

Register No : _____

THE KAVERY ENGINEERING COLLEGE
(An Autonomous Institution)

MCA DEGREE END SEMESTER THEORY EXAMINATIONS, NOV /DEC 2024

Second Semester

Master of Computer Applications

MC4204 - Mobile Application Development

Regulations - 2021

Duration : 3 Hrs

Maximum : 100 Marks

PART - A (ANSWER ALL QUESTIONS) (Marks 10*2=20)

Q.No	Questions	BLT	CO	Marks
1.	Define Over-the-Air (OTA) Updates in mobile application.	RE	1	2
2.	Name two popular mobile app development frameworks.	RE	1	2
3.	Differentiate between toggle button and radio button in user interface.	UN	2	2
4.	What is role of Voice XML in UI development?	RE	2	2
5.	Define DDMS (Dalvik Debug Monitor Service).	RE	3	2
6.	Difference Between Static and Dynamic Linking.	UN	3	2
7.	State the uses of Intent in Android	RE	4	2
8.	What is a common technique used by hackers to exploit mobile applications?	UN	4	2
9.	List any two tools required for developing an android application.	RE	5	2
10.	Define android web services.	RE	5	2

PART - B (ANSWER ALL QUESTIONS) (Marks 5*13 = 65)

Q.No	Questions	BLT	CO	Marks
11.	a i Explain the three different ways to develop Mobile Application.	UN	1	7
	ii Explain the infrastructure requirements for mobile applications and its essential key components that enable efficient mobile application deployment and performance.	UN	1	6
	Or			
	b i Illustrate the infrastructure requirements for deploying mobile applications.	UN	1	7
	ii Compare and contrast cross-platform frameworks like Flutter, React Native, and Xamarin.	UN	1	6
12.	a i Analyze the concept of Multimodal User Interfaces (UIs). Discuss how integrating various input modes (e.g., speech, touch, and gestures) enhances the user experience in modern applications.	AN	2	7
	ii Analyze the advantages and challenges of implementing Multichannel UIs. Provide examples of applications where multichannel capabilities are essential, and describe the technologies used to support these capabilities.	AN	2	6

Or

	b	i	Examine the importance of Screen Elements in designing a user interface. Discuss the various types of screen elements (e.g., buttons, icons, input fields) and how their placement and design impact usability.	AN	2	7
		ii	Discover a Voice XML script for a basic customer service IVR (Interactive Voice Response) system that allows users to check their account balance, make a payment, or speak to a representative. Describe how your script manages user inputs and provides clear feedback to users at each stage.	AP	2	6
13.	a	i	Explain in detail about the Workflow for Application development.	UN	3	7
		ii	Illustrate the steps to Improve Memory Usage in android application.	UN	3	6
Or						
	b	i	Explain the concept of Multithreading in Java.	UN	3	7
		ii	Explain in detail about the services performed in JAVA API.	UN	3	6
14.	a	i	Explain the core components of Android application architecture.	UN	4	7
		ii	Compare the data storage approaches of Android and iOS.	AN	4	6
Or						
	b	i	Explain the process of implementing user authentication in mobile applications. Design a secure login flow for a banking application, and explain the importance of securing user credentials.	AN	4	7
		ii	Explain the role of code obfuscation in Android application security for protecting an application.	UN	4	6
15.	a	i	Explain the components of android web services.	UN	5	7
		ii	Explain how handling events, such as swipes and taps, is essential for a good user experience. Apply this to a photo gallery app, where users can swipe through images and tap to view image details, discussing challenges and solutions in event handling.	UN	5	6
Or						
	b	i	Explain the use of telephony services in Android.	UN	5	7
		ii	Explain the role of notifications and alarms in “fitness tracking app” that sends personalized daily reminders to users to achieve their fitness goals.	AN	5	6

PART – C (Marks 1*15 = 15)

<i>Q.No</i>		<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
16.	a	Design a mobile application prototype for a travel booking platform that includes flight, hotel, and car rental options. Outline the key components of the app's architecture, including the Android basic components (e.g., Activities, Services) and data storage methods you would implement. Explain how these components will ensure a seamless user experience.	CR	4	15
		Or			
	b i	Create a security plan for a social media application that includes measures to prevent hacking and unauthorized access. Outline your approach to implementing authentication, encryption, and data protection strategies, and describe how you would use Android's security features, such as permissions and obfuscation, to protect user data and application code.	CR	4	8
	ii	Develop the steps involved in packaging and deploying an Android application on Google Play.	CR	4	7