

The Co-operative University of Kenya

END OF SEMESTER EXAMINATIONS JANUARY 2022

EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN STATISTICS AND INFORMATION TECHNOLOGY, BACHELOR OF SCIENCE COMPUTER SCIENCE/ BACHELOR OF SCIENCE IN IT

COURSE CODE: BCSC 3158 UNIT TITLE: MOBILE APPLICATION DEVELOPMENT

DATE: JANUARY 2022

TIME: 2 Hours

INSTRUCTIONS

Answer question ONE (compulsory) and any other TWO questions

QUESTION ONE

a)	Outline two benefits of using flutter framework in mobile application development.	(2 marks)
b)	State three application execution permissions defined within Windows mobile devices.	(3 marks)
c)	Outline the three concepts related to Android Event Management.	(3 marks)
d)	Android is a powerful mobile operating system that supports many features, outline two of the	ne features. (2 marks)
e)	Distinguish between <application> and <activity> tags as used in android manifest.</activity></application>	(2 marks)
f)	The code below is meant to display the value of a button text property on a textView when the clicks on the button, the id of the textView is tv1. Write the missing statements.	ne user (2 marks)

public class MainActivity extends Activity{
protected void onCreate(Bundle savedInstanceState){
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
Button fButton=(Button) findViewById(R.id.button1)
final String bv1=fButton.getText().toString();
fButton.setOnClickListener(
);
}

- g) Android Activity Life Cycle is best illustrated using callback activities. Explain two of the activities. (4 marks)
- h) Explain the two statements below found inandroid manifest file.

(4 marks)

<action android:name="android.intent.action.MAIN" /> <category android:name="android.intent.category.LAUNCHER"/>

- i) Discuss two basic design consideration for designing an efficient mobile web application. (2 marks)
- j) Juliana wanted to develop an android application that was user friendly she realized that the use of menus would came in handy. Explain three types she could use.
 (6 marks)

QUESTION TWO

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a) State the purpose of the following folders used in android application development:

	i)	gen;	
	ii)	res/values;	(4 marks)
b)	Explain the purpose of BTS in GSM network. (2 marks)		
c)	John came across <i>Kotlin and RenderScripts</i> while studying mobile frameworks. Distinguish between the two frameworks. (6 marks)		
d)	Explai	n the purpose of androidManifest.xml file as used in android applications.	(2 marks)
e)	Explai	n the three concepts related to Android Event Management.	(6 marks)

QUESTION THREE

- a) State two components of the application framework found in android framework. (2 marks)
- **b**) Outline two software requirements you will need to set up an android programming environment.

(2 marks)

- c) Explain two types of layouts that can be used to develop an android application. (4 marks)
- d) Distributed Database Security is integral to the design and function of a distributed database. State two important pieces to Distributed database security. (2 marks)
- e) Explain how Chip-Secured Data Access (C-SDA) can be used to achieve data confidentiality on mobile devices. (4 marks)
- f) The following code snippet was extracted from a string.xml file

<string name="add_activity">Add Students</string> <string name="delete activity">Delete Student</string>

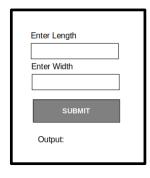
Write a code for a layout that will display four buttons using the four values in the string.xml snippet shown above. (6 marks)

QUESTION FOUR

- a) Explain two functions of *appbar* as used in android development.
- b) Explain two types of intents used in android programming
- c) Discuss two callback methods you are familiar with as used in event management. (6 marks)
- d) Using an appropriate layout write the XML code for activity_main.xml file that will display a textView with text WELCOME TO CuK and a button with caption PROCEED. The id of the button should be btn1.

QUESTION FIVE

- a) Outline three key functions of the app bar in android applications. (3 marks)
- b) Explain three methods you would expect to find in a DatabaseHelper class. (6 marks)
- c) John an I.T student was given an assignment by his lecturer to develop a mobile application that can calculate the area of a rectangle when a user enters length and width in EditText fields and outputs the area of the rectangle through a TextView positioned below the submit button as shown in the figure below. Write the code for the activity_main.xml file that will output the view in the figure below. (11 marks)



(4 marks)

(4 marks)