

TECNIA INSTITUTE OF ADVANCED STUDIES

Grade 'A' Institute

Department of Information, Communication & Technology

Master Of Computer Applications (MCA)

Scheme and Syllabus (w.e.f. Academic Session 2020-21 onwards)

Course Code: MCA-217

Course Name: Advanced Computer Architecture

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LEARNING OBJECTIVES

In this course, the learners will be able to develop expertise related to the following: -

1. Fundamental techniques of high-performance computing.
2. Study and evaluate the benefits of design options in computer architecture.
3. Gain experience and understanding of the application of these techniques.

PRE-REQUISITES

Computer Organization

COURSE OUTCOMES (COs)

After completion of this course, the learners will be able to:

CO#	Detailed Statement of the CO	BT Level	Mapping to PO #
CO1	Explain micro-architectural design of processors	BTL2	PO1, PO2
CO2	Identify the meaning of Parallel Processing, its applications and associated hardware technologies	BTL3	PO1, PO2, PO3, PO5
CO3	Distinguish between the different parallel architectures and compare their performance relative to various parameters	BTL4	PO1, PO2, PO3, PO4, PO5
CO4	Explain and evaluate the performance of different ILP methods, pipelining design/ approach for a given set of Instructions.	BTL5	PO1, PO2, PO3, PO4, PO5, PO6, PO10
CO5	Evaluate the performance of pipelining and no pipelining environment in a processor	BTL5	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO10
CO6	Assess cache and memory related issues in multi-processors, and parallel programming Models	BTL5	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO9, PO10, PO11