



FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA  
SCHOOL OF INFORMATION AND COMMUNICATION TECHNOLOGY  
DEPARTMENT OF INFORMATION AND MEDIA TECHNOLOGY

SECOND SEMESTER 2016/2017 EXAMINATION

**COURSE CODE:** IMT 323  
**COURSE TITLE:** MOBILE APPLICATION DEVELOPMENT  
**CREDIT UNITS:** 2  
**TIME ALLOWED:** 1½ HOURS  
**COURSE LECTURER(S):** MR. S.O. GANIYU  
**NUMBER OF QUESTIONS:** 3  
**NUMBER OF PAGES:** 4

**INSTRUCTIONS**

- Answer all questions
- Do **not** use red pen
- Please use a clear handwriting
- This exam is closed book, closed notes, closed laptop and closed cell phone
- Please use non-programmable calculators only

**Section A: Multiple Choice (1 mark each)**

1. Android will destroy a running activity to reclaim memory.  
a. True                      b. False
2. The default layout name of interface created by Android studio is \_\_\_\_.  
a. main\_activity              b. ActivityMain              c. MainActivity              d. activity\_main
3. The method that allows data to be saved before calling lifecycle methods is \_\_\_\_.  
a. onSaveInstanceState              b. onSaveInstanceState              c. onInstanceStateSave              d. none
4. The method that inflates a layout and put it on the screen is \_\_\_\_.  
a. setContentView              b. setScreenView              c. setContentView              d. setViewscreen
5. A \_\_\_\_ is a piece of your application that is not code.  
a. resource              b. image              c. string              d. sound
6. In MVC architecture, layout belongs to \_\_\_\_ layer.  
a. model              b. view              c. controller              d. all
7. Images, sound etc. are added to \_\_\_\_ folder.  
a. file              b. sound              c. res              d. resource
8. Rotating the device changes its \_\_\_\_.  
a. resource              b. Layout              c. activity              d. configuration
9. Pictures and images are placed in \_\_\_\_ folder  
a. drawables              b. pics              c. drawable              d. layout
10. To access the log while the application is running, you can use \_\_\_\_.  
a. Debug              b. Debugger              c. LogViewer              d. LogCat

**Section B: Fill in the Gap (1½ marks each)**

1. \_\_\_\_ is the simplest layout and does not arrange its children in any particular manner.
2. A \_\_\_\_ is a short message that informs the user of something but does not require any input or action.
3. The second argument of makeText() method is \_\_\_\_.
4. AVD means \_\_\_\_.
5. The modern Android build system uses a tool called \_\_\_\_.
6. How many argument(s) is/are required by show() method of toast.
7. I18N means \_\_\_\_.
8. \_\_\_\_ are arbitrary data that the calling activity can include in a message to another activity.





9. The setting for applications that allows android platform to access resources required by apps are placed in \_\_ file.
10. A running app transitions between \_\_, \_\_, and \_\_ states.

### Section C: Theory (35 marks each)

#### Question 1

- (a) Use the snippet below to write the code that will print SICT on a widget. (2 marks)

```
<resources>
  <string name="app_name">IMT323</string>
  <string name="SICT"> school_text</string>
  <string name="school_text"> SICT</string>
</resources>
```

- (b) Explain the code fragment below: (3 marks)

```
@Override
public void onResume() {
    super.onResume();
    Log.d(TAG, "Going to sleep");
}
```

- (c) Explain the difference between implicit and explicit intents. (3 marks)
- (d) **When** is *ActivityNotFoundException* thrown and **what** effect does it have on running app? (3marks)
- (e) Write short note on *R.java* file and its importance. (4 marks)
- (f) List the image file extensions supported by Android. (3 marks)

#### Question 2

- (i) Use Figure 1 and Figure 2 to sketch the interface for an app represented by the figures. (3 marks)
- (ii) Write a complete *onCreate()* method for an activity class (named *Acitivity1*) using the information in Figure 1 and Figure 2, such that when the user presses **add** or **multiply** button, the text view should display an answer by adding or multiplying two numbers (12 and 45) depending on the clicked button. Use the code snippet in Figure 3 as guide. (8 marks)
- (iii) Write another version of *onCreate()* method (of *Activity1*) that will forward the two numbers (12 and 45) and the arithmetic operation pressed by user to another activity called *Activity2*. The two activities are defined within same package. Thereafter, *Activity2* is expected to perform the arithmetic operation and send the result back to *Activity1*. Note: you don't need to implement the *onCreate* method of *Activity2*. (6 marks)



```
<LinearLayout
xmlns:android="http://schemas.android.com/apk/res/android" ... >

<TextView
    android:id="@+id/msg_text"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:padding="24dp"
    android:text="@string/message_text" />

<Button
    android:id="@+id/plus_button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/add_button" />

<Button
    android:id="@+id/times_button"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="@string/multiply_button" />

</LinearLayout>
```

Figure 1

```
<resources>
<string name="app_name">IMT</string>
<string name="message_text">This is IMT 323</string>
<string name="add_button">Add Numbers</string>
<string name="subtract_button">Subtract Numbers</string>
<string name="answer">Calculate</string>
<string name="multiply_button">Multiply Numbers</string>
</resources>
```

Figure 2

```
@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);

    setContentView(R.layout.activity_imt323);
    ??? = findViewById(R.id.???);
    ???.setOnClickListener(new View.OnClickListener() {

        @Override
        public void onClick(View v) {

        }

    });
}
```

Figure 3