A PROJECT REPORT ON

MICROCONTROLLER BASED MPPT SYSTEM FOR SOLAR PANEL

(Sponsored by K.S.C.S.T)

Submitted by:

RAGHURAM BHAT G.	(4CB05EC081)
RAGHAVENDRA S.	(4CB05EC088)
SADASHIVA T.	(4CB05EC090)
SUNIL	(4CB05EC109)

In partial fulfillment of the requirements for the degree of

BACHELOR OF ENGINEERING

IN

ELECTRONICS AND COMMUNICATION ENGINEERING

(VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM)

Under the Guidance of:

Prof. SHANTHARAMA RAI C,B.E., M.Tech.,(Ph.D), M.I.S.T.E, M.I.E.E.E

(Professor, Department of E&C)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Canara Engineering College

(AFFILIATED TO VTU, BELGAUM)

Benjanapadavu, Bantwal – 574219, D. K. KARNATAKA

2008 – 2009

ABSTRACT

Maximum power point tracking (MPPT) is used in Solar systems to maximize the output power. This unit controls the movement of solar panel always aligned towards the direction of the sun. As the plane of the panel is always kept perpendicular to the direction of the sun light, maximum solar energy would be culminated from the solar panel. This uses the sensors like LDR, which sense the position of the sun, and rotate stepper motor accordingly and hence the solar panel position is controlled by micro-controller so as to get the maximum intensity of the sun's rays falling on it. This is implemented with a stepper motor and stepper motor controller. It consists of Microcontroller based control unit, Analog to Digital converter, 555 timer, Stepper Motor driver circuit, LDRs, and AC mains power source. So that Maximum Power Point Tracking (MPPT) is done. The MPPT is detected by hardware and the stepper motor is rotated to the direction of the sun using software program. This new unit is compact and more reliable.