

LESSON PLAN

SUB: ELECTRICAL INSTALLATION & EASTIMATING

BRANCH:- ELECTRICAL ENGG.

SEMESTER: 6th

SESSION:2022-2023

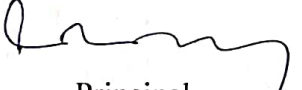
NAME OF FACULTY: ASHWINI KUMAR SAHU



GOVERNMENT POLYTECHNIC,
BHADRAK


HOD ELECTRICAL
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Academic Co-ordinator


Principal
Govt. Polytechnic, Bhadrak
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DISCIPLINE ELECTRICAL	SEMESTER 6 TH	NAME OF THE TEACHING FACULTY ASHWINI KUMAR SAHU(Sr.Lect. in Elect.Engg.)
SUBJECT ELECTRICAL INSTALLATION & ESTIMATING	NO. OF DAYS/WEEK CLASS ALLOTTED - 75	SEMESTER FROM DATE 13.02.2023 to 23.05.2023
WEEK	CLASS DAY	THEORY TOPICS
1 ST	1	Definitions, Ampere, Apparatus, Accessible, Bare, cable, circuit, circuit breaker, conductor voltage (low, medium, high, EH), live, dead, cut-out, conduit, system, danger, Installation, earthing system, span, volt, switch gear, etc.
	2	General safety precautions, rule 29, 30, 31, 32, 33, 34, 35, 36, 40, 41, 43, 44, 45, 46.
	3	General conditions relating to supply and use of energy : rule 47, 48, 49, 50, 51, 54, 55
	4	. General conditions relating to supply and use of energy : rule 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 70
	5	TUTORIAL CLASS
2 ND	6	OH lines : Rule 74, 75, 76, 77, 78,
	7	OH lines : Rule 79, 80, 86, 87, 88, 89, 90, 91
	8	Electrical installations, domestics, industrial, Wiring System.
	9	Internal distribution of Electrical Energy. Methods of wiring, systems of wiring.
	10	TUTORIAL CLASS
3 RD	11	Wire and cable, conductor materials used in cables, insulating materials mechanical protection..
	12	Types of cables used in internal wiring, multi-stranded cables, voltage grinding of cables, general specifications of cables
	13	Main switch and distribution boards, conduits, conduit accessories and fittings, lighting accessories and fittings
	14	fuses, important definitions, determination of size of fuse – wire, fuse units. Earthing conductor.
	15	TUTORIAL CLASS

4 TH	16	Earthing, IS specifications regarding earthing electrical installations, points to be earthed
	17	Determination of size of earth wire and earth plate for domestic and industrial installations. Material required for GI pipe earthing.
	18	Aspects of good lighting services. Types of lighting schemes.
	19	Design of lighting schemes, factory light public lighting installations, street lighting.
	20	TUTORIAL CLASS
5 TH	21	General rules for wiring, determination of number of points (light, fan, socket, outlets)
	22	determination of total load, determination of Number of subcircuits
	23	Type of internal wiring, cleat wiring, CTS wiring wooden casing capping, metal sheathed wiring
	24	Conduit wiring, their advantage and disadvantages comparison and applications.
	25	TUTORIAL CLASS
6 TH	26	Prepare one estimate of materials required for CTS wiring for small domestic installation of one room and one verandah within 25 m ² with given light, fan & plug points.
	27	Solves different types of problem.
	28	Solves different types of problem.
	29	Prepare one estimate of materials required for conduit wiring for small domestic installation one room and one verandah within 25 m ² with given light, fan & plug points.
7 TH	30	Solves different types of problem.
	31	Solves different types of problem.
	32	Solves different types of problem.

	33	Prepare one estimate of materials required for concealed wiring for domestic installation of two rooms and one latrine, bath, kitchen & verandah within 80m ² with given light, fan & plug points.
	34	Solves various types of problem.
	35	Solves various types of problem.
8 TH	36	Prepare one estimate of materials required for erection of conduct wiring to a small workshop installation about 30m ² and load within 10 KW
	37	Solves various types of problem
	38	Main components of overhead lines, line supports, factors Governing Height of pole, conductor materials, determination of size of conductor for overhead transmission line, cross arms, pole brackets and clamps, guys and stays, conductors configurations, spacing and clearances, span lengths, overhead line insulators, types of insulators, lighting arresters, danger plates, anti-climbing devices, bird guards, beads of jumpers, jumpers, tee-offs, guarding of overhead lines.
	39	Prepare an estimate of materials required for LT distribution line within load of 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR.
	40	Solves different types of problem.
	41	Solves different types of problem.
9 TH	42	Prepare an estimate of materials required for LT distribution line within load of 100 KW maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consideration using ACSR.
	43	Solves various types of problem.
	44	Solves various types of problem.
	45	Solves various types of problem.

10 TH	46	Prepare an estimate of materials required for distribution line (11 KV) within 2 km and load 2000 KVA maximum and standard spans involving calculation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation of the size of conductor (from conductor chart), current carrying capacity and voltage regulation consider action using ACSR
	47	Solves various types of problem.
	48	Solves various types of problem.
	49	Solves various types of problem.
	50	Solves various types of problem.
11 TH	51	Components of service lines, service line (cables and conductors), bearer wire, lacing rod. Ariel fuse, service support, energy bus and meters etc.
	52	Prepare and estimate for providing single phase supply of load of 5 KW (light, fan, socket) to a single stored residential building
	53	Solves various types of problem.
	54	Prepare and estimate for providing single phase supply load of 3KW to each floor of double stored building having separate energy meter
	55	Solves various types of problem.
12 TH	56	Solves various types of problem.
	57	Prepare one estimate of materials required for service connection to a factory building with load within 15 KW using insulated wire
	58	Solves various types of problem.
	59	Solves various types of problem.
	60	Solves various types of problem.
13 TH	61	Prepare one estimate of materials required for service connection to a factory building with load within 15 KW using bare conductor and insulated wire combined.
	62	Solves various types of problem
	63	Solves various types of problem
	64	Prepare one materials estimate for following types of transformer substations. Pole mounted substation.
	65	Solves various types of problem on Pole mounted substation

14 TH	66	Solves various types of problem on Pole mounted substation
	67	Prepare one materials estimate for Plinth Mounted substation
	68	Solves various types of problem on Plinth mounted substation
	69	Solves various types of problem on Plinth mounted substation
	70	Solves various types of problem
15 TH	71	Solves various types of problem
	72	Solves various types of problem
	73	Solves various types of problem
	74	Solves various types of problem
	75	Solves various types of problem

Signature of the Faculty