



MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY

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UNIVERSITY EXAMINATIONS 2023/2024

THIRD YEAR, SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF BUSINESS INFORMATION TECHNOLOGY, BACHELOR OF EDUCATION ARTS, BACHELOR OF SCIENCE IN COMPUTER SECURITY AND FORENSICS, BACHELOR OF SCIENCE IN COMPUTER TECHNOLOGY, BACHELOR OF SCIENCE IN DATA SCIENCE, BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY AND BACHELOR OF SCIENCE IN COMPUTER SCIENCE

CIT 3350: MOBILE APPLICATION DEVELOPMENT

DATE: APRIL 2024

TIME: 2 HOURS

INSTRUCTIONS: Answer Question ONE and any other TWO questions.

QUESTION ONE (30 MARKS)

- What are the main features of Android that compete with other mobile operating systems? (5 Marks)
- Explain the role of the Linux kernel in the Android operating system. (5 Marks)
- Describe the process of developing an Android application using the Android Software Development Kit. (5 Marks)
- Write a simple Android application code snippet that displays "Hello, World!" on the main screen. (5 Marks)
- You're tasked with developing an Android app that must look consistent across devices with different screen sizes and resolutions. How would you organize and manage drawable



MUST is ISO 9001:2015 and



ISO/IEC 27001:2013 CERTIFIED

resources in your project to accommodate this requirement, based on Android's resource system? (5 Marks)

- f) Provide a code example that shows how a fragment can communicate back to its hosting activity to send data. (5 Marks)

QUESTION TWO (20 MARKS)

- a) Describe the unified approach to application development offered by Android. (6 Marks)
- b) Discuss the 4 main components of an Android application, and explain how do they interact? (8 Marks)
- c) Your app will be launched in markets that speak different languages. Describe the steps and resources you would use to support multiple languages in your Android application. (6 Marks)

QUESTION THREE (20 MARKS)

- a) What is the significance of API levels in Android development? (6 Marks)
- b) Create an Android activity that uses an Intent to start a new activity called Second Activity. (7 Marks)
- c) Provide a code example that dynamically sets an image on an Image View based on a user's selection from a list. (7 Marks)

QUESTION FOUR (20 MARKS)

- a) Discuss 3 types of connectivity supported by Android (6 Marks)
- b) Develop a BroadcastReceiver that listens for the "android.intent.action.BOOT_COMPLETED" system broadcast in Android. (7 Marks)
- c) Imagine an app that needs to download content dynamically based on user actions. Explain how you could implement this functionality while still making use of Android's resource system for efficiency. (7 Marks)



QUESTION FIVE (20 MARKS)

- a) Analyze the importance of resizable widgets in Android user interfaces. (6 Marks)
- b) Show how to implement permissions in Android for accessing the device's location, including checking if the permission is granted and requesting it if not. (7 Marks)
- c) Provide a code example of a TableLayout for a simple form with two rows, each containing a label (TextView) and an input field (EditText), with labels aligned to the right of the inputs. (7 Marks)

