

SRI LANKA INSTITUTE OF ADVANCED TECHNOLOGICAL EDUCATION

(Established in the Ministry of Higher Education, vide in Act No. 29 of 1995)

Higher National Diploma in Information Technology

Second year, second Semester Examination - 2019 IT2417 - Mobile Application Development

Instructions for Candidates: Answer only five questions

No. of questions:6

No. of pages: 4

Time: 3 hours

Question 01

(i) Define, what is a mobile device

(02 marks)

(ii) What is meant by application framework in android

(02 marks)

(iii)Briefly explain four limitations of mobile computing (iv)Briefly explain the term "pervasive computing"

(08 marks)

(08 marks)

(Total 20 marks)

Question 02

(i) What is Android SDK?

(02 marks)

(ii) Mention the use of "res/values/string.xml" directory in android project structure

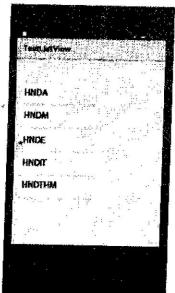
(02 marks)

(iii)Write JAVA code to add course list in an array into a listview named "CourseListView" as given in following user interface. (08 marks)

(iv) Write the java code to display the selected course from the listView, in a toast.

(08 marks)

(Total 20 marks)



Question 03

(i) What is a service in Android programming? (ii) What are the two life cycle states of service object? (02 marks) (iii)Briefly explain any four callback methods of Service object (02 marks) (iv) Following is XML code for two buttons for start a service and stop a service. (08 marks)

```
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Start Service"
    android:id="@+id/butcon1"
    android:onClick="startService"
   android:nestedScrollingEnabled="false" />
<Button
   android:layout_width="wrap_content"
   android:layout_height="wrap_content"
   android:text="Stop Service"
   android:id="@+id/button2"
   android:onClick="stopService"
   android:nestedScrollingEnabled="false" />
```

Write the java code for Activity class to:

- a) Start a service named newService when click on button1
- b) Stop a service named newService when click on button2

(08 marks)

(Total 20 marks)

Question 04

(i) What is the use of BroadcastReceiver class?

(02 marks)

(ii) Mention two Broadcast Event Constants used detect battery

(02 marks)

- (iii)Assume you are writing a code to detect power connecter to your mobile device. a. Write the XML code to register the relevant broadcast receiver in AndroidManifest

b. Write the java class named BatDetect with required coding

(08 marks) (08 marks)

(Total 20 marks)

Question 05

(i) What is Gradle in Android IDE? (02 marks) (ii) Compare the deference between wrap_content and match_parent in Android layout designing (02 marks) (iii)Consider the given XML code below and draw the expected layout.

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"</pre>
   xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
   android:paddingLeft="@dimen/activity_horizontal_margin"
   android:paddingRight="@dimen/activity_horizontal_margin"
   android:paddingTop="@dimen/activity_vertical_margin"
   android:paddingBottom="@dimen/activity_vertical_margin"
   tools:context=".MainActivity">
   <TextView
       android:text="LEFT"
       android:layout_width="200dp"
       android: layout_height="match parent"
       android:id="@+id/TextViewLEFT"
       android:background="@android:color/holo_blue_dark"
       android:layout_marginBottom="5dp" />
   <TextView
      android:text="TOP RIGHT"
      android: Layout_width="175dp"
      android: layout_height="200dp"
      android:id="@+id/TextViewTopLeft"
      android:background="@android:color/holo_green_dark"
      android:layout_alignFarentRight="true"
  <TextView
      android:text="BOTTOM RIGHT"
      android:layout_width="175dp"
      android:layout_height="200dp"
      android:id="@+id/textBottomRight"
      android:layout_alignParentRight="true"
     android:background="@android:color/holo_red_light"
     android:layout_alignFarentBottom="true"
     android:layout_below="@+id/TextViewTopLeft" />
```

(iv)Briefly explain four callback methods in the activity life cycle (08 marks) (Total 20 marks)

(08 marks)

Question 06

(i) What is meant by persistent data?

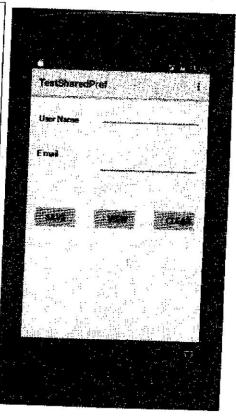
(02 marks)

(ii) What is the shared preferences in Android

(02 marks)

(iii)Consider the following XML code for given user interface

<TextView android:text="User name" android: layout_alignBottom="@+id/TxtName" <EditText android:id="@+id/TxtName"/> <TextView android:text="E mail" android:id="@+id/textView" <EditText android:id="@+id/TxtMail" android:layout_alignTop="@+id/textView" android:layout_alignStart="@+id/TxtName" 1> <Button android:text=" Save " android:id="@+id/buttonSave" android:onClick="Save" /> <Button android:text=" View " android:id="@+id/buttonView" android:layout_alignTop="@+id/buttonSave" android:onClick="View" /> <Button android:text=" Clear " android:id="@+id/buttonClear" android:onClick="Clear" />



- a. Write a java function for save data.
- b. Write a java function for view data.

(08 marks) (08 marks) (Total 20 marks)