

MID-TERM EXAMINATION PAPER

FACULTY : COMPUTER SCIENCE AND MULTIMEDIA

COURSE : BACHELOR OF INFORMATION TECHNOLOGY (BIT)

YEAR/ SEMESTER : SECOND YEAR / FOURTH SEMESTER

MODULE TITLE : JAVA PROGRAMMING

DATE : 27th FEBURARY 2022

TIME ALLOWED : 3 HOURS

START : 6:30AM – 9:30 AM

SET : A

Instruction to candidates

1. This question paper has THREE (3) Section
2. Answer **ALL** questions in Section A, MCQ.
3. Answer **5** questions in Section B, MSAQ
4. Answer **2** questions in Section C, MEQ
5. No scripts or answer sheets are to be taken out of the Examination Hall.
6. For Section A, answer in the OMR form provided.

Do not open this question paper until instructed.

(Candidates are required to give their answers in their own words as far as practicable)

SECTION A

Multiple Choice Questions

(30*1=30)

1. Which one of the following is not a Java feature?
 - a) Object-oriented
 - b) Use of pointers
 - c) Portable
 - d) Dynamic and Extensible
2. Which component is used to compile, debug and execute the java programs?
 - a) JRE
 - b) JIT
 - c) JDK
 - d) JVM
3. Which environment variable is used to set the java path?
 - a) MAVEN_Path
 - b) JavaPATH
 - c) JAVA
 - d) JAVA_HOME
4. What will be the error in the following Java code?

```
byte b = 50;
```

```
b = b * 50;
```

- a) b cannot contain value 50
 - b) b cannot contain value 100, limited by its range
 - c) No error in this code
 - d) * operator has converted b * 50 into int, which can not be converted to byte without casting
5. Which of the following is not an OOPS concept in Java?
 - a) Polymorphism
 - b) Inheritance
 - c) Compilation
 - d) Encapsulation
 6. What is the output of following Program?

```
class variable_scope
{
    public static void main(String args[])
    {
        int x;
        x = 5;
        {
            int y = 6;
            System.out.print(x + " " + y);
        }
        System.out.println(x + " " + y);
    }
}
```

- a) Public method is accessible to all other classes in the hierarchy

- b) Public method is accessible only to subclasses of its parent class
- c) Public method can only be called by object of its class
- d) Public method can be accessed by calling object of the public class

12. What is true about private constructor?

- a) Private constructor ensures only one instance of a class exist at any point of time
- b) Private constructor ensures multiple instances of a class exist at any point of time
- c) Private constructor eases the instantiation of a class
- d) Private constructor allows creating objects in other classes

13. Which of these is used as a default for a member of a class if no access specifier is used for it?

- a) private
- b) public
- c) public, within its own package
- d) protected

14. Which of the following modifier means a particular variable cannot be accessed within the package?

- a) private
- b) public
- c) protected
- d) default

15. Which of these methods must be made static?

- a) main()
- b) delete()
- c) run()
- d) finalize()

16. What will be output of following code?

```
class access
{
    static int x;
    void increment()
    {
        x++;
    }
}
class static_use
{
    public static void main(String args[])
    {
        access obj1 = new access();
        access obj2 = new access();
        obj1.x = 0;
        obj1.increment();
        obj2.increment();
    }
}
```


c) Can Occur Any Time

d) None of the mentioned

25. Which of these keywords must be used to monitor for exceptions?

a) try

b) finally

c) throw

d) catch

26. What will be the output of the following code?

```
class exception_handling
{
    public static void main(String args[])
    {
        try
        {
            System.out.print("Hello" + " " + 1 / 0);
        }
        catch(ArithmeticException e)
        {
            System.out.print("World");
        }
    }
}
```

a) Hello

b) World

c) HelloWorld

d) Hello World

27. Which Scanner class method is used to read string value from the user?

a) next()

b) nextString()

c) nextLine()

d) Both 1 and 3

28. Which method is used to write a byte to the current output stream?

a) public void write(int)throws IOException

b) public void write(byte[])throws IOException

c) public void flush()throws IOException

d)public void close()throws IOException

29. Which of these exception is thrown in cases when the file specified for writing is not found?

a) IOException

b) FileNotFoundException

c) FileNotFoundException

d) FileInputException

30. Which of these methods are used to read in from file?

a) get()

b) read()

c) scan()

d) readfileInput()

SECTION B

Short Answer Questions

Answer any five (5) questions out of eight (8) questions.

(5*6=30)

1. What is loop in Java? What is the difference between while-do and do-while loops? Explain With a proper example.
2. A sales tax of 7% is levied on all goods and services consumed. It is also mandatory that all the price tags should include the sales tax. For example, if an item has a price tag of \$107, the actual price is \$100 and \$7 goes to the sales tax. Write a program using a loop to continuously input the tax-inclusive price (in double); compute the actual price and the sales tax (in double); and print the results rounded to 2 decimal places. The program shall terminate in response to input of -1; and print the total price, total actual price, and total sales tax
3. Write a Java Program to check whether a word entered by user is palindrome or not.
4. Explain the history of Java. Also list down some advantages of using Java.
5. Explain servlet life cycle in detail.
6. What is Error Handling in Java? Explain the working mechanism of try, catch and finally with examples.
7. Write a Java Program to print the following pattern.

1 2 3 4 5

1 2 3 4

1 2 3

1 2

1

8. Write a Java Program to calculate circumference of a circle. Allow the user to input the value of radius.

SECTION C

Long Answer Questions

Attempt any two (2) questions out of three (3) questions.

(2*20=40)

1. What do you understand about Java? What are its features? Explain 5 features of object oriented programming with examples of each in Java.
2. Create a class called Book to represent a book. A Book should include four pieces of information as instance variables: a book name, an ISBN number, an author name and

a publisher. Your class should have a constructor that initializes the four instance variables. Provide a mutator method and accessor method (query method - getter and setter) for each instance variable. In Addition, provide a method named getBookInfo that returns the description of the book as a String (the description should include all the information about the book). Write Program to get input of book from user and later display the information entered by user.

3. Write Short Notes on following : (any four)
 - a) Method overloading
 - b) Data Types in Java
 - c) Switch Statement with example
 - d) Life cycle of Servlet
 - e) Cookies