Android Quiz – Questions and Answers

Section A: Multiple Choice Questions

1. Which method is called when an Activity is first created?
   ■ c) onCreate()

2. To store small amounts of primitive data (e.g., user preferences) in Android, which storage mechanism is typ
   ■ d) SharedPreferences

3. Which file is used to declare an Android application's components, permissions, and hardware features?
   ■ b) AndroidManifest.xml

4. A Service in Android is primarily used for:
   ■ b) Performing long-running operations in the background without a UI

5. What is the primary purpose of a RecyclerView?
   ■ b) To efficiently display large sets of data in a scrollable list

6. Which build system is officially recommended for Android development?
   ■ c) Gradle

7. What is the purpose of findViewById() in an Activity?
   ■ b) To locate a View element by its ID within the layout

8. To navigate from one Activity to another, you typically use an:
   ■ b) Intent

9. Which permission is required to access the internet from an Android application?
   ■ d) android.permission.INTERNET

10. Which component is used to deliver system-wide or custom events to other application components?
    ■ c) BroadcastReceiver

11. What is the default language for Android app development in modern Android Studio versions?
    ■ c) Kotlin

12. Which directory typically contains the layout XML files for an Android application?
    ■ c) res/layout

Section B: Fill in the Blanks

1. onStop
2. Fragment
3. AsyncTask (or Coroutine)
4. strings.xml
5. Package name
6. Internal storage
7. android:id
8. Bundle
9. Context
10. Toast

Section C: Android Studio Tools and Configuration

11. Logcat tool
12. Foreground Service
13. build.gradle file
14. res/drawable directory
15. onClickListener on the View

Scenario Question 1: E-commerce Product Listing (10 Marks)

1. (3 marks) Appropriate UI Component
Answer:
Use RecyclerView to display the product list efficiently.
Justification:
• It reuses views via ViewHolder pattern.
• Handles large datasets smoothly.
• Supports item animations and flexible layouts.
Marks: 3/3

2. (3 marks) Architecture & Design
Answer:
Use MVVM architecture with the following:
• ViewModel: Holds UI data.
• LiveData: Observes API responses.
• Repository: Fetches data via Retrofit.
• Room (optional): Caches data for offline use.
• Error handling via try-catch and sealed classes.
Marks: 3/3

3. (2 marks) Add to Cart Implementation
Answer:
• Use Toast or Snackbar for success message.
• Update cart count in ViewModel, observe it in Activity.
• Communicate changes to toolbar via LiveData.
Marks: 2/2

4. (2 marks) Refreshing Mechanisms
Answer:
• Use SwipeRefreshLayout for manual refresh.
• Use WorkManager or AlarmManager for periodic background fetch.
Marks: 2/2

■ Total Marks for Scenario 1: 10/10

Scenario Question 2: Offline-First Note-Taking App (10 Marks)

1. (3 marks) Local Database Solution
Answer:
Use Room database.
Advantages:
• Structured queries with SQL support.
• Works well offline.
• Supports LiveData and data persistence better than SharedPreferences or files.
Marks: 3/3

2. (3 marks) Sync Strategy & Conflict Resolution
Answer:
• Use a sync queue with flags (e.g., created, updated).
• When online, sync queue with server via Retrofit.
• Resolve conflicts using timestamps or prompt user.
Marks: 3/3

3. (2 marks) Detecting Changes & Sync Trigger
Answer:
• Detect changes via Room @Entity state flags.
• Use BroadcastReceiver with ConnectivityManager.
• Trigger background sync using WorkManager when network is available.
Marks: 2/2

4. (2 marks) UX & Data Integrity

Answer:
• Show sync status using icons or banners (e.g., synced, syncing).
• Use Snackbar for non-intrusive alerts.
• Ensure autosave and version tracking to prevent data loss.
Marks: 2/2

■ Total Marks for Scenario 2: 10/10