COURSE TABLE OF CONTENTS

Artificial Intelligence & Image Processing

OEM: Koenig Original • Duration: 4 Days (31 hrs)

COURSE MODULES & TOPICS

Module 1: Introduction to AI and Computer Vision

- Overview of Artificial Intelligence
- Basics of Machine Learning
- Introduction to Computer Vision

Module 2: Python Programming Fundamentals

- Python syntax and data structures
- Python for AI applications

Module 3: Digital Image Fundamentals

- Pixels and image representation
- Color models
- Image formats

Module 4: Image Enhancement and Filtering

- Image enhancement techniques
- Filtering methods
- Noise removal
- Histogram processing

Module 5: Image Transformation and Segmentation

- Image transformation techniques
- Edge detection
- Thresholding
- Image segmentation

Module 6: OpenCV Framework and Video Handling

- OpenCV framework overview
- Image processing functions
- Video handling with OpenCV

Module 7: AI/ML Fundamentals and Dataset Preparation

- AI/ML fundamentals
- Dataset preparation
- Training and testing

Module 8: Image Classification and Object Detection

- Image classification techniques
- Object detection methods
- Feature extraction

Module 9: Model Evaluation and Application Deployment

- Model evaluation techniques
- Application deployment
- Mini project

Module 10: Hands-on Labs and Practical Activities

- Python image processing
- OpenCV exercises
- Image enhancement practice
- Object detection introduction
- Image classification lab
- Computer vision mini project