RAJIVGANDHI UNIVERSITY OF KNOWLEDGE TECHNOLOGIES

(Established under Act 18 of 2008)

Basar, Nirmal, Telangana State –504107

A REPORT BY THE DEPARTEMENT OF ELECTRICAL ENGINEERING

as a part of   ANTAHPRAGNYA – 2018

Head of the Department:

 Mr. LAXMAN MUTYAM

Faculty coordinators:	Student coordinators:
Mr. B. Bhavsingh	Ms. Rafath
Mr. V. Vinaykumar	Mr. Mahesh

HOD's MESSAGE

As per the culture of Rajiv Gandhi University of knowledge technology, Basar, every academic year Department of Electrical Engineering organizes a technical fest with a very high competitive spirit to participant and with the strong determination to include their achievements & accomplishments to their resumes.

This fest is organized every year with the objective to provide platform for the students to showcase their talent with a competitive spirit. The event was successful enough to attract officials and the jury. Students are actively participated in all the events and presented their work. Focusing on the types of events to include in the fest was decided by fest coordinators keeping the interest and need of the engineering student into consideration, with little emphasis on the fun full events behind the scene.

The events like paper presentation, poster presentation, project expo and many more events were equally planned, executed and have managed to gather maximum response.

The winners were encouraged with awards and rewards for all the events. Department feels proud to organize such a successful event and would like to convey thanks to faculty coordinators and student coordinators for their timely advice and cooperation for organizing successful Fest.

Not to forget Lab staff, Organizers, Volunteers and all the people who contributed including the students, deserve thanks for their complete effort and participation for making departmental techfest as a part of "ANTAHPRAGNYA 2018" a grand success.

Mr.LAXMAN MUTYAM
HoD/EE

List of faculty:

S.no	Names of the faculty
1.	Mr. Laxman Mutyam
2.	Mr.RajKumar
3.	Mrs.Ranjana Sharma
4.	Mr.N.Rakesh
5.	Mr.V.Vinay Kumar
6.	Mr.B.Bavsingh
7.	Mrs.Jyosthna
8.	Mr.Vijay Kumar

List of lab staff:

S.no	Names of the Lab Staff
1.	Mr.S. Tulasi Ram
2.	Mr. K. Ravi Kumar

List of organizers

S.no	Name of the organizer	Designation
1.	POLAGANI ANUSHA	Documentation
2.	GODARI MAHESH	Documentation
3.	GANDLA SRIVIDYA	Finance
4.	JARPALA ANJALI	Procurement
5.	JAMPALA SRILEKHA	Procurement
6.	GORLE VASU	Content writing
7.	BODA BALAJI	Content writing
8.	GOUDA SREELEKHA	Designing
9.	VUTLAPALLY BHAVANA	Publicity
10.	VEMULA RAJITHA	Publicity
11.	GOPANI PRAVEENKUMAR	Event organiser
12.	BOYINI GOUTHAMI	Event organizer
13.	PAGADALA KALYAN	Event organizer
14.	KALLEM VAISHNAVI	Event organizer

List of volunteers

S.no	Name of the Volunteer
1.	KONGALA MANIKANTA
2.	BODDU SHIVA
3.	MAMIDIPALLY NAGARAJU
4.	G PREETHI
5.	MUKKA PANDU
6.	BHUKYA BHASKAR
7.	CHALLURI AKHILA
8.	NALLANI DINAKAR
9.	N.PRIYANKA
10.	M.MADHURI
11.	MALOTHU JHANSI

LIST OF TECHNICAL EVENTS:

1.ELECTRO VISION (Working models) :-

Electro Vision promises to mesmerize you with a uniquecollection of projects designed and build by students.

2.Eco Electrical Engines (ChILL) :-

Did you ever think that you can light a lamp using lemon orpotato?
Expect the unexpected things from resources around you. For those who wants to put up their ideas into practice.Eco Electrical Engines(Cheap Innovative Lighting LED) is a perfect platform.Come and design your own battery using simple Bio-Chemical sources like lemon,potato or from wastes that generates enough Electricity to light up LEDs towin the event let there be light.

3. ELECTRICAL EXPO :-

Have you ever wonder how the electrical appliances are goingon,If you want to know,join with us .You come to know fromgeneration to household,how the power flow is going on and the smart power supply system on RGUKT BASAR

4. PAPER AND POSTER PRESENTATIONS:

It provides an extra vagant platform to showcase and share your technical expertise and master your discipline.

5. 50 Hz:-

Knowing laws in theoretically is general.But learning with practicality is essential.Wherever we go,there is a law behindthat.Entire nature is embedded with electrical laws. Here we,dept.of EEE, giving an opportunity to reveal theelctrical laws behind every scene.

6.DARK YARD:-

"Fear grows in darkness"
 Get ready to shake your spine & bake your brain.Department of EEE presents...
 The gruesome..**DARK YARD**
 A spine-chilling & murky *experience.*
 Learn through your fright.
 Know how a single light ray can defy and define darkness.Stay enLIGHTened!!!

ON DAY EVENTS:

Tentative Programme Schedule for Antah Pragnya-2k18

1st Day (20-03-2018) Schedule:

06:00 am to 07:00 am	Empowerment run 3k
07:00 am to 09:00 am	Arrangements for Inauguration
9:00 am	participants should be ready at their respective allotedworkplace
9:30 am	Receiving the guests at SAC building
10:00 am	Inauguration starts
10:00am to 10:10 am	Introduction to RGUKT and Antah Pragnya 2k18 Inviting the dignitaries on to the stage
10:11 am to 10:20 am	Lighting ceremony with a traditional song (chorus)
10:21 am to 10:24 am	Convener addressing the event
10:25 am to 10:40 am	Speech by Vice Cancellor(I/c)
10:41 am to 10:50 am	Speech by Administrative Officer(I/c)
10:51 am to 11:00 am	Speech by Associate Dean of Academics (I/c)
11:00 am to 11:15 am	Chief Guest speech
11:16am to 11:25 am	Speech by Guest of Honor
11:26 am to 11:30 am	Speech by Sudent Welfare Officer(I/c)
11:31 am to 11:45 am	Administrative Officer felicitates Guest of honor
	Vice Chancellor felicitates Chief Guest
11:46 pm to 11:50 pm	Vote of thanks by Convener

"Antah Pragnya 2k18 starts" by Vice Chancellor along with Chief Guest.

12:00 pm onwards	Guest moves to visit exhibits
2:01 pm to 5:00pm	Competitions
5:00 pm to 5:30 pm	DJ-GEAR
5:31 pm onwards	Cultual Events begin
5:31 pm to 6:00 pm	Certificates and prizes distribution (Branchwise and central team internal events)
6:01 pm to 6:30 pm	Cultural Events
6:31 pm to 7:00 pm	Certificates and prizes distribution
7:01 pm to 10:00 pm	Cultural Events

2nd Day (21-03-2018) Schedule:

8:45 am to 9:30 am	MASCOT
9:31 am to 12:30 pm 10:00 am to 1:00 pm	Exhibition of working models and poster presentations& YOUTUBER'S DAIRY
12:31 pm to 01:30 pm	Lunch break
02:00 pm to 05:00 pm	Competitions
04:30 pm	Exhibits close time
05:00 pm to 06:00 pm	DJ-GEAR
6:01 pm to 6:30 pm	Cultal
6:31 pm to 7:00 pm	Certificates and prizes distribution (1st Day, 2nd Day Events and Posters)
7:01 pm to 7:30 pm	Cultural Events
7:31 pm to 8:00 pm	Certificates and prizes distribution (1st Day, 2nd Day Events and Posters)
8:01 pm to 10:00 pm	Cultural Evnts 8

3rd Day (22-03-2018) Schedule :

_____

8:30 am to 1:00 pm	Working models exhibition and competitions
1:01 pm to 5:00 pm	Departmental events and finalising winners of all competitions
6:00 pm	Valedictory Ceremony starts
6:01 pm to 6:10 am	Introduction by anchors
6:11 pm to 6:20 pm	Lighting ceremony with a traditional song (chorus)
6:21 pm to 6:25 pm	Convener addressing the event
6:26 pm to 6:40 pm	Speech by Vice Chancellor
6:41 pm to 6:55 pm	Speech by Guest of Honour
6:56 pm to 7:10 pm	Chief Guest speech
7:11 pm to 7:15 pm	Administrative Officer felicitates Guest of honor
7:16 pm to 7:20 pm	Vice Chancellor felicitates Chief Guest
7:21 pm to 8:00 pm	Cultural Events
8:01 pm to 8:30 pm	Certificates and mementoes distribution (Working models and 3rd day events)
8:31 pm to 9:00 pm	Cultural Events
9:01 pm to 9:30 pm	Certificates and mementoes distribution (HoDs and Faculty Co-ordinators & StudentCoordinators)
9:31 pm onwards	Cultural Events

SMART STREET LIGHTING SYSTEM

Department name   **:** Electrical Engineering

Faculty   **:** Mr. Bhavsingh and Mr. V Vinay Kumar

Name of students   **:** B151663, B151315

Date   **:** 09-04-2018

Key Words   **:** Control Systems, Smart lighting

Description of Project:

• The street lighting is one of largest energy expenses for the city. An intelligent street lighting system can cut municipal street lighting costs as much as 50% - 70%. The **main objective of the project is to reduce the wastage of energy in street lights by controlling their intensity in a smarter way as per the requirement of the traffic with the help of light detecting resistors (sensors).**
• The street light controller installed on the street light pole will control LED street lighting depending on traffic flow, communicate data between each street light.
• The control system will switch on-off the lights at required timings and can also vary the intensity of the street light according to requirement.
Components used: **LDR (used for detection of obstacle during nights), ARDUINO (through which we control the intensities of light that are to be maintained on an obstacle encounter), LED(emits light according to the input taken through the arduino).**
Advantages of the Proposed System:
• Automatic Switching of Street lights.
• Maintenance Cost Reduction.
• Energy Saving.
• Reduction of manpower.

Developing a prototype or an MVP:

FLOW CHART:

Light Detection using LDR and Arduino
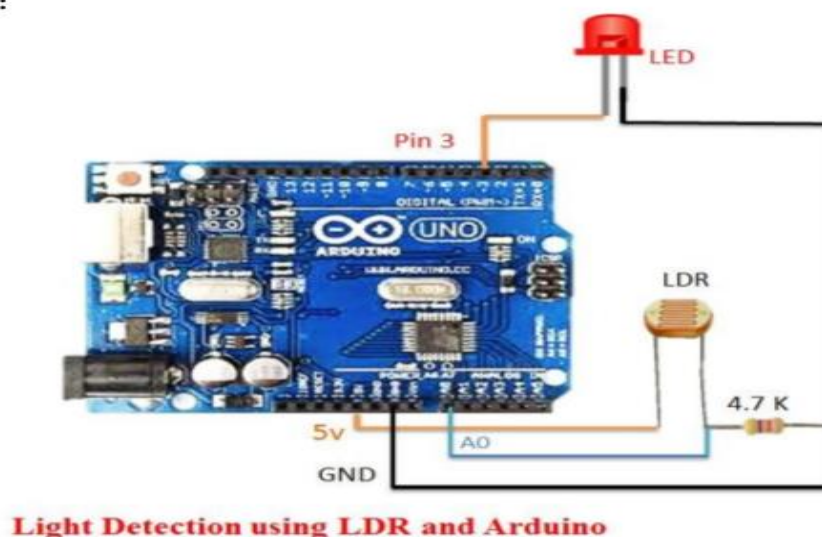
Conclusion:

• It clearly tackles the two problems that world is facing today, saving of energy and also disposal of incandescent lamps, very efficiently.

• The LEDs have long life, emit cool light, donor have any toxic material and can be used for fast switching.

• For these reasons our project presents far more advantages which can over shadow the present limitations.

SOLAR TRACKING SYSTEM

Department name   : Electrical and Electronics Engineering

Faculty   : Mr. M Laxman

Name of students   :   **B141321, B141941**

Date   : 09-04-2018

Key Words   : Control systems, LDRs

Description of Project:

INTRODUCTION :

Trackers direct solar panels or modules toward the sun. These devices change their orientation throughout the day to follow the sun's path to maximize energy capture. In photovoltaic systems, trackers help minimize the angle of incidence between the incoming light and the panel, which increases the amount of energy because of maximum insolation. Single-axis trackers rotate on one axis moving back and forth in a single direction. Dual-axis trackers continually face the sun because they can move in two different directions.

WORKING :

We are programming AURDINO which is interfaced between LDRs and servo motors LDRs are used as the main light sensors. Two servo motors are fixed to the structure that holds the solar panel. LDRs sense the amount of sunlight falling on them. Four LDRs are divided into top, bottom, left and right For east – west tracking, the analog values from top LDR and bottom LDR are compared and if the top of LDR receive more light, the vertical servo will move in that direction. If the bottom LDR receive more light, the servo moves in that direction. As like top and bottom the left and right side LDRs are work, and horizontal servo moves depending upon these LDRs analog values.

APPLICATIONS:
Concentrated applications like concentrated photovoltaic panels (CPV) or concentrated solar power (CSP) require a high degree of accuracy to ensure the sunlight is directed precisely at the focal point.

CONCLUSION :
- Solar tracking system is more efficient than any other fixed panel.
- It is possible to reduce the energy crisis to some large extent .
- It is the better way to use renewable energy from sun in more efficient way.

Developing a prototype or an MVP:

SOLAR CHARGE CONTROLLER

Department name	**:**	Electrical and Electronics Engineering
Faculty	**:**	Mr. N Rakesh
Name of students	**:**	**B151735, B151704**
Date	**:**	09-04-2018
Key Words	**:**	Renewable energy source, Power Electronics

Description of Project:

A Solar panel converts sunlight energy into electrical energy through an electrochemical process also known as photo voltaic process. Energy is stored in the battery with the help of a solar panel through a diode or a fuse. Energy stored in the battery can be used when there is no sunlight as during discharge, chemical energy is converted into electrical energy which in turn illuminates electrical appliances. Hence it is needed to protect battery from over charge, deep discharging mode.

WORKING:

A solar charge controller or a regulator is a small box placed between a solar panel and a battery consisting of solid state circuits PCB. They are used to regulate amount of charge coming from the solar panel in order to protect the battery from getting over charged, indicators are provided by a red LED for fully charged battery while a green LED indiactes that battery is charging. White LED is provided in order to indicate over charge, deep discharge or under voltage condition. Charge controller MOSFET as power semiconductor switch to ensure cut-off the load in low battery or over load condition. When the battery gets fully charged, a transistor is used in order to bypass the solar energy to a dummy load which protects the battery from getting over charge.

APPLICATIONS:
In recent days, the process of generating electricity is having more popularity than other alternative sources and the photovoltaic panels are absolutely pollution free and they don't require high maintenance.
• Street lights use photovoltaic cells to convert sunlight into DC electric charge this system uses   solar charge controller to store DC in the batteries and uses in many areas.
• Home systems use PV module for house-hold applications.
• hybrid solar system uses for multiple energy sources for providing full time backup supply to other sources.

CONCLUSION:

A Solar charge controller is a fundamentally a voltage or a current controller to charge the battery and keep electric cells from over charging. Rechargable battery is used to store energy through a solar panel. It can be used in order to supply power when there is no sun. It also includes protection method for the battery in order to curb problems like overcharging, deep discharge or under voltage which harm the life of battery. The proposed system used soalr PV module as an input and DC load as an output.

BLUETOOTH CONTROLLED ELEVATOR

Department name   :   Electrical and Electronics Engineering

Faculty   :   Mr. M Laxman

Name of students   :   **B151072, B151402, B151382**

Date   :   09-04-2018

Key Words   :   Bluetooth module and Elevator

Description of Project:

Now –a- days we can find huge number of apartments and commercial buildings crowded in nearby area with multi storage building capacity .The apartments consist of several floors. This is mainly for physically challenged people. To move from one floor to another we generally use staircase or Elevator which is normally operated by using switches. The main purpose of this project is to design an elevator wireless adjustment system, which involves android phone technology (Bluetooth) and arduino technology.

Components required :

Arduino, Bluetooth module , Bread board ,Connecting wires, Motor, Cardboard ,Thick thermocol, Fevicol.

Advantages of the project :

- It can be controlled using a phone bluetooth easily with voice modulation
- Emergency cases of the lift can be easily solved
- New type of innovation
- Highly useful in the apartments in large cities
- Can be highly applicable to physically handicaped persons
- Entire lift can be operated from one place

Developing a prototype or an MVP:
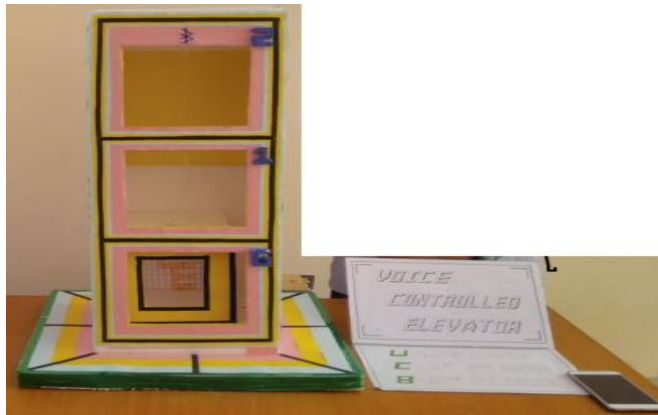
POSTER PRESENTATIONS:

S.no	Name of the poster	Done by
1.	Prepaid energy meter	M.Chaitanya - B162105
2.	Witricity	A.Harish -B161515
3	Electricity generation from ocean waves	A.Deepa-B161065
4.	Magnetless motors	K.Ankitha - B161869
5	Space based solar power	G.Mohan - B161536
6	Micro power generator	T.Saisri - B15101
7	Piezoelectric effect	Nallagatla Pallavi- B151007

PAPER PRESENTAIONS:

S.no	Name of the paper	Done by
1.	Photovoltaic Systems	Jamparathi Vikram - B15107
2.	Solar thermal energy conversion system	HARINATH TALLURI - B151076
3.	Electric vehicles	P.Priyanka - B151039
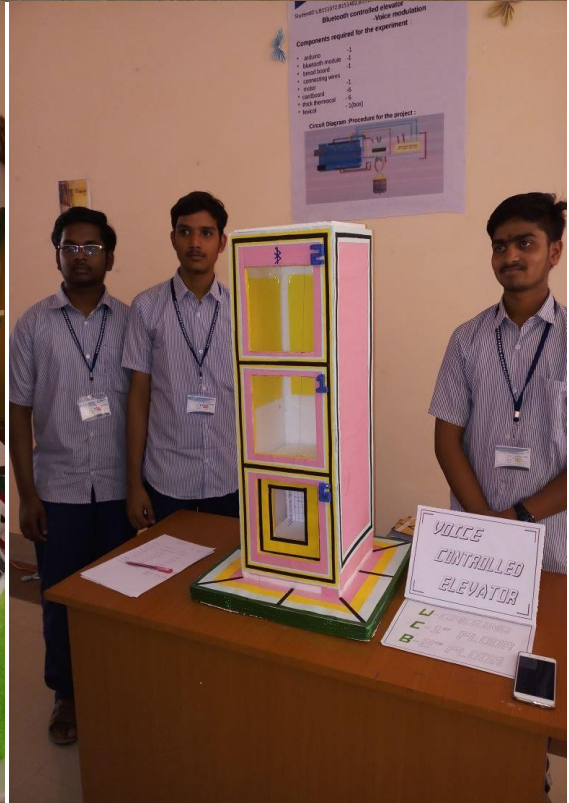
Acknowledgment:

We have been fortunate enough to be backed by a team of very motivated and dedicated faculties and lab staff who worked very hard equally with us. We are glad the efforts put in by everyone have barred us the fruits.

We extend our most sincere thanks to the entire RGUKT family for their incessant support, guidance for making Departmental fest as a part of ANTAHPRAGNYA 2018 agrand success.

We believe that this legacy would continue in the upcoming years and we double ourefforts to make more wonders.

<p align="center">A heartful thanks to all</p>