JAVA PROGRAMMING LANGUAGE IMPORTANT QUESTIONS LIST

1. Covered all previous MSBTE G Schema question papers.
2. Covered MSBTE I Schema sample question paper.

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❖ UNIT-1 : Basic Syntactical constructs in Java: Marks: 10

1. Give syntax and example of following math functions. i) sqrt () ii) pow () *****
2. Write a program to find largest between two numbers using '?:' operator. *****
3. Write a program to divide any positive even integer by 2 using bitwise shift operator. *****
4. Describe types of variables in Java with their scope. *****
5. List relational operators in Java. *****
6. Explain any four features of java programming. *****
7. Explain any two logical operators in java with example. ******
8. Write a program to calculating area and perimeter of rectangle *****
9. What is type casting? Explain its types with proper syntax and example. ******
10. Write a program to print sum of even numbers from 1 to 20. ******
11. State & explain scope of variable with an example.
12. Write a java program to display all the odd numbers between 1 to 30 using for loop & if statement.
13. Explain following bitwise operator with an example : (1) left shift operator (2) right shift operator
14. Explain any two relational operators in Java with example.
15. Write a program to find sum of digit of number entered by user.
16. Write all primitive data types available in Java with their storage sizes in bytes.
17. Write a program to generate Fibonacci series 1 1 2 3 5 8 13 21 34 55 89.
18. Write a program to accept two numbers as command line arguments and print the addition of those numbers.
19. Explain inheritance and polymorphism features of Java.
20. Why java became platform independent language? Explain.
21. Write a program to check whether given number is prime or not.
22. Write a program to print the following output :

```
1  1  1  1  1
2  2  2  2
3  3  3
4  4
5
```

23. Illustrate with example the use of switch case statement.
24. Write a program to accept number from command line and print square root of the number.
25. What is byte code? Explain any two tools available in JDK.

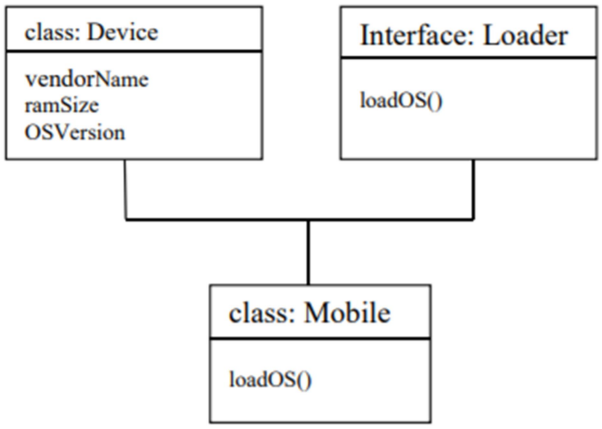
❖ UNIT-II : Derived Syntactical constructs in Java: Marks: 18

1. Enlist access specifiers in Java. *****
2. Name the methods from wrapper class for following task *****
   i) To convert string objects to primitive int.
   ii) To convert integer object to string object.
3. State the use of static keyword *****
4. Define class Student with suitable data members create two objects using two different constructors of the class. *****
5. Write a program to initialize object of a class student using parameterized constructor. *****
6. Write a step to declare and define two and three dimensional arrays of a class. *****
7. Write a program to define class Employee with members as id and salary. Accept data for five employees and display details of employees getting highest salary. ******
8. Give use of 'this' keyword in Java with suitable example. *****
9. Give syntax to create an object of a class with suitable example. *****
10. Write any two differences between method overloading and method overriding.*****
11. Differentiate between String and StringBuffer class ******
12. Write a program to add 2 integer and 2 float objects to a vector and display them. *****
13. Gives features of abstract class. ******
14. Define a class 'Book' with data members bookid, bookname and price. Accept data for seven objects using Array of objects and display it. ******
15. Write a program to create a vector with seven elements as (10,30,50,20,40,10,20). Remove elements 3rd and 4th position. Insert new elements at 3rd position. Display original and current size of vector. ******
16. Describe following methods related to vector addElement(), removeElement() and insertElementAt(). ******
17. Which are the restrictions present for static declared methods?
18. Define a class and object. Write syntax to create class and object with an example.
19. Write a java program to implement following functions of string : (1) Calculate length of string (2) Compare between strings (3) Concatenating strings
20. Enlist types of constructor. Explain any two with example.

21. Write a program to add 2 integer, 2 string and 2 float objects to a vector. Remove element specified by user and display the list.
22. Explain the following methods of string class with syntax and example : (i) substring() (ii) replace()
23. What is garbage collection in Java? Explain finalize method in Java.
24. Define a class person with data member as Aadharno, name, Panno implement concept of constructor overloading. Accept data for 5 object and print it.
25. Describe following string class method with example : (i) compareTo( ) (ii) equalsIgnoreCase( )
26. What is the use of wrapper classes in Java ? Explain float wrapper with its methods.
27. Describe access control specifiers with example.
28. Create a class 'Rectangle' that contains 'length' and 'width' as data members. From this class derive class box which has additional data member 'depth'. Class 'Rectangle' consists of a constructor and an area ( ) function. The derived 'Box' class have a constructor and override function named area ( ) which returns surface area of 'Box' and a volume ( ) function. Write a java program calling all the member function.
29. Write a program to create a class Account having variable accno, accname and balance. Define deposite ( ) and withdraw ( ) methods. Create one object of class and perform the operation.
30. What is the difference between vector and array? Give suitable example.
31. What is the use of new operator? Is it necessary to be used whenever object of the class is created? Why?
32. What is : (i) Add Element( ) (ii) ElementAt( ) command in vector
33. Compare string class and stringBuffer class with any four points.
34. Explain use of following methods : 1) indexOf ( ) 2) charAt ( ) 3) subString ( ) 4) repalce ( )

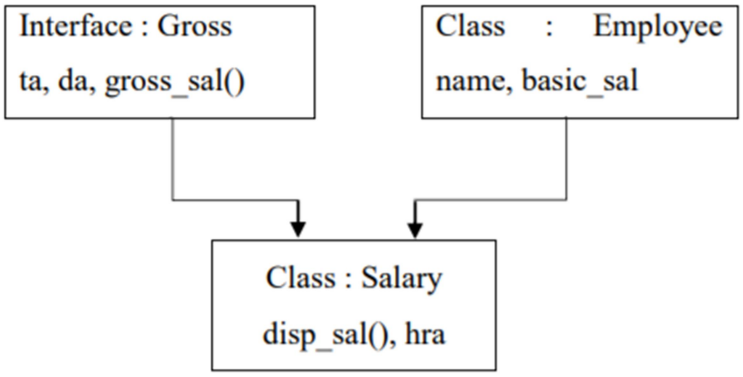
❖ UNIT-III : Inheritance, Interfaces and Packages: Marks:12

1. State need of interface with suitable examples. *****
2. Write a program to create package Math_s having two classes as addition and subtraction. Use suitable methods in each class to perform basic operations.*****
3. Implement following inheritance: Display details of devices from loadOS() method of class Mobile. *****

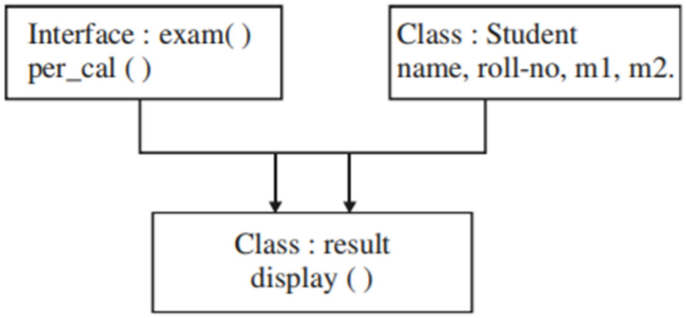


4. Give features of members and methods in an interface. ******
5. Describe steps to create and access user defined packages. *****
6. Write a program to implement single level inheritance assuming suitable data *****
7. What is interface? Describe its syntax and features.******
8. What is importance of super and final keyword in inheritance ? Illustrate with suitable example. *****
9. Explain method overriding with suitable example. ******
10. What is the multiple inheritance? Write a java program to implement multiple inheritance. ******
11. Explain how interface is used to achieve multiple Inheritances in Java.
12. Write a java program to implement visibility controls such as public, private, protected access modes. Assume suitable data, if any.
13. Which are the ways to access package from another package? Explain with example.
14. Write a java program to implement multilevel inheritance with 4 levels of hierarchy.
15. Write a java program to extend interface assuming suitable data.
16. How to add new class to a package? Explain with an example.
17. What is single level inheritance? Explain with suitable example.
18. What is package? State how to create and access user defined package in Java.

19. What is meant by interface? State its need and write syntax and features of interface.
20. State three uses of final keyword.
21. Write a program to implement following inheritance :



22. List any four built-in packages from Java API along with their use.
23. What is package? How do we create it ? Give the example to create and to access package.
24. Write a single program to implement inheritance and polymorphism in java.
25. Write a java program.



26. Write syntax of defining interface. Write any major two differences between interface and a class.

❖ UNIT-IV : Multi-threading and Exception Handling: Marks:12

1. Enlist any 4 keywords used for exception handling in Java. *****
2. Describe life cycle of thread with suitable diagram. *****
3. Write a program to define two threads for displaying even and odd numbers respectively with a delay of 500 ms after each number. ******
4. Describe types of Errors and Exceptions in details. ******
5. Name any four built in Exceptions in Java. ******
6. Describe methods of creating a thread with example. ******
7. Explain following clause w.r.t. exception handling i) try ii) catch iii) throw iv) finally ******
8. Explain following terms: i) Thread priority ii) Types of Exception ******
9. Write a program to create two thread one to print odd number only and other to print even numbers. ******
10. Define throws & finally statements with its syntax and example.
11. With proper syntax and example explain following thread methods : (1) wait( ) (2) sleep( ) (3) resume( ) (4) notify( )
12. Write a java program to implement runnable interface with example.
13. State & explain types of errors in Java.
14. What is thread? Draw thread life cycle diagram in Java.
15. What is thread priority? Write default priority values and methods to change them.
16. What is exception? WAP to accept a password from the user and throw “Authentication Failure” exception if the password is incorrect.
17. Write a program to input name and balance of customer and thread a user defined exception if balance less than 1500.
18. Write a program to create two threads, one to print numbers in original order and other in reverse order from 1 to 10.
19. What is the use of try catch and finally statement give example?
20. What is exception? Why the exception occurred in program? Explain with suitable example.
21. Write a program to define two thread one to print from 1 to 100 and other to print from 100 to 1. First thread transfer control to second thread after delay of 500 ms.
22. What is synchronization? When do we use it? Explain synchronization of two threads.

23. Define an exception called ‘No match Exception’ that is thrown when a string is not equal to “MSBTE”. Write program.

❖ UNIT-V: JAVA Applets and Graphics Programming: Marks:10

1. Give syntax of tag to pass parameters to an Applet. *****
2. Give usage of following methods : i) drawOval() ii) getFont() iii) drawArc() iv) getFamily() *****
3. Differentiate between Java Application and Java Applet (any 4 points) ******
4. Design an Applet to pass username and password as parameters and check if password contains more than 8 characters. ******
5. Write syntax and usage of following methods: i) paint() ii) getParameter() ******
6. Describe any 4 attributes of <applet> tag. ******
7. Describe Applet life cycle with diagram. *******
8. Write a program to design an Applet showing three concentric circles filled with three different colors. ******
9. Write a program to create an applet for displaying circle, rectangle and triangle one below the other and filled them with red, green and yellow respectively. ******
10. How can parameters be passed to an applet? Write an applet to accept user name in the form of parameter and print 'Hello < username >'. *******
11. Design an applet which displays rectangle filled with blue colour and display message as "MSBTE EXAM" in red colour below it. ******
12. With proper syntax and example explain following graphics methods : (1) SetColor( ) (2) SetForeGround( ) (3) getFont( ) (4) setSize( )
13. Define applet. Write a program to create an applet to display message "Welcome to java applet".
14. Describe the following attributes of applet : (i) Codebase (ii) Alt (iii) Width (iv) Code
15. Explain the following methods of applet class : (i) drawRect() (ii) drawPolygon() (iii) drawArc() (iv) drawRoundRect()
16. Design an applet which display equals size three rectangle one below the other and fill them with orange, white and green color respectively.
17. Give the syntax of following methods of graphics class. Explain their use with suitable program : (i) drawRoundReel() (ii) drawPolygon() (iii) drawOval() (iv) drawString( )
18. How to pass parameter to an applet ? Write an applet to accept Account No and balance in form of parameter and print message "low balance" if the balance is less than 500.
19. Write an applet program to set background with red color and fore ground with blue color.

❖ UNIT-VI: Managing Input/Output/Files in JAVA: Marks:08

1. Give any two methods from File class with their usage. *****
2. Write a program to copy content of one file into another file. *****
3. Write a program that will count no. of characters in a file/ Write a program to count number of words from a text file using stream classes. ******
4. Write any two methods from Character Stream classes. ******
5. Enlist types of stream classes and describe methods for reading and writing data for each type. *
6. Differentiate between Input stream class and Reader class ******
7. Explain fileinputstream class to read the content of a file. ******
8. Write any two methods of file and file input stream class each. ******
9. Explain byte stream class in detail.
10. Draw the hierarchy of Writer stream classes, and hierarchy of Reader stream classes.