

Slip No. 21 (Total Marks: 30)

1.

```
abstract class Staff {
    protected String id, name;

    public Staff(String id, String name) {
        this.id = id;
        this.name = name;
    }

    public abstract void display();
}

class OfficeStaff extends Staff {
    String department;

    public OfficeStaff(String id, String name, String department) {
        super(id, name);
        this.department = department;
    }

    @Override
    public void display() {
        System.out.println("ID: " + id + ", Name: " + name + ", Department: "
+ department);
    }
}

public class Main {
    public static void main(String[] args) throws IOException {
        BufferedReader br = new BufferedReader(new
InputStreamReader(System.in));
        System.out.println("Enter the number of OfficeStaff: ");
        int n = Integer.parseInt(br.readLine());

        OfficeStaff[] staffArray = new OfficeStaff[n];
        for (int i = 0; i < n; i++) {
            System.out.println("Enter ID, Name, and Department for Staff " +
(i + 1) + ": ");
            String id = br.readLine();
            String name = br.readLine();
            String department = br.readLine();
            staffArray[i] = new OfficeStaff(id, name, department);
        }

        System.out.println("Office Staff Details:");
        for (OfficeStaff staff : staffArray) {
            staff.display();
        }
    }
}
```

2.

```

import java.io.*;

class Book {
    int bookid;
    String bookname;
    float bookprice;
    int bookqty;

    public Book(int bookid, String bookname, float bookprice, int bookqty) {
        this.bookid = bookid;
        this.bookname = bookname;
        this.bookprice = bookprice;
        this.bookqty = bookqty;
    }

    public void display() {
        System.out.println("Book ID: " + bookid + ", Book Name: " + bookname
+ ", Price: " + bookprice + ", Quantity: " + bookqty);
    }
}

class BookOperations {
    public static void main(String[] args) throws IOException {
        RandomAccessFile file = new RandomAccessFile("book.dat", "rw");

        file.writeInt(101);
        file.writeUTF("Java Programming");
        file.writeFloat(499.99f);
        file.writeInt(10);

        file.writeInt(102);
        file.writeUTF("Data Structures");
        file.writeFloat(299.99f);
        file.writeInt(5);

        file.seek(0);

        System.out.println("Books in the file:");
        while (file.getFilePointer() < file.length()) {
            int id = file.readInt();
            String name = file.readUTF();
            float price = file.readFloat();
            int qty = file.readInt();
            System.out.println("ID: " + id + ", Name: " + name + ", Price: "
+ price + ", Qty: " + qty);
        }

        file.close();
    }
}

```