**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 of  Project 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 fluorescent  tubes | |
| Day2 | Designandconstructionoffanregulators(inductancetype),Designandconstructionof  fanregulators(Resistancetype), | |
| 3rd | Day1 | Designandconstructionofloadingrheostats,DesignandconstructionofDesert  coolers/roomcoolers | |
| Day2 | Rewindingof singlephaseElectricMotor upto 1 HP,Rewindingof motors of3 phase  up to 5 HP, | |
| 4th | Day1 | DesignandconstructionofGeyser,14Rewindingofmotorsofsmall domestic  appliances(exhaustfan/ceilingfan) | |
| Day2 | Erection/installationandcommissioningofrotatingelectricalmachine,Faultdetection  andrepairofelectrical/electronicinstruments, | |
| 5th | Day1 | Designandassemblyofcontactorcontrolcircuitforvariousapplications | |
| Day2 | ElectricalPower: Drawing,estimatingandcostingof electricalinstallationofthe  institutionfromsupplier'spoletotheinstitutiondistributionboard. | |
| 6th | Day1 | Drawing,estimatingandcostingofelectricalinstallationofaworkshophavingagiven  numberofelectricallyoperatedappliances/machines | |
| Day2 | Tostudythe layingofunderground distributioncablefor asmallcolonystartingfrom  maindistributionpole | |
| 7th | Day1 | Tostudytheerectionerecta5pole spanoverheadlineforasmall distance for  distributionofelectricalenergyandcostestimates | |
| Day2 | Energyauditforthe workshopofyourinstitutionandtosuggestremediesto havelow  ElectricityBill | |
| 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 or  commercialbuilding | |
| Day2 | Tostudythe augmentationof a nearbypolemountedsubstation,Topreparea proposal  forsubstationofyourinstitution,calculatingthetotalload | |
| 10th | Day1 | ElectronicsBasedProjectsFabricationof:VoltageStabilizerforrefrigerator | |
| Day2 | air-conditioner,EmergencylightusingSCR,Poweramplifier | |
| 11th | Day1 | Analogcomputer, Regulatedpowersupply(+ 12V and + 6V) using7812,7912 and  7806,790 | |
| Day2 | AutomaticbatterychargerusingSCR,Digital Clock,FMRadioReceiver | |
| 12th | Day1 | FMRadioReceiver,BurglarAlarm,FabricationofUPS,Automaticstreetlight/dressing  tablelight, | |
| Day2 | Mosquito Repeller, Inverter circuit 500watt/1KVA., Solid State Control of Traffic  Lights | |
| 13th | Day1 | SECTIOND:FabricationandTestingof:Inverter/Emergencylightcircuit usingpower  transistors | |
| Day2 | SCRbasedautomaticbatterycharger,SCRoperatedilluminationcontroller,SCR  operatedautomaticwaterlevelcontroller | |
| 14th | Day1 | SCRbasedspeedcontrollerforDCshunt motor,Threephasefullwaverectifierusing  powerdiodes | |
|  | Day2 | Timercircuitusing555-IC, SCRcontrolledrectifiercircuit,SpeedcontrolcircuitofDC  shunt motorusingSCR | |
| 15th | Day1 | Invertingandnon-invertingamplifiersusingOPAMP(741),Comparatorcircuitsusing  OP AMP (741 | |
| 16th | Day2 | ProjectusingPLC,ProjectrelatingtoMicroprocessor,ProjectrelatingtoMicrocontroller | |