

Anjuman Islam Janjira Degree College of Science Murud-Janjira, Raigad-402401 Affiliated to University of Mumbai	
Class: -F.Y.B.Sc C.S	Subject: - Design and Analysis of Algorithm
Semester:- II	Course code: -
Exam Event:- (FH) Summer 2025	Marks: -30
Date: - 05/04/2025	Duration: - 1 Hours

- N.B. –**
- 1 – All questions are compulsory.**
 - 2 – All questions have internal choice.**
 - 3 – Figures to the right indicate full marks.**

Q.1 Attempt (any Two) Question Out of Four

10

- What is an algorithm and their operations and characteristics of an algorithm?
- Define Stack and Stack operations.
- State and explain asymptotic notation with any one notation defined briefly.
- How to State and explain the Towers of Hanoi problem.

Q.2 Attempt (any Two) Question Out of Four

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- Short notes on:
 - Naïve Search Algorithm
 - Suffix Trees
 - Compressed Tree
- Describe the types of Linear Search.
- What are the implementation steps of dynamic programming, and provide any one program example.
- How to Describe the advantages and disadvantages of dynamic programming.

Q.3 Attempt (any Two) Question Out of Four

10

- Derive all types of operators in programming (e.g., Arithmetic, Logical, etc.).
- State and explain Fibonacci series. Factorial Number Program.
- Explain the N-Queen Problem and Backtracking Problem
- Define:
 - Linked list
 - Single Linked list
 - Double Linked list
 - Circular Linked list.