FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

SCHOOL OF INFORMATION AND COMMUNICATION TECHNOLOGY

DEPARTMENT OF INFORMATION AND MEDIA TECHNOLOGY

SECOND SEMESTER 2017/2018 EXAMINATION

COURSE CODE: IMT325

COURSE TITLE: MOBILE APPLICATION DEVELOPMENT

CREDIT UNITS: 2

TIME ALLOWED: 2 HOURS

COURSE LECTURER(S):   S.O. GANIYU

NUMBER OF QUESTIONS: Multiple Choice (10), Fill-in the Gap (10), Theory (2)
                                 practical (1)

NUMBER OF PAGES: 4

INSTRUCTIONS

* Answer all questions
* Do not use red pen
* Please use a clear handwriting
* Sections A, B and C of this exam are closed book, closed notes, closed laptop and closed cell phone. However, the use of internet and other file sharing media are the only restrictions to section D (Practical)
* Please use non-programmable calculators only.

Section A: Multiple Choice:10 marks (1 mark each)

1. The class that is responsible for managing user interaction with the screen is called _____.
a. View   b. Model   c. Activity   d. Controller

2. __ defines the positions of objects on the screen.
a. View   b.Layout   c. MainActiviy   d. XML Tags

3. During app development, user interface objects are formed with __.
a. HTML   b. DHTML   c. Screen   d. XML

4. Which of the platforms listed below is not supported by Android __?
a. Tablet   b. View   c.TV   d. Wear

5. According to default naming convention of Android studio, the layout for an activity called SictActivitywill be __.
a. activity_sict   b. activity_Sict   c. activitySict   d. Activity_Sict

6. Widgets exist in hierarchy of View objects called the__ hierarchy.
a. layer   b. model   c. view   d. object

7. A string resource is a string that lives in a separate file called a __ file.
a. strings   b. string   c. Strings   d. String

8. __ is a subclass of Android's Activity class that provides support for older versions of Android.
a. AppCompaActivity b. AppCompatsActivity   c. AppsCompatActivity   d. None

9. When a layout is__, each widget in the layout file is instantiated as defined by its attributes.
a. called   b. inherited   c. inflated   d. created

10. Every widget needs a resource ID in Android application development.
a. True   b. False

Section B: Fill in the Gap: 15 marks (1½ marks each)

1. __class sends log messages to a shared system-level log.

2. In making log message d stands for __.

3. The first thing that should be donein onCreate(…) method i __.

4. The __ is a set of characteristics that describe the current state of an individual device.

5. The __ on res subdirectories are how Android identifies which resources best match the current device configuration.

6. __ can be used to save data across a runtime configuration change.

7. An activity must override ___ method to save data across runtime configuration change.

8. A ___ is a structure that maps string keys to values of certain limited types.

9. Activity record object lives on in the ___.

10. The file named AndroidManifest.xmllives in the ___ directory of your project.

Section C: Theory(15 marks)

Question 1

(a) Explain the first and third arguments of Toast.makeText() method. (**4 marks**)

(b) List any six (6) widgets that can be used to build user interface. Write their proper names as specified by Android platform. (**3 marks**)

Question 2

(a) A child activity called *IMT.java* is expected to return the outcome two values in the snippet below to its parent activity called SICT.java. Also, IMT.java should inform SICT.java that its execution was successful.

String name = "Adedolapo";

float height = 1.67;

(i) What is the name of the appropriate method in the *IMT.java* you will typically put the code fragment to implement the task? (**1 mark**)

(ii)Write the code snippetto accomplish the task using best Object-Oriented Programming practice. *You are not required to write the entire IMT.java.* (**4 marks**)

(b) What is the name and function of the bolded part in the snippet below? (**3 marks**)

```
bSend.setOnDragListener(new View.OnDragListener() {
    @Override
    public booleanonDrag(View view, DragEventdragEvent) {
        return false;
    }
});
```

Section D: Practical(20 marks)

*Instruction: You **must** submit your answer booklet before starting this section.*

Develop an Android mobile application called *IMTyourMatricNum*comprising of two activities. The mobile apps should have an interface with three editable textfields and a button (the caption on the button should be "Calculate"). When a user clicks the button, your mobile app should send the values entered into the three editable textfields to second activity. Thereafter, second activity should:

(i)   display the three numbers it received on its interface as information like "The first number is ###, the second number is ### and the third number is ###":

(ii)   multiply the three numbers and subtract a randomly generated number between 50 and 100 from the multiplication of the three numbers; and

(iii)   return the result of (ii) above, to the first activity.

Then, the first activity should display the result in a Toast when a user presses the back button on Android device.

The first and second activities should be named *AdakoleActivity* and *BalaActivity* respectively. You are required to use best Object-oriented Programming (OOP) practices in your app development. Also, the interfaces should be informative and user friendly.