

CIT3350: MOBILE APPLICATION DEVELOPMENT

Main exam

QUESTION 1:

- a. Android applications include components that may be classified into four categories. Name and briefly describe these categories. (4 marks)
- b. Write the following files for a simple tax calculator given the income: -
 - i. MainActivity.java (3 Marks)
 - ii. Main_Activity.xml (3 Marks)
 - iii. Manifest.xml (3 Marks)
 - iv. Incometax.java (3 Marks)
- c. Android operating systems for mobile devices has been increasing its market share worldwide. Describe one reason that explains this trend. (4 Marks)
- d. Define and explain the relationship between default parameters and overloading. (4 Marks)
- e. State and briefly describe the four parts of a GSM network. (4 marks)
- f. Discuss three limitations that are associated with mobile devices. (6 Marks)

QUESTION 2

- a. State and briefly describe FIVE methods used to describe the fragment life cycle in android application development. (6 marks)
- b. What is an exception handler? Use an example to explain your answer (4 Marks)
- c. Briefly explain the purpose of " Setcontentview(R.layout.main)"
lines of code
Public void onCreate (Bundle savedInstanceState)
{
Setcontentview(R.layout.main);
...}
in the following (4 Marks)
- d. Explain five states that an activity goes through during a life cycle. Draw a well labelled diagram that illustrates the lifecycle. (6 Marks)

QUESTION 3

- a. With the help of a diagram, describe the four layers of the android software architecture. (6 marks)
- b. What is information hiding and how is it implemented? (4 Marks)
- c. Describe the following layouts in the context user interface of a mobile application. draw a diagram for each case to demonstrate your understand. (4 Marks)
 - i) Relative Layout
 - ii) Frame layout
- d. Briefly describe four functions of a manifest XML file in mobile programming. (6 Marks)

QUESTION 4

- a. State and explain any two selection controls that are used to implement user interface of a mobile application. Write a sample code to demonstrate their implements. (5 Marks)
- b. Using the SMS API write the code for MainActivity.java for composing a new SMS (5 Marks)
- c. Using an android code example, how to launch an activity in android (5 Marks)
- d. Write android code to demonstrate how you pass the data to sub-activities (5 Marks)

QUESTION 5

- a. Describe the six steps of the mobile application development process. (6 marks)
 - a.
 - b. Explain the meaning of the following lines of code in the context of mobile programming. (6 Marks)


```
public class Lab2 extends Activity
{
    public void onCreate(Bundle savedInstanceState)
```

```
{  
    super.onCreate(savedInstanceState);  
    TextView view = new TextView(this);  
    view.setText("Fresher's Night is on Friday 11th March 2022 \n");  
    setContentView(view);  
}  
}
```

- c. Write android Strings File (strings.xml) that would display your name on the screen (4 Marks)
- d. Write android Layout File (activity_main.xml) that would display your name on the screen (4 Marks)