



**MUKIRIA TECHNICAL TRAINING INSTITUTE**  
**COMPUTING AND INFORMATICS DEPARTMENT**  
**INTERNAL EXAMINATION**  
**WRITTEN ASSESSMENT END OF TERM 1**

**Time: 3 HOURS**

**COURSE NAME: ICT TECHNICIAN LEVEL 6**

**COURSE CODE: 061006T4ICT**

**UNIT NAME: DEVELOP MOBILE PROGRAMMING**

**UNIT CODE: IT/CU/ICT/CR/11/6**

**CLASS: ITECH6/M/24**

**SERIES: SEPT - DEC 2025**

**INSTRUCTIONS TO CANDIDATE**

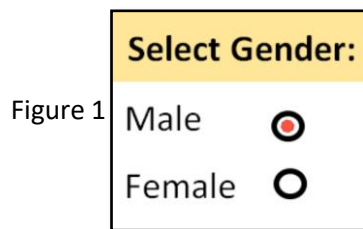
1. Answer **ALL** the question as guided in each section;
2. Marks for each question are as indicated in the brackets;
3. You are provided with a separate answer booklet to answer the questions;
4. Do not write in this question paper.

### Section 1 – answer all the questions

1. Define the meaning of each of the following terms:
  - i) Mobile application. (2 marks)
  - ii) Mobile application development architecture. (2 marks)
2. State **TWO** popular operating systems that a developer can create a mobile application to run on. (2 marks)
3. Explain **TWO** reasons how a mobile application is different from desktop applications. (4 marks)
4. Describe **TWO** mobile development approaches a developer might consider while planning to develop a mobile application. (4 marks)
5. Below are statements from AndroidManifest.xml file of a mobile application. Use it to answer the questions that follow;

```
<application
    android:allowBackup="true"
    android:label="@string/app_name"
    android:roundIcon="@mipmap/ic_launcher_round"
    android:theme="@style/Theme.AppCompat.Light.NoActionBar">
    <activity
        android:name=".AboutActivity"
        android:exported="false" />
    <activity
        android:name=".SettingsActivity"
        android:exported="false"
        android:label="@string/title_activity_settings"
        android:parentActivityName=".MainActivity" />
</Application>
```

- i) Explain the importance of such a file. (2 marks)
  - ii) Name the **TWO** activities of the application. (2 marks)
6. List **TWO** navigation patterns used in developing mobile applications. (2 marks)
7. Additional files that your application will use are kept in a specific resources directory; name **FOUR** types of such files. (4 marks)
8. Define **TWO** radio buttons in *activity\_main.xml* file given that the feature loads by default with one option already selected as shown in Figure 1. (3 marks)



9. Distinguish between *usability testing* and *installation testing* as used in application development. (4 marks)
10. Describe **TWO** important procedures done after finishing developing a mobile application. (4 marks)
11. The following code runs when the user clicks on the button (id=button). This code in a mobile application includes three checkboxes for the question: "Which countries are in East Africa?"

```
button.setOnClickListener{
    if(ChinaCheckBox.isChecked) textresult.text="China: Wrong Answer"
    if(KenyaCheckBox.isChecked) textresult.text="Kenya: Correct Answer"
    if(TanzaniaCheckBox.isChecked) textresult.text="Tanzania: Correct Answer"
}
```

- i) In which file is the method most likely to exist in the development environment. (1 mark)
- ii) Where will the result appear when the user clicks the button? (2 marks)

12. John was developing a mobile application for a client; the requirement was that he needed to incorporate a database for the application. State **TWO** types of databases that he could use for the application. (2 marks)

SECTION B – ANSWER ANY THREE QUESTIONS

- 13.
- a. Explain **TWO** types of mobile applications. (4 marks)
  - b. Name **FOUR** popular Integrated Development Environments (IDE) for mobile application development. (4 marks)
  - c. Usability is an integral part of mobile application development; discuss **THREE** practices to overcome mobile usability issues. (6 marks)
  - d. Discuss **THREE** reasons why a business would prefer to build a mobile application than other types of software. (6 marks)
- 14.
- a. Explain the following terms as used in mobile programming. (4 Marks)
    - i. MVP
    - ii. MVVM
  - b. There are various mobile application development approaches, Discuss any **FOUR** of them. (8 Marks)
  - c. Using respective diagrams, explain four levels of mobile development architecture. (8 Marks)
- 15.
- a. Explain the term **Activity Lifecycle**? Explain four key states. (4 Marks)
  - b. Write an **XML code snippet** for a login screen with. (8 Marks)
    - iii. Two **EditText** fields (Username & Password)
    - iv. A **Button** labeled "Login"
    - v. Arranged using **LinearLayout**
  - c. List three best practices for **designing a user-friendly mobile ap** (8 Marks)
- 16.
- a. When developing mobile apps, there are various tools that may be used, discuss any **FOUR** mobile application development tools. (10 Marks)
  - b. Using XML, write a code that will generate the below output (10 Marks)

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