

# **Bachelors of Science**

## **SEM I**

### **Journal**

<b>Roll No.</b>	001
<b>Name</b>	Alston Alvares
<b>Subject</b>	Computational Logic and Discrete Structures

ANANDIBAI DAMODAR KALE  
SHAIKSHANIK SANSTHA'S DEGREE



ANANDIBAI DAMODAR KALE  
COLLEGE OF ARTS & COMMERCE

Saibaba Nagar, Borivali (West), Mumbai – 400 092

Tel.: 2807 7126

Email: adkdcollege@yahoo.com / www.adkdcollege.in

ISO 9001: 2008 Certified

## CERTIFICATE

This is here to certify that Mr/Ms. Alston Alvares, Seat Number 001 of B.Sc. IT, has satisfactorily completed the required number of experiments prescribed by the **ANANDIBAI DAMODAR KALE DEGREE COLLEGE AFFILIATED TO UNIVERSITY OF MUMBAI** during the academic year 2022 - 2023.

Date:

Place: Mumbai

Teacher In-Charge

Head of Department

External Examiner

# INDEX

Sr. No.	List of Experiments	Page No	Date	Sign
1	Set Theory a. Inclusion Exclusion principle. b. Power Sets c. Mathematical Induction	01-02		
2	Functions and Algorithms a. Recursively defined functions b. Cardinality c. Polynomial evaluation d. Greatest Common Divisor	03-04		
3	Probability Theory 1 a. Sample space and events b. Finite probability spaces c. Equiprobable spaces d. Addition Principle.	05-07		

<b>4</b>	Probability Theory 2 <b>a.</b> Conditional Probability <b>b.</b> Multiplication theorem for conditional probability <b>c.</b> Independent events <b>d.</b> Repeated trials with two outcomes	08-11		
<b>5</b>	Counting 1 <b>a.</b> Sum rule principle <b>b.</b> Product rule principle <b>c.</b> Factorial <b>d.</b> Binomial coefficients	12-15		
<b>6</b>	Counting 2 <b>a.</b> Permutations <b>b.</b> Permutations with repetitions <b>c.</b> Combinations <b>d.</b> Combinations with repetitions	16-18		
<b>7</b>	Graph Theory <b>a.</b> Paths and connectivity <b>b.</b> Minimum spanning tree <b>c.</b> Isomorphism	19		
<b>8</b>	Graph Theory <b>a.</b> Paths and connectivity <b>b.</b> Minimum spanning tree <b>c.</b> Isomorphism	20-23		
<b>9</b>	Directed Graphs <b>a.</b> Adjacency matrix <b>b.</b> Path matrix	24-25		
<b>10</b>	Recurrence relations <b>a.</b> Linear homogeneous recurrence relations with constant coefficients <b>b.</b> Solving linear homogeneous recurrence relations with constant coefficients <b>c.</b> Solving general homogeneous linear recurrence relations	26-29		