**PRIORITY BASED SUPPLY SELECTION USING ARDUINO**

**ABSTRACT**

The main objective of this project is to provide priority wise power supply to a load, by selecting the supply source from any available one out of 4 such as: mains, generator, inverter and solar in the absence of power supply. The demand for electricity is increasing every day and frequent power cut is causing many problems in various areas like industries, hospitals and houses. An alternative arrangement for power source is thus desirable.

This project employs four switches to demonstrate / activate respective failure of the source of power supply. When any of the switches is pressed, it shows the respective supply source is available. Switches are connected to the arduino board as input signals. The output of the arduino board is given to the relay driver IC, which switches appropriate relay to maintain priority base supply to the load. Output is observed using a leds drawing power from the mains initially. On the failure of the mains supply (which is actuated by no any pressing action to the switch) then it will displayed no supply available. When we press the switch1 which is indicated to solar source then it is showing on LCD that supply1 is available. The same process is repeated for mains supply i.e.230v, inverter supply and generator respectively.

If supply1(solar) and supply3(230 mains) is at a time gets ON then the priority goes to the supply1 i.e. solar supply source. If solar and inverter supply are at a time working then also the priority goes to the 1st one i.e. to the solar source. If 230 mains and inverter supply are at a time working then the priority goes to the 230mains source. So if any of the two supply sources working at a time then the priority always goes the respective first one.

The project can be further enhanced by using other sources like wind power also, and then can take into consideration the best possible power source – the one whose tariff remains lowest at a given moment.

**BLOCK DIAGRAM**

****