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**MCS-206**

**POST GRADUATE DIPLOMA IN  
COMPUTER APPLICATIONS  
(PGDCA) (NEW)**

**Term-End Examination**

**June, 2023**

**MCS-206 : OBJECT ORIENTED  
PROGRAMMING USING JAVA**

*Time : 3 Hours*

*Maximum Marks : 100*

*Weightage : 70%*

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**Note :** (i) *Question No. 1 is compulsory and carries 40 marks.*

(ii) *Attempt any **three** questions from the rest.*

1. (a) Briefly discuss the concept of static binding with suitable example. 5
- (b) Illustrate the execution of switch-case statement and if-then-else statement, with suitable code in Java for each. 5

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- (c) What are constructors ? How do constructors differ from methods ? 5
  - (d) Compare Multiple Inheritance and Multi-level Inheritance. Give suitable Java code and block diagram for each. 5
  - (e) What is an Interface in Java ? How Interface differs from abstract class ? 5
  - (f) What is the significance of assertion statement in Java ? How usage of assertion statement differs from the procedure of exception handling in Java ? 5
  - (g) Differentiate between static and default methods in interfaces in Java. 5
  - (h) What is multithreading concept in Java ? How does it differ from the concept of multiprocessing ? 5
2. (a) Differentiate between the following : 10
- (i) Map Interface and Hashmap Class
  - (ii) TreeSet and HashSet
  - (iii) Set and Map
  - (iv) HashSet and Hashmap
  - (v) List and Set

- (b) Discuss the purpose of stream classes in Java. How do byte streams differ from character streams ? Give suitable example for each. 10
3. (a) What is purpose of AWT-API in Java ? Briefly discuss the role of component class, container class, panel class, windows class and frame class of AWT. 10
- (b) Compare the 2-tier architecture of JDBC with 3-tier architecture of JDBC, draw suitable block diagram for both architectures. Also, discuss the functionality of core components of JDBC. 10
4. (a) What is the purpose of Connection Interface in JDBC ? Briefly discuss and compare statement interface, PreparedStatementInterface and CallableStatement interface. 10
- (b) Briefly discuss the concept of Garbage collection in Java. Give advantages and disadvantages of Garbage collection. Also discuss the role of finalize( ) method in Garbage collection. 10

5. (a) Write a program in Java to print multiplication table of the number entered by the user. Support your code with suitable comments. 5
- (b) Compare the concept of Throw and Throws in Java with the help of example code. 5
- (c) What is JDBC Batch Processing ? Explain with the help of a program. 10