

TCS-602**B. TECH. (CS) (SIXTH SEMESTER)
END SEMESTER EXAMINATION, 2018****MOBILE APPLICATION DEVELOPMENT****Time : Three Hours****Maximum Marks : 100**

Note : (i) This question paper contains five questions with alternative choice.

(ii) All questions are compulsory.

(iii) Instructions on how to attempt a question are mentioned against it.

(iv) Each part carries **ten** marks. Total marks assigned to each question are **twenty**.

1. Attempt any *two* questions of choice from (a), (b) and (c). (2×10=20 Marks)

(a) What is Android ? How to create apps for Android platform ?

(b) Distinguish among the following terminologies and explain each of them in detail :

(i) ADB vs. AVD.

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(ii) Native vs. Hybrid apps.

(iii) Android Studio vs Android SDK tools.

(c) What are android SDK tools ? Explain some of them.

2. Attempt any *two* questions of choice from (a), (b) and (c). (2×10=20 Marks)

(a) Why was the Linux Kernel chosen for Android ? Explain the Android OS Architecture in brief.

(b) Explain the boot process of Android OS on a mobile device. What are the different stages of booting and what purpose do these stages serve ?

(c) What do you understand by Zygote ? How does a zygote create Virtual Machines on Android ?

3. Attempt any *two* questions of choice from (a), (b) and (c). (2×10=20 Marks)

(a) What are Services in Android ? Write a suitable code to create a started Service in Android.

(b) What are some of the different layouts used in Android development ? Differentiate between Grid layout and

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Relative layout with diagrams. Elaborate about resources in android.

(c) What are the Android App. components ? Discuss the life cycle of Activity using different callbacks that OS fires in different stages of an Activity.

4. Attempt any *two* questions of choice from (a), (b) and (c). (2×10=20 Marks)

(a) What is multithreading ? Explain the scenarios of use of threads in android apps. Why does threading provides an efficient framework as compared to services on main thread.

(b) Write a code for android device to choose from a group of toggle buttons where these toggle buttons give choices for "Your Favourite Car Brands" with options :

(i) Mercedes

(ii) Mustang

(iii) BMW

Display the choice in a toast.

(c) How to use the <ListView> element to display a list of items contained within an array ? Discuss the role of adapters in displaying lists.

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5. Attempt any *two* questions of choice from (a), (b) and (c). (2×10=20 Marks)

- (a) What do you understand by persistent storage for any Android application ? What is SQLite and is it a native implementation or java code implementation in Android ?
- (b) Explain the JDBC Open Helper and DBAdapter classes for working with SQLite Databases. What are their advantages over simple database create and manipulation ?
- (c) Create a login interface in android with two text boxes username and password, One button "submit" and a textview element. On submitting username and password if the pair matches with one of the database entries textview should show "welcome" message.