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# TCS–602

## B. Tech. (CSE) (SIXTH SEMESTER) END SEMESTER EXAMINATION, 2019

### MOBILE APPLICATION DEVELOPMENT

**Time : Three Hours**

**Maximum Marks : 100**

**Note :** (i) This question paper contains five questions.

(ii) All questions are compulsory.

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

(iv) 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 Studio ? What are the different tools in studio bundle that developers use to create apps for Android phones ?

(b) What are the differences between Context Menu and Options Menu ? What are the differences between a Dialog and Toast ?

(c) How to use a Listview or a Gridview ? Create a simple application in android displaying several texts from an array.

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

(a) What is SQLite and why is it used in Android applications ? Can it be used in creating applications which stores data in a distributed manner ?

(b) What are JDBC Open Helper classes and DBAdapters in context of SQLite ? Why do programmers use them against ordinary fetch and write code as done in databases ?

(c) Create a Quiz app in android where questions and their options and answers will be picked from a local database. Try to create a suitable and minimal user interface.

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

(i) ADB vs. Emulator

(ii) NIJK vs. JDK

(iii) Android OS vs. IOS (iphone)

(c) What are the android SDK tools and platform tools ? Explain project structure of any Android project.

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

(a) Linux kernel offers COW policy that helps Android OS to reduce time and space usage . Explain how ? Also elucidate the Android OS Architecture in brief.

(b) Explain the boot process of Android OS on a device. Explain in detail each step and emphasize on the importance of these steps.

(c) What do you understand by System server process ? How does a system server handles various android services ?

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 messenger based service.

(b) Write a basic code to update a textview element in activity from a background service using a local broadcast receiver. Create all three components activity, started service and broadcast receiver.

(c) What are the Android app components ? Discuss the life cycle of started and bounded services displaying certain life cycle calibacks.

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

(a) Using Executor framework or otherwise, create a Java solution for the following problem :

Consider an array list of three other array lists of numbers. Now, sort every list on a separate CPU and then find the average among all the three lists conjoined.