QUESTION BANK FOR MOBILE APP. DEVELOPMENT

UNIT: 1 Android Operating System and Development Environment

1. What is the Android operating system, and how is it different from other mobile operating systems?
2. Describe the architecture of Android.
3. Name the different versions of Android and their corresponding features.
4. What is the Open Handset Alliance (OHA), and how does it relate to Android?
5. Explain the role of Dalvik VM in Android.
6. What are the components of the Android SDK?
7. Name the primary Android Development Tools and their functions.
8. How do Android Virtual Devices (AVDs) help in application development?
9. Describe the directory structure of an Android application.
10. What is the purpose of the Android Manifest file?
11. How does Android handle application processes and memory management?
12. What are the primary security features of Android?
13. Explain the purpose of the Gradle build system in Android development.
14. What is the difference between Dalvik and ART (Android Runtime)?
15. Describe the steps involved in setting up an Android development environment.
16. What is the role of the adb tool in Android development?
17. Explain how to create and configure an Android Virtual Device (AVD).
18. What are some common issues faced when running an Android emulator, and how are they resolved?
19. Explain the concept of minSdkVersion, targetSdkVersion, and compileSdkVersion.
20. What permissions must be declared in the Android Manifest file for accessing the internet?

UNIT: 2 Android Components and Resource Handling

1. What is the role of the `Context` class in Android applications?
2. Define an Activity and explain its lifecycle.
3. What is an Intent, and how is it used to start a new activity?
4. Describe the purpose of Services in Android.
5. What is a Broadcast Receiver, and how is it used?
6. How are resources like strings, colors, and drawables managed in Android?
7. Explain the concept of styles and themes in Android.
8. What steps are involved in preparing an Android application for localization?
9. What is the difference between explicit and implicit intents?
10. Describe the different states of an activity in the Android lifecycle.
11. What is a bound service, and how does it differ from a started service?
12. How do you register and unregister a Broadcast Receiver in code?
13. Explain how to create and use custom resources in Android.
14. What is the difference between values stored in res/values and drawables in res/drawable?
15. How can you define and apply a custom style to an Android activity?
16. What are the steps to create a multi-language (localized) application in Android?
17. How are resource qualifiers used to support different device configurations?
18. Describe how to create custom themes for an Android application.

UNIT: 3 Android User Interface Elements and Layouts

1. What is Material Design, and why is it important in Android UI/UX?
2. Explain the differences between LinearLayout, FrameLayout, and RelativeLayout.
3. What is the ConstraintLayout, and how does it improve UI design?
4. Describe dynamic implementation of layouts in Android.
5. List common UI widgets and explain their properties, events, and methods.
6. What are dialog boxes in Android, and how are they implemented?
7. Explain the difference between Option Menus and Context Menus.
8. What are the key principles of Material Design?

9. How does a ScrollView differ from a ListView?

10. Describe the advantages of using a ConstraintLayout over a RelativeLayout.

11. How do you implement a dynamic layout using ViewGroup?

12. Explain how to handle button clicks using OnClickListener.

13. What is the difference between a Toast and a Snackbar in Android?

14. How do you customize the appearance of a dialog box?

15. Explain how to create a custom menu using XML in Android.

16. What is the role of a CoordinatorLayout in advanced UI design?

17. How do fragments differ from activities, and when should you use them?