Certificate Course in Digital Signal and Image Processing

Objective of the Course:

Basic knowledge of signal and image processing is essential to engineers. This course attempts to provide refreshing of the fundamentals of signal processing and hands on for these subjects. It will also provide an exposure to the specific application areas like image analysis, handwriting recognition, speech processing etc.

Learning Outcomes:

After the end of the course the student will be able to introduce real- time digital signal processing application and the implementation of common real- time audio, image and video processing in part, for a course.

Expected Job Roles:

Embedded Programmer

Duration of the Course (in hours)	120 hrs
Appr. Fees (INR):	Rs.16,000/-
Minimum Eligibility Criteria and pre-requisites, if any	Engineering Graduates (undergoing also)

Outline of Course

S. No	Topic	Minimum No. of Hours
1.	Introduction to MATLAB	6 hrs
2.	Introduction to DSP	4 hrs
3.	Digital signal in the time domain	5 hrs
4.	Fourier transform, z-transform	10 hrs
5.	Digital signal in the frequency domain	5 hrs
6.	LTI system Analysis	2 hrs
7.	Digital filters	8 hrs
8.	Introduction to digital Image Processing	5 hrs
9.	Sampling and transforms	5 hrs
10.	Image improvement	5 hrs
11.	Image Analysis	5 hrs
12.	Mini project	30 hrs
	Theory / Lecture Hours:	60 hrs
	Practical / Tutorial / Lecture Hours:	60 hrs (including project)
	Total Hours:	120 hrs

Books recommended for reference and reading:	Digital image processing, two-dimensional signal and image processing.

Group Code:	EMBD	**Group Name:**	Embedded System
Course Code:	CP03	**Course Name:**	Certificate Course in Digital Signal and Image Processing