(3 Hours) [Total Marks: 80]

N.B.: (1) Question **No.1** is **Compulsory**.
    (2) Attempt **any three** from **remaining five** questions.
    (3) **Assume** suitable data, **if necessary**.

1. (a) Discuss the Android Architecture with all layers. Also discuss the role of DVM in detail. (10)
   (b) Explain Various Android features. Why android is popular mobile operating system discuss with reasons. (10)

2. (a) Implement the Android Mobile App to accept UserID and Password from user (Use TextView and EditText). App should contain three Buttons, namely, Submit, Reset and Exit. On Submit button click, the UserId and Password should be authenticated (Assume any UserId and Password, hardcoded in Java Activity), On Reset click the UserId and Password fields should get empty and on Exit Button click, App should be terminated.
   (Discuss steps and Java code in detail, also explain how UI can be created using XML code). (10)
   (b) What is the role of Activity in Android? Discuss the life cycle of Activity in Android. (10)

3. (a) What is Intent in Android? Differentiate between explicit and implicit intent. (10)
   (b) Discuss the various Layout in Android. Demonstrate any Layout with suitable example. (10)

4. (a) Discuss how data persistency can be achieved in Android. What is Content Provider in Android? Explain Content Provider in detail. (10)
   (b) Discuss how SQLite is different than other database approach in Android. Write a code in SQLite to fetch data from any table and display on screen using Cursor. (Assume table is already created with sample records in it). (10)

5. (a) Explain the Camera API in Android with suitable examples. (10)
   (b) Discuss what type of App we can build using Location API in Android. Also explain how to get the current location of User in Android Apps. (10)

6. Write short note on (**any four**):
   (a) Role of Android.Manifest.xml file in Android (5)
   (b) Android App publishing (5)
   (c) Android Download Manager (5)
   (d) Android Security Issues (5)
   (e) XML and JSON Parsing in Android (5)

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