

INTERNATIONAL ISLAMIC UNIVERSITY CHITTAGONG
Dept. of Computer Science & Engineering (CSE)
B.Sc. in CSE Semester Final Examination, Autumn, 2018
Course Code: **CSE-2401** Course Title: **Object Oriented Programming II**
Time: **2 Hour 30 minutes** Full Marks: **50**

[Answer any two questions from Group-A and any three questions from Group-B; Separate answer script must be used for Group-A and Group B (Figures at right margin illustrate marks)]

Group – A [2×10 = 20 Marks]

1. a) Elucidate the thread life cycle with appropriate annotation of different thread's methods in diagram? 3
- b) Is it possible to block a thread? If yes explain all thread blocking methods in java programming. 3
- c) What do you mean by deadlock in java thread? Write the importance of synchronized keyword. 2
- d) Write the purpose of `yield()` method in java thread. Is there any error in the following program? If yes, correct the program with appropriate codes. 2
- ```
class CSE2401 extends Thread{
 public void run() {
 for(int i = 5; i > 0; i--) {
 System.out.println(name + ": " + i);
 Thread.sleep(1000);
 }
 }
}
public class FinalExam {
 public static void main(String[] args) {
 new CSE2401().start();
 }
}
```
2. a) Write a java program to take input text from keyboard and write into an output file by using stream class. Give self explanatory comments in your program. 3
- b) Elucidate the concepts of input/output stream in java with classification? 3
- c) Write a java program to append the text into an existing file using java random access file class. 3
- d) Write the output of the following java code: 1
- ```
public class StringClass {
    public static void main(String[] args){
        String s = "Object Orient Program";
        int len=s.length; char t;
        for(int i=0; i<len;i++){
            for(int j=0; j<len;j++){
                if(s[i]!=s[j]){
                    t=s[i]; s[i]=s[j]; s[j]=s[i]
                }
            }
        }
        System.out.println(s);
    }
}
```
3. a) What are `FileInputStream` and `FileOutputStream`? Write the main methods of two classes. 3
- b) Why do we call `start()` method which in turns calls `run()` method, why not we directly call `run()` method? 2

- c) Develop a java program to concatenate the two input data files (a.txt and b.txt) into one output data file (output.txt) by using java I/O stream. 4
- d) Is there any compilation error in the following program? If yes, correct the program with appropriate codes. 1

```

public class DataReader{
    public static void main(String[] args) throws IOException{
        FileReader ins=new FileReader("CSE.txt");
        int ch;
        while ((ch=ins.read())!=-1) {
            System.out.println(ch);
        }
        ins.close();
    }
}

```

Group – B [3×10 = 30 Marks]

4. a) Describe the local and remote applets with examples. 2
- b) "Applets do not use the **main()** method". Justify this statement in short. 1
- c) Develop an applet to show the Bangladeshi flag with green and red color. Design a HTML page to test and display of that applet. 3
- d) Design a dynamic java applet to draw and display a circle by taking two user input namely an integer number as radius, and a character as first character of color's name. 4
5. a) Define event and event listener. "Event Listeners are interface in java event handling" - justify. Why the Listeners of events are defined by interface. 3
- b) Design a java applet to implement the KeyListener for java key events handling. 3
- c) Why adapter classes are needed? Design a java applet to handle the mouse event by using MouseAdapter class. 4
6. a) Write the basic purpose of "PrintWriter" class in Client/Server programming in java. 1
- b) Define Transmission Control Protocol (TCP) and User Datagram Protocol (UDP). Compare between TCP and UDP. 3
- c) How to display the local computer name (Network ID) and IP address? Explain with a java program. 2
- d) Is it possible to run more than one server in a computer? If yes, justify your answer with example taking account of java networking concepts. 2
- e) Write short notes on the following: 2
- i) Client/Server ii) DNS iii) URL iv) InetAddress
7. a) What are the differences between *AWT* and *Swing* component? 3
- b) What are the applications of *vector* class? 2
- c) Write the basic HTML code to display the Java applets. 2
- d) Write a small Java program to insert an item in a database. 3

[END]