Raj Kumar Institute of Technology

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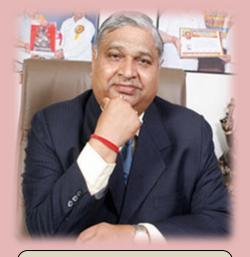
The Voice of ECE Department

ELECTRONICS AND COMMUNICATION

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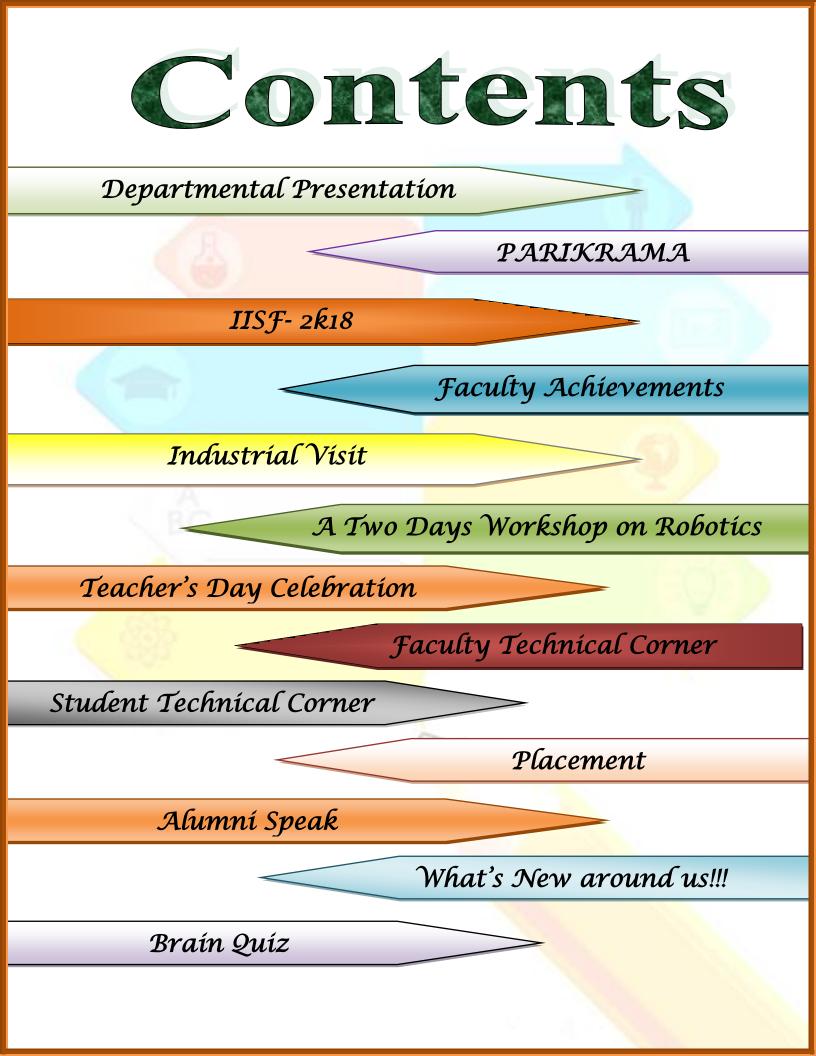
Ms. Rícha Gupta Edítor



Mr. Kunal Lala Edítor

Student Team

- Kínjal Sínha (ECE-3rd Year)
- Adítya Sharma(ECE-3rd Year)



Departmental Presentation

Glímpses of Departmental Presentations as a part of Content Development Programme.





PARIKRAMA-(K-CIIS)

Kalam- Centre for Innovation and Incubation of startup

17th Edition of (PARIKRAMA- Dr. Kalam Entrepreneurship League) was organized at RKGIT in collaboration with AKTU, Lucknow on 7/9/2018. Around 250 students of various technical institutes from all over the state participated in this event.

Kalam- Centre for Innovation and Incubation of startup (K-CIIS) intends to create an ecosystem for promoting innovations and start-ups for students and alumni of Dr. A.P.J. Abdul Kalam Technical University, Lucknow. They are developing an end-to- end mentorship and incubation model for potential start-ups. The motive is to build avenues of partnership and integration with other organizations and agencies in each of these aspects. K-CIIS also presents a platform and a unique opportunity for startups to not only fuel their entrepreneurial journeys with funding, but also build a community of potential investors, customers, business partners and fellow entrepreneurs around them. This will provide Uttar Pradesh a boost for nurturing the startup culture and also mentor budding young entrepreneurs from across the nation.



हिन्ट संवाददाता

गाजियाबाद। राजकुमार गोयल इंस्टीट्यूट ऑफ टैक्नोलोजी में शुक्रवार को डॉ. कलाम स्टार्टअप परिक्रमा के 17 वे संस्करण का अयोजन किया गया। इसमें प्रदेशभर के 250 तकनीकि एवं मैनेजमेंट के छात्र-छात्राओं ने भाग लिया। कार्यशाला का आयोजन रोल ऑफ स्टार्टअप इन नेशन बिल्डिंग पर आधारित था। कार्यक्रम का उद्घाटन एसटीपीआई चेयरमैन डा. ओमकार राय ने किया। कार्यक्रम के गेस्ट ऑफ आर्नर एएलटीटीसी के सीजीएम एमके सेठ, दिपन साहू कंसलटेंट ए.आई.सी.टी.ई, सतेन्द्र कुमार जीएम टीबीआई काईट, जयसिंह सजवान निदेशक सीएल एजुकेशन गाजियाबाद, सैम बैसला सीईओ नेक्सल वर्ल्ड ने छात्रों का मनोबल बढ़ाया।

इस मौके पर ईडीटीआईसी के

पहला व तीसरा पुरस्कार रहा काईट के नाम दूसरे नंबर पर रहा आरकेजीआईटी

कोआडिंनेटर डॉ. धीरेन्द्र कुमार ने प्रतिभागियों को ईंडीटीआईसी की उपलब्धियों से अवगत कराया। इस दौरान डा. ए.पी.जे. अब्दुल कलाम प्रौद्योगिकी विश्वविद्यालय लखनऊ के कंसलटेंट सौरभ सिंह, आरकेजीआईटी के निदेशक प्रोफेसर आरपी माहेश्वरी, डीन एकेडमिक डा. अरविन्द सिंह सहित अनेक लोगों ने भी अपने विचार रखे। कलाम परिक्रम संस्करण 17 के अंतर्गत कुल 10 नवीनतम विचारों का प्रस्तुतिकरण विभिन्न कॉलेजों के प्रतिभागियों द्वारा किवा गया। इसमें प्रथम पुरस्कार काईंट कालेज की दीपिका सिंह, द्वितीय हिंस् आर.के.जी.आई.टी. के अपिंत पाठक व तृतीय पुरस्कार काईट की मेघना त्रिपाठी को दिया गया। इस मौके पर कॉलज के डीन स्टूडेन्ट वेलफेक्य एचजी गर्ग, डीन द्वितीय पाली डा. पुनीत चंद श्रीवास्तव, विभिन्न विभागाघ्यक्ष, डॉ. आशीष कुमार सिंह, सुनील खटक, कुनाल लाला, अरविन्द तिवारी एवं ईडीटीआईसी की टीम के अनेक छात्र व सदस्य मौजूद रहे। To boost this culture among Institutions AKTU is organizing Dr. Kalam Entrepreneurship League. In this league several activities are conducted:

- **4** *Quíz on startup policy and current affairs*
- Essay writing on topics covered in lectures
- *Elocution events*
- Innovation challenges
- Pitching Competitions



हिन्ट संवाददाता गाजियाबाद। राजकुमार गोयल इंस्टीट्यूट ऑफ टैक्नोलोजी में शुक्रवार को डॉ. कलाम स्टार्टअप परिक्रमा के 17 वे संस्करण का अयोजन किया गया। इसमें प्रदेशभर के 250 तकनीकि एवं मैनेजमेंट के छात्र-छात्राओं ने भाग लिया। कार्यशाला का आयोजन रोल ऑफ स्टार्टअप इन नेशन बिल्डिंग पर आधारित था। कार्यक्रमा का उदाटन एसटीपीआई चेयरमैन डा. ओमकार राय ने किया। कार्यक्रम के गेस्ट ऑफ आर्नर एएलटीटीसी के सीजीएम एमके सेठ, दिपन साहू कंसलटेंट ए.आई.सी.टी.ई, सतेन्द्र कुमार जीएम टीबीआई काईट, जयसिंह सजवान निदेशक सीएल एजुकेशन गाजियाबाद, सैम बैसला सीईओ नेक्सल वर्ल्ड ने छात्रों का मनोबल बढ़ाया। इस मौके पर इंडीटीआईसी के

प्रतिभागियों को ईडीटीआईँसी की उपलब्धियों से अवगत कराया। इस वैरान डा. ए.पी.जे. अब्दुल कलाम प्रौद्योगिकी विश्वविद्यालय लखनऊ के कंसलटेंट सौरभ सिंह, आरकेजीआईटी के निदेशक प्रोफेसर आरपी माहेश्वरी. वेडी एकेडमिक

कोआर्डिनेटर डॉ. धीरेन्द्र कुमार ने

📕 दूसरे नंबर पर रहा आरकेजीआईटी

डा. अर्रावन्द सिंह सहित अनेक लोगों ने भी अपने विचार रखे। कलाम परिक्रम संस्करण 17 के अंतर्गत कुल 10 नवीनतम विचारों का प्रस्तुतिकरण विभिन्न कॉलेजों के प्रतिभागियों द्वारा किया गया। इसमें प्रथम पुरस्कार काईट कालेज की दीपिका सिंह, द्वितीय आर.के.जी.आई.टी. के अपिंत पाठक व तृतीय पुरस्कार काईंट की मेघना त्रिपाठी को दिया गया। इस मौके पर कॉलेज के डीन स्टूडेन्ट वेलफेयर एचजों गर्ग, डीन द्वितीय पाली डा. पुनीत चंद श्रीवास्तव, विभिन्न विभागाघ्यक्ष, डॉ. आशीष कुमार सिंह, सुनील खटक, कुनाल लाला, अरविन्द तिवारी एवं ईडीटीआईसी की टीम के अनेक छात्र व सदस्य मौजुद रहे।

The following esteemed dignitaries graced the occasion by their valuable presence.

- 👃 Dr. Omkar Raí, Dírector General, STPI, Govt. of Indía
- ↓ Shri M K Seth , (CGM ALT-TC, Ghaziabad)
- 🕨 Mr. Saurabh Singh, Consultant AKTU Lucknow
- Prof Laxman Prasad, (Director R&D, RKG Group of Ir Ghaziabad)
- 🖊 Prof R P Maheshwari , (Director, RKGIT Ghaziabad)
- Prof Dhirendra Kumar, (EDTIC Head and HOD ECE)

गरकजी आइंटों के निदशक प्राफसर

4th INDIA INTERNATIONAL SCIENCE FESTIVAL 2018(IISF) was held at INDIRA GANDHI PRATISHTHAN, LUCKNOW from 5-8 october 2018. It was organized by Ministry of Science and Technology, Ministry of Earth Sciences in association with Vijnana Bharti. It was inaugrated by President of INDIA.

TERNATIONAL SCIENCE FESTIVAL 2018(IISF)

List of students who attend IISF

1. Mayank Kumar Jaíswal (EC-4th year)

2. Abhay Síngh (EC-4th year)

3. Amit Srivastava(EC-4th year)

4. Amritanshu Mishra(EC-4th year)

5. Himanshu Pandey(EN-3rd year)

6. Abhishek(EN-3rd year)

7. Shubhanshu Sharma(CE-3rd year)

8. Rahul Kríshna Naír(B.Pharama- 3rd year)

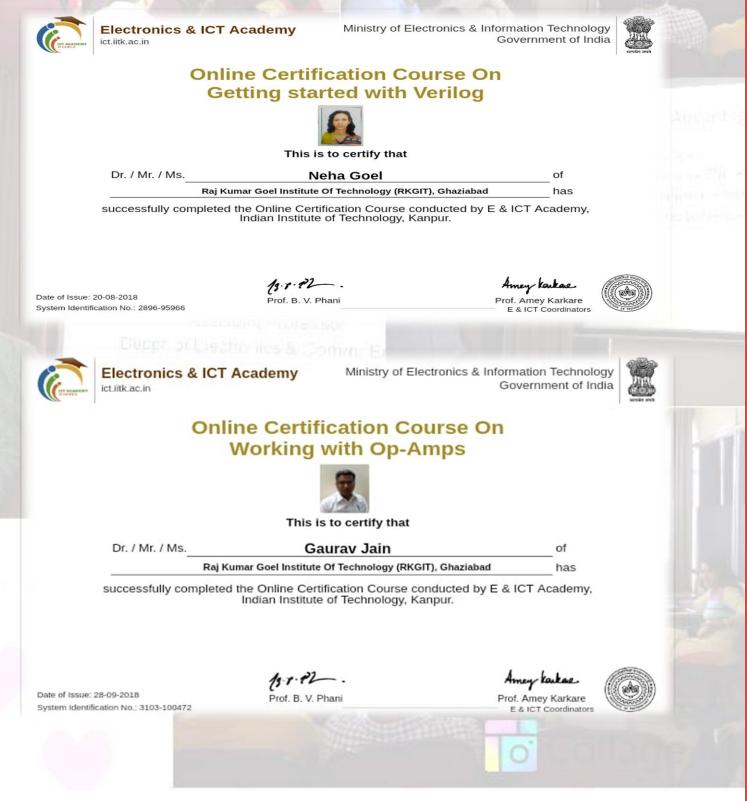
9. Shishir Gupta(CS- 3rd year)

Students attended many conferences and exhibitions like - Young Scientist' Conference, Industry Academia Interaction Meeting, Women Scientist And Entrepreneurs: contributing towards transforming India, Green Good Deeds, Agriculture Conclave, Face to Face with New Frontiers in Science, Crafts and artisian Demo, Clean air campaign, Mega science, Technology & cultural events. **Students** Industry Expo and many $\mathcal{D}r.$ met Harshvardhan(Central minister of Science and Technology), Dr. Vijay P. Bhatkar(President of Vigyan Bharti)and many scientists.



Faculty Achievements

The following faculty members have successfully completed the online certifications by Electronics & ICT Academy, IIT Kanpur.





Mr. Deepak Kumar attended a hands on workshop "Analog Design workshop" from 18/8/18-20/8/18 at ABESIT, Ghaziabad



Industrial Visit to ALT-TC Ghaziabad

Advanced Level Telecom Training Centre (ALTTC), Ghaziabad is the apex training institute of BSNL.ALTTC was set up as a joint venture of International Telecommunication Union, Geneva, UNDP and the Government of India in 1975. ALTTC functions on the frontiers of telecom technology, finance and management and imparts training to the leaders in the business. The strength of ALTTC lies in the state of art labs, massive infrastructure and trained, talented and qualified human resource pool.

Industrial Visit to ALT-TC Ghaziabad was planned for the students of 3rd Year. A total of 111 students were divided into batches. Ms. Anamika Gupta and Ms. Riju Jindal coordinated the visit on 28th September 2018.

Mr. Kunal Lala and Ms. Renu Rani coordinated the visit on 5th October 2018. The students visited the Satellite Communication and Optical Fibre Labs. The students were benefited by the practical exposure of Communication Technologies.





Industrial Visit at AUTOMATION ENGINEERS AB. PVT. LTD

Latest trends in industrial automation include increased use of analytics, growing use of PLCs, PACs, and increased cloud-based supervisory control and data acquisition (SCADA) systems. These trends will influence the industrial automation control market. Automation industry is moving towards a future of unparalleled productivity spurred by superior energy efficiency, better design and operator visualization, and rigorous safety standards.

A total of 49 students visited AUTOMATION ENGINEERS AB. PVT. LTD (Solution Partner, SIEMENS) Noida on 14th September 2018. AEAB is an International Solution Partner & Authorized System House of Siemens Ltd. AEAB has a fully functional laboratory for Automation products like modular PLC (in addition to compact PLC), Drives(both AC & DC), HMI, SWITCHGEAR & CONTROL INSTRUMENTATION.

During the course of the visit, the students were apprised about the scope of jobs in the core field. Despite of an initial struggle in the core automation field, the chances for fast career growth are bright. A sound knowledge of PLC assembling, programming are the prerequisite for a fresher to enter the automation industry, The students were apprised about the various Industrial Automation Courses which the company provides with 100 percent placement assistance. The students were happy and found the visit to be beneficial. The coordinators of the visit were Mr. Kunal Lala and Mr. Deepak Kumar.



A Two Day Workshop on Robotics

A Two day workshop on introduction to robotics was organized on 10th-11th August 2018 at RKGIT. This workshop was organized by E- Yantra Lab in technical collaboration with IIT, Mumbai. Several teachers from Delhi, Rajasthan, UP and Haryana participated in this event. The inauguration of the workshop was done by Prof R P Maheshwari(Director, RKGIT), Prof. Laxman Prasad(Director, R&D, RKG Group). This workshop created awareness about the recent advancements in the field of Robotics. The resource persons from IIT, Mumbai were Avijit Pandey and Rukmanya Viasariya. The coordinator of this workshop was Mr. Amul Agarwal.

आरकेजीआईटी में दो दिवसीय कार्यशाला का आयोजन

–आईना संवाददाता–

गाजियाबाद। राजकुमार गोयल इन्स्टीट्यूट ऑफ टेक्नोलोजी में एक दो दिवसीय कार्यशाला इन्ट्रोडक्शन टू रोबोटिक्स का आयोजन ई-यन्त्रा .आईटी. मुम्बई के सहयोग से किया जा रहा है। कार्यशाला का शुभारम्भ संस्था के ग्रुप निदेशक डॉ. लक्ष्मण प्रसाद, निदेशक डॉ. आरप् माहेश्वरी, निदेशक डा. एचआर सिंह द्वारा किया गया।

इस अवसर पर संस्था के डीन डा. अरविन्द सिंह, डीन द्वितीय पाली डॉ. पुनीतचंद श्रीवास्तव, डीन स्टूडेन्ट वेलफेयर एचजी. गर्ग भी मौजूद थे। संस्था के ग्रुप निदेशक डा. लक्ष्मण प्रसाद व निदेशक डा.



आरपी माहेश्वरी ने अपने विचार व्यक्त करते हुए कहा कि देश की प्रगति के लिए नई-नई टेक्नोलोजी का प्रयोग हर क्षेत्र में किया जा रहा

है। रोबोटिक एंव एम्बेडेड सिस्टम के माध्यम से हम उत्पादकता व गुणवत्ता को बढ़ावा दे रहे हैं। । इस कार्यशाला के द्वारा हम एक

आधुनिकीकरण की जागरूकता लाने का प्रयास कर रहे है। कार्यशाला में प्रशिक्षण देने के लिए आईआईटी. मुम्बई के अनुभवी

अविजीत पांडेय, रुकमण्य विसारिया आये। कार्यशाला के सम्वयक अमूल कुमार अग्रवाल ने बताया कि इस कार्यशाला का मुख्य उद्देश्य इस क्षेत्र के शिक्षकों को रोबोटिक का मुख्य उद्देश्य इस क्षेत्र के शिक्षकों को रोबोटिक की बेसिक जानकारी देना है। जिससे वह अपनी-अपनी संस्थाओं में छात्रों का मार्गदर्शन कर सकें और नये नये इनोवेटिव प्रोजेक्ट बनाकर आम समस्याओं का हल निकाल सकें। इस कार्यशाला में भाग लेने के लिये उत्तर प्रदेश के विभिन्न कालेजों के अतिरिक्त हरियाणा. उत्तराखण्ड, राजस्थान, दिल्ली व अन्य प्रदेशों के शिक्षक भी मौजुद रहे।

Glimpse of Teacher's Day







Faculty Tehnical Corner

How much Electromagnetic Radiation am I exposed to?

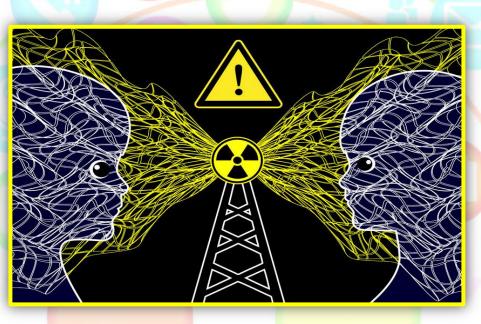
A team of researchers from Center for Biomedical Technology (CTB) at Universidad Politécnica de Madrid (UPM) has developed a pocket instrument capable of perceiving radio signals from 50 MHz to 6 MHz and storing this information in a non-volatile memory. After collecting and storing the information, the system assesses the daily exposure of a person to electromagnetic radiation.

Society demands continuous implementation of new transmission systems due to ongoing development of communication technologies. These systems work by emitting electromagnetic waves. As a result, population is exposed to a significant increase of environmental radiation levels.

The increasing number of transmitters along with the unawareness of the characteristics and the exact location of the radio transmitters are an extra impediment that makes hard a real knowledge of the variations in electromagnetic field levels in urban environments.

The concern about the possible effects of the electromagnetic fields on human beings is a fact. The need of the authorities to control radio emissions has meant the development of specific regulation on exposure to electromagnetic fields.

In spite of the regulations, there exists a perception of risk among citizens due to the unawareness about the amount of radiation received. To carry out a real and non-theoretical measure is required to assess the radiation of each person at any place either inside buildings or outdoors. Only in this way could we really know the radiation levels of each person in his environment. Thus, a personal and portable device as the one developed by the Bioelectromagnetism Laboratory from CTB at UPM is essential to assess the mentioned levels of radiation. This new device is a pocket system, comfortable and capable of perceiving radio signals between a frequency band from 50 MHz to 6 GHz. The operating frequency range is divided into channels of bandwidth of 10 MHz each. In this way, the field strength received of each channel is measured, and such information is stored in a non-volatile memory. The electromagnetic radiation levels received by a person who wears the device are stored to later assess his exposure for extended periods of time.



The maximum radiosensitivity designed for this device would be 110dB, thus the device could indirectly support radiated powers up to 300W at a distance of one meter from the source without damaging the electronic system.

The digital system also includes visual and auditory indicators that are used to report radio signals. These alert signals are programmable, interesting for those users who wish to control that their exposure to levels of radiation in their environment obey the specific limitations.

All the characteristics mentioned before turn this device into an instrument of electromagnetic fields measurements for any person who wish to control the radiation levels. The device has been protected through patent.

Mr. Deepak Kumar A.P, ECE

INTERNET OF THINGS

WHAT IS IOT (INTERNET OF THINGS)

The Internet of Things, or IoT, refers to the billions of physical devices around the world that are now connected to the internet, collecting and sharing data. Thanks to cheap processors and wireless networks, it's possible to turn anything, from a pill to an aeroplane, into part of the IoT.



This adds a level of digital intelligence to devices that would be otherwise dumb, enabling them to communicate without a human being involved, and merging the digital and physical worlds.

SOME EXAMPLES RELATED TO IOT

So think a thermostat that can be controlled from an app on your smartphone (handy on those cold winter mornings) or a coffee maker that switches itself on when it can tell you've gotten out of bed.

More advanced examples that you may end up seeing in your home within the next few years are a fridge that reminds you to get milk when you're out (or, knowing our audience, when it has expired) by scanning the RFID chips in products or a garage door that opens when it detects you have driven onto your street.

There are almost endless examples to pick from when you start looking at IoT projects under development now and all of them have one thing in common: in all cases the devices in your home, at your office and in your pocket are able to "talk" to each other and make limited decisions based off that information.

How big is IoT?

YEAR	NUMBER OF CONNECTED DEVICES
1990	0.3 million
1999	90.0 million
2010	5.0 billion
2013	9.0 billion
2025	1.0 trillion

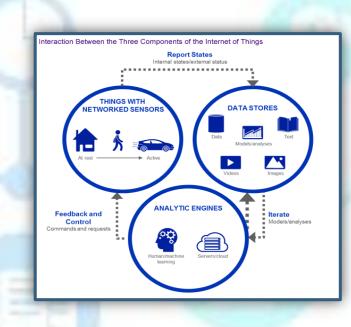
This new wave of connectivity is going beyond laptops and smartphones, it's going towards connected cars, smart homes, connected wearables, smart cities and connected healthcare. Basically a connected life. According to Gartner report, by 2020 connected devices across all technologies will reach to 20.6 billion. Woah! that's a huge number.

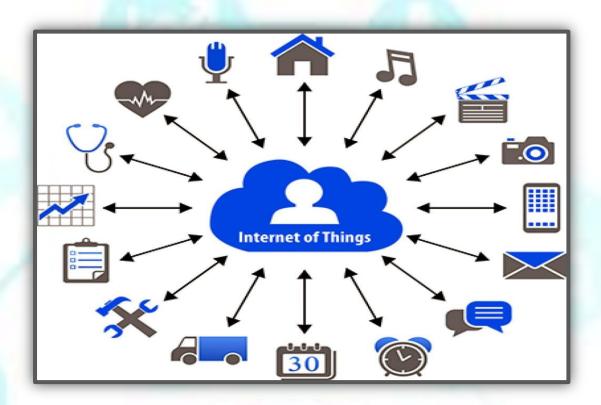
<u>IOT Components</u>

Here, 4 fundamental components of IoT system, which tells us how IoT works.

- (*i*) Sensors/Devices
- (ii) Connectivity
- (iii) Data Processing
- (*iv*) User Interface







SOME REAL WORLD APPLICATIONS OF IOT

1-SMART HOMES- Switch on air conditioning before reaching home or switch off lights even after you has left home? Or unlock the doors to friends for temporary access even when you are not at home. Don't be surprised with IoT taking shape companies are building products to make your life simpler and convenient.

2-CONNECTED CARS-A connected car is a vehicle which is able to optimize it's own operation, maintenance as well as comfort of passengers using onboard sensors and internet connectivity.

3-SMART CITIES-Smart city is an another powerful application of IoT generating curiosity among world's population. Smart surveillance, automated transportation, smarter energy management systems, water distribution, urban security and environmental monitoring all are examples of internet of things applications for smart cities.

PRAKHAR VARSHNEY ECE 2nd Year Placement

S. No.	ROLL NO.	Student Name	Branch	Company Name
1	1503331122	SHUBHANGI GUPTA	ECE	Talent Toppers
2	1503331049	DIVYANSH NANDANWAR	ECE	ТСS
3	1503331055	HIMANSHU VERMA	ECE	ТСS
4	1503331076	NISHANT GUPTA	ECE	ТСS
5	1503331120	SHUBHAM THAKUR	ECE	TCS
6	1503331137	VIVEK CHAUDHARY	ECE	TCS
7	1503331120	SHUBHAM THAKUR	ECE	Xceedance
8	1503331128	TWINKLE TEKRIWAL	ECE	Xceedance
9	1503331094	RITU SHARMA	ECE	Yugasa Software Labs

ALUMNI SPEAK

Hi Everyone, I am Roshni Awasthi alumni of RKGIT (2014-18) Electronics and Communication Engineering batch. Currently I am working as System Engineer at Infosys. My 4 year experience with RKGIT was really awsome. The education, trainings and extra curricular activities provided by the college groomed by educational skills as well as management skills.



The extra ciricular activities of the college and hostel life taught me alot to improve my interpersonal and extra personal skills that help me alot in the growth of my career.

Teachers have always been very motivating and guiding even after college life is over. I am thankful to administration of RKGIT. Thank You RKGIT for making me what I am today.

Education is what transforms the life from dull lead to dazzling gold which not only shines in itself but brightens the beholder too.

Roshní Awasthí (System Engíneer, Infosys)

What's New Around Us!!

1	What percent of the demonetized currency has been returned, as per the Annual Report 2017-18 of the Reserve Bank of India (RBI)?	99.3 %
2	By which year ISRO will launch the Human Spaceflight Mission Gaganyaan?	2022
3	Which software company launched Project Navlekha to help Indian news publishers to take their content onli <mark>ne</mark> ?	Google
4	Union Government signed MoU with 6 states (Uttar Pradesh, Rajasthan, Uttarakhand, Haryana, Delhi and Himachal Pradesh) for construction of Lakhwar Multi-Purpose Project in Uttarakhand. The project is constructed on which river?	Yamuna
5	Which city is hosting SAARC Agri Cooperative Business Forum from 28th August 2018?	Kathmandu
6	Who became the first Indian to win an Asian Games individual medal since 1982 in Equestrian?	Fouaad Mírza
7	Name the scientific adviser to the Defence Minister who was appointed as the Chairman of the Defence Research and Development Organisation (DRDO) for a period of two years?	G <mark>Sath</mark> eesh Reddy
8	Name the indigenously developed Helicopter launched anti- tank guided missile which was successfully flight tested from Army Helicopter in the ranges of Pokhran?	HELINA
9	The Barak 8 missile defence system is a joint venture of India and which country? The system is designed to defend naval vessels against incoming missiles, planes and drones.	Is <mark>ra</mark> el

10	At which place in India, Centre of Excellence for Data Analytics (CEDA) was inaugurated by Union Minister of Electronics & IT, Sh. Ravi Shankar Prasad on 28th September 2018? The Centre of Excellence for Data Analytics (CEDA) has been created to support government departments to unlock the hidden potential of the data that they are generating as a part of the governance processes, and use it to improve the overall governance.	New Delhí
11	NITI Aayog and Tata Institute of Fundamental Research (TIFR) collaborated with which organisation to set up a Model International Center for Transformative Artificial Intelligence (ICTAI) towards developing and deploying AI-led application-based research projects?This initiative is part of NITI Aayog's 'National Strategy for Artificial Intelligence' Discussion Paper that focuses on establishing ICTAI in the country through private sector collaboration.	Intel
12	The Union Government has decided to make which scheme open-ended with more incentives to encourage people to open bank accounts? The scheme was launched in August 2014 for a period of four years. Pradhan Mantri Jan Dhan Yojana (PMJDY)	Pradhan Mantrí Jan Dhan Yojana (PMJDY)

For More Information and Updates

Get in Touch with Us

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Brain Quiz

1. What number comes inside the circle?

2. Which letter replaces the question mark?

G

Q

?

т

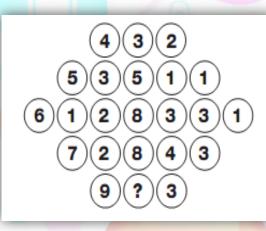
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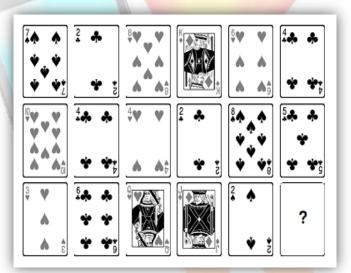
M

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3. Which pl<mark>aying card replaces</mark> the question mark?



4. Where should the hour hand point to on the bottom clock?

