

# **PANIPAT INSTITUTE OF ENGINEERING & TECHNOLOGY**

## **Department of Electronics & Communication Engineering**

### **LESSON PLAN**

**Subject Name: - Signals & Systems**

**Subject Code: - EC-209A**

**Year: - 2nd**

**Semester: - 3rd**

<b>Lecture No</b>	<b>Unit No</b>	<b>Topic</b>	<b>References</b>
L1	UNIT-I	Introduction about subject and syllabus	<b>Signals and Systems by Tarun Kumar Rawat</b>
L2,L3		classification of signals	<b>Signals and Systems by Tarun Kumar Rawat</b>
L4, L5		Various operation on signals	<b>Signals and Systems by Tarun Kumar Rawat</b>
L6, L7		Signal representation in terms of singular function	<b>Signals and Systems by Tarun Kumar Rawat</b>
L8, L9		Periodic Signal, Energy and Power Signal, Even & Odd Signal	<b>Signals and Systems by Tarun Kumar Rawat</b>
L10, L11		Introduction to system, classification of system	<b>Signals and Systems by Tarun Kumar Rawat</b>
L12, L13		Introduction to LTI system and properties	<b>Signals and Systems by Tarun Kumar Rawat</b>
L14, L15	UNIT-II	convolution integral	<b>Signals and Systems by Tarun Kumar Rawat</b>
L16, L17		convolution sum	<b>Signals and Systems by Tarun Kumar Rawat</b>
L18, L19		differential equation, difference equation	<b>Signals and Systems by Ramesh Babu</b>
L20, L21	UNIT-III	Introduction to sampling and sampling theorem and its proof	<b>Signals and Systems by Tarun Kumar Rawat</b>
L22, L23		effect of under sampling and reconstruction of signals	<b>Signals and Systems by Tarun Kumar Rawat</b>

L24, L25	UNIT-III	Fourier series-CTFS and their properties	Signals and Systems by Tarun Kumar Rawat	
L26, L27		DTFS and their properties	Signals and Systems by Tarun Kumar Rawat	
L28, L29	UNIT-IV	Fourier Transform-CTFT and properties	Signals and Systems by Tarun Kumar Rawat	
L30, L31		DTFT & their Properties	Signals and Systems by Tarun Kumar Rawat	
L32, L33		System characterized by differential and difference equation	Signals and Systems by Tarun Kumar Rawat	
L34, L35		Laplace Transform and Properties	Signals and Systems by Tarun Kumar Rawat	
L36, L37		system analysis using Laplace transform	Signals and Systems by Tarun Kumar Rawat	
L38, L39		Inverse Laplace transform	Signals and Systems by Tarun Kumar Rawat	
L40, L41		Unilateral Laplace transform	Signals and Systems by Tarun Kumar Rawat	
L42, L43		System function algebra and block diagram representation	Signals and Systems by Tarun Kumar Rawat	
L44		UNIT-II	Random Variable and probability	Signals and Systems by Ramesh Babu
L45			Pdf and PDF, cdf	Signals and Systems by Ramesh Babu
L46	Moment generating functions		Signals and Systems by Ramesh Babu	
L47	Binomial and Poission distribution		Signals and Systems by Ramesh Babu	
L48	Correlation Functions		Signals and Systems by Ramesh Babu	
L49	Orthogonal functions and their application		Signals and Systems by Ramesh Babu	

**Text Books:**

1. Alan V. Oppenheim, Alan S. Willsky, S. Hamid Nawab, Signals and Systems, Prentice Hall India, 2nd Edition, 2009

**Reference Books:**

1. Simon Haykins – “Signal & Systems”, Wiley Eastern
2. Tarun Kumar Rawat, Signals and Systems, Oxford University Press.