A

Seminar report

on

Low Cost Automatic

Submitted in partial fulfillment of the requirement for the award of degree of Electronics

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Preface

I have made this report file on the topic **Low Cost Automatic.** I have tried my best to elucidate all the relevant detail to the topic to be included in the report. While in the beginning I have tried to give a general view about this topic.

My efforts and wholehearted co-corporation of each and everyone has ended on a successful note. I express my sincere gratitude to ……..who assisting me throughout the prepration of this topic. I thank him for providing me the reinforcement, confidence and most importantly the track for the topic whenever I needed it.

LOW COST AUTOMATIC

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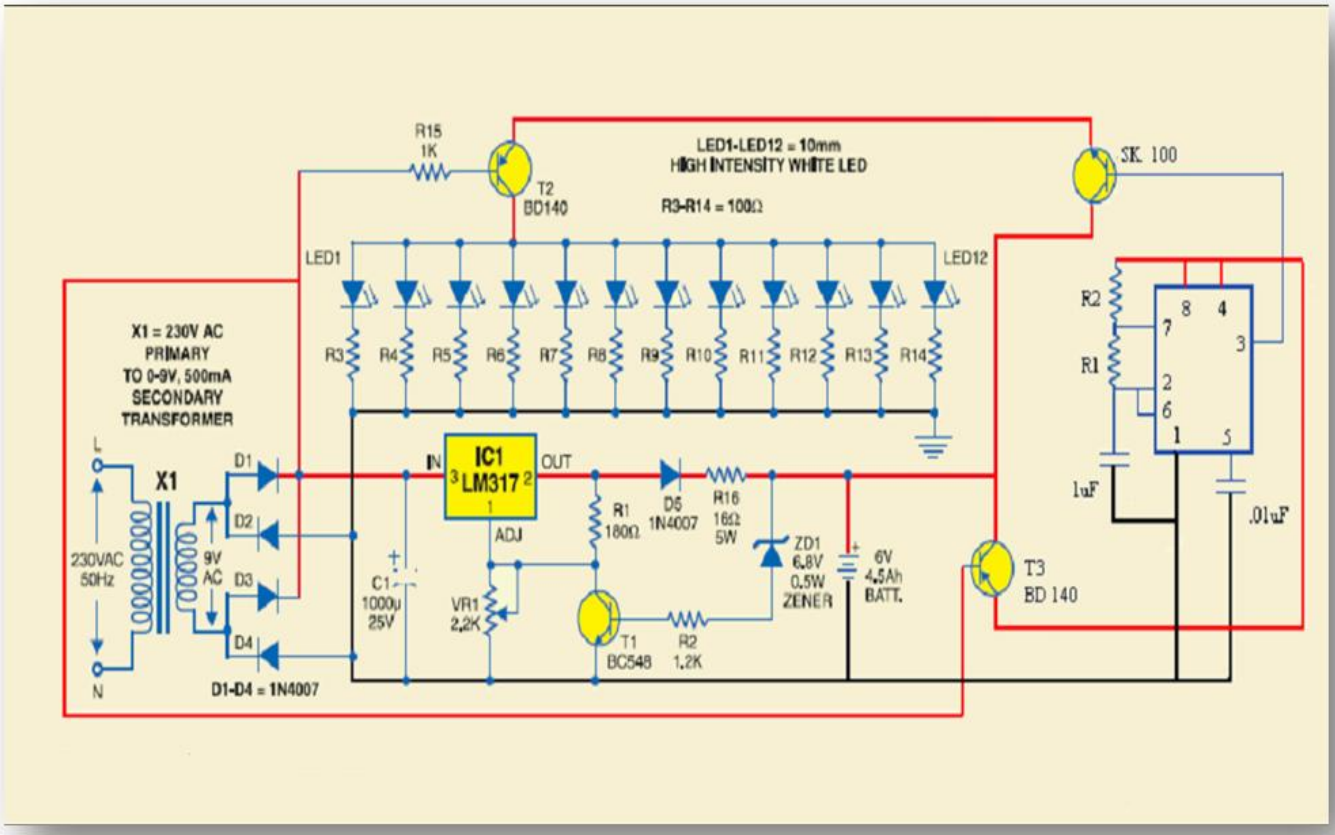
INTRODUCTION

- Growing demand for the saving of electricity.
- Failure in power supply causes difficulty and inconvenience.
- An automatic emergency lamp that uses LED .
- Highly bright due to use of white LEDs.
- Turns on when mains supply fails ,turns off when power resumes.
- Has own battery charger –stops charging automatically when fully charged.
- This project aims to develop most power efficient and user friendly product.

CIRCUIT DIAGRAM



WORKING

The circuit has three sections:

- **The charger power supply section**:
  - Transformer: steps down(9V,500mA).
  - Bridge rectifier: rectifies transformer output.
  - LM317: voltage regulation.
  - Battery: provides supply when mains fails.
  - Zener diode: conducts when battery crosses its capacity.

- **555 timer section:**
  - Control the LED section by PWM.

- **LED driver section**:
  - Build around BD 140.
  - 12 white LEDs connected in parallel.
  - LED section glows when mains fails.
  - Made to blink using astable operation of 555.
  - Appear fulltime ON due to persistence of vision

ADVANTAGES AND DISADVANTAGES OF LED

- Efficiency: more light per watt than incandescent bulbs.
- Color: can emit of an intended color without use of color filters.
- Size: very small.
- On/off time: light up very quickly.
- cycling: can be subjected to frequent on-off cycling.
- Dimming: can be dimmed by PWM.

- Slow failure: mostly fail by dimming over time, rather than abrupt burn-out of incandescent bulbs.
- Life time: long useful life time.
- Toxicity: LEDs do not contain mercury, unlike fluorescent lamps.

CONCLUSION

- The project was concluded to be innovative for the improvement of day today life.
- Device also adds a new look to the traditional lamps.
- The use of PWM helps us to reduce the wastage of energy.
- The cost of implementing this circuit is also very less - an added advantage in using this circuit.

FUTURE SCOPE

- We can again modernize this project using PWM.
- It is expected that with additional development and growing researches, the PWM will gain more popularity and the cost of these bulbs will eventually decline.
- This project can be adopted for mass production as cheap and efficient method.

REFERENCES

- www.studymafia.org
- www.wikipedia.com
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