Signals and Networks

SWAYAM Prabha Course Code: E4

PROFESSOR'S NAME	Prof. Pranab K Dutta, Prof. Avishek Chatterjee
DEPARTMENT	Electrical Engineering
INSTITUTE	IIT Kharagpur
COURSE OUTLINE	Concept of signals and systems, basic operations on signals, system properties, system Classification, Concept of Linearity and Time-Invariance, Convolution Integral, impulse response, step response, Linear Ordinary Differential Equation with constant coefficients, concept of forced and natural response, total, particular and complementary solution. Fourier Series, complex Fourier series and its properties, Fourier Transform and its properties, Laplace Transform, its properties and its application for solving Linear ODE with constant coefficients and for solving linear circuit problems, Frequency response: Transfer functions, Eigen functions, Systems as filters, etc.

COURSE DETAILS

Sl. No	Module ID/ Lecture ID	Lecture Title/Topic	Duration
1	E4-Mod1	Introduction to Signals	1:17:59
2	E4-Mod2	Singular functions and Introduction to Systems	1:07:35
3	E4-Mod3	Expressing signals as a sum of simpler signals and Example of Systems	1:12:36
4	E4-Mod4	Types of Systems	1:09:08
5	E4-Mod5	Linear and Time Invariant Systems - Divide and Conquer	1:16:40
6	E4-Mod6	More on Impulse Response	1:08:16
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References if Any: