

**Course Code: DCAP501****Course Title: Modern Programming Tools and Techniques I****Time Allowed: 3 hours****Max. Marks: 80**

1. This paper contains 10 questions divided in two parts on 1 page.
2. **Part A is compulsory.**
3. **In Part B (Questions 2 to 10), attempt any 6 questions out of 9. Attempt all parts of the selected question.**
4. The marks assigned to each question are shown at the end of each question in square brackets.
5. Answer all questions in serial order.
6. **The student is required to attempt the question paper in English medium only.**

**PART A**

- Q1. (a) "Primitive variables and reference variables are different from each other." Justify. [2]  
(b) "In OOP, a problem is divided into a number of entities". Discuss. [2]  
(c) "Structure of a class consists of three parts". Justify with an example. [2]  
(d) "If is conditional statements". Justify with an example. [2]  
(e) "While is looping statement". Justify with an example. [2]  
(f) What is difference between break and continue? [2]  
(g) What is an array? [2]  
(h) "In any program, the array length is fixed, when the array is created." Comment. [2]  
(i) "Packages are the library files in java". Justify. [2]  
(j) "Creating a package is simple". Explain the method that supports this statement. [2]

**PART B**

- Q2. Analyze different features of Java, which has made Java an important programming language. [10]
- Q3. "To inherit a base class to its subclass, a keyword extends is used in the subclass definition". Discuss. Also write an java code to explain it. [10]
- Q4. "All conditional statements evaluate to true or false for a conditional expression, to determine their execution path". Justify with an example. [10]
- Q5. "The do-while loop is usually used, when a programmer wants to test the termination expression at the end of the loop rather than at the beginning". Justify. [10]
- Q6. Write a program to print the table of 2 using while loop. [10]
- Q7. Write a program to print a list of odd numbers up to 20, using for loop. [10]
- Q8. Explain any five built in string functions with example. [10]
- Q9. "How arrays are used in Java? Explain with the help of an example. [10]
- Q10. How source code gets converted in machine code in Java? Explain this process along with example. [10]