**SOLAR BASED HOME AUTOMATION SYSTEM**

**Abstract:**

Our aim is to design the systems, which will Provide Light facility in home. we are designing cheapest battery charger and inverter using the set of solar cells.

This project is about to develop and fabricate the circuit that can charge the lead acid battery when in day by using solar as the source. To control the circuit of the charging, we used the circuit charging that can implement the condition of the charging whether it’s in charging condition of in float condition. When charging condition, red LED will turn on until the battery reach the full charge that is in floating condition, when floating, green LEDwill turn on. For the switching to the load, I used PIC16F72 to switch on the lamp, by using the sensing circuit, the PIC16F72 will determine whether is in daylight or in night by determination of ADC in that come from the sensing circuit. The value to determine the intensity of the light we had set up it into the coding of the PIC. When PIC gets the input from ADC, PIC gives the output to the relay to switch on the light. When night change to day, sensing circuit sense the panel voltage and ADC will convert to digital form which is required for PIC, PIC will give the output to switch off the lamp and the charging circuit will continue charge the battery for the day.

The scope of the project includes construct the circuit in order to charge the 12V lead acid battery. The acid battery will supply power to switch the lamp when there is no light or night condition. Integration between sensor and wave sensor was also concentrated in development of this system. In order to control the circuit for switching the PIC16F72 was developed. Finally, the system will combined together to complete the development of the system.

Block diagram:

