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MCA
(SEM IV) THEORY EXAMINATION 2024-25
MODERN APPLICATION DEVELOPMENT

TIME: 3 HRS**M.MARKS: 100****Note:** Attempt all Sections. In case of any missing data; choose suitably.**SECTION A****1. Attempt all questions in brief. 2 x 10 = 20**

Q No.	Question	CO	Level
a.	What is the difference between a class and an object in Modern Application Development?	1	K2
b.	Explain Inline Functions in short.	1	
c.	What is Intent and its types?	2	
d.	Draw the Android Architecture.	2	
e.	List the Jetpack Components.	3	
f.	What are the common methods for storing data persistently in Android applications?	3	
g.	Define the Jetpack Navigation.	4	
h.	Define Data Binding	4	
i.	Explain Firebase Components	5	
j.	What is JSON Parsing?	5	

SECTION B**2. Attempt any three of the following: 10 x 3 = 30**

Q No.	Question	CO	Level
a.	Discuss Nested Classes? Explain it with proper example.	1	K2
b.	Distinguish the Activities and Intents.	2	
c.	What role do "Navigation Drawers" and "Bottom Navigation" play in creating intuitive navigation in Android apps?	3	
d.	Illustrate List view and write a function to add any 10 items in Listview.	4	
e.	Describe the process of generating signed APK in android studio.	5	

SECTION C**3. Attempt any one part of the following: 10 x 1 = 10**

Q No.	Question	CO	Level
a.	Determine Coding Conventions Expression in KOTLIN with proper example.	1	K2
b.	Explain Material Design and also explain how it is beneficial for layout designing in Android Application Development.	1	

4. Attempt any one part of the following: 10 x 1 = 10

Q No.	Question	CO	Level
a.	Explain the components of Android's architecture and how they interact with each other to ensure efficient app development.	2	K2
b.	Discuss the Volley Library and Retrofit Library? Explain their use with proper example.	2	



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5. Attempt any one part of the following: 10 x 1 = 10

Q No.	Question	CO	Level
a.	Explain the process of publishing an Android App on Google Play Store step by step in details	3	K2
b.	Explain MVVM architecture in detail with proper example.	3	

6. Attempt any one part of the following: 10 x 1 = 10

Q No.	Question	CO	Level
a.	Explain the various methods available in Android for storing, sharing, and retrieving data within an application. Discuss the use of SharedPreferences, Internal and External Storage, SQLite databases, and the Room Persistence Library for data storage.	4	K2
b.	Discuss the role of Jetpack components in modern Android app development. Explain how components such as LiveData, ViewModel, Room, and Navigation contribute to building robust, maintainable, and lifecycle-aware applications.	4	

7. Attempt any one part of the following: 10 x 1 = 10

Q No.	Question	CO	Level
a.	Explain the process of generating signed APK in android studio.	5	K2
b.	What is sensor? Describe all sensor available in your android mobile phones.	5	

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