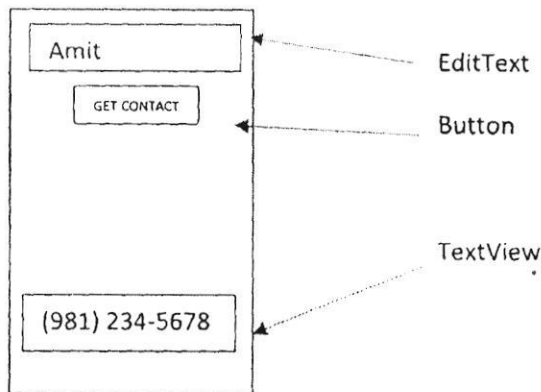counter from 0 to 100, on a new thread of runnable interface. The counter should increment the value after every 250 milliseconds.   (5)

7. Write Java code to create an android application for the given layout, which uses Contacts content provider to fetch the phone no of user "AMIT" from the contacts and display it on a TextView. Display "No record found" if no such contact exists.   (5)

(Note: for API 23 and above runtime permission is required)

13/5/2022 morning

[This question paper contains 4 printed pages.]

Instructions for Candidates

1. Write your Roll No. on the top immediately on receipt of this question paper.

2. **Section A** is compulsory.

3. Attempt any **3** questions from **Section B**.

4. Parts of a question must be answered together.

SECTION A

(Compulsory)

1. (a) Write the usage of weightSum and layout_weight attribute used in Linear layout.   (2)

    (b) The layout manager provides common attribute layout width and layout height for views. Is there

P.T.O.

any difference between match parent and Odp value used for these attributes? (2)

(c) Which method is used to register a context menu to a ListView item? Explain Briefly. (2)

(d) Briefly explain the terms density independent pixel (dp) and Scale independent pixel (sp). (2)

(e) Write java code for the following :

(i) Array adapter

(ii) Popup Menu (2)

SECTION B

(Attempt any 3 questions)

(Parts of a question must be answered together)

2. (a) What do you understand by the term Android Activity stack? Explain any two types of launch modes available in Android, excluding standard launch mode. (2.5)

(b) What do you understand by the term instance state of an activity? Write Java code to explain how it

can be saved and restored. Use appropriate lifecycle methods to support your answer. (2.5)

3. Write a Java class of your choice which should have at least three data members, one for the data type Integer and two Strings. Write Java code to initialize this class instance. Send this class instance using a parcel to another activity on click of a submit button. (5)

4. Write Java code for an android application to trigger a notification for android SDK versions lower than Oreo with the following details :

• Channel ID: ANDROID_EXAM CHANNEL

• Content Title: Broadcast Notification

• Content Text: Hello (5)

5. How do you return results from an activity? Write java code for implementing the same. (5)

6. Write Java code for an android activity which contains a button. On click of this button trigger a numeric