UNIVERSITY OF NORTH BENGAL

B.Sc. Honours 2nd Semester Examination, 2023

CC3-COMPUTER SCIENCE (22)

Time Allotted: 2 Hours   Full Marks: 40

The figures in the margin indicate full marks.

GROUP-A

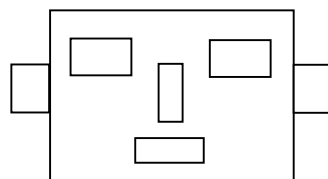**Answer any *five* questions from the following**   1×5 = 5

1.   What is platform independency?

2.   Give an example of built in JAVA class.

3.   What is the function of a constructor?

4.   What does a wrapper class do?

5.   Explain JDBC.

6.   What is the function of a JAVA applet?

7.   What is the significance of final class?

8.   What is package?

GROUP-B

Answer any *three* questions   5×3 = 15

9.   Differentiate between logical and bitwise operators.

10. Explain method overloading with the help of an example.

11. Discuss the significance of built in exceptions in JAVA with the help of an example.

12. Write a program in JAVA to demonstrate accessing and manipulation of databases.

13. Write an applet in JAVA to draw the following figure:

GROUP-C

Answer any *two* questions $10 \times 2 = 20$

14. Euler's number, *e* is the base of natural logarithm, and is widely used in engineering, science and business. The value of *e* can be approximated using the formula

$$e = 1 + \frac{1}{1!} + \frac{1}{2!} + \frac{1}{3!} + \frac{1}{4!} + \cdots \frac{1}{n!}, \; n = 0, 1, 2 \cdots$$

Write a recursive method to calculate Euler's number for *n* (where $n \geq 0$).

15. Explain the architecture of JAVA and also discuss various features of JAVA by giving suitable examples.

16. WAP in JAVA to read two matrix of order 3×3 and perform the multiplication and store it in another matrix.

17. Explain the concept of threads in JAVA with the help of a suitable example.

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