METAL OXIDE SEMICONDUCTOR FIELD EFFECT TRANSISTOR BASED INVERTER

INTRODUCTION

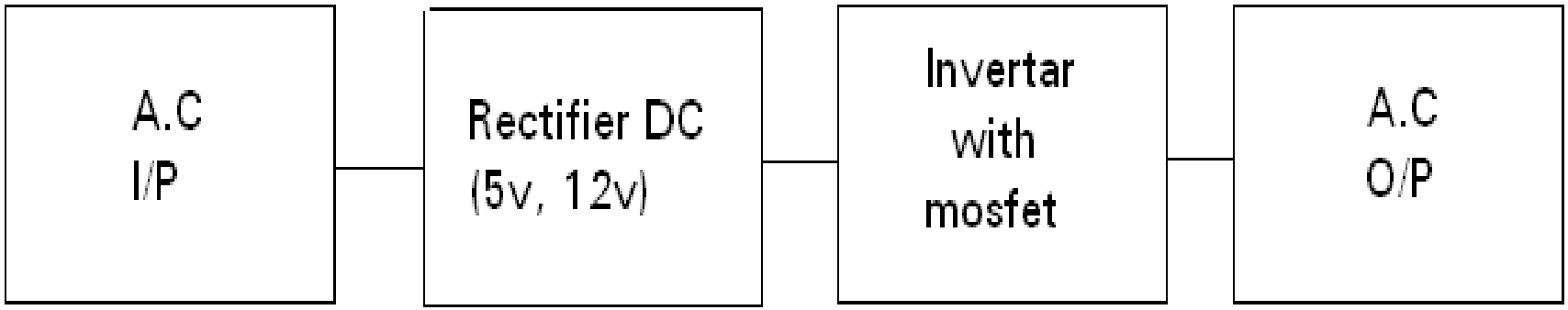
- During the power cut if one needs to use any electrical \electronic appliance such as fan light bulb etc. then some kind of device which could provide power to these appliances becomes essential inverter is one of most commonly used device for this purpose.

INVERTER

- **DEFINATION :**

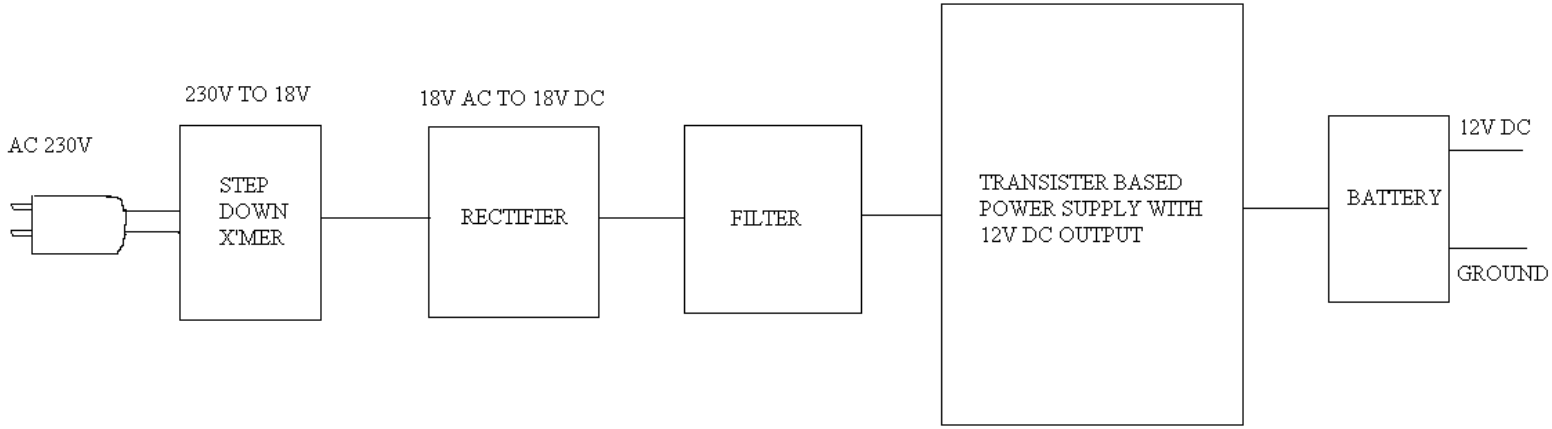
" Inverter is basically a DC to AC converter. It is a circuit which converter DC power in to AC power at desired voltage."

❑PROCESS:



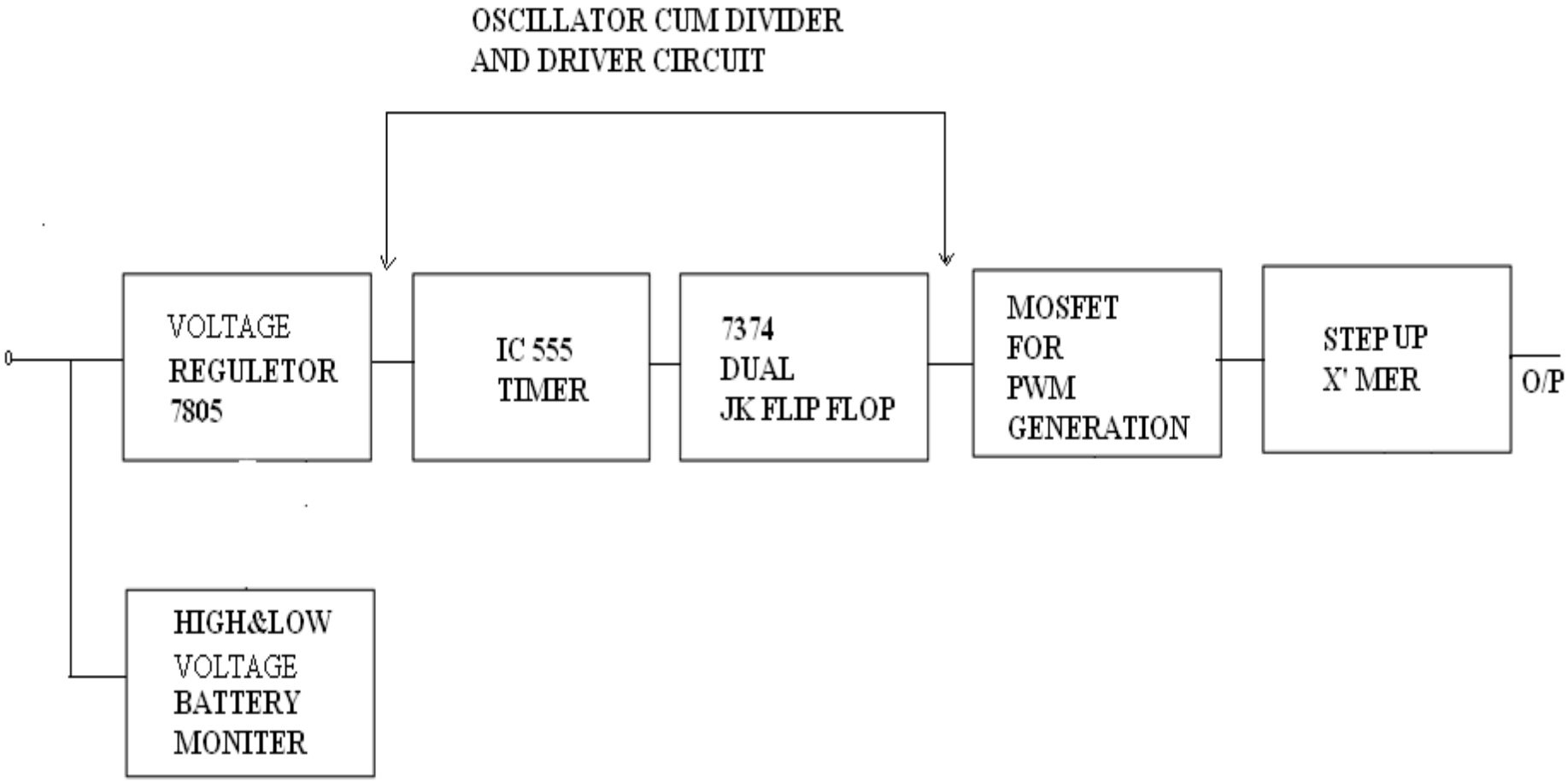
‘’AC i/p supply given to rectifier to convert AC to DC power and range of capacity (5v,12v) and DC power given by inverter card with MOSFET . MOSFET is converted AC o/p power.

SUPPLY SYSTEM OR CIRCUIT



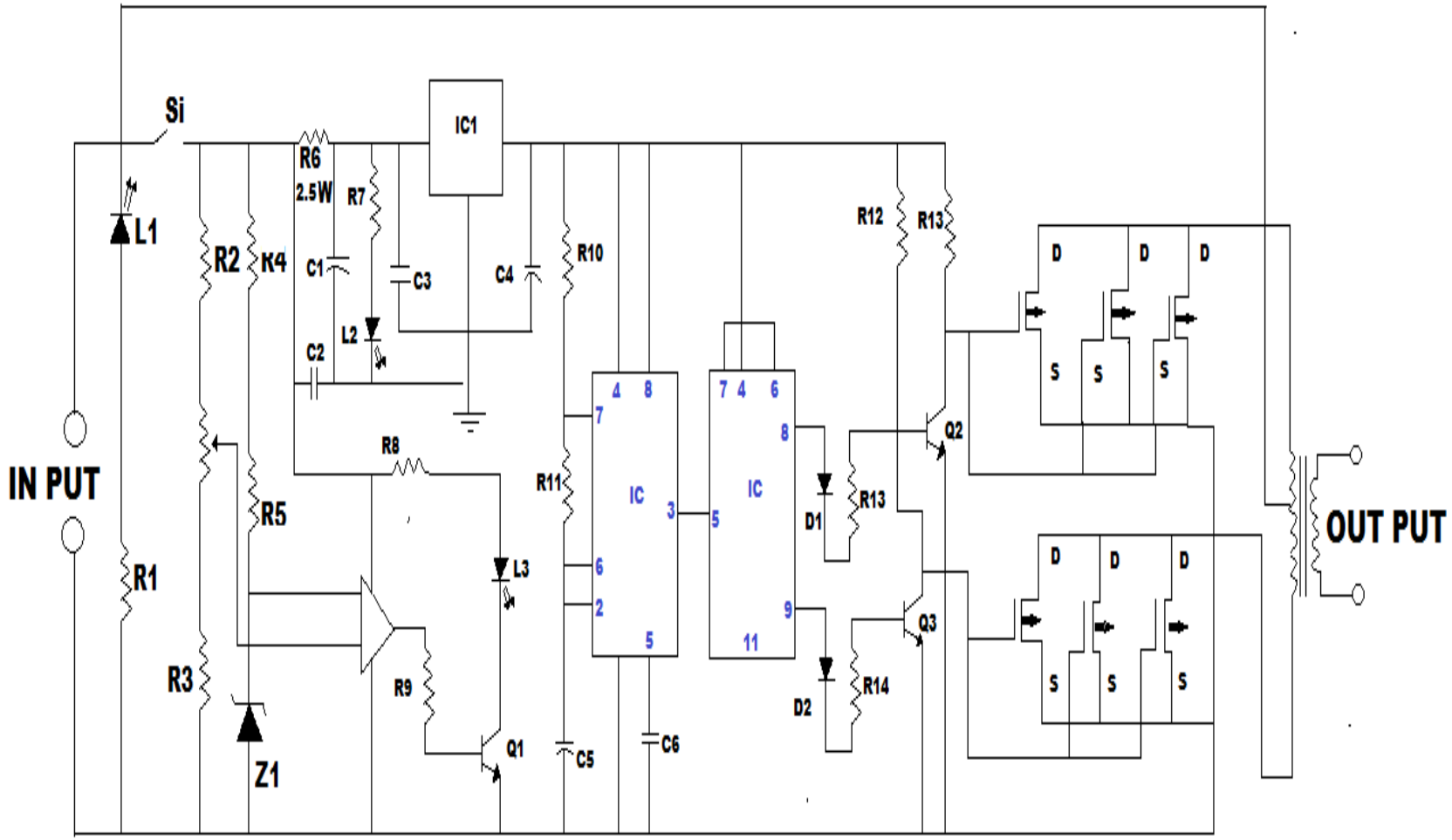
SUPPLY SYSTEM OR CIRCUIT

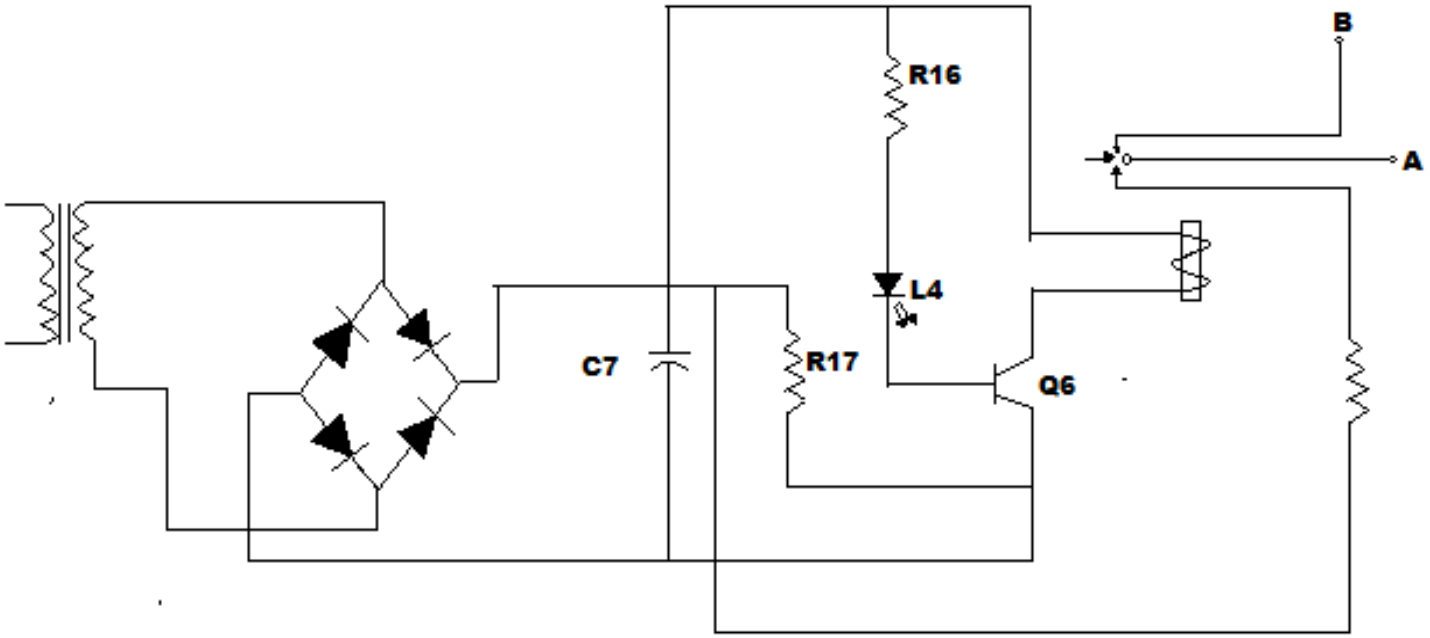
Blokdigram of MOSFET base invertar



- VOLTEG REGULATOR **7805**
- **IC 555 TIMER**
- **7374 DUAL JK FLIP FLOP**
- **MOSFET FOR PWM GENERATION**
- **STEP UP X’ MER**
- **HIGH & LOW VOLTEG BATTERY MONITER**
- **OSCILLATOR CUN DIVIDER AND DRIVER CIRCUIT**

CIRCUIT DIAGRAM:-




B
R16
A
L4
C7
R17
Q6

❖ MOSFET OF WORKING

- **MOSFET has two type of working mode**

- **(1) Depletion mode :**

It is obvious from that is no p-n junction between and channel here the diffused channel neither insulating electric Si02 layer and the metal layer of the gate forms a parallel plate capacitor. For the depletion mode ,the gate is maintained at positive potential. when voltage gate and source; zero, a significant current flows for given Vds, like FET.

(2) Enhancement mode:

The semiconductor channel, the insulating dielectric Si02

layer and metal layer of the gate from a parallel pl ate capacitorWhen a positive potential is applied at the gate with respect to substrate negative charges.

❑ ADVANTAGE:

- It can operate on low level power signal with economically.
- It is less expensive as compared to other inverter for small power application.
- It reduces the circuit size.
- It is more reliable.
- The efficiency is high about 90%.

❑COMPONENTS

- **Resisstor**
- **CAPACITAR**
- **Diode**
- **Transistor**
- **Zener diode**
- **MOSFET**
- **BATTERY**
- **LED**
- **Inverter transformer**
- **IC with socket**
- **PCB**
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❑APPLICATION

- ❖In home shops, office, hospitals, cinemas etc.
- ❖It is used to ran electrical or electronic devise such FAN, TV, VCR, TUBE, & BULB etc.

- ❖General application of an inverter in industry application such as
- ❖Variable speed AC motor drive
- ❖In indication heating
- ❖IN U.P.S.(UN interruptible power supply)

Thank you…