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## NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA

(An Autonomous Institute Affiliated to AKTU, Lucknow)

B.Tech

SEM: IV - THEORY EXAMINATION (2021 - 2022)

Subject: Mobile Application Development

Time: 3 Hours

Max. Marks: 100

## General Instructions:

1. The question paper comprises three sections, A, B, and C. You are expected to answer them as directed.
2. Section A - Question No- 1 is 1 marker & Question No- 2 carries 2 mark each.
3. Section B - Question No-3 is based on external choice carrying 6 marks each.
4. Section C - Questions No. 4-8 are within unit choice questions carrying 10 marks each.
5. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

## SECTION A

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## 1. Attempt all parts:-

- 1-a. A mobile development framework is a (CO1) 1
- (a) Hardware framework
  - (b) Software framework
  - (c) Both of the above
  - (d) None of these
- 1-b. What is ADB in android? (CO1) 1
- (a) Image Tool
  - (b) Development Tool
  - (c) Android Debug Bridge
  - (d) None of above
- 1-c. Which of the following is the first mobile phone released that ran the Android OS? (CO2) 1
- (a) HTC Hero
  - (b) Google gPhone
  - (c) T - Mobile G1
  - (d) None of the above
- 1-d. On which of the following, developers can test the application, during developing the android applications? (CO2) 1
- (a) Third-party emulators
  - (b) Emulator included in Android SDK
  - (c) Physical android phone
  - (d) All of the above
- 1-e. Choose the life cycle of services in android? (CO3) 1
- (a) onCreate() → onStartCommand() → onDestroy()
  - (b) onReceive()
  - (c) final()
  - (d) Service life cycle is same as activity life cycle.
- 1-f. Which element is used to display Google map in your UI? (CO3) 1
- (a) View
  - (b) Map
  - (c) MapView
  - (d) None of the above.

- 1-g. Android tries hard to \_\_\_\_\_ low-level components, such as the software stack, with interfaces so that vendor-specific code can be managed easily. (CO4) 1
- (a) confound
  - (b) modularize
  - (c) compound
  - (d) abstract
- 1-h. Which piece of code used in Android is not an open source? (CO4) 1
- (a) WiFi driver
  - (b) Audio driver
  - (c) Power management
  - (d) Keypad driver
- 1-i. Name the programming language used to develop iOS Applications. (CO5) 1
- (a) Swift and Objective C
  - (b) JAVA
  - (c) PHP
  - (d) None
- 1-j. Which framework does the class UIButton come from? (CO5) 1
- (a) CoreGraphics
  - (b) Foundation
  - (c) OpenGL ES
  - (d) UIKit

2. Attempt all parts:-

- 2.a. Define the term usability in mobile application development. (CO1) 2
- 2.b. What is ADB? Explain with example. (CO2) 2
- 2.c. List down the available types of view in Android. (CO3) 2
- 2.d. State the differences between android and iOS with examples. (CO4) 2
- 2.e. Explain features of iOS. (CO5) 2

#### SECTION B

30

3. Answer any five of the following:-

- 3-a. Design the Architecture of Android based native Mobile App. (CO1) 6
- 3-b. Design the Architecture of iOS based native Mobile App. (CO1) 6
- 3-c. What is multiple inheritance and how to perform it in Java. Also explain its importance in android if any. (CO2) 6
- 3-d. Difference between Table Layout and Frame Layout with diagram. (CO2) 6
- 3.e. What are the basic concepts of android layout also explain about their interlinked connection with Buttons, level text boxes and others? (CO3) 6
- 3.f. Explain in detail the Model View Controller with a neat diagram. (CO4) 6
- 3.g. Explain control transfer statements that are used in swift language. (CO5) 6

#### SECTION C

50

4. Answer any one of the following:-

- 4-a. Differentiate web application and mobile application. (CO1) 10
- 4-b. Discuss the SDK Architecture and explain it in detail. (CO1) 10

5. Answer any one of the following:-

- 5-a. What is the difference between a class and an object? How it is created in android? (CO2) 10
- 5-b. How Android supports multiple screens? Explain with an appropriate example. (CO2) 10

6. Answer any one of the following:-

- 6-a. Explain in detail about Map View System of Google Maps. (CO3) 10
- 6-b. Develop an android application that uses GUI components, fonts, and colors with output screen. (CO3) 10
7. Answer any one of the following:-
- 7-a. Discuss testing and debugging of android application with suitable example. (CO4) 10
- 7-b. How data persistence is done using SQLite database? (CO4) 10
8. Answer any one of the following:-
- 8-a. Show the steps in creating simple "Hello World" iOS application along with code. (CO5) 10
- 8-b. What are the collection types that are available in swift? Explain with examples. (CO5) 10