

# KIIT POLYTECHNIC, BHUBANESWAR

## LESSON PLAN

Session (2022-2023)

<b>Discipline: Electrical Engineering.</b>	<b>Semester:</b> 6th, Summer/2023	<b>Name of the Teaching Faculty:</b> Manoj Kumar Behera Lecturer <b>Email ID:manojbeherafel@kp.kiit.ac.in</b>
<b>Subject: Electrical Installation &amp; Estimating.</b> Theory-1	<b>No. of Days/Week: 05</b>	<b>Start Date: 13/02/2023</b> <b>End Date: 23/05/2023</b>

<b>Week</b>	<b>Class Day</b>	<b>Theory Topics</b>
1st	1st	Electrical Installation, domestic & industrial wiring system.
	2nd	System of distribution of electric energy, Tree system & Distribution system.
	3rd	Methods of wiring, Tee system ,Loop in system
	4th	Types of internal wiring. . Main switch ,BDB,,MCB
	5th	Cleat wiring ,Batten wiring
2nd	1st	Condit wiring, concealed wiring
	2nd	Casing and capping wiring, Comparison among different types of wiring.
	3rd	Types of cable required for wiring Accessories required for wiring,
	4th	Multistrand cable, Voltage grading of cable, General specification of cable.
	5th	Indian Electricity Rules
3rd	1st	<i>Doubt Clearing class</i>
	2nd	Indian Electricity Rules.
	3rd	<i>Assignment Evaluation &amp; Class Test</i>
	4th	Types of fuse, different types of fuse wire
	5th	Earthing, plate earthing and pipe earthing, Points to be earthed.

4th	1st	Materials required for plate earthing
	2nd	Materials required for pipe earthing
	3rd	<i>Doubt Clearing class</i>
	4th	<i>Assignment Evaluation &amp; Class Test</i>
	5th	<i>QUIZ Test-1</i>
5th	1st	General safety precaution Rule, General condition relating to supply and use energy, OH Lines Rules.
	2nd	Lighting Scheme, Types, Factory lighting, Street lighting, Public lighting,
	3rd	Component of service line, Conductor, Ariel fuse, Service support, Bearer wire
	4th	Class test
	5th	Prepare an Estimate for providing single phase service connection to a building having load of 3 KW to a single stored building having separate energy meter.
6th	1st	Prepare an Estimate for providing single phase service connection to a building having load of 3 KW to a single stored building having separate energy meter.
	2nd	Prepare an Estimate for providing single phase supply load of 5 KW to a double stored building having separate energy meter.
		Prepare an Estimate for providing single phase supply load of 5 KW to a double stored building having separate energy meter.
	3rd	Prepare an Estimate for providing service connection to a factory building within 15 KW using insulated wire.
	4th	Prepare an Estimate for providing service connection to a factory building within 15 KW using insulated wire and bare conductor.
	5th	Prepare an Estimate for providing service connection to a factory building within 25 KW using insulated wire and bare conductor.
7th	1st	Prepare an Estimate for providing service connection to a factory building within 25 KW using insulated wire and bare conductor.
	2nd	Estimate of materials for Stay.
	3rd	Main components of overhead line, Line support, Factors governing height of pole, Cross arm
	4th	Aspects of good lighting schemes, Types of Lighting schemes,
	5th	Factory lighting installation,
8th	1st	Assignment Evaluation & Class Test

	2nd	Public Lighting installation, Factory lighting, Street lighting.
	3rd	Prepare an estimate of materials required for LT distribution line within a load of 80 kw and standard spans, calculation of size of conductor, find voltage regulation using AAA conductor.
	4th	Prepare an estimate of materials required for LT distribution line within a load of 100kw and standard spans, calculation of size of conductor, find voltage regulation using AAA conductor.
	5th	Prepare an estimate of materials required for LT distribution line within a load of 100kw and standard spans, calculation of size of conductor, find voltage regulation using AAA conductor.
9th	1st	<i>QUIZ Test-2</i>
	2nd	Prepare an estimate of materials required for HT distribution line within a load of 100kw and standard spans, calculation of size of conductor, find voltage regulation using ACSR conductor.
	3rd	Prepare an estimate of materials required for HT distribution line within a load of 100kw and standard spans, calculation of size of conductor, find voltage regulation using ACSR conductor.
	4th	Prepare an estimate of materials required for HT distribution line within a load of 100kw and standard spans, calculation of size of conductor, find voltage regulation using ACSR conductor.
	5th	Prepare an estimate of materials required for conduit wiring for small domestic installation of one room one veranda with given light ,fan and plug point.
10th	1st	Prepare an estimate of materials required for conduit wiring for small domestic installation of two room one veranda with given light ,fan and plug point.
	2nd	Prepare an estimate of materials required for conduit wiring for small domestic installation of three room one veranda with given light ,fan and plug point.
	3rd	Prepare an estimate of materials required for conduit wiring for small domestic installation of two room one bath, kitchen, veranda with given light ,fan and plug point.
	4th	Prepare an estimate of materials required for erection of conduit wiring to a small work shop installation and load about 10 KW.
	5th	Prepare an estimate of materials required for erection of conduit wiring to a small work shop installation and load about 10 KW.
11th	1st	Prepare an Estimate for providing service connection to a factory building within 15 KW using insulated wire.
	2nd	Prepare an Estimate for providing service connection to a factory building within 15 KW using insulated wire.

	3rd	Prepare an Estimate for providing service connection to a factory building within 50 KW using insulated wire.
	4th	Prepare an estimate of material required for HT distribution line (11KV) within 2km and a load of 1000 KVA. Find size of conductor, voltage regulation using ACSR conductor.
	5th	Prepare an estimate of material required for HT distribution line (11KV) within 10 km and a load of 1000 KVA. Find size of conductor, voltage regulation using ACSR conductor.
12th	1st	Prepare an estimate of material required for HT distribution line (11KV) within 10 km and a load of 2000 KVA. Find size of conductor, voltage regulation using ACSR conductor.
	2nd	Prepare an estimate of material required for HT distribution line (11KV) within 10 km and a load of 2000 KVA. Find size of conductor, voltage regulation using ACSR conductor.
	3rd	Determination of size of conductor for transmission line,
	4th	Insulators used for transmission line
	5th	Prepare an estimate of materials required for erection of conduit wiring to a small work shop installation and load about 10KW
13th	1st	Prepare an estimate of materials required for erection of conduit wiring to a small work shop installation and load about 10KW
	2nd	Prepare an estimate of materials required for erection of conduit wiring to a small work shop installation and load about 30KW
	3rd	Prepare an estimate of materials required for erection of conduit wiring to a small work shop installation and load about 30KW
	4th	<i>Assignment Evaluation &amp; Class Test</i>
	5th	Types of substation
14th	1st	Estimate the materials required for Pole mounted sub station
	2nd	Estimate the materials required for Pole mounted sub station
	3rd	Estimate the materials required for Plinth mounted sub station
	4th	Estimate the materials required for Plinth mounted sub station
	5th	Estimate the materials required for Plinth mounted sub station
15th	1st	<i>Assignment Evaluation &amp; Class Test</i>
	2nd	<i>Discussion of Previous year questions</i>
	3rd	<i>Discussion of Previous year questions</i>
	4th	<i>Discussion of Previous year questions</i>
	5th	<i>Discussion of Previous year questions</i>