Instructions:
1. All questions are compulsory.
2. No doubts will be entertained during the exam duration.
3. In case of multiple seemingly correct options (in Section A), choose the most appropriate one.
4. Mark all answers for Section A on the first page of your answer sheets.

Section A – 1 mark each

1. Write the name of the android version which is not based on sweets.

2. What is the full form of SDK?

3. What is the primary purpose of the 'findViewById' method in Android development?

    a. Find a view by its identifier
    b. Find a view by its class
    c. Find a view by its name
    d. Find a view by its tag

4. What is the function of an Intent in Android?

    a. To display a message
    b. To perform background tasks
    c. To navigate between activities or apps
    d. To store data in a database

5. What is the purpose of the 'main' method in a Java program?

    a. It is the starting point of the program.
    b. It handles exceptions.
    c. It defines the main variables.
    d. It is used for memory allocation.

6. How is method overloading different from method overriding in Java?

    a. Overloaded methods have the same method signature, overridden methods have different signatures
    b. Overloaded methods have different method names, overridden methods have the same name
    c. Method overloading is static, method overriding is dynamic
    d. Method overloading involves changing the return type, method overriding does not

7. When is method overloading determined?

    a. At run time
    b. At compile time
    c. At coding time
    d. At execution time

```
class variable_scope
{

    public static void main(String args[])
    {

        int x;
        x = 5;
        {
            int y = 5;
            System.out.print(x + " " + y);
        }
        System.out.println(x + " " + y);
    }
}
```

Figure 1.

```
class Base {
    public void show() {
        System.out.println("Base::show() called");
    }
}

class Derived extends Base {
    public void show() {
        System.out.println("Derived::show() called");
    }
}

public class Main {
    public static void main(String[] args) {
        Base b = new Derived();;
        b.show();
    }
}
```

Figure 2.

8. What will be the output of the following Java program as shown in Figure 1?

    a. Compilation error
    c. 5 6 5 6

b. Runtime error   d. 5 6 5

9. Output of following Java Program as shown in Figure 2?

    a. Derived::show() called   c. Base::show() called

    b. Run-time error   d. Compile-time error

10. Which of the following is true about inheritance in Java?

    [1] Private methods are final.
    [2] Protected members are accessible within a package and inherited classes outside the package.
    [3] Protected methods are final.
    [4] We cannot override private methods.

    a. 1, 2 and 4   c. 1, 2 and 3
    b. 1 and 2   d. 2, 3 and 4

Section B – 2 marks each

1. Explain about different parts of Android Studio Editor and draw a rough diagram for the same.

2. What is the use of static and final keywords in java. Discuss their use with examples. What will happen if you put final before a class declaration?

3. What is intent? Discuss its types with examples. How to create a new activity/screen in android studio?

4. What is the difference between .java file and .xml files and what are their uses?

5. Explain how you will create a new project of android using android studio and explain it step-by-step. Also explain the folder structure of the project created.

Section C – 5 marks each

1. What is inheritance and why is it necessary? Explain different types of inheritance and explain why java doesn't support multiple inheritance? Also write a code to explain the concept of inheritance in java. (Hint: Animal class and its subtype)

2. What is polymorphism and why do we need it? Explain its types with examples. Also explain about the super() method and super keyword using an example code.

OR

What do you mean by exception handling and why do we need it? Explain try-catch-finally block with an example code.