

Seat No: \_\_\_\_\_

Enrollment No: \_\_\_\_\_

**PARUL UNIVERSITY**  
**FACULTY OF ENGINEERING & TECHNOLOGY**  
**B.Tech Winter 2024 - 25 Examination**

**Semester: 6****Date: 29-11-2024****Subject Code: 203105359****Time: 02:00 pm to 04:30pm****Subject Name: Mobile Application Development****Total Marks: 60****Instructions:**

1. This question paper comprises of two sections. Write answer of both the sections in separate answer books.
2. From Section A, **Q.1 is compulsory, attempt any THREE from Q. 2 to Q. 5**
3. From Section B, **Q.1 is compulsory, attempt any THREE from Q. 1 to Q. 5**
4. Make suitable assumptions wherever necessary.
5. Start new question on new page.

<b>Section-A (30 Marks)</b>					
<b>Q.1</b>	<b>Objective Type Questions - (State, Define, List, etc)</b> (All are compulsory and each of two marks)	<b>(6)</b>	<b>CO</b>	<b>PO</b>	<b>Bloom's Taxonomy</b>
	1. Define Android Studio.		<b>1</b>	<b>1</b>	<b>1</b>
	2. List the different mobile platforms		<b>1</b>	<b>1</b>	<b>1</b>
	3. State the lifecycle stages of an Android Activity.		<b>2</b>	<b>2</b>	<b>1</b>
<b>Q.2</b>	<b>Answer the following questions.</b>				
	A) Explain the role of the Android Manifest file in app development	<b>(2)</b>	<b>1</b>	<b>1</b>	<b>2</b>
	B) Illustrate the Model-View-ViewModel (MVVM) architecture with a diagram and describe its components	<b>(6)</b>	<b>3</b>	<b>3</b>	<b>3</b>
<b>Q.3</b>	<b>Answer the following questions.</b>				
	A) Differentiate between ConstraintLayout and LinearLayout.	<b>(2)</b>	<b>2</b>	<b>2</b>	<b>2</b>
	B) Write a sample code snippet for uploading data to Firebase Storage in an Android application.	<b>(6)</b>	<b>4</b>	<b>4</b>	<b>3</b>
<b>Q.4</b>	<b>Answer the following questions.</b>				
	A) Define Room DB in Android.	<b>(2)</b>	<b>3</b>	<b>3</b>	<b>2</b>
	B) Explain the steps involved in publishing an app on the Google Play Store.	<b>(6)</b>	<b>5</b>	<b>5</b>	<b>3</b>
<b>Q.5</b>	<b>Answer the following questions.</b>				
	A) Describe the role of a Fragment in Android applications.	<b>(2)</b>	<b>2</b>	<b>2</b>	<b>2</b>
	B) Explain how to use Firebase for real-time database integration in Android.	<b>(6)</b>	<b>4</b>	<b>4</b>	<b>3</b>
<b>Section-B (30 Marks)</b>					
<b>Q.1</b>	<b>Objective Type Questions - (State, Define, List, etc)</b> (All are compulsory and each of two marks)	<b>(6)</b>			
	1. Define Retrofit and its role in API integration.		<b>5</b>	<b>6</b>	<b>1</b>
	2. List the programming languages primarily used for developing applications on the Android platform		<b>5</b>	<b>5</b>	<b>1</b>
	3. Which mobile platform is known for its customization options and open-source nature?		<b>4</b>	<b>4</b>	<b>1</b>
<b>Q.2</b>	<b>Answer the following questions.</b>				
	A) Explain the purpose of Firebase Cloud Firestore.	<b>(2)</b>	<b>4</b>	<b>4</b>	<b>2</b>

	B) Describe the Android architecture.	(6)	<b>5</b>	<b>5</b>	<b>2</b>
<b>Q.3</b>	<b>Answer the following questions.</b>				
	A) What is the use of SharedPreferences in Android apps?	(2)	<b>3</b>	<b>3</b>	<b>2</b>
	B) Describe what Gradle is and its purpose	(6)	<b>4</b>	<b>4</b>	<b>3</b>
<b>Q.4</b>	<b>Answer the following questions.</b>				
	A) What is the role of the Linux kernel in the Android OS?	(2)	<b>3</b>	<b>3</b>	<b>2</b>
	B) Describe the Android project folder structure.	(6)	<b>3</b>	<b>4</b>	<b>2</b>
<b>Q.5</b>	<b>Answer the following questions.</b>				
	A) What is an intent, and how many types are there? Describe with examples.	(2)	<b>4</b>	<b>5</b>	<b>3</b>
	B) Describe the purpose and roles of activity lifecycle methods.	(6)	<b>3</b>	<b>4</b>	<b>3</b>