NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA
(An Autonomous Institute Affiliated to AKTU, Lucknow)
B.Tech
SEM: IV - THEORY EXAMINATION (2023 - 2024)
Subject: Mobile Application Development

Time: 3 Hours   Max. Marks: 100

General Instructions:

IMP: *Verify that you have received the question paper with the correct course, code, branch etc.*

1. *This Question paper comprises of **three Sections -A, B, & C.** It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.*

2. *Maximum marks for each question are indicated on right -hand side of each question.*

3. *Illustrate your answers with neat sketches wherever necessary.*

4. *Assume suitable data if necessary.*

5. *Preferably, write the answers in sequential order.*

6. *No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.*

SECTION A   20

1. Attempt all parts:-

1-a.   The process of transferring a mobile station from one base station to another   1
is   (CO1)

      (a) MSC

      (b) Roamer

      (c) Hand off

      (d) Forward channel

1-b.   Radio capacity may be increased in cellular concept by   (CO1)   1

      (a) Increase in radio spectrum

      (b) Increasing the number of base stations & reusing the channels

      (c) Both a & b

      (d) None of the above

1-c.   For which of the following Android is mainly developed? (CO2)   1

      (a) Servers

      (b) Desktops

(c) Laptops

(d) Mobile devices

1-d.   An activity in android is: (CO2)   1

       (a) android class

       (b) android package

       (c) A single screen in an application with supporting java code

       (d) None of the above

1-e.   Choose the life cycle of services in android? (CO3)   1

       (a) onCreate()−>onStartCommand()−>onDestory()

       (b) onRecieve()

       (c) final()

       (d) Service life cycle is same as activity life cycle.

1-f.   Which of the following is the parent class of service? (CO3)   1

       (a) context

       (b) object

       (c) contextThemeWrapper

       (d) contextWrapper

1-g.   Although most people's first thought when they think of Android is Google,   1
Android is not actually owned by Google. Who owns the Android platform?
(CO4)

       (a) Oracle Technology

       (b) Dalvik

       (c) Open Handset Alliance

       (d) Android is owned by Google

1-h.   Which among these are NOT a part of Android's native libraries?   (CO4)   1

       (a) Webkit

       (b) Dalvik

       (c) OpenGL

       (d) SQLite

1-i.   iOS remote push notifications are introduced by apple in (CO5)   1

       (a) iOS 2.0

       (b) iOS 3.0

       (c) iOS 4.0

(d) iOS 6.0

1-j.   To free an object, syntax is (CO5)   1

        (a) free(obj)

        (b) None of the above

        (c) [obj free]

        (d) [obj release]

2. Attempt all parts:-

2.a.   List down the quality constraints of mobile applications.   (CO1)   2

2.b.   List out and explain the dialog boxes that are supported by the Android platform. (CO2)   2

2.c.   Define and explain Multimedia Supported audio and video format. (CO3)   2

2.d.   Enlist presentation logic languages with examples. (CO4)   2

2.e.   How to convert an NSArray to a string in Objective-C? (CO5)   2

SECTION B   30

3. Answer any five of the following:-

3-a.   Discuss the apple iOS platform for mobile applications. (CO1)   6

3-b.   Design the Architecture of iOS based native Mobile App. (CO1)   6

3-c.   Discuss about fragments and Intents with examples. (CO2)   6

3-d.   Explain briefly about understanding the different activities in android. Cite relevant examples. (CO2)   6

3.e.   Define the Class in google maps? Write the code of it. (CO3)   6

3.f.   State and explain the concept of digitally signing. How it is used in android. (CO4)   6

3.g.   Explain the terms in iOS: Live Text, Visual Search, App privacy report, Mail privacy protection, and On-device Siri. (CO5)   6

SECTION C   50

4. Answer any one of the following:-

4-a.   Discuss the SoC Architecture with diagram and give some examples of SoC? (CO1)   10

4-b.   Briefly explain real time operating systems and mobile real time operating systems. Write down the characteristics and types of mobile applications. (CO1)   10

5. Answer any one of the following:-

5-a.   How the communication is established between a service & activity. Explain   10

with diagram. (CO2)

5-b.   Explain Android perspectives and create a simple android application in   10
constraint layout. (CO2)

6. Answer any <u>one</u> of the following:-

6-a.   Discuss the concept of communication between sensor data and android   10
application. Write a android code stating communication between android
device and sensor. (CO3)

6-b.   Briefly explain types of animations? Show with demo code interfacing of   10
android animation. (CO3)

7. Answer any <u>one</u> of the following:-

7-a.   Mention the difference between SQL, SQLite, and Firebase along with the   10
properties and usage in android applications. (CO4)

7-b.   Write down the steps for Creating And Updating Database In Android. (CO4)   10

8. Answer any <u>one</u> of the following:-

8-a.   Create an iOS application with UI components and write the procedure. (CO5)   10

8-b.   Explain with sample code the process to integrate mapkit and Wi-Fi calendar in   10
iOS. (CO5)