

Department of Information and Communication Engineering

Pabna University of Science and Technology, Pabna

Faculty of Engineering and Technology

B.Sc. Engineering 2nd Year 1st Semester Examination-2017

Session: 2015-2016

Course Code: ICE-2103

Course Title: Object Oriented Programming

- NB:**
1. Answer any **THREE** questions out of four from each **PART**.
 2. Figures in the right margin indicate full marks.
 3. Parts of the same question should be answered together and in the same sequence.
 4. Separate answer script must be used for answering the questions of **PART-A** and **PART-B**.

Time: 3 Hours (For Part A and Part B)

Total Marks: 70

PART-A

1. a) What is Object oriented programming (OOP)? Briefly discuss about the term Polymorphism. 4
b) What do you understand by data abstraction, encapsulation, polymorphism, and dynamic binding? 4
c) What are the major C++ features that were intentionally omitted from Java or significantly modified? $3\frac{2}{3}$
2. a) Write down some new operators that introduce in C++ programming language. 3
b) What are the differences between class and structure? 3
c) Briefly describe the single inheritance in C++ programming language. $5\frac{2}{3}$
3. a) Define constructors and destructors in C++ programming language. 3
b) What are the special characteristics of the constructor functions? $4\frac{2}{3}$
c) What are the differences between C++ and Java programming language? 4
4. a) What do you mean by Operator Overloading in C++ programming language? 2
b) Write C++ program to perform addition, subtraction, multiplication and division of two integers. $5\frac{2}{3}$
c) Write down two normal uses of void in C++ programming language. 2
d) What do you mean by abstract class? 2

PART-B

1. a) What is Java? Briefly describe about the features (platform independent and portable, Robust and secure) of Java Programming language. $5\frac{2}{3}$
b) Briefly describe about the features (Compiled, Interpreted, and distributed) of Java programming language. 4
c) What is the difference between break and continue statement? 2
2. a) What do you mean by Applet? 3
b) Briefly describe the applet life cycle. $6\frac{2}{3}$
c) Explain run time errors in Java programming language. 2
3. a) What are the differences between array and vector? $3\frac{2}{3}$
b) What is exception in Java program? 2
c) Write a Java program to calculate the area and volume of a room using method overloading; where length, width and height are 10, 5 and 12 meter respectively. 6
4. a) What do you mean by method overloading in Java program? 2
b) Explain default constructor with example in Java programming language. $5\frac{2}{3}$
c) Write a Java program to create a file "test.txt" and enter your name and roll into the file. 4

Department of Information and Communication Engineering
Pabna University of Science and Technology, Pabna
Faculty of Engineering and Technology
B.Sc. Engineering 2nd Year 1st Semester Examination-2018
Session: 2016-2017

Course Code: ICE-2103

Course Title: Object Oriented programming

NB:

1. Answer any **SIX** (THREE from each PART) questions.
2. Figures in the right margin indicate marks.
3. Parts of the same question should be answered together and in the same sequence.
4. Separate answer script must be used for answering the question of PART-A and PART-B.

Time: 3 Hours

PART-A

Total Marks: 70

1. a) What is class? Give an example of class. Write down the general form of a class definition. 4
- b) What do you mean by public, private and protected member of a class? 3
- c) Define object. How to declare an object? Write down the comparison between class and object. $4\frac{2}{3}$
2. a) What do you mean by data abstraction and encapsulation? 2
- b) Write down some new operators that introduce in C++ programming language. 4
- c) Briefly describe the different types of inheritance in C++ programming language. $5\frac{2}{3}$
3. a) Define constructors and destructors in C++ programming language. 2
- b) What are the special characteristics of the constructor functions? $4\frac{2}{3}$
- c) Briefly describe the copy constructor with suitable example. 5
4. a) What do you mean by Operator Overloading in C++ programming language? 2
- b) Define encapsulation and polymorphism. 2
- c) Write down two normal uses of void in C++ programming language. 2
- d) Write C++ program to perform addition, subtraction, multiplication and division of two integers. $5\frac{2}{3}$
5. a) What do you mean by JVM? 2
- b) Briefly describe the general form of Java program. 4
- c) Explain run time errors and compile time errors in Java programming language. 6
6. a) What do you mean by Applet? 6
- b) Briefly describe the applet life cycle.
- c) Explain class and object in Java programming language.

PART-B

7. a) Define exception handling. Give one example of it. Describe the five keywords that manage Java exception handling.
- b) What is file management? What are the two approaches that use to read and write files? How many subclasses used for handling characters in files? What are they?
8. a) What do you mean by method overriding in Java program?
- b) Briefly describe the major tasks of input and output stream classes.
- c) Write a Java program to create a file "test.txt" and enter your name and roll into that file.

Pabna University of Science and Technology, Pabna
Department of Information and Communication Engineering

Faculty of Engineering and Technology

B.Sc. (Engineering) 2nd Year 1st Semester Examination-2019

Session: 2017-2018

Course Code: ICE-2103

Course Title: Object Oriented Programming

- NB:
1. Answer any **THREE** questions out of four from each part.
 2. Figures in the right margin indicate marks.
 3. Parts of the same question should be answered together and in the same sequence.
 4. Separate answer script must be used for answering the questions of Part-A and Part-B.

Time: 3 Hours

Total Marks: 70

Part-A

1. a) What is Object Oriented Programming? Mention different features of Object Oriented Programming Language. 4
b) What do you understand by data abstraction, encapsulation, polymorphism and dynamic binding? 4
c) Write a C++ program to display the left triangle using nested for loops. $3\frac{2}{3}$
2. a) Briefly describe the basic data types in C++ programming language. $5\frac{2}{3}$
b) Write a C++ program to calculate mean, variance and standard deviation of numbers. 6
3. a) Define copy constructor and parameterized constructor in C++ programming language. 3
b) Briefly describe the different types of inheritance in C++ programming language. $4\frac{2}{3}$
c) Explain default constructor with suitable example. 4
4. a) What do you mean by dynamic initialization of objects? Why do we need to do this? 3
b) Write C++ program to perform addition, subtraction, multiplication and division of two integers. $3\frac{2}{3}$
c) Explain operator overloading in C++ Programming Language with suitable example. 3
d) What are the advantages of Object Oriented Programming? 2

Part-B

5. a) What is an exception? 2
b) What is an operator? Briefly explain about the Instance of and dot operator in Java. $4\frac{2}{3}$
c) How do we define a try block and a catch block? Explain with example. 5

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|-------|---|-----------------|
| 6. a) | What is Java method? Give a general syntax of it. How to define a method and describe each part of method header. | 5 $\frac{2}{3}$ |
| b) | Give an example of java program that demonstrate the effect of passing by value. | 4 |
| c) | Define local variable and variable scope. | 2 |
| 7. a) | What is Java Package? | 2 |
| b) | Write down the applications of Java Packages. | 3 |
| c) | Write a Java program to calculate the area and volume of a room using method overloading; where length, width and height are 10, 5 and 12 meter respectively. | 4 $\frac{2}{3}$ |
| d) | What are the differences between method overloading and method overriding in Java? | 2 |
| 8. a) | What are the differences between array and vector? | 2 |
| b) | How do we add a class or an interface to a Package? Explain. | 5 $\frac{2}{3}$ |
| c) | Write a Java program to create a file "test.txt" and enter your name and roll into the file. | 4 |

Department of Information and Communication Engineering

Pabna University of Science and Technology

Faculty of Engineering and Technology

B.Sc. (Engineering) 2nd Year 1st Semester Examination-2020

Session: 2018-2019, 2017-2018, & 2016-2017

Course Code: ICE-2103

Course Title: Object Oriented Programming

- NB: 1. Answer any **SIX** (THREE from each PART) questions.
2. Figures in the right margin indicate marks.
3. Parts of the same question should be answered together and in the same sequence.

Time: 3 Hours

Total Marks: 70

PART-A

1. a) Define class, object and method. 3
b) Differentiate between object oriented programming and procedure oriented programming. 4
c) Briefly discuss about the basic structure of C++ programming language. $2\frac{2}{3}$
2. a) What is the significance of scope resolution operator (::)? Explain. 3
b) Mention certain special characteristics of a friend function. 3
c) Briefly describe the different form of inheritance in C++ programming language. $5\frac{2}{3}$
3. a) What are the purposes of constructor function? How a copy constructor works? 3
b) What is the wrong of the following fragment? $2\frac{2}{3}$
- ```
class samp {
 int a;
 public:
 samp(int i) {a=1;}
 // };
int main()
{
 Samp x,y(10);
 // }
c) Briefly explain what the overload keyword does and why it is no longer needed. 3
d) Give two reasons why you might want to overload a class's constructor. 3
```
4. a) What do you mean by array of objects? 2  
b) Explain array of objects in C++ programming language with suitable example.  $5\frac{2}{3}$   
c) Differentiate between global and local variable. 2  
d) Write down some new operators that introduce in C++ programming language. 2

PART-B

5. a) What do you mean by abstract class and abstract method in java? 2  
b) Briefly discuss about the basic features of Java.  $5\frac{2}{3}$   
c) Explain method overriding in java with an example. 4
6. a) What do you mean by JVM? 3  
b) Explain run time and compile time errors in Java programming language.  $4\frac{2}{3}$   
c) What are the differences between call by value and call by reference in java? 4
7. a) What is swing in java? 2  
b) Explain java swing class hierarchy diagram.  $6\frac{2}{3}$   
c) Write a Java program to calculate the area and volume of a room using method overloading; where length, width and height are 10, 7 and 15 meter respectively. 3
8. a) What is Exception handling? Explain the mechanism of exception handling. 4  
b) What are the advantages of using exception handling?  $2\frac{2}{3}$   
c) What is event? Describe the steps of event handling. 5