

# CBCS SCHEME



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18MCA21

## Second Semester MCA Degree Examination, Dec.2019/Jan.2020 Programming using JAVA

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

### Module-1

- 1 a. Explain the object oriented principles of Java. (06 Marks)
- b. Write about automatic type promotion in expressions with rules demo program. (04 Marks)
- c. What are the different types of iteration statements and Jump statements? Give example. (10 Marks)

OR

- 2 a. Explain the concept of a default constructor and parameterized constructor with an example. (06 Marks)
- b. Discuss briefly :
  - i) this keyword
  - ii) Garbage collection. (06 Marks)
- c. Explain the following with example :
  - i) For – Each Style for loop
  - ii) Bitwise operators. (08 Marks)

### Module-2

- 3 a. Give any five methods of StringBuffer class with syntax and example. (10 Marks)
- b. Define a String. Explain with example program for searching a specified character or substring. (07 Marks)
- c. What is the difference between == and equals() method. (03 Marks)

OR

- 4 a. Explain the multiple usage of static keyword in Java with example program. (08 Marks)
- b. What is the difference between constructor and method? Using example, explain method overloading and constructor overloading. (08 Marks)
- c. Explain varargs and its restrictions. (04 Marks)

### Module-3

- 5 a. How to call super class constructors and super class members using super? Demonstrate it. (08 Marks)
- b. What is method overriding? Explain how it allows java to support run-time polymorphism with an example. (06 Marks)
- c. Explain the multiple usages of final keyword with example. (06 Marks)

OR

- 6 a. What is multiple Inheritance? How multiple inheritance achieved in Java? Write a program to calculate the area of a rectangle and triangle by implementing multiple inheritance. (09 Marks)
- b. What is an interface? How to extend an interface explain with demo program. (06 Marks)
- c. List out the access specifies in Java and given a table for visibility of these members within the package and outside the package. (05 Marks)

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**Module-4**

- 7 a. What is an exception? Explain exception handling mechanism with proper example. (05 Marks)
- b. How to define :  
i) Multiple catch blocks (08 Marks)  
ii) Nested try blocks. (07 Marks)
- c. Explain throw, throws and finally with example program. (07 Marks)

**OR**

- 8 a. Define a thread. Explain the two ways of creating threads with example. (06 Marks)
- b. What is synchronization? Explain how inter thread communication can be achieved in multithreading using example program. (10 Marks)
- c. Explain about thread priorities in Java. (04 Marks)

**Module-5**

- 9 a. What is enumeration? Write a Java program to create an enumeration Day of week with seven values SUNDAY through SATURDAY. Add a method isworkday( ) to the Dayofweek class that returns true if the value on which it is called is MONDAY through FRIDAY, otherwise false. (07 Marks)
- b. What is autoboxing and auto unboxing in arithmetic expressions? Explain with example. (05 Marks)
- c. Explain the following :  
i) Values( ) and valueof( ) methods (08 Marks)  
ii) Type wrappers.

**OR**

- 10 a. Explain about :  
i) HTTPURL connection class (08 Marks)  
ii) InetAddress class.
- b. What collection classes? Write a Java program to demonstrate the utilities of LinkedList class. (12 Marks)

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