UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER I
SESSION 2018/2019

COURSE NAME	:	MOBILE APPLICATION DEVELOPMENT
COURSE CODE	:	BIM 30603
PROGRAMME	:	BIM
EXAMINATION DATE	:	DECEMBER 2018 / JANUARY 2019
DURATION	:	3 HOURS
INSTRUCTION	:	ANSWER **ALL** QUESTIONS.

THIS QUESTION PAPER CONSISTS OF **FIVE (5)** PAGES

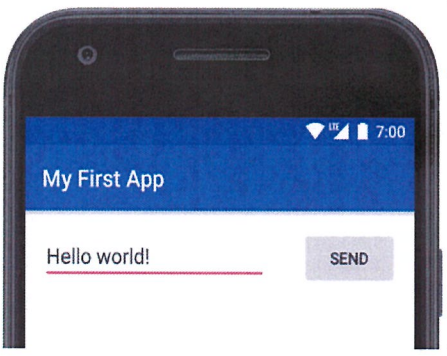
Q1 (a) Explain **FOUR (4)** stages of stabilization process during mobile application development in the correct sequence.

(10 marks)

(b) Explain **TWO (2)** differences between "fit and finish testing" and "device-specific testing" during stabilization process.

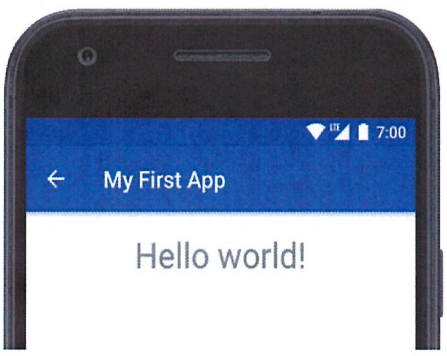
(4 marks)

Q2 Given the following Figure **Q2(a)** and Figure **Q2(b)**:



MainActivity.java

Figure Q2(a)



DisplayMessageActivity.java

Figure Q2(b)

(a) Complete the following code segment that respond to the `send` button in Figure **Q2(a)**.

```
public class MainActivity extends AppCompatActivity {
    public static final String EXTRA_MESSAGE =
       "com.merg.firstapp.MESSAGE";
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
    public void


    }
}
```

(6 marks)

(b) Complete the following `DisplayMessageActivity.java` code for displaying message in Figure **Q2(b)** that was passed by the code as answered in **Q2(a)**.

```
@Override
protected void onCreate(Bundle savedInstanceState) {


}
```

(6 marks)

Q3 Given the following Figure **Q3**:

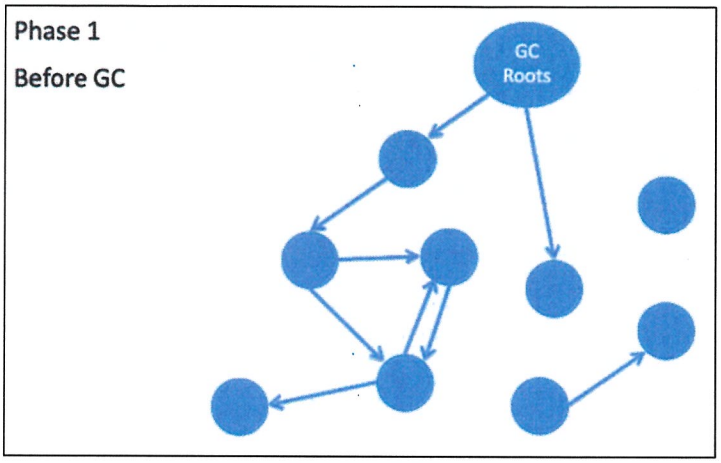


Figure Q3

(a) Illustrate mark sweep phases during garbage collection with appropriate figure.

(8 marks)

(b) Give **TWO (2)** differences between Gingerbread and Lollipop garbage collectors.

(4 marks)

Q4 Given the following scenario:

Global revenues from mobile applications are anticipated to grow by 962.5% between 2011 and 2017. It is estimated that due to support of existing and new market to usage levels of apps, mobile application will be a $100 billion USD industry by the end of 2020. Among of the mobile application development focus are Internet of Things (IoT), enterprise, cloud computing and Augmented/Virtual Reality.

(a) Analyze **TWO (2)** driving factors of increasing revenue from mobile application market.

(4 marks)

(b) Suggest **TWO (2)** marketing strategies to promote a mobile application.

(4 marks)

(c) Discuss **TWO (2)** importance of mobile application in Augmented/Virtual Reality system.

(4 marks)

Q5 Given the following scenario:

You are required to develop an interactive event management application. The application will give the users all important information about the event such as date, time, dress code, location and the host. The application should be able to run on both Android and iOS.

(a) Complete the following code segment for displaying Google Maps in your application.

```
package com.myevent;
import com.google.android.gms.maps._____(i)_____;
import com.google.android.gms.maps.OnMapReadyCallback;
import com.google.android.gms.maps.SupportMapFragment;
import com.google.android.gms.maps.model.LatLng;
import com.google.android.gms.maps.model.MarkerOptions;
import android.os.Bundle;
import android.support.v7.app.AppCompatActivity;

public class MapsActivity
  extends AppCompatActivity implements _____(ii)_____ {
  @Override
  protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_maps);
    SupportMapFragment mapFragment =(_____(iii)_____)
   getSupportFragmentManager().findFragmentById(R.id.map);
    _____(iv)_____.getMapAsync(this);
    }

    @Override
    public void onMapReady(GoogleMap mMap) {
     LatLng loc1 = new LatLng(1.86,103.08)
     mMap.addMarker(new
        MarkerOptions().position(loc).title("Event 1"));
     mMap.moveCamera(CameraUpdateFactory.newLatLng(loc1);
    }
}
```

(4 marks)

(b) Illustrate the interface of the event information activity.

(8 marks)

(c) Complete the following code segment for describing layout of your interface in **Q5(b)**.

```
<?xml version="1.0" encoding="utf-8"?>
<layout>
    <RelativeLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
        xmlns:tools="http://schemas.android.com/tools"
        android:id="@+id/activity_main"
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        tools:context="com.myevent.MainActivity">


    </RelativeLayout>
</layout>
```

(12 marks)

(d) Suggest the best mobile application development framework if you are given only two months to complete the development of the required application.

(4 marks)

- END OF QUESTION -