

The LNM Institute of Information Technology
Computer Science and Engineering
Introduction to Mobile Application Development (CSE3181)

Mid Term

Time: 1.5 hours

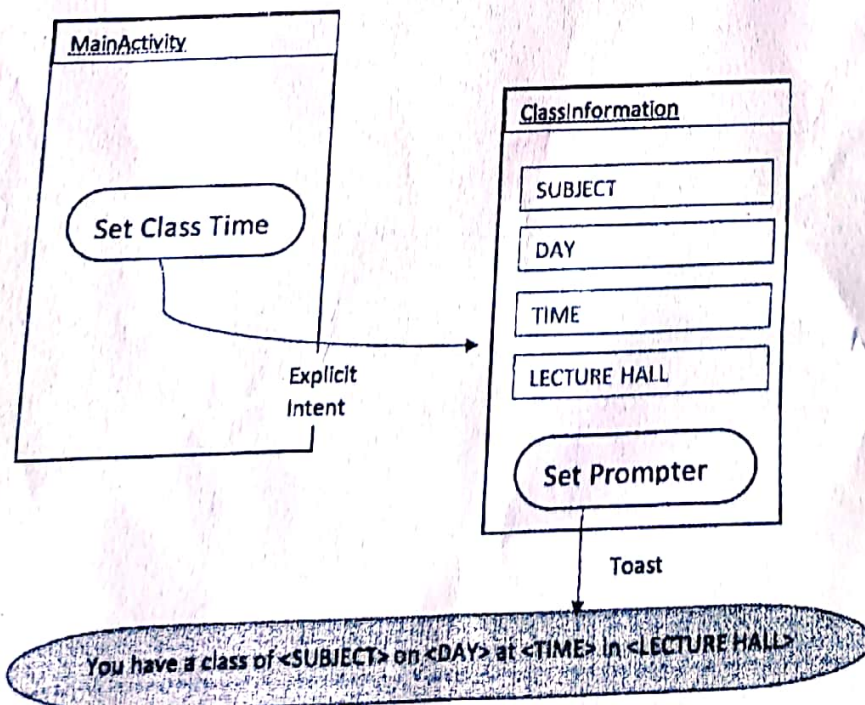
Date: September 30, 2019

Max. Marks: 20

Please read the following instructions carefully.

- There are 5 questions.
- If provided, you must use app/class/file names as mentioned in the question.
- Marks will be deducted for syntax and logical errors.

1. A **ClassPrompter** app notifies students about the upcoming class. There is one Activity named **ClassInformation** that is responsible to set the class information. There is a button in the **MainActivity** that Navigates to **ClassInformation** through explicit Intent. A button in **ClassInformation** will generate a Toast message as shown in the diagram. The layout file for **MainActivity** is **activity_main.xml** and for **ClassInformation** is **activity_info.xml**. Write xml code for both the layout files as per the user interface given below. Also implement java code for **MainActivity** and **ClassInformation**. Sample codes are given for your help. Assume all the required packages are already imported in the java files. [7]



activity_main.xml

```
<Button
...
android:layout_width="wrap_content"
android:layout_height="wrap_content"
...
/>
```

MainActivity.java

```
public class MainActivity extends AppCompatActivity {
@Override
protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
/* TODO: Implement the class*/
}
```

2. Explain all the states involved in the lifecycle of the component responsible for providing user interface in Android. [3.5]
3. Bob participates in an app development competition where he is supposed to develop an app that can notify user whenever there is any change in the network connection. According to the competition rule, implementing receiver dynamically have more weightage as compared to static implementation. Bob knows that in Android, the action to check the connectivity status is `ConnectivityManager.CONNECTIVITY_ACTION`. He starts building an app named 'ConnectionChecker' by taking an Empty Activity in Android Studio. Help Bob to implement the app. Assume all the required packages are imported in the class file. [4]
4. Explain the need of action string in Android. Support your explanation with example. [3]
5. Fill in the blanks: [2.5]
 - (a) Android system service that calls lifecycle hook methods on activities, services, and broadcast receivers is _____.
 - (b) _____ field is responsible for passing the data from one component to other via Intent.
 - (c) Highest priority log level is debug.
 - (d) _____ comments are helpful when we are working on large projects and/or with a team to revisit some part of the project later.
 - (e) Method to record debug level logs is _____.