



**SIDDHARTH GROUP OF INSTITUTIONS :: PUTTUR**  
Siddharth Nagar, Narayanavanam Road – 517583

**QUESTION BANK (DESCRIPTIVE)**

**Subject with Code : JAVA (9F00305)**

**Course & Branch: MCA**

**Year & Sem: II-MCA & I-Sem**

**Regulation: R09**

**UNIT –I**

**Java Basics**

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|-----|---|----|
| 1.  | (a) Write about overloading methods and constructors                        | 5M |
|     | (b) Write about short notes on java buzzwords.                              | 5M |
| 2.  | (a) Explain the scope and life time of variables with suitable examples.    | 5M |
|     | (b) Write short notes on java buzzwords                                     | 5M |
| 3.  | (a) Discuss the Role of JVM   | 5M |
|     | (b) Garbage collection in Java  | 5M |
| 4.  | (a) Write a Java program to find roots of Quadratic equation.               | 5M |
|     | (b) Discuss various input and output statements in java.                    | 5M |
| 5.  | (a) Describe about static key word.   | 5M |
|     | (b) Write a Java program to find factorial of number using recursion.       | 5M |
| 6.  | (a) Explain the OOPs concepts.  | 5M |
|     | (b) Discuss about various methods in String class.                          | 5M |
| 7.  | (a) Explain the role of this reference.                                     | 5M |
|     | (b) Write about type casting and conversion.                                | 5M |
| 8.  | (a) Explain the structure of java Program.                                  | 5M |
|     | (b) Write a java program to find the addition of two matrices.              | 5M |
| 9.  | (a) Discuss about java arrays.  | 5M |
|     | (b) Write a java program to find matrix multiplication.                     | 5M |
| 10. | (a) Write a java program to find the sum of the digits of the given number. | 5M |
|     | (b) Discuss the access controls in java                                     | 5M |

**UNIT –II****Inheritance & Interfaces**

1. (a) Write the difference between interfaces and abstract classes 5M  
(b) Write a java program to implement multi-level inheritance. 5M
2. (a) How can you prevent Inheritance? Explain with an example program. 5M  
(b) Write a program to extend an interface in Java. 5M
3. (a) What are super and sub classes? Explain about final classes and final methods. 5M  
(b) Explain the concept of inheritance. 5M
4. (a) Define Inheritance. What are the benefits of inheritance? 5M
5. (a) Discuss the Object class and its methods. 5M  
(b) Describe the uses of super keyword. 5M
6. (a) How can you achieve method overriding in java? Illustrate with example. 5M  
(b) Discuss how you can achieve multiple inheritance in java. 5M
7. (a) Write a java program to implement hybrid inheritance. 5M  
(b) Describe the importance of abstract class and methods. 5M
8. (a) Discuss single inheritance with an example. 5M  
(b) Discuss how to implement interfaces. 5M
9. (a) Explain hierarchical inheritance with an example. 5M
10. (a) Define an interface. What is the importance of inheritance? 5M  
(b) Explain how a class can extends more than one class in java. 5M

**UNIT-III****Inner Classes & Packages**

1. (a) Write about static inner classes with example. 5M  
(b) Discuss the mechanism of importing packages. 5M
2. (a) Explain the uses of inner classes and with examples. 5M  
(b) Write about local inner classes with example. 5M
3. (a) Write about member inner classes with example. 5M  
(b) Define package. Explain the procedure for create and access a package. 5M
4. By giving examples explain about various inner classes in Java 10M
5. Explain various non-static inner classes with examples. 10M

6. Explain the importance of CLASSPATH with an example. 10M
7. Discuss with an example how the user defined package is created and how it can be imported into our current program? 10M
8. What is nested class? Discuss the taxonomy of nested class with suitable examples. 10M
9. (a) Explain how can you define a class with an access specifier private, 5M  
(b) Describe Anonymous inner class with example 5M
10. Explain the importance of inner classes and packages, 10M

#### UNIT-IV

##### Data Structures creation and Manipulations in Java

1. (a) Explain in detail overview of collection framework. 5M  
(b) Explain how to create array list and operations on array list. 5M
2. Discuss when to use Linked List, Hash Set, Hash Map and Tree Maps. 10M
3. Discuss various collection interfaces with examples. 10M
4. Write about legacy collection classes with examples. 10M
5. Write a java program to implement Stack ADT and Queue ADT. 10M
6. Write the specific cases when Set, List, Maps are used. 10M
7. Write about: (i) StringTokenizer. (ii) Scanner with examples. 10M
8. Explain about Formatter, Random and Observable classes with examples. 10M
9. Discuss the following with Examples  
(a) Vector class (b) HashTable 10M
10. (a) Write short notes on Java.util package 5M  
(b) Explain Iterator and ListIterator interfaces with examples. 5M

#### UNIT-V

##### Files and Networking in Java

1. (a) Difference between byte streams and character streams. 5M  
(b) Explain in detail file management. 5M
2. (a) Give an account on random access files. 5M  
(b) Write a Java program for client/server interaction by using sockets. 5M

3. Write about text input/output and binary input/output. 10M
4. Describe connectionless client/server interaction with datagram 10M
5. Explain the concept of manipulating URLs. 10M
6. Discuss about java.io package. 10M
7. Write about java.net package. 10M
8. Differentiate binary and text streams. 10M
9. Discuss how a File class can manage a File. 10M
10. Discuss about streams hierarchy. 10M

### UNIT-VI

#### Exception Handling and Multithreading

1. (a) Define exception. What are the benefits of exception handling? 5M  
(b) What are differences between multiple processes and multiple threads? 5M
2. (a) Briefly explain about Exception hierarchy. 5M  
(b) Explain the life cycle of thread. 5M
3. Explain the exception handling mechanism with an example. 10M
4. (a) Explain interthread communication 5M  
(b) Explain the concept of rethrowing exceptions. 5M
5. (a) Discuss about checked exceptions. 5M  
(b) Write about thread priorities. 5M
6. (a) Write about unchecked exceptions. 5M  
(b) Explain about Daemon thread. 5M
7. Explain thread synchronization with an example program. 10M
8. Discuss the key words of Exception handling mechanism with example. 10M
9. (a) Discuss thread group. 5M  
(b) Explain exception specification. 5M
10. What is built in exception? How to create own exceptions. 10M

### UNIT-VII

#### GUI Programming with Java

1. (a) Explain in detail MVC architecture. 5M  
(b) Differentiate AWT and Swing components. 5M
2. (a) Briefly explain about Light weight containers. 5M  
(b) Discuss Border layout with example. 5M
3. Explain different types of layout managers with examples 10M

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| 4.  | (a) Explain JButton and JToggleButton with example.          | 5M  |
|     | (b) Explain the concept of grid layout manager with example. | 5M  |
| 5.  | (a) Explain JCheckBox and JRadioButton.                      | 5M  |
|     | (b) Write about flow layout manager with an example.         | 5M  |
| 6.  | (a) Write about JTextField and JTextArea with examples.      | 5M  |
|     | (b) Explain about box layout manager with an example.        | 5M  |
| 7.  | Explain JList and JComboBox with an example.                 | 10M |
| 8.  | Discuss the top level containers with example.               | 10M |
| 9.  | (a) Discuss color controls and font controls.                | 5M  |
|     | (b) What is hierarchy for swing components?                  | 5M  |
| 10. | (a) What is AWT class hierarchy?                             | 5M  |
|     | (b) Discuss JLabel and JMenu with an example.                | 5M  |

### UNIT-VIII

#### Event Handling

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|-----|---|-----|
| 1.  | (a) Write a java program for mouse events handling.                                     | 5M  |
|     | (b) Explain life cycle of an applet   | 5M  |
| 2.  | (a) Write short notes on Delegation event model.  | 5M  |
|     | (b) Write about passing parameters to applets.  | 5M  |
| 3.  | List out four methods of an applet and write a program to pass parameters to an applet. | 10M |
| 4.  | (a) Write a java program for keyboard events handling.                                  | 5M  |
|     | (b) what are difference between applets and applications.                               | 5M  |
| 5.  | (a) Write a java program for button click events handling.                              | 5M  |
|     | (b) Write about Adapter classes.  | 5M  |
| 6.  | (a) Write about four methods of an applet.  | 5M  |
|     | (b) Write a Java program to display sample message using applets.                       | 5M  |
| 7.  | Explain the following terms   |     |
|     | (a) Events      (b) Event sources      (c) Event class      (d) Event Listeners.        | 10M |
| 8.  | Discuss about developing and testing an applet.   | 10M |
| 9.  | (a) Discuss applet security issues.   | 5M  |
|     | (b) Write about semantic and low level events.  | 5M  |
| 10. | (a) Write an applet program to find factorial of a given number.                        | 5M  |
|     | (b) Discuss relationship between event sources and Listeners.                           | 5M  |

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