ஸ்ரீ-ல-ஸ்ரீ காசிவாசி சுவாமிநாத சுவாமிகள் கலைக் கல்லூரி

திருப்பனந்தாள் – 612504

S.K.S.S ARTS COLLEGE, THIRUPPANANDAL - 612504

QUESTION BANK

Title of the Paper

PROGRAMMING IN JAVA

Course: II B.Sc. (CS)

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CORE COURSE III
PROGRAMMING IN JAVA

Unit I

Object Oriented Programming : Introduction to OOP – Objects and Classes – Characteristics of OOP – Difference between OOP and Procedure Oriented Language – Introduction to java Programming : Introduction – Features of Java – Comparing java and Other Languages – Applications and Applets – Java Development Kit – Complex Programs – Java Source File Structure – Prerequisites for Compiling and Running JavaPrograms

Unit II

Java Language Fundamentals : The Building Blocks of Java – Data Types – Variable Declarations – Wrapper Classes – Operations and Assignment – Control Structures – Arrays – Strings – StringBuffer Class

Unit III

Java as an OOP Language : Defining Classes – Modifiers – Packages - Interfaces

Unit IV

Exception Handling : Introduction – Basics of Exception Handling – Exception Hierarchy – Constructors and Methods in Throwable Class - Unchecked and Checked Exceptions – Handling Exceptions in Java – Exception and Inheritance – Throwing User-defined Exceptions – Redirecting and Rethrowing Exceptions – Advantages of Exception Handling Mechanism – Multithreading : Introduction – Creating Threads – Thread Life-cycle – Thread Priorities and Thread Scheduling – Thread Synchronization– Daemon Threads – Tread Groups – Communication of Threads

Unit V

Files and I/O Streams : Overview – Java I/O – File Streams – FileInputStream and FileOutputStream – File Streams – RandomAccess File – Serialization - Applets : Introduction – Java Applications versus Java Applets – Applet Life-cycle – Working with Applets – The HTML APPLET Tag – The java.Appletpackage

UNIT – I
Choose the Correct Answer

1. Which of the following is not OOPS concept in Java?
   a) Inheritance
   b) Encapsulation
   c) Polymorphism
   d) Compilation

2. Which of the following is a type of polymorphism in Java?
   a) Compile time polymorphism
   b) Execution time polymorphism
   c) Multiple polymorphism
   d) Multilevel polymorphism

3. When does method overloading is determined?
   a) At run time
   b) At compile time
   c) At coding time
   d) At execution time

4. Which component is used to compile, debug and execute java program?
   a) JVM
   b) JDK
   c) JIT
   d) JRE

5. Which component is responsible for converting bytecode into machine specific code?
   a) JVM
   b) JDK
   c) JIT
   d) JRE

6. Which statement is true about java?
   a) Platform independent programming language
   b) Platform dependent programming language
   c) Code dependent programming language
   d) Sequence dependent programming language

7. Which of the below is invalid identifier with the main method?
   a) public
   b) static
   c) private
   d) final

8. What is the extension of java code files?
   a) .class
   b) .java
   c) .txt
   d) .js

9. What is the extension of compiled java classes?
   a) .class
   b) .java
   c) .txt
   d) .js

10. How can we identify whether a compilation unit is class or interface from a .class file?
   a) Java source file header
   b) Extension of compilation unit
   c) We cannot differentiate between class and interface
   d) The class or interface name should be post fixed with unit type

Answers:1.d 2.a 3.b 4.b 5.a 6.a 7.c 8.b 9. a 10.a

Short Questions (2 Marks)

11. Define method overloading.
12. What is type casting in java?
13. Define tokens.
14. What is a Data type?
15. What are the keywords in Java?
16. What are the features of Java?
17. Define constants.
18. Define objects.
19. Define polymorphism.
20. Define Encapsulation.

Paragraph Questions (5 Marks)

21. Explain about object oriented programming.
22. Explain advantages of OOP.
23. Explain the features of java.
24. Difference between procedure oriented programming and object oriented Programming.
25. Differentiate Applications and Applet program.
26. How to create and execute java program.
27. Explain structure of a java program.
28. Explain java development kit.
29. Write the differences between java and c++?
30. Briefly explain history of the development of java.

Essay Type Questions (10 Marks)

31. Describe the fundamental concepts of objected oriented programming.
32. Discuss about the benefits of oops.
33. Discuss in detail about classes and objects in java.
34. Explain Encapsulation, Inheritance and Polymorphism.
35. Describe the characteristics of object oriented programming concepts.
36. Discuss the advantages and drawbacks of object oriented programming.
37. Describe the buzzwords of java programming language.

38. Java is a pure object oriented programming language –explain.
39. What is an oop? What is the difference between procedural language and oops?
40. Discuss the features of java in detail.

UNIT - II
Choose the Correct Answer

1. What is the range of short data type in Java?
   a) -128 to 127
   b) -32768 to 32767
   c) -2147483648 to 2147483647
   d) None of the mentioned

2. What is the range of byte data type in Java?
   a) -128 to 127
   b) -32768 to 32767
   c) -2147483648 to 2147483647
   d) None of the mentioned

3. Literal can be of which of these data types?
   a) integer
   b) float
   c) boolean
   d) all of the mentioned

4. Which of these can not be used for a variable name in Java?
   a) identifier
   b) keyword
   c) identifier & keyword
   d) none of the mentioned

5. Which of these is necessary condition for automatic type conversion in Java?
   a) The destination type is smaller than source type
   b) The destination type is larger than source type
   c) The destination type can be larger or smaller than source type
   d) None of the mentioned

6. Which of these operators is used to allocate memory to array variable in Java?
   a) malloc
   b) alloc
   c) new
   d) new malloc

7. Which of these is an incorrect array declaration?
   a) intarr[] = new int[5]
   b) int [] arr = new int[5]
   c) intarr[] = new int[5]
   d) intarr[] = int [5] new

8. Which of these is necessary to specify at time of array initialization?
   a) Row

b) Column
c) Both Row and Column
d) None of the mentioned

9. Which of these is returned by “greater than”, “less than” and “equal to” operators?
   a) Integers
   b) Floating – point numbers
   c) Boolean
   d) None of the mentioned

10. The while loop repeats a set of code while the condition is not met?
    a) True
    b) False

Answers:1. b 2. a 3. d 4.b 5.b 6.c 7.d 8.a 9. c 10.b

Short Questions (2 Marks)

11. Why java is platform independent?
12. Define identifier?
13. What is variable?
14. Define JVM?
15. What is the use of comma operator?
16. Define Arrays.
17. List out the different kinds of operators used in java.
18. Define break statement.
19. Define continue statement.
20. Define String.

Paragraph Questions (5 Marks)

21. Write short notes on data types and variables.
22. Explain ternary operator.
23. Differentiate While loop and Do..While loop.
24. Explain simple if statement with suitable example.
25. Explain one dimensional arrays.
26. Describe various methods of the string class.
27. Explain StringBuffer class.
28. Explain For loop statement with example.
29. Explain Switch..Case statement with example.
30. Explain Bitwise operators in java.

Essay Type Questions (10 Marks)

31. What are various data types in Java? Explain them in detail.
32. What are various operators in Java? Explain them in detail.
33. Write a java program to perform relational operations using DataInputStream class.
34. Explain the various loop structures available in java.
35. Explain the different control structures available in java.
36. Discuss about the features of String Buffer class with example.

37. Discuss about the building blocks of java.
38. What are various methods of the string class in Java? Explain them in detail.
39. Explain function overloading. Give an example. List out some of the standard overloaded methods .
40. What is an Array? Explain various types array with an example.

UNIT –III

Choose the Correct Answer

1. Which of these keywords is used to make a class?
   a) class
   b) struct
   c) int
   d) none of the mentioned

2. Which of the following is a valid declaration of an object of class Box?
   a) Box obj = new Box();
   b) Box obj = new Box;
   c) obj = new Box();
   d) new Box obj;

3. Which of these operators is used to allocate memory for an object?
   a) malloc
   b) alloc
   c) new
   d) give

4. 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

5. What would be the behaviour if this() and super() used in a method?
   a) Runtime error
   b) Throws exception
   c) compile time error
   d) Runs successfully

6. Which of these keywords is used to define packages in Java?
   a) pkg
   b) Pkg
   c) package
   d) Package

7. Which of these is a mechanism for naming and visibility control of a class and its content?
   a) Object
   b) Packages
   c) Interfaces

d) None of the Mentioned.

8. Which of this access specifies can be used for a class so that its members can be accessed by a different class in the same package?
   a) Public
   b) Protected
   c) No Modifier
   d) All of the mentioned

9. Which of these keywords is used to define interfaces in Java?
   a) interface
   b) Interface
   c) intf
   d) Intf

10. Which of these access specifiers can be used for an interface?
    a) Public
    b) Protected
    c) private
    d) All of the mentioned

Answers:1. a 2. a 3. c 4.a 5.c 6.c 7.b 8.d 9. a 10. a

Short Questions (2 Marks)

11. What is a package?
12. Define Abstract cass
13. Define interface.
14. What is wrapper class?
15. List out any three java API packages.
16. List out any three benefits of packages.
17. What is a class?
18. Define constructor.
19. What are the basic parts of method declaration.
20. Distinguish between private and public access modifiers in java.

Paragraph Questions (5 Marks)

21. Explain single inheritance with an example program.
22. Explain about method overriding with an example program.
23. Explain class with example.
24. Briefly explain pass by value with example.
25. Explain pass by reference with example.
26. Explain overloading constructors in detail.
27. Explain Modifiers in java.
28. Explain the purpose of the import statement.
29. Write a java program to create and import a package.
30. How is an interface defined? Give an example.

Essay Type Questions (10 Marks)

31. What is a Package? Explain the Packages withan example and how to import packages.
32. How will you define and extend interfaces? Explain with examples.
33. What are the types of inheritance possible inJava?
34. Describe the general format of a class and its parts.
35. Explain the concept of constructors with an example.
36. Discuss about the working of method overriding concept with an example.
37. Explain the importance of Abstract class with an example. Write short notes on super keyword.
38. Give suitable example code to illustrate Map and Navigate Map interfaces.
39. Write a Java program to implement interface concept in your own program?
40. What is an object? How objects are created in Java? Explain.

UNIT – IV
Choose the Correct Answer

1. When does Exceptions in Java arises in code sequence?
   a) Run Time
   b) Compilation Time
   c) Can Occur Any Time
   d) None of the mentioned

2. Which of these keywords is not a part of exception handling?
   a) try
   b) finally
   c) thrown
   d) catch

3. Which of these keywords must be used to monitor for exceptions?
   a) try
   b) finally
   c) throw
   d) catch

4. Which of these method of Thread class is used to find out the priority given to a thread?
   a) get()
   b) ThreadPriority()
   c) getPriority()
   d) getThreadPriority()

5. Which of these method of Thread class is used to Suspend a thread for a period of time?
   a) sleep()
   b) terminate()
   c) suspend()
   d) stop()

6. Which function of pre defined class Thread is used to check weather current thread being checked is still running?
   a) isAlive()
   b) Join()

c) isRunning()
d) Alive()

7. What is multithreaded programming?
   a) It's a process in which two different processes run simultaneously
   b) It's a process in which two or more parts of same process run simultaneously
   c) It's a process in which many different process are able to access same information
   d) It's a process in which a single process can access information from many sources

8. Which of these are types of multitasking?
   a) Process based
   b) Thread based
   c) Process and Thread based
   d) None of the mentioned

9. Thread priority in Java is?
   a) Integer
   b) Float
   c) double
   d) long

10. Which of these keywords are used to implement synchronization?
    a) synchronize
    b) syn
    c) synch
    d) synchronized

Answers:1. a 2.c 3. a 4.c 5.a 6.a 7.b 8.c 9. a 10. d

Short Questions (2 Marks)

11. Define Exception Handling.
12. List out the various keywords to manage the errors.
13. What is the use of finally block?
14. List out any five built in exception.
15. State the use of final statement.
16. Define Thread.
17. Define the term "Dead Lock".
18. List out the various states of Thread.
19. What is multithreading?
20. Define Synchronization.

Paragraph Questions (5 Marks)

21. Explain the try – catch block with example.
22. What are the fundamental exception types?
23. Explain multithreaded program with an example.
24. Give out the detailed explanation of life cycle of thread with suitable example.
25. Write a java program to implement a thread based application.
26. Discuss in detail about inter-thread communication.

27. Explain multiple catch exception with an example.
28. How to manage errors in java. Explain.
29. Write a java program to implement the Arithmetic exception class?
30. Write a java program to implement the ArrayIndexOutOfBounds exception Class?

Essay Type Questions (10 Marks)

31. Discuss about basics of exception handling in java.
32. Explain the exception handling mechanism in Java with an example.
33. What is a thread? Explain any one way of creating threads in Java.
34. Describe the life cycle of a thread in Java.
35. Explain how to create user defined exception class.
36. Why do we need of Exception handling? Write the general structure of Exception.
37. How does the try-catch mechanism handle an exception?
38. Express the multithreading concept of java in detail. Give an example.
39. Write a java program to implement try catch block?
40. Write a java program to create a thread by extending the class Thread?

UNIT – V
Choose the Correct Answer

1. What does AWT stands for?
   a) All Window Tools
   b) All Writing Tools
   c) Abstract Window Toolkit
   d) Abstract Writing Toolkit
2. Which of these is used to perform all input & output operations in Java?
   a) streams
   b) Variables
   c) classes
   d) Methods

3. Which of these is a type of stream in Java?
   a) Integer stream
   b) Short stream
   c) Byte stream
   d) Long stream

4. Which of these classes are used by Byte streams for input and output operation?
   a) InputStream
   b) InputOutputStream
   c) Reader
   d) All of the mentioned

5. Which of these classes are used by character streams for input and output operations?
   a) InputStream
   b) Writer
   c) ReadStream
   d) InputOutputStream

6. Which exception is thrown by read() method?
   a) IOException
   b) InterruptedException
   c) SystemException
   d) SystemInputException

7. Which of these is used to read a string from the input stream?
   a) get()
   b) getLine()
   c) read()
   d) readLine()

8. Which of these class contains the methods print() &println()?
   a) System
   b) System.out
   c) BUfferedOutputStream
   d) PrintStream

9. Which of these functions is called to display the output of an applet?
   a) display()
   b) paint()
   c) displayApplet()
   d) PrintApplet()

10. Which of these methods can be used to output a string in an applet?
    a) display()
    b) print()
    c) drawString()
    d) transient()

Answers:1. c 2. a 3. c 4.a 5.b 6.a 7.c 8.d 9. b 10. c

Short Questions (2 Marks)

11. Write about HSBColor in java?
12. What is Byte Stream?
13. What is File Stream?
14. Define Character Stream.
15. Distinguish between Input Stream and Output Stream.
16. Define Applet.
17. Mention any three states of applet method.
18. List out any three attributes of the Applet Tag.
19. List out various methods available in applet.
20. List out the commands used for compiling and running an applet program.

Paragraph Questions (5 Marks)

21. Discuss shortly on java's input stream.
22. Explain the output stream of java in detail.

23. Explain the concept of I/O Stream classes in java in detail.
24. What is stream? Explain any three input and output stream classes.
25. Explain about various states of applet.
26. Design an applet which displays greetings.
27. What is an applet? How does it differ from an application.
28. Write a program to read a character from a file and display it to standard output and also check for end of file?
29. Explain Random access file.
30. Explain applet life cycle.

Essay Type Questions (10 Marks)

31. Illustrate the various I/O classes of java with examples.
32. Describe the life cycle of Applet. How Applet differs from applications?
33. Distinguish between input stream and output stream .
34. Distinguish between Byte stream and Character stream classes.
35. What is common and how do the following streams differ: InputStream, OutputStream, Reader, Writer?
36. What do you know about RandomAccessFile? Explain.
37. What Is The Order Of Method Invocation In An Applet?
38. Can We Pass Parameters To An Applet From Html Page To An Applet? How?
39. Explain any method of Serializable interface.
40. What is the difference between Serializable and Externalizable interface in Java? Explain.

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