ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)
ORGANISATION OF ISLAMIC COOPERATION (OIC)
Department of Computer Science and Engineering (CSE)

MID SEMESTER EXAMINATION **SUMMER SEMESTER, 2019-2020**

DURATION: 1.5 Hours **FULL MARKS: 75**

CSE 4675: Mobile Application Development

Programmable calculators are not allowed. Do not write anything on the question paper.

There are **3 (three)** questions. Answer all **3 (three)** of them.

Figures in the right margin indicate marks.

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1. a) What are the types of Mobile Application? Briefly explain which Mobile Application development platform will you choose to develop an application if you desire your application to be fast and responsive? **2+4**

   b) An application named ***'YX'*** has defined its minSDK = (your id % 13) + 1, maxSDK = 26 & targetSDK = 26. This app is currently running on your device. **6x2**

      i) If your device running on API 26 receives an OTA update and is updated to API 27 then what changes will occur to the application ***'YX'***?

      ii) If the maxSDK is not declared for the application ***'YX'*** then what will happen after the OTA update? Elucidate the cause behind it.

   c) What are the unofficial names of Android Version 1.0 and 1.1? How can you determine the SDK version (max, min & targetSDK) for any application that you are developing? **2+5**

2. a) Explain the relationship of Hardware Abstraction Layer (HAL) with the JAVA API framework in Android Application Development? **5**

   b) What is Gradle and its types in Android Applications? What are the steps in producing an Android Application Package (.apk file)? Explain with diagram. **4+6**

   c) Suppose, you are using an audio streaming application **"Spotify"** in your device. You were listening to your favorite artist, but after a while you switched to the **"Maps"** application without closing **"Spotify"**. **7+3**

      i) In light of the Activity Life Cycle analyze the steps from starting the **"Spotify"** application to switching to the **"Maps"** application. Explain with diagram.

      ii) If the **"Maps"** application require much more memory then what happens if you want to go back to the **"Spotify"** application.

```
public class MyApp extends Activity {
      public void onCreate()  { ... }
      public void onStart()   { ... }
      public void onResume()  { ... }
      public void onPause()   { ... }
      public void onStop()    { ... }
      public void onDestroy() { ... }
      ….
}
```

Fig1: Activity Life Cycle Method

3. a) What do you understand by Intents? What phenomenon is occurring in Fig 2? Explain step by step with an example. **2+6**

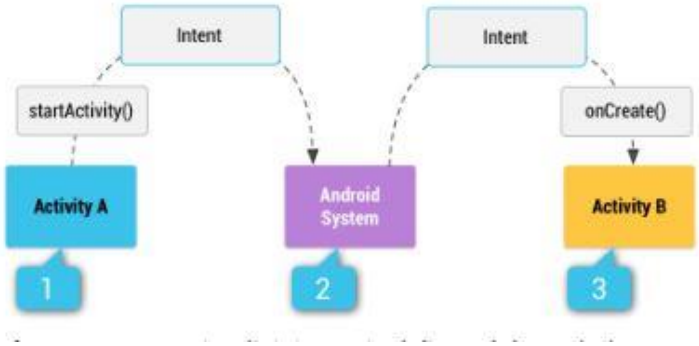

Fig2: Activity & Intent

b) What are Layouts? Which layout is shown in Fig 3.1 & Fig 3.2? Describe at least 4 (four) attributes of the layout in Fig3.1 & Fig3.2 that define the layout parameters for the views/widgets. **1+8**

Fig3.1: Layout

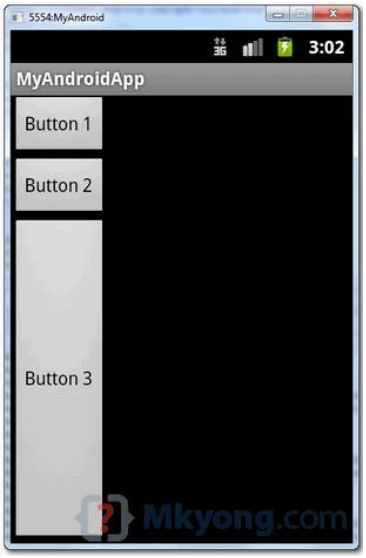

Fig3.2: Layout

c) Which Layout will you use for any application that you are developing and why? Between Relative and Constraint Layout which one do you prefer and why? **3+5**