

Message from Desk of Editor

We are glad to bring out the our first e-Magazine of Startup, Innovation and incubation Cell (SIIC) "INNOVATIVA". Carrying forward our agenda of information clubbed with entertainment, this issue features variety of news and soft features. This issue addresses, SIIC activities, student achievements and new technologies regarding startup and innovation.

We thank for great vision and motivation to SIIC from our beloved director Prof. (Dr.) L.K. Tyagi. We also thank to all faculty mentors for providing guidance to the students for research and innovative ideas.

I really appreciate the efforts and designed by Mr. Govind Ram, Programmer cum Technical Assistant of CSE Department.

INNOVATIVA is thankful to all who contributed to this issue. We are equally open to comments, criticism and suggestions to make it more informative.



Dr. Rama Kant
Professor-In-Charge
(Startup, Innovation
and Incubation Cell)



Mr. Govind Ram
e-Magazine Compositor

Achievements of SIIC

1. SIIC is facilitated with 2nd Position among AKTU Colleges for the month of June-July 2018.
2. The Idea of Aditya Jaiswal, student of B.Tech. 3rd Year, ME is selected for Mars Mission India.
3. Prototype model of Digital Mazdoor get first position in University's event KAPPTeC-2019.
4. 02 Project ideas are selected under One District One Product scheme of U P Government.
5. Startup "DIGITAL MAZDOOR" has been patented by Government of India
6. 2 ideas have been submitted in IEEE-HACKSAGON 2020 organized by IIMs and IIITs.
7. Three Research Papers in International Journals under the guidance of faculty mentors
8. Internal SIH-2020 Conducted in which 6 Ideas selected.



INNOVATIVA eMagazine

Startup, Innovation & Incubation Cell (SIIC)

Learning is a lifelong process. Education is more important affair in our life than learning or being literate. The e-Magazine is a good way to learn about developments and activities and let others know. I congratulate all the people who have been associated with this publication.

Dr. R K Agrawal
Chairman



It is wisely said that change is the only thing that is permanent in life. So be it, for the institute as well. I congratulate the editorial board, advisory board and the SIIC core team for online publication of e-Magazine Vol-1, Issue-1. I hope everyone would be benefited with it.

Mr. Pankaj Agrawal
Vice-Chairman



As we all know, a magazine mirrors a college, a department, its vision and mission. It also highlights events, activities and academic process and achievements. I congratulate the SIIC core team for its inauguration volume. I do hope that this will encourage many more including students to use it as a platform to express their creativity.

Prof. (Dr.) L K Tyagi
Director



About SIIC

The Startup, Innovation & Incubation Cell is setup in the institute to support creating state of the art incubation facilities with all departments. It promotes the implementation of innovative ideas by converting them into product or service that creates value. Under SIIC Startup, Innovation & Incubation cell, the incubation program will give an opportunity to take forward business ideas and convert innovative ideas into enterprinourship with expert guidance and mentoring. We are here to facilitate industrial networking, technical and business mentoring, infrastructure & facilities and seed funding support.



Talks on New Trends from Industry Experts:-

Training on Big Data and Machine Learning

The workshop was opened with a start speech by Dr Rama Kant, Prof. in-charge startup, innovation and incubation cell. He welcomed Nihal Jaiswal, Abhishek Singh Rathore and Amit Jaiswal of Aspirevision Education Pvt. Ltd. Dr. Rama Kant briefly introduced the need of technical skills updation in current scenario. Mr. Amit Sonkar introduced the concepts of Big data and ML from basics in first session of talk.

Hand-on practice was also carried out by the students under the guidance of Mr. Abhishek Singh Rathore and Nihal Jaiswal.



Innovative Activities @ SIIC:-

Brain Storming Session 2020

This training session coordinate by Dr. Rama Kant Baghel about the basics LaTeX , recent trends and Apache Hadoop. He also discussed the use of Python and R in machine learning and deep learning. Hand-on practice was also carried out by the students under the guidance of Dr. Rama Kant. The soft skill session are also conducted by Dr Rama Kant.

Students also implemented the real time face detection, data analysis using Python and R. Students and faculty members from CSE departments participated in the workshop. The event was successfully organized.



Smart India Hackathon (SIH 2020):-

A total of 6 ideas have been submitted in SIH-2020 (Smart India Hackathon-2020) organized by Government of India. In this, 4 ideas are from software and 2 ideas from Hardware. Result will be awaited by first week of March 2020.

So, a total of 30 students submitted their ideas as an individual or a Team in Innovative platforms from CSE and EC branch under the umbrella of Startup, Innovation and Incubation Centre during session 2019-20.



1. SELF CHARGING LAPTOPS

The idea is to create a keypad for a laptop that drives out power when its key are pressed. Therefore a laptop can be converted into self charged laptop where its key tapping giving out the energy which may be used to provide power to the laptop screen and though system Our team idea is to create a key which is simply embedded with piezoelectric material and many thermal layers. This piezoelectric layer generates voltage when pressed and so the current starts flowing when connected to batteries of laptop **PIEZOELECTRIC MATERIAL:** quartz crystal. **VOLTAGE RATING :** 1-10V **CHARGING CAPACITY:** suppose batteries being 5000Mah It takes 20000 taps to make it full charged that is working of 1 day can give you power to drive the laptop upto its full charged capacity.

2. SMART HOME SECURITY AND SURVEILLANCE SYSTEM

With the rapid development of security awareness and embedded system society have a higher demand for security & surveillance. The majority of scientific research institute & manufacturers have attached more importance to the design of intelligent security & surveillance system for improving monitoring capabilities and securities of the office & remote places. Security system are used in residential, commercial, industrial and military properties for protection against burglary and property damage as well as personal protection against intruders.

So, we focus the problem of security and surveillance and make a smart home security and surveillance system.



3. SMART SPRINKLERS IRRIGATION SYSTEM

Soils moisture and its availability to support plant growth is a primary factor in farm productivity. Too little moisture can result in yield loss and plant death. Too much causes root disease and wasted water. To face the various problems in the irrigation system we need a irrigation system that is well equipped with recent inventions and technology. So if we can use automation in this particular case so that all the sprinklers can be on and off automatically when it is really necessary and if we can use controller circuits to implement a model so that all the sprinklers can only flow the water when there is same as given moisture (amount of water) otherwise it should not flow the water from the sprinklers. Then we should have 100% control over the soil moistures.

4. SMART NIGHT STREET LIGHT SYSTEM

We need to save energy because, the development of economy depends on the energy. Most of the energy depend on coal and natural gas and it can't we replaced. So, saving power is very important, instead of using the power unnecessary times it should be switched off. In any city "Street Light" is one of the major power consuming factor. Most of the time we see the street light is on even after sunrise thus wasting lots of energy.

5. SOLAR POWERED SMART IRRIGATION SYSTEM

Soil Moisture Sensor send data of soil to the microcontroller, microcontroller detect the information of Soil, if humidity of soil is less then the requirement then microcontroller gives signal to motor driver for starting motor and when requirement of water is full-filled then microcontroller again send signal to microcontroller to stop the motor. We pointed the moisture sensor and taps at different location in field with servo controllation. if The moisture at a point is under controlled then moisture sensor send the command to servomotor for turn off the tap.

6. PORTAL FOR FARMERS TO SELL THE PRODUCE AT A BETTER RATE

Providing a platform to the farmers where they can easily sell their produce. Developed a prototype portal for farmers over which they can easily exchange their commodities. For slow internet connection, We are providing WhatsApp Integrated feature where farmer can use all basic features by sending a WhatsApp message.



One District One Product Scheme (ODOP):-



Two Project ideas are selected under ODOP scheme of U P Government.

1. Utilization of duplex stainless steel in sanitary fittings by Mantra Chaddha.
2. Multiflow Faucet Fixtures by Pavan



Note:- 14 ideas had been selected out of 157 ideas by AKTU Among 14, 2 from our institute.

IEEE-HACKSAGON 2020:-

Two ideas are selected in IEEE-HACKSAGON 2020 organized by IMs and IIITs.

1. Project "GALACTUS" by GARVIT SHARMA
2. Project "Prophetic" by UTKARSH CHAKRWARTI



Patent:-

Startup "DIGITAL MAZDOOR" has been patented by Government of India, which is developed by Mr. Virendra Kumar.



Research Publications:-

Four Research Papers are published, 2 in International Journal of Engineering Development & Research and International journal of Trend in scientific Research & Development and 1 in International Journal of Engineering Development and Research (IJEDR), under the mentorship of Er. Nitin Kumar Sahu and Er. Vivek Ranjan Mishra, ECE Department.

- 1- What is Future scope of PCB Fabrication & Manufacturing in Industries
 - 2- Research on Effect of UVC (ultraviolet-c) light on bacteria and viruses
- Author:-** Manish Ranjan, Sumit Kumar Singh (both ECE 3rd year)
- 3- Research on the Effects of Mobile Phone Electromagnetic Radiations and its Prevention

Author:- Shivam Sharma

- 4- Deepanshu et.al. "Analysis of user behaviour on Microblogging Site using a Topic" in Advanced Machine Learning Technologies and Applications (AMLT) 2020 (Accepted)



Innovation Management:-

STUDENTS WORKING WITH SIIC

1. Manish Ranjan (ECE)
2. Nishant Sharma (CSE)
3. Pavan Kumar (ME)
4. Mantra Chaddha (ME)
5. Uzma Khan (MBA)
6. Shivam Sharma (ECE)
7. Ravi Kumar Singh (ECE)
8. Utkarsh Chakrawarti (CSE)
9. Garvit Sharma (CSE)
10. Nikhil Goyal (CSE)
11. Nitish Bhardwaj (MBA)
12. Mohd. Afzal (Civil)
13. Mahak Verma (ECE)
14. Shivang Shah (CSE)
15. Aman Sharma (CSE)
16. Abhuday Sharma (CSE)
17. Kashish Agrawal (CSE)

IDEA GENERATION TECHNIQUES

- Daydreaming
- SCAMPER
- Brainstorming
- Mindmapping
- Synectics
- Reverse thinking
- Questioning assumptions
- Accidental genius
- Attribute listing
- Visualization and visual prompts
- Morphological analysis
- Socializing
- Collaboration

