



CICT PART III SECTION 5

MOBILE APPLICATION DEVELOPMENT

THURSDAY: 2 September 2021.

Time Allowed: 3 hours.

Answer ALL questions. Marks allocated to each question are shown at the end of the question.

QUESTION ONE

- (a) (i) Differentiate between “Android: gravity” and “Android: layout”. (4 marks)
- (ii) Develop a code snippet to show the difference between Android: gravity and Android: layout. (6 marks)

(b) The code snippet below contains errors:

```
<?xml version = “1.0? encoding” = utf – 8”?>
(manifest xmlns:android = a class = “xx” rel = “nofollow noreferrer noopener” href
package = “com*examples aayushi.my.application”>
<application android:allowBackup – “(true” android:icon = “@mipmop/IC_launcher andr
<activity android: name = “mainActivity”>
```

Required:

Rewrite the code without errors.

(4 marks)

- (c) Explain the three main testing frameworks in mobile development. (6 marks)

(Total: 20 marks)

QUESTION TWO

- (a) Define the term “Android Virtual Devices (AVDS)”. (2 marks)
- (b) Describe four types of connectors in Android mobile development. (4 marks)
- (c) Write HTML code that enables a mobile developer to display date and time. (4 marks)
- (d) Explain three layers of mobile-app architecture design. (6 marks)
- (e) Discuss the two kinds of expression in objective C programming. (4 marks)

(Total: 20 marks)

QUESTION THREE

- (a) Write a code snippet in XML that enables the mobile user to select a ringtone of his/her choice as a preference. (8 marks)
- (b) Describe the term “intent” as used in mobile application development. (2 marks)
- (c) Citing an example in each case, describe two types of errors in objective C. (6 marks)
- (d) Write a program to reverse a number such as 1234 to 4321 using an Android application. (4 marks)

(Total: 20 marks)

QUESTION FOUR

- (a) Explain the following terminologies as used in Android programming:
 - (i) Android asset packaging tool (AAPT). (2 marks)
 - (ii) Android debug bridge (ADB). (2 marks)
 - (b) Write a JavaScript code embedded in an HTML document that will display the date on the browsers with a heading "The date today is", with date displayed on its own line. Use a function to implement the case where the user clicks on a button to display the date. (6 marks)
 - (c) Enumerate four activities undertaken during the design stage of mobile application development. (4 marks)
 - (d) Describe three mobile application methods used in developing mobile apps. (6 marks)
- (Total: 20 marks)**

QUESTION FIVE

- (a) Describe the following terminologies as used in objective C:
 - (i) Accessor methods. (2 marks)
 - (ii) NSMutableArray. (2 marks)
 - (iii) NS object. (2 marks)
- (b) Below is a navigation menu that uses CSS to style a list horizontally.

Home	Staff	Courses	About us	Contact
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Additional information:

1. The unordered list background shows a black colour. Any overflow in the list should not be displayed.
2. The list item should be justified to the left.
3. The list items and the anchor should be displayed in a block and their colour should be white and padded.
4. The background should change its colour if the mouse is moved over the navigation menu.

Required:

Using the above information, create a webpage using HTML and CSS. (10 marks)

- (c) NFC mobile apps are on the rise.

Required:

- (i) Explain the acronym NFC as used in mobile application development. (2 marks)
 - (ii) Outline two benefits of integrating NFC mobile applications in payment transactions. (2 marks)
- (Total: 20 marks)**
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