

B.Sc. (Honours) Examination, 2019

Semester-II

Computer Science

Course : CC-3

(Programming in Java)

Time : 3 Hours

Full Marks : 40

Questions are of value as indicated in the margin
Answer question No.1 and **any four** from the rest

1. a) How platform independence is provided by Java?
b) Write a class to represent a vector of any dimension. Add a member function for dot product of two vectors and include member functions to perform the following tasks :
i) To create a vector,
ii) To modify the values of given element,
iii) To display the vector in the form (a,b,...). 2+6=8
 2. Write a Java applet which contain two buttons. One button click will draw a red circle and the other button click will draw a green rectangle. 8
 3. a) What is static data?
b) What is Byte code?
c) Write a Java program for sum of an AP series. The first term and the common difference are given at run time. 2+2+4=8
 4. Define a class called "img" to represent imaginary numbers. Hence define a class "complex" to represent complex numbers. Add method "mult" for multiplication of two complex numbers and display the result in standard format. 8
 5. a) What is an interface in Java?
b) Write a program to convert Polar to Rectangular coordinate using a conversion method. Use constructors appropriately. 2+6=8
 6. Write a Java program for multiplication of two matrices. The dimension of the matrices are given at run time. 8
 7. a) What is the role of garbage collector in Java?
b) Write a Java program for sorting of an array. 2+6=8
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