**Seminar Topic Summary Report**

**Cover Page**

Institution Name: Basaveshwar Engineering College, Bagalkot

Department of Computer Applications (M.C.A)

Course: MCA

Semester: II

Seminar Topic : Algo trading

Submitted by: Shrinivasrao mane

USN: 2BA24MC040

Student Name: Shrinivasrao mane

Date of Submission:27-06-2025

Guide/Faculty Name: Prof. C.M.jangin

Guide Signature:

**Index Page**

**Table of Contents**

1. Introduction

2. Seminar Topic Details

3. Topic Summary

4. Relevance to MCA Curriculum

5. Learning Objectives

6. Expected Outcome

7. References

8. Signatures

**1. Introduction**

Algorithmic Trading, also known as Algo Trading, refers to the use of computer algorithms to automate and execute trades in financial markets. These algorithms follow predefined rules such as price, volume, timing, and other quantitative indicators. The primary goal is to maximize profits and reduce the impact of human emotion and error. With the advent of advanced computing power, algorithmic trading has transformed the traditional trading landscape into a faster, more efficient, and data-driven environment.

**2. Seminar Topic Details**

**Title: Algorithmic Trading – The Future of Financial Markets**

**3. Topic Summary**

This seminar focuses on how algorithmic trading uses computational models and algorithms to automate trade executions. The key areas discussed include how algorithms are designed, the role of high-frequency trading, integration with AI and machine learning, and the importance of backtesting strategies using historical data. The seminar also explores how big data, low-latency systems, and cloud computing are powering modern trading infrastructures. Furthermore, it highlights the challenges, such as technical failures, regulatory concerns, and the ethical implications of AI-based trading systems.

**4. Relevance to MCA Curriculum**

Algorithmic Trading is highly relevant to the MCA curriculum because it integrates several core areas of the course:

**Data Structures and Algorithms**

Programming Languages (Python, Java, C++)

Database Management Systems

Artificial Intelligence and Machine Learning

Computer Networks and Cloud Computing

Software Engineering and System Design

These areas are crucial for building efficient, reliable, and secure trading algorithms

**5. Learning Objectives**

To understand the fundamentals of algorithmic trading and its working principles.

To explore the integration of financial data, AI models, and automation.

To study different algorithmic strategies such as arbitrage, market making, and trend following.

To gain insights into the technologies used: programming, APIs, low-latency networks, etc.

To understand the challenges and ethical concerns involved in algo trading.

**6. Expected Outcome**

By the end of the seminar, participants will be able to:

Understand the architecture of an algorithmic trading system.

Design simple trading algorithms based on technical indicators.

Recognize the role of AI and big data in financial decision-making.

Appreciate the importance of risk management and regulatory compliance in fintech.

Develop awareness of future opportunities and innovations in algorithmic trading.

**7. References**

**8. Signatures**

**Coordinator Signature** **HOD Signature**