**GBN Govt. Polytechnic Nilokheri, Karnal**

**Electrical Engineering Department**

**Lesson Plan**

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| **Lesson Plan** |
| **Name of the Faculty** | Sh. Gulshan Arora , Sh.Rai Singh and Sh.Rupinder Cheema |
| **Discipline** | Electrical engineering |
| **Semester** | 6th |
| **Subject** | MAJOR PROJECT WORK |
| **LessonPlanDuration** | 16 week(FromMarch2023 toJune2023) Practical:06 |
| **Week** | Project (Each teacher is expected to guide the project work of 5-6 students at a time), Selection ofProject is based on section as per student’s choice. |
|  | **Day** | **Project Topics** |
| 1st | Day1 | Design and Construction of a small transformer (100VAto1kVA)Construction of hot air blower |
| Day2 | Design and Fabrication of Automatic curtain operator, Fabrication of Automatic Star-Delta starter |
| 2nd | Day1 | Construction of Automatic Water level controller, Construction of Choke for fluorescenttubes |
| Day2 | Designandconstructionoffanregulators(inductancetype),Designandconstructionoffanregulators(Resistancetype), |
| 3rd | Day1 | Designandconstructionofloadingrheostats,DesignandconstructionofDesertcoolers/roomcoolers |
| Day2 | Rewindingof singlephaseElectricMotor upto 1 HP,Rewindingof motors of3 phaseup to 5 HP, |
| 4th | Day1 | DesignandconstructionofGeyser,14Rewindingofmotorsofsmall domesticappliances(exhaustfan/ceilingfan) |
| Day2 | Erection/installationandcommissioningofrotatingelectricalmachine,Faultdetectionandrepairofelectrical/electronicinstruments, |
| 5th | Day1 | Designandassemblyofcontactorcontrolcircuitforvariousapplications |
| Day2 | ElectricalPower: Drawing,estimatingandcostingof electricalinstallationoftheinstitutionfromsupplier'spoletotheinstitutiondistributionboard. |
| 6th | Day1 | Drawing,estimatingandcostingofelectricalinstallationofaworkshophavingagivennumberofelectricallyoperatedappliances/machines |
| Day2 | Tostudythe layingofunderground distributioncablefor asmallcolonystartingfrommaindistributionpole |
| 7th | Day1 | Tostudytheerectionerecta5pole spanoverheadlineforasmall distance fordistributionofelectricalenergyandcostestimates |
| Day2 | Energyauditforthe workshopofyourinstitutionandtosuggestremediesto havelowElectricityBill |
| 8th | Day1 | Toprovideaserviceconnectiontoaconsumer’spremisesfordomesticpurposes |
| Day2 | Tosurveytheloadofgivenareainavillage, small colony, |
| 9th | Day1 | Calculate the effective load and find out the sizes of the cables /conductors for theproposeddistributionsystem,Designingoflightandfanschemeforainstitutional orcommercialbuilding |
| Day2 | Tostudythe augmentationof a nearbypolemountedsubstation,Topreparea proposalforsubstationofyourinstitution,calculatingthetotalload |
| 10th | Day1 | ElectronicsBasedProjectsFabricationof:VoltageStabilizerforrefrigerator |
| Day2 | air-conditioner,EmergencylightusingSCR,Poweramplifier |
| 11th | Day1 | Analogcomputer, Regulatedpowersupply(+ 12V and + 6V) using7812,7912 and7806,790 |
| Day2 | AutomaticbatterychargerusingSCR,Digital Clock,FMRadioReceiver |
| 12th | Day1 | FMRadioReceiver,BurglarAlarm,FabricationofUPS,Automaticstreetlight/dressingtablelight, |
| Day2 | Mosquito Repeller, Inverter circuit 500watt/1KVA., Solid State Control of TrafficLights |
| 13th | Day1 | SECTIOND:FabricationandTestingof:Inverter/Emergencylightcircuit usingpowertransistors |
| Day2 | SCRbasedautomaticbatterycharger,SCRoperatedilluminationcontroller,SCRoperatedautomaticwaterlevelcontroller |
| 14th | Day1 | SCRbasedspeedcontrollerforDCshunt motor,Threephasefullwaverectifierusingpowerdiodes |
|  | Day2 | Timercircuitusing555-IC, SCRcontrolledrectifiercircuit,SpeedcontrolcircuitofDCshunt motorusingSCR |
| 15th | Day1 | Invertingandnon-invertingamplifiersusingOPAMP(741),ComparatorcircuitsusingOP AMP (741 |
| 16th | Day2 | ProjectusingPLC,ProjectrelatingtoMicroprocessor,ProjectrelatingtoMicrocontroller |