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**MCS–206**

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

**Term-End Examination  
December, 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.*

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1. (a) Briefly discuss the concept of dynamic binding with a suitable example. 5
- (b) Illustrate the execution of while loop and do---while loop with suitable code in Java for each. 5

**P. T. O.**

- (c) What are access specifiers ? Briefly discuss the purpose of public, private, protected and default access specifiers. 5
- (d) Compare Hierarchical inheritance with Multiple inheritance. Give suitable pseudo code and block diagram for each. 5
- (e) Differentiate between overloading and overriding. Give suitable example for each. 5
- (f) What are annotations in Java ? Briefly discuss the purpose of the following, Built-in Java annotations : 5
- (i) @ Override
  - (ii) @ Suppress Warning
  - (iii) @ Deprecated
- (g) Differentiate between class and interface in Java. 5
- (h) Briefly discuss the various states of thread life cycle. Also draw block diagram for thread life cycle. 5
2. (a) Write short notes on the following :
- $2\frac{1}{2} \times 4 = 10$
- (i) Closable Interface
  - (ii) Flushable Interface
  - (iii) Autoclosable Interface
  - (iv) I/O Exception

- (b) What is a vector class ? How does vector class differ from stack class ? Briefly discuss any *two* methods of both. 10
3. (a) What are swings in Java ? How does Java swings differ from Java AWT ? Also, list the features of JavaFx that makes it superior to Java AWT and JavaSwings. 10
- (b) What is the purpose of JDBC driver ? Briefly discuss the Type-I, Type-II, Type-III and Type-IV of JDBC drivers. 10
4. (a) What is a transaction in DBMS ? How is it maintained in the JDBC applications ? How do dirty read, non-repeatable reads and phantom read makes the database inconsistent ? What mechanism can we use to resolve these inconsistencies ? 10
- (b) Differentiate between the following : 5+5
- (i) JDBC RowSet and ResultSet
- (ii) JavaDataObject API and JDBC API
5. (a) Write a program in Java to print the name of week days, (MON to SUN) when the user enters the number between 1 to 7. Support your code with suitable comments.

- (b) Compare the concepts of Final, Finally and Finalize in Java with example. 6
- (c) Explain the use of “Super” keyword in Java with the help of an example. 5
- (d) Write Java program to demonstrate how a thread is created in Java. Also set priority of created thread to B. Support your program with suitable comments. 5