

IT2417 - Mobile Application Development

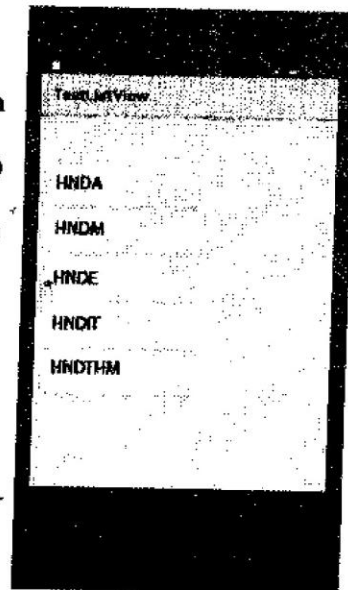
Time: 3 hours

**(Total 20 marks)**

“CourseListView” as given in following user interface. (08 marks)

(08 marks)

**(Total 20 marks)**



### Question 03

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

```
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Start Service"
    android:id="@+id/button1"
    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 connector to your mobile device.
  - a. Write the XML code to register the relevant broadcast receiver in **AndroidManifest** (08 marks)
  - b. Write the java class named **BatDetect** with required coding (08 marks)

(Total 20 marks)

### Question 05

- (i) What is Gradle in Android IDE? (02 marks)
- (ii) Compare the difference between `wrap_content` and `match_parent` in Android layout designing (02 marks)
- (iii) Consider the given XML code below and draw the expected layout. (08 marks)

```
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    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_alignParentRight="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_alignParentBottom="true"
        android:layout_below="@+id/TextViewTopLeft" />
```

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

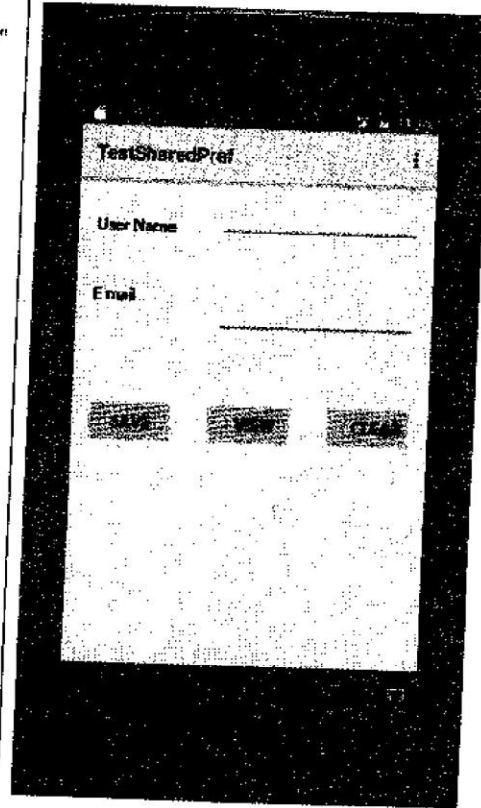
### Question 06

- (i) What is meant by persistent data?
- (ii) What is the shared preferences in Android
- (iii) Consider the following XML code for given user interface

(02 marks)

(02 marks)

```
<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"
/>
<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)

