) Each sub-question carries 10 marks.

Q1. (2X10=20 Marks)

- a. Explain the key features of Android and describe its architecture with a diagram. (CO1)
- b. Discuss the importance of the AndroidManifest.xml file. Explain how it contributes to application configuration with examples. (CO1)
- c. Create a basic Android application that displays a "Welcome" message using a TextView. Explain the directory structure involved. (CO1)

Q2. (2X10=20 Marks)

- a. Describe the activity lifecycle in Android with a diagram and explain the role of each state. (CO2)
- b. Define the role of an Intent in Android development. (CO3)
- c. Develop a layout in Android Studio using a Linear Layout with an EditText, a Button, and a TextView. Write code to display the text entered in the EditText when the Button is clicked. (CO2)

Q3. (2X10=20 Marks)

- a. Explain the purpose of Event Listeners in Android? Provide examples of three commonly used listeners. (CO3)
- b. Explain adapter and adapter views. (CO2)
- c. Explain the purpose of AsyncTask in Android applications. Discuss its lifecycle methods (onPreExecute, doInBackground, onProgressUpdate, and onPostExecute) in detail. (CO4)

Q4. (2X10=20 Marks)

- a. Define the storage options available in Android. Explain how Shared Preferences are used with an example. (CO4)
- b. Explain the architecture of SQLiteOpenHelper in Android. Discuss its advantages and how it simplifies database management. (CO4)
- c. Develop an Android application that saves user details (name, age, and email) in an SQLite database and retrieves it using a RecyclerView. Provide key code snippets and explain your approach. (CO4)

Q5. (2X10=20 Marks)

- a. Why is testing important in Android application development? Explain the types of testing frameworks available with examples. (CO5)
- b. Outline the step-by-step process of preparing and publishing an Android application to the Google Play Store. Discuss key challenges during the publishing phase. (CO5)
- c. Explain the steps required to integrate Google Maps into an Android application. Discuss how to obtain and configure an API key for Google Maps. Write a program to display the current user location on a Google Map and add a marker at a specific latitude and longitude. (CO4)