

Course: Principles of communication system - I

Course Code: noc19-ee08

Session: 2018-19

Duration: 12 Weeks

Assessment procedures: Weekly Assignment (25%) + proctored certification Exam (75%)

Curriculum of the Course:

Week 1 : Basic tools for communication, Fourier Series/Transform, Properties, Autocorrelation, Energy Spectral Density, Parseval's Relation

Week 2 : Amplitude Modulation (AM), Spectrum of AM, Envelope Detection, Power Efficiency, Modulation Index

Week 3 : Double Sideband Suppressed Carrier (DS-SC) Modulation, Quadrature Carrier Multiplexing (QCM), Demodulation, Costas Receiver

Week 4 : Single Sideband Modulation (SSB), Hilbert Transform, Complex Pre-envelope/ Envelope, Demodulation of SSB, Vestigial Sideband Modulation (VSB)

Week 5 : Angle Modulation, Frequency Modulation (FM), Phase Modulation (PM), Modulation Index, Instantaneous Frequency

Week 6 : Spectrum of FM Signals, Carson's Rule for FM bandwidth, Narrowband FM Generation, Wideband FM Generation via Indirect Method, FM Demodulation

Week 7: Introduction to Sampling, Spectrum of Sampled Signal, Aliasing, Nyquist Criterion, Signal Reconstruction from Sampled Signal, Pulse Amplitude Modulation

Week 8: Quantization, Uniform Quantization's Midrise and Midtread, Quantization noise, Lloyd Max Quantization Algorithm, Non-uniform quantizers, Delta Modulation, Differential Pulse Code Modulation (DPCM)

Week 9: Basics of Probability, Conditional Probability, MAP Principle

Week 10: Random Variables, Probability Density Functions, Applications in Wireless Channels

Week 11: Basics of Random Processes, Wireless Fading Channel Modelling

Week 12: Gaussian Random Process, Noise, Bit-Error and Impact on Wireless Systems

List of students enrolled

S. No.	Name
1	Parul Sinha
2	Shivani Priyadarshani
3	Aditya Choudhary
4	Akshat Gupta
5	Aniket Rathi
6	Anjali Parik
7	Anju Choudhary
8	Simran Arora

9	Ayush Parasrampur
10	Charu Shukla
11	Himanshu Bairwa
12	Jayesh Mehta
13	Madhulika Jain
14	Jatin Bhandari
15	Harsh Khandelwal
16	Kishita Gupta
17	Manju Choudhary
18	Mansi Kumawat
19	Mayank Shrimali
20	Nikita Modi
21	Mohit Balotia
22	Monalisa
23	Monika Sharma
24	Mahak Hussain
25	Padmakshi Jain
26	Paridhi Jain
27	Poorvi Jain
28	Rajkumar Verma
29	Priyal Goyal
30	Puneet Mathur
31	Quasim Qureshi
32	Rahul Mangal
33	Shreyash
34	Rohit Singh Shekhawat
35	Sandeep Rawat
36	Saransh Sharma
37	Chinmay Sharma
38	Shilpi Mittal
39	Shikha Singh
40	Vishal Soni
41	Saurabh Sharma
42	Subhash Nagar
43	Surbhi Sen
44	Tanisha Gupta
45	Tanmay Nayyar
46	Ujjawal Matolia
47	Vishakha Agarwal
48	Priyanka Jain
49	Yash Kumar