



# Raj Kumar Goel Institute of Technology



5KM Stone Delhi-Meerut Road, near Raj Nagar Extension, Ghaziabad, (U.P)  
201003

# UDGHOOSH

**THE VOICE OF ECE DEPARTMENT**

**APRIL 2021 - JULY 2021**

**VOLUME - 7**  
**ISSUES - 3&4**



## PATRONS



**SHRI DINESH GOEL**  
CHEIF PATRON



**MR. AKSHAT GOEL**  
PATRON



**DR. D.K. CHAUHAN**  
PATRON



**DR. LAXMAN PRASAD**  
PATRON



**DR. D.R. SOMASHEKAR**  
PATRON



**DR. VIKESH KUMAR**  
PATRON



**DR. PUNEET C. SRIVASTAV**  
PATRON



**DR. R.K. YADAV**  
PATRON

## EDITORS



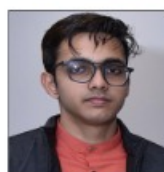
**DR. PAYAN SHUKLA**  
EDITOR



**MR. KUNAL LALA**  
EDITOR



**MRS. RICHA GUPTA**  
EDITOR



**SHRAYANSH GUPTA**  
MEMBER



**MOHD WASIQ**  
MEMBER



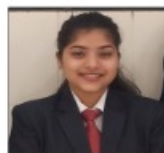
**SUMAN KUMARI**  
MEMBER



**M.S. KIRTANA**  
MEMBER



**SWATI**  
MEMBER



**SHALIJA GHILDİYAL**  
MEMBER



**GARGI VERMA**  
MEMBER

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## **VISION OF THE DEPARTMENT**

**To develop the Department into a full fledged Center of learning in various field of Electronics and Communication Engineering keeping in view the latest development in world.**

## **MISSION OF THE DEPARTMENT**

**M1: To educate the students in Contemporary Technologies in Electronics and Communication Engineering.**

**M2: To educate the students in Electronics and Communication Engineering to meet the Industrial needs.**

**M3: To educate the students in Electronics and Communication Engineering to meet the Societal needs.**

## ONLINE GUEST LECTURE ON AN INSIGHT INTO PHYSICAL DESIGN

The department of ECE organized an online guest lecture for second ,third and fourth year students & ECE Faculty members on “An Insight into Physical Design” on 09.07.21 from 2:00p.m to 3.30.p.m. The event was coordinated by Mr. KunalLala & Mr. Ajit Siingh Rathore.

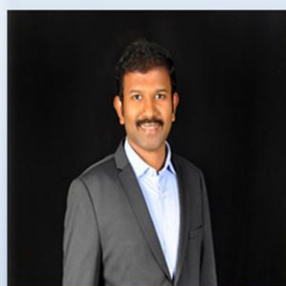
### Speaker Detail:

Samuel is currently working with ST Microelectronics ASIA Pacific PTE Ltd, Singapore since 2017 as the Senior Digital IC Design Engineer. He has 11 years of experience in VLSI, specializing in Physical Design Implementation with 90nm, 65nm, 40nm, 16nm and 7nm technologies, covering areas like Floor planning, Place and Route, Clock Tree Synthesis, Static Timing Analysis and Physical Verification. Samuel received a Technical Merit Award (Best Paper) in SNUG PENANG 2018 conducted by Synopsys for presenting a paper titled "A Novel Approval in Security Implementation and Clock Tree Synthesis using ICC2".



## RAJ KUMAR GOEL INSTITUTE OF TECHNOLOGY, GHAZIABAD

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
(NBA ACCREDITED)



Speaker: Samuel Jigme Harrison  
Designation: Senior Digital IC Design Engineer  
Organization: ST Microelectronics  
Asia Pacific Pte Ltd, Singapore

### Online Guest Lecture On “An Insight into Physical Design”

Event Date: 9<sup>th</sup> July, 2021  
Event Time: 2:00p.m. to 3:30 p.m.

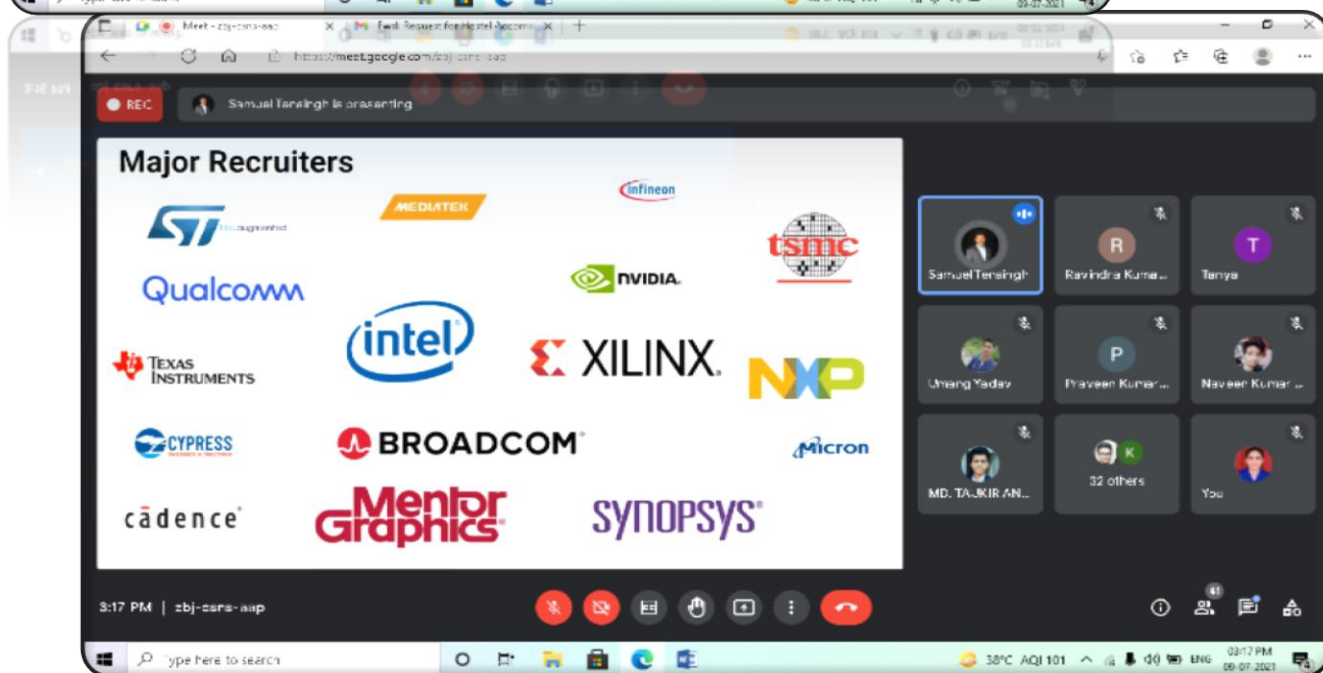
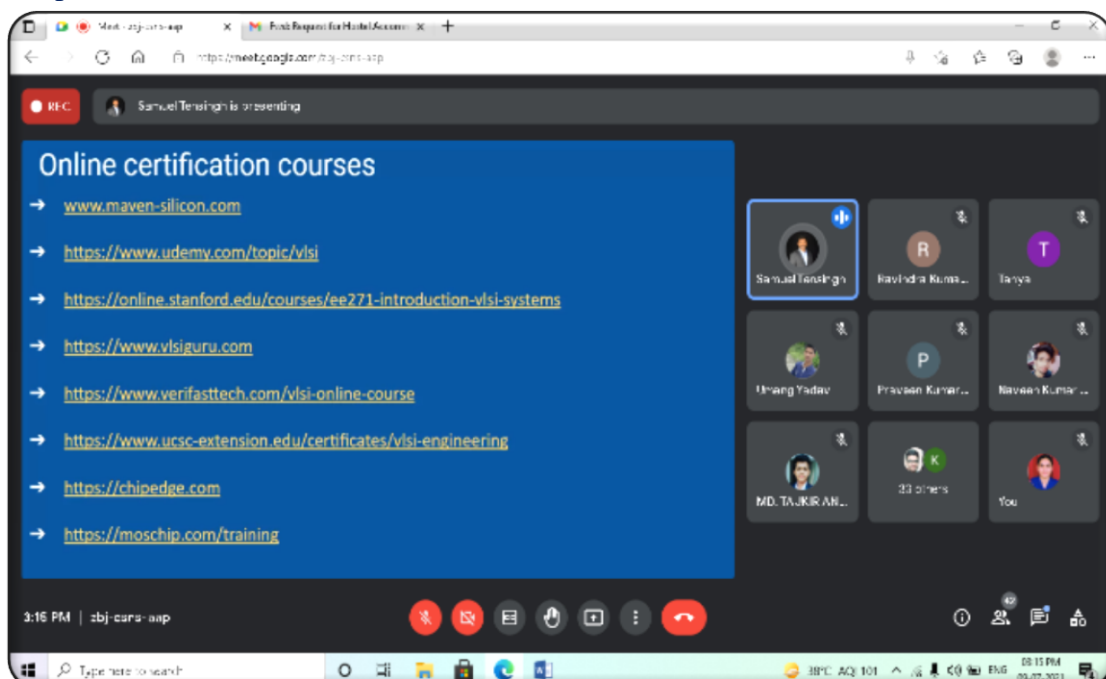
This event is for 2<sup>nd</sup>, 3<sup>rd</sup> & 4<sup>th</sup> year  
students & Faculty members of ECE  
Dept..

**Coordinator : Mr. Kunal Lala  
Mr. Ajit Rathor**

**Head of Dept: Dr. R.K. Yadav  
Director: Dr. D.R. Somashekar**

## About Guest Lecture:

This guest lecture was basically organised to give the students a brief about Physical Design in VLSI Technology. Speaker share about how to make a physical design in today's technology tool Session was interactive .Students put their questions and views and got suggestions from the speaker.



## ONLINE GUEST LECTURE ON “MASTER ANYTHING: A STEP BY STEP GUIDE TO DREAM CAREER

The department of ECE organized an online guest lecture for second ,third and fourth year students on “Master anything: A Step by step Guide to Dream Career ”on 24.6.21 from 1.30 pm to 3.30.p.m.

This guest lecture was basically organised to give the students a brief introduction about digital marketing or how an entrepreneur can carry forward his idea for development purpose. Speaker shared his experience with students and guided them how to work to fulfil their dreams to get good jobs. Session was interactive .Students put their questions and views and got suggestions from the speaker.



### RAJ KUMAR GOEL INSTITUTE OF TECHNOLOGY, GHAZIABAD



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
(NBA ACCREDITED)



Speaker: Mayank Pandey  
An Alumni of ECE, RKGIT

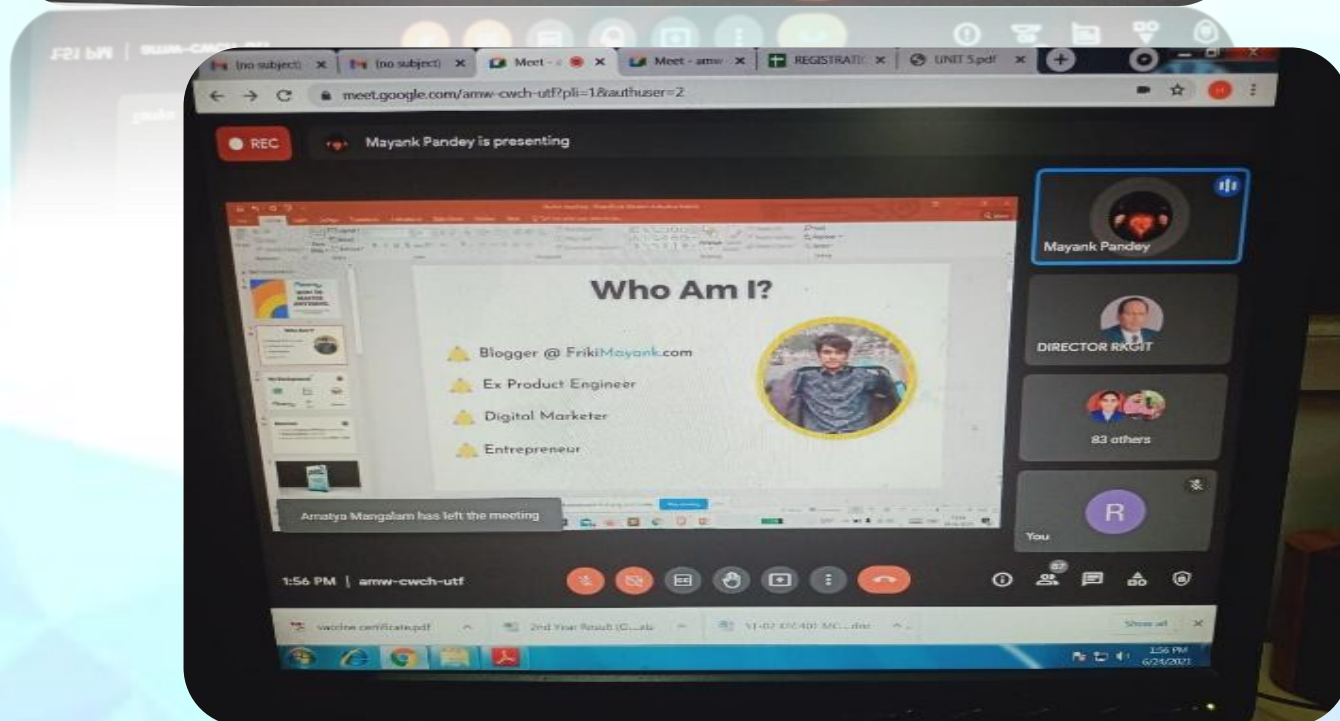
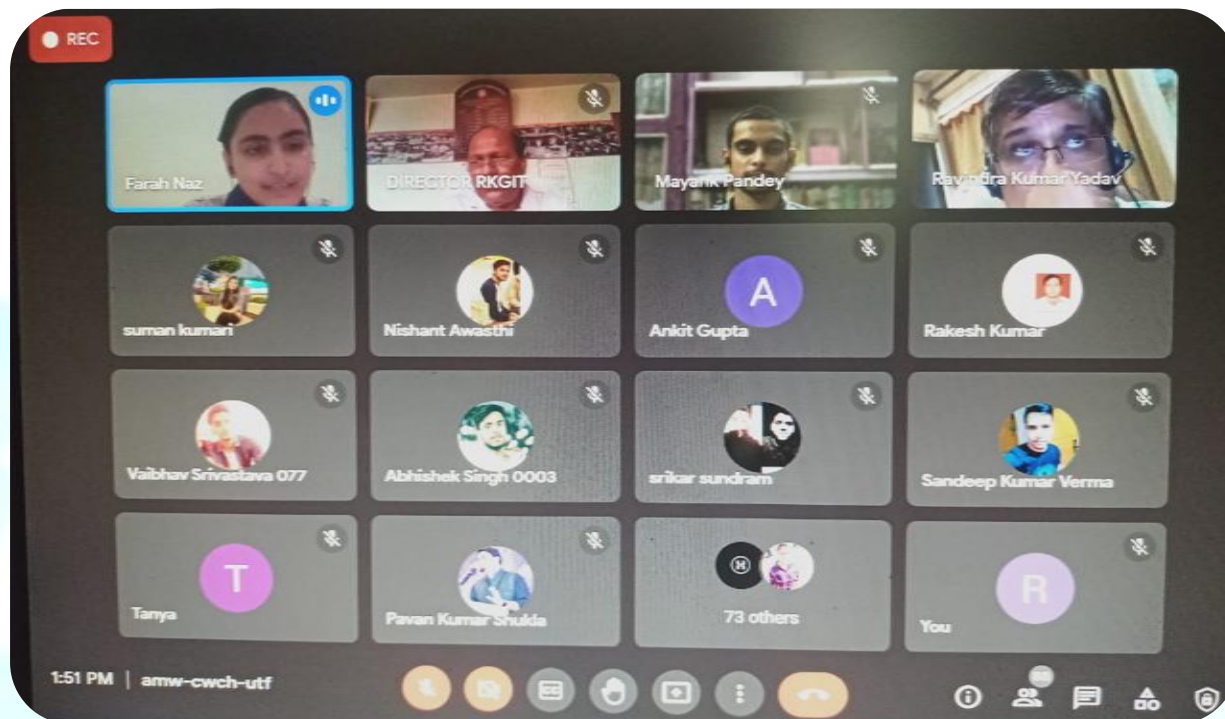
#### Online Guest Lecture On Master anything : A Step by Step Guide to Dream Career

Event Date: 24<sup>th</sup> June, 2021  
Event Time: 1:30 p.m. to 3:30 p.m.

This event is for 2<sup>nd</sup> , 3<sup>rd</sup> & 4<sup>th</sup> year students.

**Coordinator : Ms. Renu Rani  
Ms. Hashmat Usmani**

**Head of Dept: Dr. R.K. Yadav  
Director: Dr. D.R. Somshekar**



Mr. Mayank Pandey also introduced his **E- book name:** - Master Anything: A step by step to guide career.

This event was co-ordinated by Ms. Renu Rani & Ms. Hashmat Usmani.



## NATIONAL LEVEL QUIZ ON FUNDAMENTALS OF ELECTRONICS

A national level online quiz was organised on 24<sup>th</sup> & 25<sup>th</sup> June, 2021. The quiz gave an insight of the technical knowledge and will enhance the confidence of the learners. This quiz was open to all the citizens of India.

It was coordinated by Ms. Charu Tyagi & Ms. Farah Naz.

Total 800 participated in this quiz.



**RAJ KUMAR GOEL INSTITUTE OF  
TECHNOLOGY, GHAZIABAD**

**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
(NBA ACCREDITED)**



## National Level E-Quiz on Fundamentals of Electronics

Quiz Dates:  
17<sup>th</sup> & 18<sup>th</sup>  
June, 2020

**E-Quiz (Under ACE)  
Open for Everyone**

**E- Certificates to be given to those who secure 40% or more in the quiz.**

Quiz Link : <https://forms.gle/TDeF8FFG16TUbKzbA>

**Coordinator : Ms. Charu Tyagi  
Ms. Farah Naz**

**Head of Dept: Dr. R.K. Yadav  
Director: Dr. D.R. Somshekhar**

## FACULTY ACHIEVEMENTS

1. Mr. Deepak Kumar and Mr. Sandeep Bhatia published a Patent on “ Method and System for Automatically Controlling the Water Flow in Farming Lands Using an IoT”
2. Dr. Neha Goel attended a one week FDP on “Nano sensors” from 05/07/2021- 09/07/2021 organized by AICTE Training and Learning (ATAL) Academy, Delhi, IIT Jodhpur.
3. Mr. Anuj Kumar attended a one week FDP on “Stress Management” from 26/07/2021- 30/07/2021 organized by AICTE -ATAL Academy ( Government College Of Engineering, Tirunelveli-627007. )
4. Ms. Hashmat Usmani attended a one week FDP on “Python” from 05/07/2021- 10/07/2021 organized by E & ICT Academy, IIT Kanpur.
5. Mr. Sandeep Bhatia attended a one week FDP on “IoT & Robotics” from 21/06/2021- 25/06/2021 organized by AICTE Training and Learning (ATAL) Academy, Delhi.
6. Mr. Deepak Kumar attended a one week FDP on “Internet of Things an Emerging Technology in Electronics Industry” from 19/07/2021- 23/07/2021 organized by AICTE Training and Learning (ATAL) Academy, Delhi.
7. Mr. Kunal Lala attended a one week FDP on “Innovation In Computer Vision” from 10/05/2021- 15/05/2021 organized by Kings College of Engineering, Chennai.
8. Ms. Charu Tyagi attended a one week FDP on “Cyber Security” from 05/07/2021- 10/07/2021 organized by E & ICT Academy, IIT Kanpur.
9. Ms. Richa Gupta attended a one week FDP on “Research Orientation in Engineering with Effective Outcomes” from 26/07/2021- 30/07/2021 organized by KIET Group of Institutions, Ghaziabad.
10. Mr. Rakesh Kumar attended a one week FDP on “Cyber Security” from 05/07/2021- 10/07/2021 organized by E & ICT Academy, IIT Kanpur.
11. Ms. Farah Naz attended a one week FDP on “Linux” from 17/05/2021- 22/05/2021 organized by E & ICT Academy, IIT Kanpur.
12. Ms. Garima Mittal attended a one week FDP on “IoT” from 07/06/2021- 11/06/2021 organized by AICTE Training and Learning (ATAL) Academy, Delhi.

**TOPPERS OF THE DEPARTMENT**

**ECE-4<sup>th</sup> Year**

S.No.	Roll No.	Name	%
1	1703331020	ANMOL KUKREJA	91.85%
2	1703331055	KRATI GUPTA	90.96%
3	1703331037	DISHA SRIVASTAVA	89.90%
4	1703331012	AKSHAT MITRA	87.93%
5	1703331110	SHREYA SONI	87.76%

**ECE-3rd Year**

S.No.	Roll No.	Name	%
1	1803331048	ISHA SAXENA	88.60%
2	1803331033	AYUSH PANDEY	87.03%
3	1803331042	HARSHIT GUPTA	84.12%
4	1803331059	MEGHA AGRAWAL	83.78%
5	1803331052	JYOTSNA TRIPATHI	83.73%

**ECE-2nd Year**

S.No.	Roll No.	Name	%
1	1900330310081	VINAYAK DHYANI	85.90%
2	1900330310007	ADARSH DIXIT	85.66%
3	1900330310078	VANSHIKA AGGARWAL	85.62%
4	1900330310082	VINEET SAINI	84.67%
5	1900330310055	SAKSHI AWASTHI	83.60%

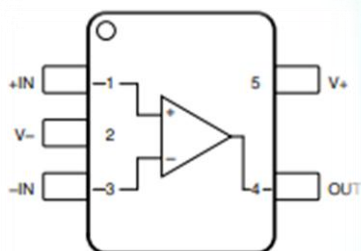
## FACULTY TECHNICAL CORNER

### TOPIC: MICRO-POWER, HIGH-PRECISION, HIGH-BANDWIDTH OP AMP

The OPA391 features a unique combination of high bandwidth (1 MHz) along with very low quiescent current (24  $\mu\text{A}$ ) in a high-precision amplifier. These features combined with rail-to-rail input and output makes this device an exceptional choice in high-gain, low-power applications. Ultra-low input bias current of 10 fA, only 45  $\mu\text{V}$  of offset (maximum), and 1.2  $\mu\text{V}/^\circ\text{C}$  of drift over temperature help maintain high precision in ratiometric and amperometric sensor front ends that have demanding low-power requirements.

The OPA391 uses Texas Instrument's proprietary e-trim™ operational amplifier technology, enabling a unique combination of ultra-low offset and low input offset drift without the need for any input switching or auto-zero techniques. The CMOS-based technology platform also features a modern, robust output stage design that is tolerant of high output capacitance, alleviating stability problems that are common in typical low-power amplifiers.

#### Pin Configuration:



#### Features:

- Low  $I_Q$ : 24  $\mu\text{A}$
- Gain bandwidth product: 1 MHz
- Low input bias current: 10 fA
- Low offset voltage:  $\pm 45 \mu\text{V}$  (maximum)
- Low drift:  $\pm 1.2 \mu\text{V}/^\circ\text{C}$
- Low supply voltage operation: 1.7 V to 5.5 V
- Input common mode range  $\pm 100 \text{ mV}$  beyond rail
- Fast slew rate: 1 V/ $\mu\text{s}$
- High load capacitance drive

- High output current drive: 60 mA
- Rail-to-rail output
- EMI/RFI filtered inputs
- Small package option: SC-70

#### Applications:

- Portable electronics
- Flow transmitter
- Blood glucose monitor
- Process analytics (pH, gas, force, humidity)
- Temperature transmitter
- Pressure transmitter
- Medical sensor patches
- Building automation
- Wearable fitness and activity monitor
- Gas detector
- Analog security camera

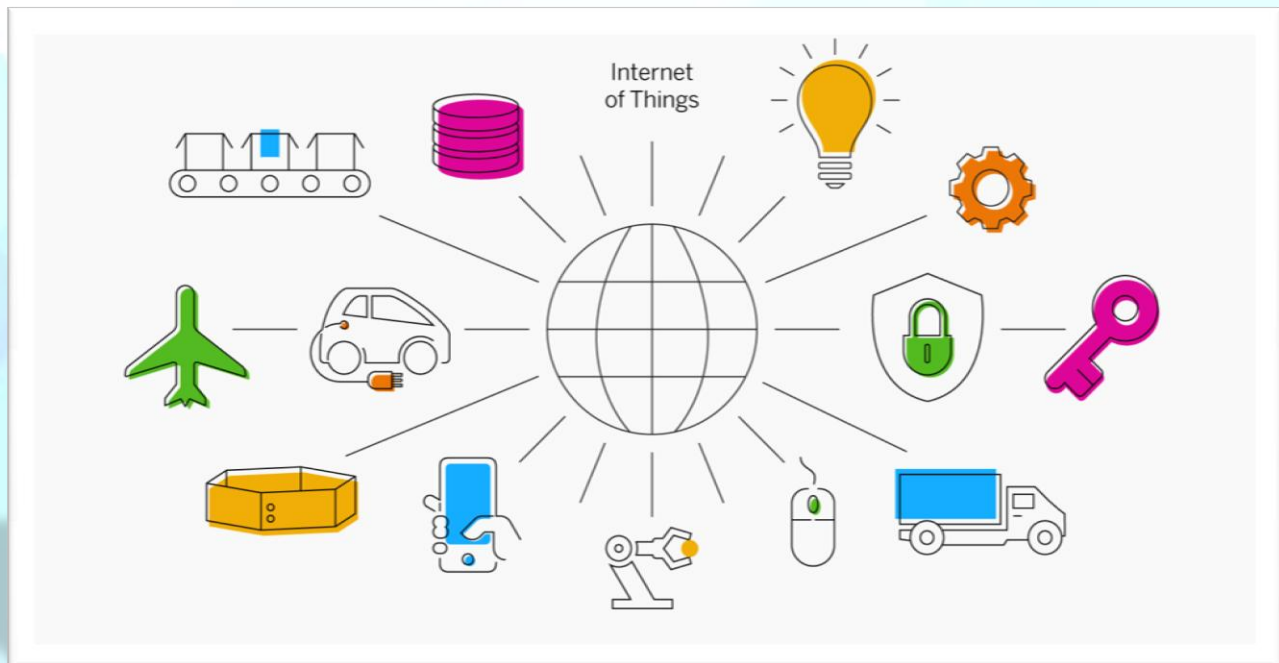
**Mr. Deepak Kumar**  
Assistant Professor, ECE

**STUDENT TECHNICAL CORNER**

**TOPIC: 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 smart phone (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.



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

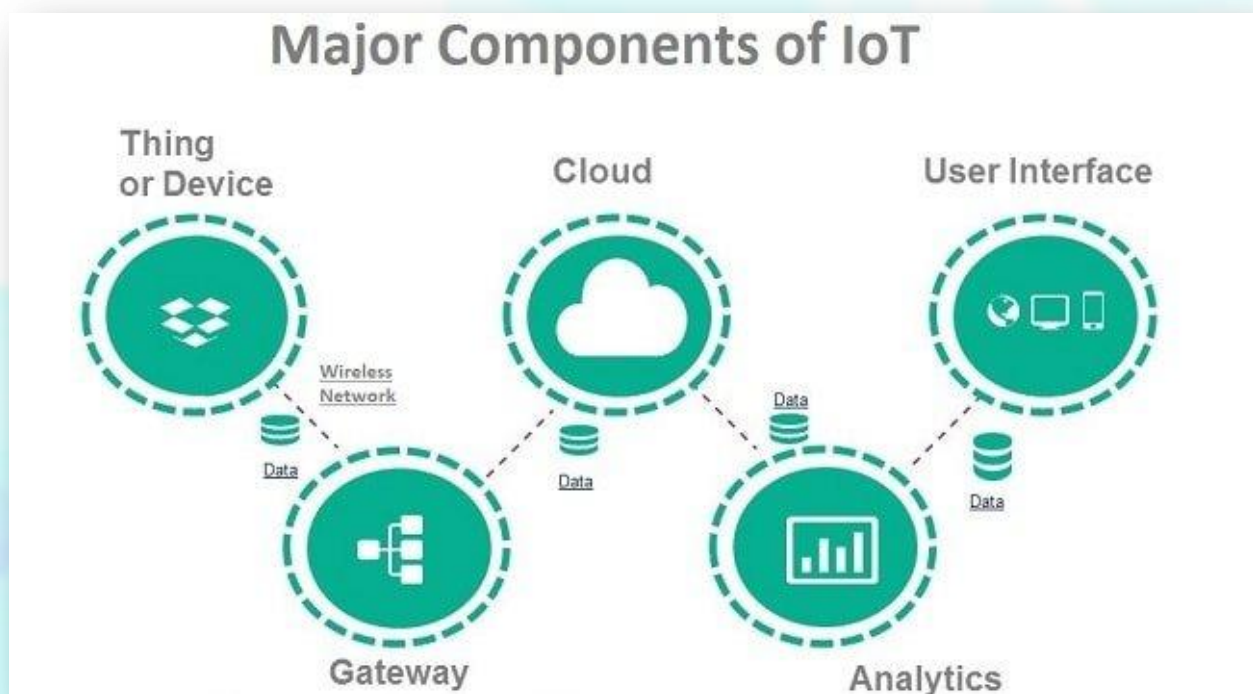
(i) Sensors/Devices (ii) Connectivity (iii) Data Processing (iv) User Interface

### 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 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.



Mr. Shreyansh Gupta  
ECE -4th Year  
Batch -2017-2021

### PLACEMENT DATA 2020-21

S. NO.	ROLL NO.	NAME OF THE STUDENTS	NAME OF COMPANY	PROFILE	PACKAGE OFFERED (LAKH PER ANNUM)
1	1703331061	MANDVI TRIPATHI	UNTHINKABLE SOLUTIONS (DAFFODIL SOFTWARE)	INTERN	5
2	1703331094	RIYA BAJPAI	ELC LABS PRIVATE LTD.	RESEARCH INTERN	2.40
3	1703331055	KRATI GUPTA	CALCOM VISION LTD.	GET	1.8
4	1703331020	ANMOL KUKREJA	VVDN TECHNOLOGIES	TRAINEE - ENGINEER SW/ENGINEER QA	3.2
5	1703331110	SHREYA SONI	VVDN TECHNOLOGIES	TRAINEE - ENGINEER SW/ENGINEER QA	3.2
6	1703331123	VISHAL	VVDN TECHNOLOGIES	TRAINEE - ENGINEER SW/ENGINEER QA	3.2
7	1703331051	KANIKA RAWAT	PROPEL GURU	BUSINESS DEVELOPMENT EXECUTIVE	2.4
8	1703331053	KATYAYANI BHARDWAJ	PROPEL GURU	BUSINESS DEVELOPMENT EXECUTIVE	2.4
9	1703331074	PRAKHAR VERMA	PROPEL GURU	BUSINESS DEVELOPMENT EXECUTIVE	2.4
10	1703331097	SATYANSH RAI	PROPEL GURU	BUSINESS DEVELOPMENT EXECUTIVE	2.4
11	1703331012	AKSHAT MITRA	COGNIZANT TECHNOLOGY SOLUTIONS	GENC	4
12	1703331020	ANMOL KUKREJA	COGNIZANT TECHNOLOGY SOLUTIONS	GENC	4
13	1730931002	ARPIT KUMAR SHARMA	COGNIZANT TECHNOLOGY SOLUTIONS	GENC	4
14	1703331033	BHUMIKA GAUR	COGNIZANT TECHNOLOGY SOLUTIONS	GENC	4
15	1703331037	DISHA SRIVASTAVA	COGNIZANT TECHNOLOGY SOLUTIONS	GENC	4
16	1703331051	KANIKA RAWAT	COGNIZANT TECHNOLOGY	GENC	4

			SOLUTIONS		
17	1703331099	SHASWAT	COGNIZANT TECHNOLOGY SOLUTIONS	GENC	4
18	1703331108	SHRAYANSH GUPTA	COGNIZANT TECHNOLOGY SOLUTIONS	GENC	4
19	1703331109	SHREYA SHARMA	COGNIZANT TECHNOLOGY SOLUTIONS	GENC	4
20	1703331110	SHREYA SONI	COGNIZANT TECHNOLOGY SOLUTIONS	GENC	4
21	1703331118	VARUN SHARMA	COGNIZANT TECHNOLOGY SOLUTIONS	GENC	4
22	1703331121	VIPUL KUMAR UPADHYAY	COGNIZANT TECHNOLOGY SOLUTIONS	GENC	4
23	1703331123	VISHAL	COGNIZANT TECHNOLOGY SOLUTIONS	GENC	4
24	1703331037	DISHA SRIVASTAVA	TCS	NINJA	3.36
25	1703331047	HARSHITA SINGH	TCS	DIGITAL	7
26	1703331099	SHASWAT	TCS	NINJA	3.36
27	1703331095	RUPAL SRIVASTAVA	TCS	NINJA	3.36
28	1703331001	AASHUTOSH BHARDWAJ	TCS	NINJA	3.36
29	1703331004	ABHINAV SINGH	TCS	NINJA	3.36
30	1703331005	ABHISHEK DIXIT	TCS	NINJA	3.36
31	1703331023	ARPITA GUPTA	TCS	NINJA	3.36
32	1703331028	ASHUTOSH SINGH	TCS	NINJA	3.36
33	1703331044	HARSH TYAGI	TCS	NINJA	3.36
34	1703331056	KUMAR ASHUTOSH TRIPATHI	TCS	NINJA	3.36
35	1703331090	RISHABH PAL	ANR SOFTWARE	GET	2.3
36	1703331082	PRIYAL GOEL	GINGER WEBS PVT LTD	TECHNICAL PROFILE	2.4 - 4.8
37	1703331088	RICHA SINGH	UCERTIFY		3.08
38	1703331015	ANANYA	MOBILOITTE	TRAINEE - SOFTWARE	2.04



		GUPTA		ENGINEER	
39	1703331114	SURAJ KUMAR PRAJAPATI	MOBILOITTE	TRAINEE - SOFTWARE ENGINEER	2.04
40	1703331016	ANANYA SHARAN	MOBILOITTE	TRAINEE - SOFTWARE ENGINEER	2.04
41	1703331074	PRAKHAR VERMA	MOBILOITTE	TRAINEE - DESIGNER	2.04
42	1703331102	SHIVAM KUMAR YADAV	MOBILOITTE	TRAINEE - SOFTWARE ENGINEER	2.04
43	1703331120	VIBHANSHU MISHRA	MOBILOITTE	TRAINEE - SOFTWARE ENGINEER	2.04
44	1703331065	MRIGA KHANNA	NTT DATA	TECHNICAL GRADUATE TRAINEE	3.50
45	1703331016	ANANYA SHARAN	NTT DATA	TECHNICAL GRADUATE TRAINEE	3.5
46	1703331021	ANUP SINGH YADAV	BLACK N GREEN MOBILE SOLUTIONS	TRAINEE - TECHNICAL OPERATIONS ENGINEER	5.5
47	1703331048	HIMANSHU KUMAR SINGH	APPSQUADZ SOFTWARE PVT. LTD.	QUALITY ANALYST-TECHNICAL	2-3
48	1703331119	VARUN SRIVASTAVA	APPSQUADZ SOFTWARE PVT. LTD.	QUALITY ANALYST-TECHNICAL	2-3
49	1703331054	KOMAL YADAV	SAVANTIS INDIA	TRAINEE ANALYST	2.2
50	1703331114	SURAJ KUMAR PRAJAPATI	NTT DATA	TECHNICAL GRADUATE TRAINEE	3.5
51	1703331068	NIKITA UPADHYAY	GINESYS	SUPPORT TRAINEE	2.4 - 3
52	1703331088	RICHA SINGH	GINESYS	SUPPORT TRAINEE	2.4 - 3
53	1703331055	KRATI GUPTA	SMARTBRAINS	L1 ENGINEER PROFILE	2.7
54	1703331030	AYUSH PANDEY	SMARTBRAINS	L1 ENGINEER PROFILE	2.7
55	1703331043	HARSH MISHRA	PLANETSPARK	BUSINESS DEVELOPMENT COUNSELLOR	5.9 - 7
56	1703331120	VIBHANSHU MISHRA	WIPRO	PROJECT ENGINEER	3.5
57	1703331043	HARSH MISHRA	WIPRO HR SERVICES-NIIT	SET UP CONFIGURATION SPECIALIST	3.3
58	1703331066	NAMAMI PATAIRIYA	WIPRO HR SERVICES-NIIT	SET UP CONFIGURATION SPECIALIST	
59	1703331073	PRAKASH SWARUP CHATURVEDI	WIPRO HR SERVICES-NIIT	SET UP CONFIGURATION SPECIALIST	

60	1703331031	AYUSH SRIVASTAVA	WIPRO	PROJECT ENGINEER	3.5
61	1703331062	MANSI SINGH	WIPRO	PROJECT ENGINEER	3.5
62	1703331020	ANMOL KUKREJA	WIPRO	PROJECT ENGINEER	3.5
63	1703331016	ANANYA SHARAN	WIPRO	PROJECT ENGINEER	3.5
64	1703331089	RISHABH LADHANI	HCL TECHNOLOGIES	GRADUATE ENGINEER TRAINEE	3.5
65	1703331008	ADARSH PANDEY	HCL TECHNOLOGIES	GRADUATE ENGINEER TRAINEE	3.5
66	1703331062	MANSI SINGH	CITIUSTECH	TRAINEE SOFTWARE ENGINEER	4.5
67	1703331055	KRATI GUPTA	MAGIC EDTECH	SOFTWARE TRAINEE	3.6
68	1703331008	ADARSH PANDEY	CEDCOSS	SOFTWARE DEVELOPER TRAINEE	2.4
69	1703331020	ANMOL KUKREJA	CEDCOSS	SOFTWARE DEVELOPER TRAINEE	2.4
70	1703331074	PRAKHAR VERMA	CEDCOSS	SOFTWARE DEVELOPER TRAINEE	2.4

## ALUMNI SPEAK

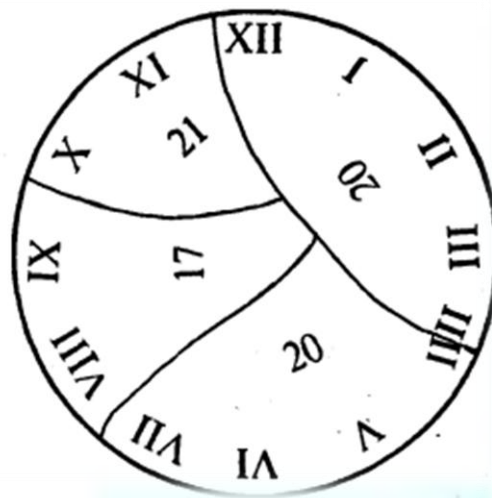
Finding the right path to success at the right time is really very important and for that way I had selected RKGIT. The friendly environment, the systematic approach towards imparting education at RKGIT made me a competent individual. The wide range of activities- both curricular and co-curricular- along and the support from RKGIT is really very helpful for my future. I am really proud to be an RKGITian.



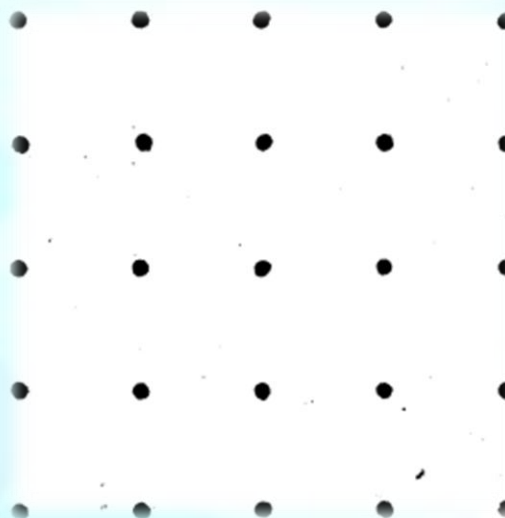
Ms. Archana Awasthi  
**Project Manager**  
Hexaware Technologies  
Batch : 2001-2005

**BRAIN TEASERS**

1. All the nine digits are arranged here so as to form four square numbers: 9, 81, 324, 576. How would you put them together so as to form a single smallest possible square number and a single largest possible square number?
2. A clock with the hours round the face in Roman block numerals, as illustrated in the sketch fell down, and the dial broke into four parts. The numerals in each part in every case summed to a total of 20. Can you show how the four parts of the clock face was broken?



3. 25 Dots are arranged in a square formation in 5 rows of 5, as shows in the sketch: Can you connect 12 of these dots with straight fees to form a perfect cross which has five dots inside it and 8 dots outside it?



4. An artist wanted to paint a picture on a canvas which would allow for a margin of 4 inches on top and on bottom and two inches on each side. He wanted the picture itself to occupy 72 square inches. What should be the smallest dimensions, the canvas he is going to obtain, should possess?
  
5. Which letter replaces the question mark?

