MCA 3rd Semester Examination, 2022

ADVANCED JAVA

PAPER — MCA-301

Full Marks : 100

Time : 3 hours

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

GROUP — A

Answer any five questions : 2×5

1. What is JVM ?

2. Why 'final' keyword is used ?

3. What is the importance of 'this' keyword ?

4. Why is Java known as platform independent language ?

5. Write down any four important features of Java.

6. Define bytecode with example.

7. Difference between 'throw' and 'throws' in JAVA.

8. What is JAVA swing ?

GROUP — B

Answer any **four** questions :   15 × 4

9. What are the different access and non-access modifiers in Java ? Briefly explain about abstract class with suitable example. How an abstract class differs from an interface ?   4 + 6 + 5

10. What do you mean by garbage collection in Java ? Explain the terms abstraction and polymorphism. Differentiate between method overriding and method overloading using proper example.
                    2 + 3 + 4 + 6

11. What do you mean by immutable object ? What is the advantage of making the String class object immutable ? How mutable strings are created in Java ? Write down four String related functions and their uses. $2 + 3 + 2 + 8$

12. Why are the advantages of using packages in Java ? Briefly discuss how a package is created and accessed in Java using a suitable example. How are naming conflicts resolved in packages ? Give an example. $3 + 8 + 4$

13. Briefly discuss about the keywords related to exception handling in Java. What do you mean by checked and unchecked exceptions ? How an error is different from an exception ? $10 + 3 + 2$

14. What do you mean by multithreading ? What are the uses of start method and run method in multi-threading ? Explain how threads are created in Java using proper example. $2 + 3 + 10$

15. What is the use of a wrapper class ? What is auto-boxing and unboxing ? Show how an anonymous inner class is created and used using a suitable example. $2 + 3 + 10$

16. Distinguish between applet and application. Draw and explain applet life cycle. Write an applet program.   5 + 6 + 4

[*Internal Assessment* — 30 Marks]

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