Time: 2½ hrs.                                                                                                          Marks:75

Note:           1. All questions are compulsory with internal choice.
                2. Draw neat diagrams wherever necessary.
                3. Figures to the right indicate full marks.


Q.1     **Answer the following (any four)**                                                                          (20)
        (a) Write any five kotlin advantages.
        (b) What is class and object write its syntax.Explain it with suitable example.
        (c) Write about collections in kotlin.What are the different types of collections?
        (d) Write short note on operators in kotlin.
        (e) Explain any six features of android studio
        (f) Describe the activity lifecycle of android.


Q.2     **Answer the following (any four)**                                                                          (20)
        (a) Write a short note on layout attributes.
        (b) What is intent? Discuss about implicit and explicit intent.
        (c) Write a short note on shared preferences.
        (d) Explain any six android UI controls.
        (e) What are the methods involved in android adapters.
        (f) Discuss about the operations and methods of content provider in android.


Q.3     **Answer the following (any four)**                                                                          (20)
        (a) Discuss in detail about animation.
        (b) What is a process? What are the five different states of a process?
        (c) Write a short note on drawable class.
        (d) Write about publishing an app in android studio and write the steps involved in
            publishing.
        (e) What is versioning? Give its importance
        (f) Explain detail about camera class.


Q.4     **Answer the following (any five)**                                                                          (15)
        (a) Describe the architecture of android in detail with the help of a diagram.
        (b) Write the steps to create an android application.
        (c) Discuss on content providers.
        (d) What is Layout? Write any five types of layout in android studio.
        (e) Explain any six camera features.
        (f) Write the steps to keep the device awake.

---X---