**IT2301 JAVA PROGRAMMING**

UNIT – I(2MARKS)

PART - A

1. What is a class?
2. What is an object?
3. What is encapsulation? Explain with an example.
4. What is polymorphism? Explain with an example.
5. What is JVM?
6. What are the access modifiers in Java?
7. What are Java Buzzwords?
8. What is a static variable and static method? What's the difference between two?
9. What is garbage collection?
10. What is abstract class?
11. What is meant by final class, methods and variables?
12. What is interface?
13. What is singleton class?
14. What is the difference between an array and a vector?
15. What is a constructor?
16. What is casting?
17. What is the difference between final, finally and finalize?
18. What is meant by abstraction?
19. What is meant by Inheritance?
20. How could Java classes direct program messages to the system console, but error messages, say to a file?

16 Mark Questions

1. Explain briefly the following object oriented concepts?
2. What is constructor in java? Why constructor does not have a return type in java? Explain in with proper Example?
3. Discuss in detail the access specifiers available in Java?
4. Why do we need static members and how to access them? Explain it with clear example?
5. What does it mean that a method or a class is abstract? Can we make an instance of an abstract class? Explain with it example.
6. Explain in detail as to how inheritance and polymorphism are supported in java with necessary examples?
7. Explain the Date Class methods with examples?
8. Explain the different methods in java.Util.Arrays class with example?
9. Write a Java program to find factorial of a given number using recursion?
10. Write a program to find whether a number is a palindrome or not?

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**UNIT II(16 MARKS)**

1 Define Inheritance

2. What are the types of inheritance?

3. How is multiple inheritance achieved in java?

4. What is the use of super keyword?

5. What are object wrappers? Give example.

6. What is Inheritance Hierarchy?

7. Differentiate overloading and overriding.

8. Define polymorphism.

9. Differentiate static binding and dynamic binding.

10. When will a class be declared as final?

11. When will a method be declared final?

12. What is an abstract class?

13. What is the need for abstract classes?

14. Explain about protected visibility control.

15. What are the methods under "object" class / java.lang.Object.

16. Explain toString method of object class.

17. What is reflection?

18. What are the uses of reflection in Java.

19. How will you create an instance of Class.

20. What are the methods under reflection used to analyze the capabilities of classes?

21. How to create arrays dynamically using reflection package.

22. Define an interface.

23. What is the need for an interface?

24. What are the properties of an interface?

25. Differentiate Abstract classes and interface.

26. What is object cloning?

27. Differentiate cloning and copying.

28. Differentiate shallow copy and deep copy in cloning.

29. Does Inheritance removes any fields/or methods of super class?

30. Mention the use of final keyword.

31. What is nested class? Mention its types.

32. What is inner class?

33. What is the need for inner classes?

34. What are the rules for inner class?

35. What is local inner class and anonymous inner class? Give their advantages.

36. Write the advantages and disadvantages of static nested class.

37. Define proxies.

38. Write the application of proxies.

39. What are the properties of proxy classes?

**UNIT II(16 MARKS)**

1. How is interface used to support multiple inheritance? Explain with a program.

2. Describe the various levels of access protection available in packages and their implications with an example program.

3. Explain in detail about creating and accessing packages with an example program.

4. Explain ‘Dynamic method dispatch’ with one example program.

5. Describe Method overriding. Explain it with an example.

6. Write short notes on:

i) Up casting

ii) Down casting

7. Explain in detail about different types of Inheritance

8. Explain final keyword with example?

9. Write a java Program to demonstrate abstract class

10.What is a Package? What are the benefits of using packages? Write down the steps in creating a package and using it in a java program with an example?