NILE UNIVERSITY OF NIGERIA
HONORIS UNITED UNIVERSITIES

DEPARTMENT OF SOFTWARE ENGINEERING

Object Oriented Programming (SEN 202)

MIDTERM

Instructions: Answer **ALL** questions.
Duration: 60 minutes

1. What is the correct syntax to declare an integer variable in Java?

   i) int x = 5;

   ii) Integer x = 5;

   iii) String x = "5";

   iv) #x = 5;

2. Which of the following is NOT a primitive data type in Java?

   i) int

   ii) float

   iii) String

   iv) boolean

3. Which keyword is used to declare a class in Java?

   i) function

   ii) class

   iii) object

   iv) define

4. What is the difference between public and private access modifiers?

   i) public members are accessible from anywhere, while private members are only accessible within the class.

   ii) There is no difference.

   iii) public members are for static methods, and private members are for instance methods.

   iv) public is for constructors, and private is for regular methods.

5. What is the escape sequence to print a double quote (") character within a string literal?

   i) " " ii) \" iii) " iv) \\

6. Which code snippet correctly calculates the sum using a for loop?

   i) for (int i = 0; i < 10; i++)

   ii) for (int i = 1; i <= 10; i++)

iii) while (i <= 10) { int i = 1; i++; }

iv) None of the above.

7. The break statement can be used within which loop construct?

   i) if statement

   ii) do-while loop

   iii) for loop

   iv) None of the above.

8. What is the correct syntax for a while loop?

   i) while (condition) { ... }

   ii) do while (condition) { ... }

   iii) for (int i = 0; i < n; i++) { ... }

   iv) if (condition) { ... }

9. The do-while loop executes the code block at least once, even if the condition is initially false. (True/False)
10. Nested loops can be used to create two-dimensional iterations (e.g., iterating through a matrix). (True/False)
11. The for-each loop is a convenient way to iterate through the elements of an array or a collection. (True/False)
12. The break statement can be used to exit a loop prematurely. (True/False)
13. The continue statement skips the current iteration of the loop and continues to the next iteration. (True/False)
14. Local variables declared within a method are only accessible within that method. (True/False)
15. A method definition includes:

    i) Return type, method name, and parameter list.

    ii) Only the method name and parameter list.

    iii) Only the return type and method name.

    iv) None of the above.

16. What is the difference between method overloading and overriding?

    i) Method overloading has the same name, but different parameter lists within the same class.

    ii) There is no difference.

    iii) None of the above.

17. What is the purpose of the static keyword when used with a method?

    i) To create an object-specific method.

    ii) To define a method that can be called without creating an object of the class.

    iii) To make the method private within the class.

    iv) To return a reference to the current object.

18. What does the return statement within a method do?

    i) Terminates the method execution and optionally returns a value.

    ii) Defines the return type of the method.

iii) Calls another method within the same class.

iv) Transfers control to the calling method.

19. Can overloaded methods have the same return type?

    i) Yes ii) No

20. Overloaded methods must differ in the number of parameters. (True/False)
21. What is an object in Java?

    i) A blueprint for creating objects

    ii) A real-world entity with properties and behaviours.

    iii) A reserved keyword in Java.

    iv) A way to store data in memory.

22. Which keyword is used to create a new object from a class?

    i) define ii) build iii) new iv) create

23. How do you access the properties (data) of an object in Java?

    i) By directly referencing the property name (object.propertyName).

    ii) Using a special function for each property.

    iii) By calling a method of the object.

    iv) None of the above.

24. a) Every object in Java belongs to a specific:

    i) Interface

    ii) Package

    iii) Class

    iv) Keyword

25. b) Objects can have:

    i) Attributes (data) and behaviors (methods).

    ii) Only attributes (data).

    iii) Only behaviors (methods).

    iv) None of the above.

26. c) Objects are created using the new keyword followed by the class name and optionally, constructor arguments. (True/False)
27. What is a method in Java?

    i) A defined block of code that performs an action

    ii) A way to organize data within a class.

    iii) A reserved keyword in Java.

    iv) A special type of variable.

28. What does the @Override annotation signify?

    i) It marks a method that is specific to the subclass class and not inherited.

    ii) It indicates the method overrides a method from the superclass.

    iii) It allows access to private members of the superclass.

    iv) It renames the method for use within the subclass.

29. Polymorphism allows objects of different classes to respond to the same method call in different ways (True/False)

30. b) Which of the following is an example of polymorphism in Java?

    i) Method overloading

    ii) Method Overriding

    iii) Operator Overloading

    iv) All of the above

31. The concept of polymorphism is based on:

    i) Dynamic method dispatch at runtime.

    ii) Static method binding at compile time.

    iii) Overloading methods with different return types.

    iv) Overriding methods with the same signature.

32. Method overriding allows for code reuse and flexibility in inheritance. (True/False)
33. Type casting can be used to convert an object from one type to another, but it should be done cautiously to avoid runtime errors. (True/False)
34. a) What is the extends keyword used for in inheritance?

    i) To define an interface.

    ii) To create a new class.

    iii) To establish an "is-a" relationship between a subclass and a superclass.

    iv) To access private members of another class.

35. A subclass can inherit:

    i) Public and protected members from its superclass.

    ii) Private members from its superclass.

    iii) All members (public, private, protected) from its superclass.

    iv) Only methods from its superclass.

36. c) The super keyword is used to refer to the superclass from within a subclass. (True/False)

37. d) Method overriding allows a subclass to redefine the behaviour of a method inherited from the superclass. (True/False)

38. You can use an asterisk (*) with the import statement to import all classes from a package. (True/False)

39. The java.lang package is implicitly imported into every Java program. (True/False)

40. What is the benefit of using packages in Java?

    i) Improved code organization and reusability.

    ii) Faster program execution.

    iii) Increased memory usage.

    iv) None of the above.