

Q. 2 Attempt the following (Any THREE)(Each of 5Marks) (15)

- (a) List and Explain various types of layouts in android.
- (b) State and explain various stages of Activity Lifecycle.
- (c) Explain with suitable example the use of RadioButton, and RadioGroup Views in android.
- (d) What is a spinner? Explain with example.
- (e) Write the code for accepting user name and password from the user.
- (f) Write an android application to implement DatePicker View.

Q. 3 Attempt the following (Any THREE) (Each of 5Marks) (15)

- (a) Write a note on Drawables in android.
- (b) Explain how Themes and Styles can be used to customize user interface design in android application. Give suitable example.
- (c) What are Services in android? Give suitable example where Services can be used.
- (d) What is a Broadcast Receiver in android? Explain.
- (e) Write a note on Notifications in android.
- (f) What is RecyclerView? Give suitable example.

Q. 4 Attempt the following (Any THREE) (Each of 5Marks) (15)

- (a) What are the different option to save application data in android? Explain.
- (b) What are permissions in android? Write the relevant code to give permission to access camera and contacts to the application.
- (c) What are loaders in android? What are its characteristics? Explain.
- (d) Identify and list key performance related recommendation for an android application development.
- (e) Write a note on using SQLite databases for developing android application.
- (f) What is AdMob? Explain in detail.

Q. 5 Attempt the following (Any THREE) (Each of 5Marks) (15)

- (a) What is AutoCompleteTextView? Write a relevant code to demonstrate the use of AutoCompleteTextView in android.
- (b) How is CheckBox different from RadioButton in android? Write the XML tag for using CheckBox.
- (c) Write a note on AsyncTaskLoader.
- (d) Write a note on history and evolution of android.
- (e) Write a short note on ProgressBarView in android application.

(2 ½ Hours)

[Total Marks: 75]

N.B.

- 1) All questions are compulsory.
- 2) Figures to the right indicate marks.
- 3) Illustrations, in-depth answers and diagrams will be appreciated.
- 4) Mixing of sub-questions is not allowed.

Q. 1 Attempt All (Each of 5Marks)**(15)****(a) Multiple Choice Questions**

- i. Android version 7.0 is also known as _____
 - a) Marshmallow
 - b) Nougat
 - c) JellyBean
 - d) Oreo
- ii. Which of the following is used to input text by the user?
 - a) TextView
 - b) EditText
 - c) ListView
 - d) Button
- iii. Which of the following not a type of menu in Android?
 - a) Context menu
 - b) Option menu
 - c) Popup menu
 - d) Pickup menu
- iv. _____ allows to save and retrieve data of an application from the memory in the form of key-value pair
 - a) Shared preferences
 - b) Internal storage
 - c) External storage
 - d) Content providers
- v. The first callback method that is called when the activity is created for the first time is _____.
 - a) onCreate()
 - b) onStart()
 - c) onResume()
 - d) onRestart()

(b) Fill in the blanks with the help of pool of options (ListView, SQLite, GridView, Firebase, Intent, Activity, Toast, Dialog, Drawable)

- i. _____ is used to display a list of scrollable items from which the user can select one by clicking on it.
- ii. _____ is a real-time database that is used to store data with NoSQL cloud database
- iii. Android application components can connect to other Android applications using _____.
- iv. In Android _____ can be used to display information for the short period of time.
- v. A _____ is a graphic that can be drawn to the screen.

(c) Give description of the following in 1 – 2 lines:

- a) Requesting permissions
- b) ImageButton
- c) Material design
- d) Publish app
- e) Alarm managers