

# 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-241

Course Name: Software Quality Management

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### LEARNING OBJECTIVES

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

1. Fundamental steps in Digital Image Processing and image formation.
2. Various techniques to improve the visual appeal of an image.
3. Filtering of images in spatial and frequency domain for enhancement
4. Image restoration process.
5. Image compression and image segmentation useful in various applications.
6. Implementation of various algorithms for image analysis.

### PRE-REQUISITES

Basics of Digital Signal Processing, Transform Techniques

### 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	Relate to the digital image processing primitives and the different types of images and their application areas.	BTL1	PO1, PO2
CO2	Explain the image formation process, and the filtering techniques for image enhancement.	BTL2	PO1, PO2, Po3
CO3	Apply appropriate image processing algorithms in both the spatial and frequency domain.	BTL3	PO1, PO2, PO3, PO4, PO5, PO6, PO10
CO4	Analyze types of noise and the techniques useful to remove the noise from the degraded images..	BTL4	PO1, PO2, PO3, PO4, PO5, PO6, PO10
CO5	Assess image segmentation and compression techniques for various image processing applications.	BTL5	PO1, PO2, PO3, PO4, PO5, PO6, PO7, PO9, PO10, PO11