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Course Code	22AI62
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Sixth Semester B.E. Degree Examinations, May/June 2026
ANDROID MOBILE APPLICATION DEVELOPMENT
(Artificial Intelligence & Machine Learning)

Duration: 3 hrs

Max. Marks: 100

Note: 1. Answer any FIVE full questions choosing ONE full Question from each Module.
2. Missing data, if any, may be suitably assumed

<u>Q. No</u>	<u>Question</u>	<u>Marks</u>	<u>(RBTl:CO:PI)</u>
<u>Module-1</u>			
1.	a. Explain the architecture of Android with a neat diagram and also discuss the features of Android operating system.	10	(2 :1: 1.2.1)
	b. Illustrate the following layouts of Android with examples code snippets: (i) FrameLayout (ii) LinearLayout (iii) RelativeLayout (iv) TableLayout (v) ScrollView	10	(2 :1: 1.2.1)
(OR)			
2.	a. Discuss the commonly used Android layout attributes and their possible values with examples.	10	(2 :1: 1.2.1)
	b. Design the Android user interface shown in the Fig. Q2(b) using Android studio and explain the implementation of the following UI controls with suitable XML code: (i) Button (ii) ImageView (iii) CheckBox (iv) RadioButton (v) ToggleButton	10	(2 :1: 1.2.2)

Also explain the layout used to arrange the controls in the application.

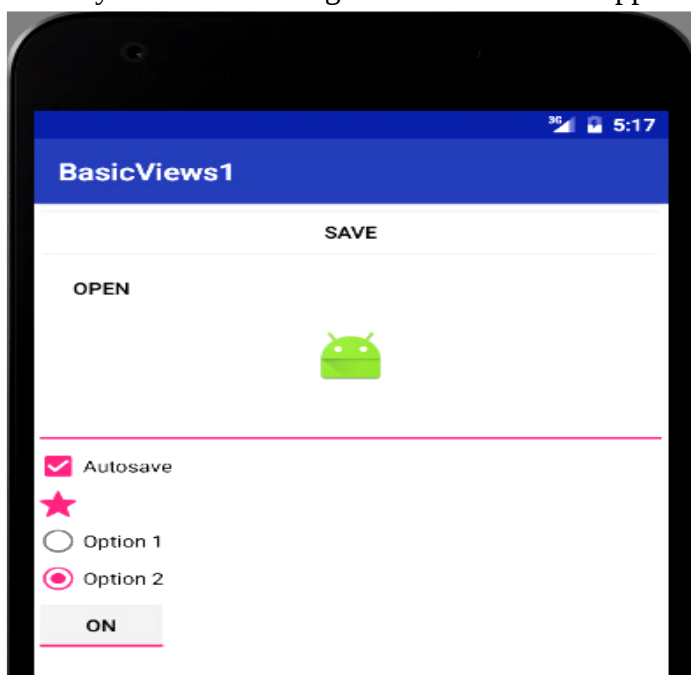


Fig. Q2(b)

Module-2

3. a. Illustrate the Android activity lifecycle with a neat diagram and describe the purpose of each lifecycle method. **10** **(3:2:1.2.1)**
- b. Explain the procedure for adding a new activity in an Android application. Discuss the role of the following components in the AndroidManifest.xml file with suitable examples: **10** **(2:2:1.2.2)**
- (i) <activity> (ii) <intent-filter> (iii) <action> (iv) <category>
- Also explain how an activity can be invoked using the startActivity() method.

(OR)

4. a. Design an Android application to maintain the following database table: **10** **(3:2:2.1.1)**
- Department
-
- id
name
Hod_Name
Total_Faculty
- (i) Write the SQL command to create the table.
- (ii) Explain the role of SQLiteOpenHelper / DBAdapter in database creation and management.
- (iii) Write code snippets for Insert, Retrieve, Update, and Delete operations on the Department table.
- b. Explain the concept of fragments in Android with appropriate code snippets. **10** **(2:2:1.2.1)**

Module-3

5. a. Explain how SMS messages can be sent programmatically in Android. **10** **(2:3:2.1.1)**
- b. Design an Android application to display Google Maps and perform operations like zoom control, map view change, and touch location detection. **10** **(2:3:2.1.1)**

(OR)

6. a. Explain how SMS messages can be sent using Intent and received in Android. **10** **(3:3:2.1.2)**
- b. Explain the process of sending an Email in Android using Intent with suitable code snippets. **10** **(3:3:2.1.1)**

Module-4

7. a. Write a Kotlin program to find the average of three numbers. Demonstrate variables, data types, and type inference used in the program and explain the output. **10** **(3:4:2.1.1)**
- b. Write a Kotlin program to check whether a number is even or odd using if and when statements. Also, display the multiplication table of the number using for loop and ranges, and demonstrate the use of while or do-while loop. **10** **(3:4:2.1.1)**

(OR)

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|----|----|--|----|-------------|
| 8. | a. | Write a Kotlin program to calculate the area of a circle using:
(i) Function declaration and usage (ii) default and named arguments. | 10 | (3:4:2.1.2) |
| | b. | Write a Kotlin program to calculate the area of a circle and rectangle using:
(i) single-expression function (ii) vararg parameters (iii) infix function. | 10 | (3:4:2.1.2) |

Module-5

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| 9. | a. | Write a Kotlin program to create a class Person with properties (Name, DoB, Address), use a constructor and initializer block, create at least two objects, and display their details. | 10 | (3:5:2.1.2) |
| | b. | Write a Kotlin program to demonstrate inheritance and method overriding using a base class Animal and derived classes Dog and Cat. | 10 | (3:5:2.1.2) |

(OR)

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|-----|----|--|----|-------------|
| 10. | a. | Develop a Kotlin program to demonstrate interfaces in Kotlin by creating an interfacing vehicle and implementing it in Car & Bike classes. | 10 | (3:5:2.1.2) |
| | b. | Write a Kotlin program using a sealed class to represent different weather conditions such as Sunny, Rainy, and Cloudy, and display suitable messages. | 10 | (3:5:2.1.2) |

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