LESSON PLAN	
JHARSUGUDA ENGINEERING SCHOOL,JHARSUGUDA	
Academic Year: 2019-20	Name of the Faculty:Lipsa Panigrahi
Course name: Electrical Measurement and Instrumentation	Course No.: Th3
Branch:Electrical	Program: Diploma
Section:	Year/Sem: 2nd/4th

Sl. No.	Period	Time (min)	Teaching Method	Topic to be Covered	Unit
1.	1.	55 min	Black board	Accuracy, Precision, Errors	1
2.	2.	55min	Black board	Resolution, Sensitivity and tolerance	1
3.	3.	55min	Black board	Classification of measuring instruments	1
4.	4.	55min	Black board	Deflecting , controlling and damping arrangements	1
5.	5.	55min	Black board	Calibration of instruments	1
6.	6.	55min	Black board	Moving iron instruments	2
7.	7.	55min	Black board	PMMC instruments	2
8.	8.	55min	Black board	Dynamometer type instruments	2
9.	9.	55min	Black board	Rectifier type instruments	2
10.	10.	55min	Black board	Induction type instruments	2
11.	11.	55 min	Black board	Extend the range of instruments by use of shunts and multipliers	2
12.	12.	55 min	Black board	Solve numerical	2
13.	13.	55min	Black board	Solve numerical	2
14.	14.	55 min	Black board	Construction of dynamometer type wattmeter	3
15.	15.	55 min	Black board	Principle of operation of dynamometer type wattmeter	3
16.	16.	55min	Black board	Errors and method of their correction	3
17.	17.	55min	Black board	Induction type watt meters	3
18.	18.	55 min	Black board	Induction type energy meters	4
19.	19.	55 min	Black board	Energy meter	4
20.	20.	55 min	Black board	Testing of energy meters	4
21.	21.	55 min	Black board	Tachometers, types and working principles	5
22.	22.	55min	Black board	Mechanical resonance type frequency meters	5
23.	23.	55min	Black board	Electrical resonance type frequency meters	5
24.	24.	55 min	Black board	Dynamometer type single phase power factor meters	5
25.	25.	55 min	Black board	Dynamometer type three phase power factor meters	5
26.	26.	55 min	Black board	Classification of resistance	6
27.	27.	55 min	Black board	Measurement of low resistance	6
28.	28.	55 min	Black board	Measurement of medium resistance	6

29.	29.	55 min	Projector	Measurement of high resistance	6
30.	30.	55 min	Projector	Megger and earth tester	6
31.	31.	55 min	Projector	Multimeter	6
32.	32.	55 min	Projector	Measurement of inductance	6
33.	33.	55 min	Projector	Measurement of capacitance	6
34.	34.	55 min	Projector	Transducer	7
35.	35.	55 min	Projector	Classification of transducer	7
36.	36.	55 min	Projector	Resistive transducer	7
37.	37.	55 min	Black board	Thermistor	7
38.	38.	55 min	Black board	RTD	7
39.	39.	55 min	Black board	Strain gauge	7
40.	40.	55 min	Black board	Linear and angular motion potentiometer	7
41.	41.	55 min	Black board	Inductive transducer	7
42.	42.	55 min	Black board	LVDT	7
43.	43.	55 min	Black board	Capacitive transducer	7
44.	44.	55 min	Black board	Piezoelectric transducer	7
45.	45.	55 min	Black board	Hall effect transducer	7
46.	46.	55 min	Black board	Numerical problem	7
47.	47.	55 min	Black board	Numerical problem	7
48.	48.	55 min	Black board	CRO	8
49.	49.	55 min	Black board	Operation of CRO	8
50.	50.	55 min	Black board	Block diagram	8
51.	51.	55 min	Black board	Measurement of DC voltage and current	8
52.	52.	55 min	Black board	Measurement of AC voltage and current	8
53.	53.	55 min	Black board	Measurement of phase and frequency	8
54.	54.	55 min	Black board	Numerical problem	8
55.	55.	55 min	Black board	Numerical problem	8
56.	56.	55 min	Black board	Numerical problem	8
57.	57.	55 min	Black board	Numerical problem	8
58.	58.	55 min	Black board	Numerical problem	8
59.	59.	55 min	Black board	Revision of all topics	
60.	60.	55 min	Black board	Revision of all topics	

LESSON PLAN	
JHARSUGUDA ENGINEERING SCHOOL,JHARSUGUDA	
Name of the Faculty: SEEMA LAKRA	Academic Year: 2019-20
Course No.:Th-1	Course Name: ENERGY CONVERSION -1
Programe: Diploma	Branch:-Electrical
Year/Sem: II / I V	Section:

Sl. No.	Period	Time (min)	Unit	Topic to be Covered	Teaching Method
1.	1.	55 min	1	Operating principle of generator, construction Feature	Black board
2.	2.	55 min	1	Simple lap winding, wave winding	Black board
3.	3.	55 min	1	Types of d.c machine, derivation of emf equation of d.c gerator.	Black board
4.	4.	55 min	1	Problems on d.c generator	Black board
5.	5.	55 min	1	Losses and efficiency , condition for maximum efficiency and problems	Black board
6.	6.	55 min	1	Armature reaction in d.c machine	Black board
7.	7.	55 min	1	commutation	Black board
8.	8.	55 min	1	Characteristic of d.c generator	Black board
9.	9.	55 min	1	Application of types of d.c generators.	Black board
10	10.	55 min	1	Concept of critical resistance and critical speed	Black board
11	11.	55 min	1	Parallel operation of d.c generator	Black board
12	12.	55 min	1	Uses of d.c generator	Black board
13	13.	55 min	2	D.C motor workimg principle, significance of back e.m.f	Black board
14	14.	55 min	2	Voltage equation of D.C motor	Black board
15	15.	55 min	2	Derive torque equation, problems	Black board
16	16.	55 min	2	Characteristic of series, shunt, compound motors	Black board
17	17.	55 min	2	Starting method of series, shunt and compound motor	Black board
18	18.	55 min	2	Speed control of d.c series motor	Black board
19	19.	55 min	2	Speed control of d.c shunt motor	Black board
20	20.	55 min	2	Brake test method	Black board
21	21.	55 min	2	Swinburne’s test method	Black board
22	22.	55 min	2	Losses efficiency and uses of D.C motor	Black board
23	23.	55 min	3	Introduction and working principle of transformer	Black board
24	24.	55 min	3	Constructional feature of transformer	Black board
25	25.	55 min	3	Care and maintenance of transformer	Black board
26	26.	55 min	3	E.m.f equation of transformer	Black board
27	27.	55 min	3	No load condition, on load condition phasor diagram	Black board
28	28.	55 min	3	Equivalent resistance, leakage reactance and impeadance of transformer	Black board

29	29.	55 min	3	problems	Black board
30	30.	55 min	3	Exact voltage drop calculation	Black board
31	31.	55 min	3	Regulation of transformer	Black board
32	32.	55 min	3	Losses in transformer	Black board
33	33.	55 min	3	Open circuit test, short circuit test	Black board
34	34.	55 min	3	Problems in open and short circuit test	Black board
35	35.	55 min	3	Explain efficiency of different load and power factor	Black board
36	36.	55 min	3	Condition of maximum efficiiency	Black board
37	37.	55 min	3	All day efficiency in transformer	Black board
38	38.	55 min	3	Determination of load corresponding to maximum efficiency	Black board
39	39.	55 min	3	Parallel operation of single phase transformers	Black board
40	40.	55 min	4	Construction of auto transformer	Black board
41	41.	55 min	4	Working principle of auto transformer	Black board
42	42.	55 min	4	Comparision of auto transformer with two winding transformer	Black board
43	43.	55 min	4	Uses of auto transformer	Black board
44	44.	55 min	4	Explain tap changer with transformer on load condition	Black board
45	45.	55 min	4	Off load condition	Black board
46	46.	55 min	5	Explain current transformer	Black board
47	47.	55 min	5	Potential transformer	Black board
48	48.	55 min	5	Ratio error, phase angle error, burden	Black board
49	49.	55 min	5	Uses of C.T and P.T	Black board
50	50.	55 min		REVISION	Black board
51	51.	55 min		REVISION	Black board
52	52.	55 min		REVISION	Black board
53	53.	55 min		REVISION	Black board
54	54.	55 min		REVISION	Black board
55	55.	55 min		REVISION	Black board
56	56.	55 min		REVISION	Black board
57	57.	55 min		REVISION	Black board
58	58.	55 min		REVISION	Black board
59	59.	55 min		REVISION	Black board
60	60.	55 min		REVISION	Black board

LESSON PLAN	
JHARSUGUDA ENGINEERING SCHOOL,JHARSUGUDA	
Name of the Faculty: SEEMA LAKRA	Academic Year: 2019-20
Course No. Th-4	Course Name: GENERATION TRANSMISSION DISTRIBUTION
Programe: Diploma	Branch: Electrical
Year/Sem: II / I V	Section:

Sl. No.	Period	Time (min)	Unit	Topic to be Covered	Teaching Method
1.	1.	55	1	Thermal power plant	Black board
2.	2.	55			Black board
3.	3.	55	1	Hydel power plant	Black board
4.	4.	55	1	Nuclear power plant	Black board
5.	5.	55	1	Solar power plant	Black board
6.	6.	55	1	Layout of generating station	Black board
7.	7.	55	2	Layout of transmission and distribution scheme	Black board
8.	8.	55	2	Voltage regulation and efficiency of transformer	Black board
9.	9.	55	2	Kelvin's law	Black board
10	10.	55	2	Corona and corona losses	Black board
11	11.	55	3	Types of supports, size and spacing	Black board
12	12.	55	3	Types of conductor material	Black board
13	13.	55	3	Types of insulator and cross arm	Black board
14	14.	55	3	sag	Black board
15	15.	55	3	Problems in sag	Black board
16	16.	55	4	Calculation of regulation and efficiency in short transmission lines	Black board
17	17.	55	4	Calculation of regulation and efficiency in short transmission lines	Black board
18	18.	55	4	Calculation of regulation and efficiency in short transmission lines	Black board
19	19.	55	4	Calculation of regulation and efficiency in medium transmission lines	Black board
20	20.	55	4	Calculation of regulation and efficiency in medium transmission lines	Black board
21	21.	55	4	Calculation of regulation and efficiency in medium transmission lines	Black board
22	22.	55	5	E.H.V transmission (A.C)	Black board
23	23.	55	5	Reason for adoption of E.H.V A.C transmission	Black board
24	24.	55	5	Problems in E.H.V transmission	Black board
25	25.	55	5	Problems in E.H.V transmission	Black board
26	26.	55	5	Problems in E.H.V transmission	Black board

27	27.	55	5	H.V.D.C transmission	Black board
28	28.	55	5	Advantages and limitation of H.V.D.C transmission system	Black board
29	29.	55	6	Distribution system	Black board
30	30.	55	6	Connection scheme of distribution system	Black board
31	31.	55	6	Distributor fed at one end	Black board
32	32.	55	6	Distributor fed at both end	Black board
33	33.	55	6	Ring distributor	Black board
34	34.	55	6	A.C distribution system	Black board
35	35.	55	6	Problems of a.c distribution system	Black board
36	36.	55	6	3 phase 4 wire star connected arrangement	Black board
37	37.	55	7	Cable insulation	Black board
38	38.	55	7	Classification of cable	Black board
39	39.	55	7	Types of cable with constructional feature	Black board
40	40.	55	7	Methods of cable laying	Black board
41	41.	55	7	Murray and varley loop test for short circuit fault	Black board
42	42.	55	7	Murray and varley loop test for earth fault	Black board
43	43.	55	8	Causes of low power factor and methods of improving it	Black board
44	44.	55	8	Factors affecting the economic of generation	Black board
45	45.	55	8	Peak load and base load on power station	Black board
46	46.	55	9	Characteristic of tariff	Black board
47	47.	55	9	Types of tariff	Black board
48	48.	55	9	problems	Black board
49	49.	55	9	problems	Black board
50	50.	55	9	problems	Black board
51	51.	55	10	Layout of L.T substation	Black board
52	52.	55	10	Layout of H.T substation	Black board
53	53.	55	10	Layout of E.H.T substation	Black board
54	54.	55		REVISION	Black board
55	55.	55		REVISION	Black board
56	56.	55		REVISION	Black board
57	57.	55		REVISION	Black board
58	58.	55		REVISION	Black board
59	59.	55		REVISION	Black board
60	60.	55		REVISION	Black board