

MCA
(SEM IV) THEORY EXAMINATION 2022-23
MODERN APPLICATION DEVELOPMENT

Time: 3 Hours**Total Marks: 100****Note:** Attempt all Sections. If require any missing data, then choose suitably.**SECTION A****1. Attempt all questions in brief.****2 x 10 = 20**

- (a) Explain Inline Functions in short.
- (b) Describe the role of channel in notification after Oreo version.
- (c) What is the use of Value Folder in Android Studio?
- (d) Explain the Firebase Components.
- (e) Describe the role of Gradle in Android Studio.
- (f) Demonstrate how fragment is different from Activity.
- (g) Calculate the value of X at different phases of activity life cycle, if $x=10$ is given in Main Activity class and on Create= $X+1$, on Start= $x+2$, on Resume= $x+3$, on Pause= $x+4$, on Stop= $x+5$, on Destroy = $x+6$, On Restart = $x+8$.
- (h) What do you mean by Nested Class?
- (i) What is the use of backward compatibility option and determine which class is used for it?
- (j) Explain Signed and Un-Signed APK.

SECTION B**2. Attempt any three of the following:****10x3=30**

- (a) Discuss data binding? Explain it with proper example.
- (b) Explain notification in android with a complete program in KOTLIN.
- (c) Explain the role of services in android.
- (d) Illustrate List view and write a function to add any 10 items in Listview.
- (e) Discuss the sensor? Describe the types of sensors available in Android.

SECTION C**3. Attempt any one part of the following:****10x1=10**

- (a) Determine Lambda Expression in KOTLIN with proper example.
- (b) Discuss MVVM architecture in details with a proper example.

4. Attempt any one part of the following:**10x1=10**

- (a) Explain List View, Recycler View with proper examples
- (b) Discuss the Volley Library and Retrofit Library? Explain their use with proper example.

5. **Attempt any *one* part of the following:** **10x1=10**
- (a) Demonstrate various layouts available in android and also explain where & how we can use these layouts in android application development?
 - (b) Demonstrate Inline Functions, Higher-Order Functions, Scope Functions with proper examples.
6. **Attempt any *one* part of the following:** **10x1=10**
- (a) Discuss the different types of services? Define how these are different from activity.
 - (b) Illustrate how packaging and deployment is done. Explain the steps to publish an app on Google Play Store.
7. **Attempt any *one* part of the following:** **10x1=10**
- (a) Develop an application to store and retrieve Name, Age, Mob. no. and gender of a student in SQLite.
 - (b) Explain the process of generating signed APK in android studio.

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