

**LESSON PLAN**

**JHARSUGUDA ENGINEERING SCHOOL, JHARSUGUDA**

<i>Name of the Faculty: Yasobanti Nayak</i>	<i>Academic Year: 2022-23</i>
<i>Course Code.: Th-3</i>	<i>Course name: DSP</i>
<i>Programme: Diploma</i>	<i>Branch: E&amp;TC</i>
<i>Year/ Sem:-3<sup>rd</sup> /6<sup>th</sup></i>	<i>Section:</i>

<b>Sl. No.</b>	<b>Period</b>	<b>Time (min)</b>	<b>Unit</b>	<b>Topic to be Covered</b>	<b>Teaching Method</b>	<b>Suggested Reading (Book, Video, Online Sources etc.)</b>
1.	1.	55 min	1	Introduction to signal, systems, & signal processing	Black board	Ramesh Babu, NPTEL Video
2.	2.	55min	1	Advantage of DSP over ASP	Black board	Ramesh Babu, NPTEL Video
3.	3.	55min	1	Classification of signals-Multichannel & multidimensional signal..	Black board	Ramesh Babu, NPTEL Video
4.	4.	55min	1	Concept of frequency in continuous time & discrete time signals, continuous discrete time sinusoidal signals- discrete time sinusoidal signals	Black board	Ramesh Babu, NPTEL Video
5.	5.	55min	1	Introduction to analog to digital & digital to analog	Black board	Ramesh Babu , NPTEL Video
6.	6.	55min	1	Sampling theorem, problem solve	Black board	Ramesh Babu
7.	7.		1	Quantization of continuous amplitude signals, coding of quantized signal	Black board	Ramesh Babu

8.	8.	55min	1	Digital to analog conversion, analysis of digital systems signals vs. Discrete time signals systems	Black board	Ramesh Babu, NPTEL
9.	9.	55min	1	Digital to analog conversion, analysis of digital systems signals vs. Discrete time signals systems	Black board	Ramesh Babu
10	10.	55min	1	Concept of discrete time signals	Black board	Ramesh Babu
11	11.	55min	2	Concept of discrete time signals, elementary of discrete time signals	Black board	Ramesh Babu, NPTEL Video
12	12.	55 min	2	Classification of discrete time signals	Black board	Ramesh Babu,
13	13.	55 min	2	Block diagram, classification, inter connection of discrete time system	Black board	Ramesh Babu
14	14.	55min	2	Mathematical manipulation based on discrete time signals	Black board	Ramesh Babu
15	15.	55 min	2	Discrete invariant system, Resolution of a discrete time signals into impulse	Black board	Ramesh Babu
16	16.	55 min	2	Convolution & inter connection of LTI system, study systems with finite duration & infinite duration impulse response	Black board	Ramesh Babu
17	17.	55min	2	Mathematical manipulation based on discrete time signal	Black board	Ramesh Babu
18	18.	55min	2	Discrete time system described by difference equation	Black board	Ramesh Babu
19	19.	55 min	2	Recursive & non recursive Discrete time system	Black board	Ramesh Babu
20	20.	55 min	2	Determine the impulse response of Linear recursive system	Black board	Ramesh Babu
21	21.	55 min	2	Determine the impulse response of Linear recursive system	Black board	Ramesh Babu
22	22.	55 min	2	finite duration & infinite duration impulse response	Black board	Ramesh Babu

23	23.	55 min	2	Introduction to LTI system & its application to LTI system	Black board	Ramesh Babu
24	24.	55 min	2	Direct z-transform, indirect z-transform	Black board	Ramesh Babu
25	25.	55 min	3	Introduction to LTI system & its application to LTI system	Black board	Ramesh Babu
26	26.	55 min	3	Direct z-transform, indirect z-transform	Black board	Ramesh Babu
27	27.	55 min	3	Problem solve on Direct z-transform, indirect z-transform	Black board	Ramesh Babu
28	28.	55 min	3	Various properties of z-transform	Black board	Ramesh Babu
29	29.	55min	3	Mathematical manipulation based on properties of z-transform	Black board	Ramesh Babu, NPTEL Video
30	30.	55min	3	Rational Z-transform, pole zeros, pole location time domain behaviour for casual signals	Black board	Ramesh Babu
31	31.	55 min	3	System function of a LTI system	Black board	Ramesh Babu
32	32.	55 min	3	Mathematical manipulation based on System function of a LTI system	Black board	Ramesh Babu
33	33.	55 min	3	Inverse z-transform	Black board	Ramesh Babu
34	34.	55 min	3	Mathematical manipulation based on by partial fraction, contour integration	Black board	Ramesh Babu
35	35.	55 min	3	Mathematical manipulation based on Mathematical manipulation based on	Black board	Ramesh Babu
36	36.	55 min	3	Inverse z-transform problem by partial fraction, contour integration	Black board	Ramesh Babu
37	37.	55 min	3	Assignment & Revision	Black board	Ramesh Babu
38	38.	55 min	3	Inverse z-transform problem by partial fraction, contour integration	Black board	Ramesh Babu

39	39.	55 min	4	<i>Concept of discrete fourier transform &amp; its application</i>	Black board	Ramesh Babu, NPTEL Video
40	40.	55 min	4	<i>Discrete time fourier transformation(DTFT)</i>	Black board	Ramesh Babu
41	41.	55 min	4	<i>Discrete fourier transform(DFT)</i>	Black board	Ramesh Babu
42	42.	55 min	4	<i>Mathematical manipulation based on DFT</i>	Black board	Ramesh Babu
43	43.	55 min	4	<i>Compute DFT as a linear transformation, Relate DFT to other transforms</i>	Black board	Ramesh Babu
44	44.	55 min	4	<i>Property of DFT, problem solve</i>	Black board	Ramesh Babu
45	45.	55 min	4	<i>multiplication of two DFT &amp; circular convolution</i>	Black board	Ramesh Babu
46	46.	55 min	4	<i>multiplication of two DFT &amp; circular convolution</i>	Black board	Ramesh Babu
47	47.	55 min	5	<i>Introduction to FFT</i>	Black board	Ramesh Babu
48	48.	55 min	5	<i>Compute DFT &amp; FFT algorithm</i>	Black board	Ramesh Babu
49	49.	55 min	5	<i>Direct computation of DFT</i>	Black board	Ramesh Babu
50	50.	55 min	5	<i>Compute DFT &amp; FFT algorithm</i>	Black board	Ramesh Babu
51	51.	55 min	5	<i>Compute DFT &amp; FFT algorithm</i>	Black board	Ramesh Babu
52	52.	55 min	5	<i>Divide &amp; conquer approach to computation of DFT</i>	Black board	Ramesh Babu
53	53.	55 min	5	<i>Divide &amp; conquer approach to computation of DFT</i>	Black board	Ramesh Babu
54	54.	55 min	5	<i>Radix-2 algorithm(small problems)</i>	Black board	Ramesh Babu

55	55.	55 min	5	<i>Radix-2 algorithm(small problems)</i>	<i>Black board</i>	<i>Ramesh Babu</i>
56	56.	55 min	5	<i>Application &amp; problem on FFT</i>	<i>Black board</i>	<i>Ramesh Babu</i>
57	57.	55 min	5	<i>Application &amp; problem on FFT</i>	<i>Black board</i>	<i>Ramesh Babu</i>
58	58.	55 min	5	<i>Introduction to filter</i>	<i>Black board</i>	<i>Ramesh Babu</i>
59	59.	55 min	5	<i>Introduction to DSP architecture</i>	<i>Black board</i>	<i>Ramesh Babu</i>
60	60.	55 min	5	<i>PYQ</i>	<i>Black board</i>	<i>Ramesh Babu</i>
61	61.	55 min	5	<i>Assignment &amp; Revision</i>	<i>Black board</i>	<i>Ramesh Babu</i>
62	62.	55 min	5	<i>Assignment &amp; Revision</i>	<i>Black board</i>	<i>Ramesh Babu</i>
63	63.	55 min	5	<i>Class test</i>	<i>Black board</i>	<i>Ramesh Babu</i>