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University Examinations 2020/2021

SECOND YEAR SECOND SEMESTER EXAMINATION FOR THE DIPLOMA IN INFORMATION TECHNOLOGY

CIT 2411: MOBILE APPLICATION DEVELOPMENT

DATE: MARCH 2021

TIME: 1½ HOURS

INSTRUCTIONS: *Answer question **one** and any other **two** questions*

QUESTION ONE (30 MARKS)

- a) Define the following terms
 - i. Mobile application development (3 marks)
 - ii. Android application (3 marks)
 - b) Describe the following processes in android game development
 - i. Splash (2 marks)
 - ii. Menu (2 marks)
 - iii. Play (2 marks)
 - iv. Help (2 marks)
 - c) List any two examples of apps that run on wearable devices such as smart watches that you know (4 marks)
 - d) What are the two most commonly used integrated development environments (IDS) in android app development (2 marks)
 - e) State any four key services that are offered by the android framework (4 marks)
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- f) Briefly explain the following android application components
- i. Activity (2 marks)
 - ii. Service (2 marks)
 - iii. Broadcast receivers (2 marks)

QUESTION TWO (15 MARKS)

- a) Provide a brief description of the following directories of the android application
- i. Src (2 marks)
 - ii. Gen (2 marks)
 - iii. Bin (2 marks)
 - iv. Res/layout (2 marks)
- b) As an android developer, give a brief description of the following tags as used in the manifest file of an android application (6 marks)
- <activity >
- <service>
- <receiver>
- c) The java programming language is widely used in android applications, what is the syntax for multiline commenting? Give a sample code (1 mark)

QUESTION THREE (15 MARKS)

- a) Identify and fix errors that exist in the following XML resource file, string.xml (4 marks)
- ```
<?xml version ="1.0" encoding="utf-8">
<resource>
< name="opaque_red">#F00 </color>
<string name="hello">Hello! < >
</ >
```
- b) Draw a well labelled diagram of the android activity life cycle (5 marks)
- c) Define a service as used in android application development (2 marks)

- d) Briefly describe the following android service states
- i. Started (2 marks)
  - ii. Bound (2 marks)

**QUESTION FOUR (15 MARKS)**

- a) Define the following terms
- i. Broadcast receiver (2 marks)
  - ii. Content provider (2 marks)
  - iii. Fragment (2 marks)
- b) What are the two important steps in making a broadcast Receiver (2 marks)
- c) The following code shows the general syntax of the content UIRs

`<prefix>://authority>_type>/<id>`

Briefly describe the details of the various parts of the URI. Give an example where necessary

- i. Prefix (2 marks)
- ii. Authority (2 marks)
- iii. Data\_type (2 marks)
- iv. Id (1 mark)