



RAJ KUMAR GOEL INSTITUTE OF TECHNOLOGY

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



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MAY 2022

UDGHOOSH

The Voice Of ECE Department

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Patrons



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WELCOME NEW FACULTY MEMBERS

Dr. Vipin Kumar Sharma
Assistant Professor

Dr. Vipin Kumar Sharma is presently working as Assistant Professor in RKGIT, Ghaziabad. He has been awarded with Ph.D. in VLSI design from Aligarh Muslim University (AMU), Aligarh, India. He has done M. Tech. degree in Electronics Engineering from Aligarh Muslim University (AMU). Also, he has received B. Tech. degree from UPTU, Lucknow. He was a recipient of the prestigious Visvesvaraya PhD Scheme Fellowship by Department of Electronics and IT, Ministry of Communications and Information Technology, Govt. of India. Also, he is awarded with JRF-NET conducted by UGC, India. He holds 6 years of teaching and research experience.

His research interest includes circuit design in CMOS and emerging technologies beyond CMOS such as FinFETs, CNFETs and GNR-FETs. He has also published many research articles on Memristor emulators in SCI indexed journals as well as in IEEE conferences. Also, he is active reviewer in AEU-International Journal of Electronics & Communications (Elsevier); Circuit, Systems and Signal Processing journal (Springer); and Analog Integrated Circuits and Signal Processing (Springer).

Ms. Madhu Verma has completed her B.Tech in Electronics and Communication branch from Uttar Pradesh Technical University in First class in 2009. She completed her M.Tech in VLSI from Visveswaraya Technological University Belgaum, Karnataka in 2015 with First class in Distinction. Her research area is based on study of Reversible logic based circuit designs using CMOS technology. Based on her research she has presented one paper.

She has total teaching experience of four years and her area of interest lies in VLSI, Analogue Integrated Circuits, Basic Electronics and Digital electronics.



Ms. Madhu Verma
Assistant Professor



Mr. Nitish Vashishth
Assistant Professor

Mr. Nitish Vashishth completed his B.Tech with First Class Honours in Electronics and Communication from Kurukshetra University. He completed his M.Tech in VLSI Design from NIT Kurukshetra. He has taught multiple subjects such as DLD, Basic Electronics, VLSI Design, IC etc. He has more than 6 years of Academic Experience. He is GATE and UGC NET qualified. His areas of research include Analog and Digital Electronics, Low Power VLSI, Multigate devices.

Ms Arathy Rajeev has done her M.Tech in Electronics & Communication with specialization in Communication Engineering in 2017 from Kerala Technological University, Thiruvananthapuram, Kerala. She completed her B.Tech, with First Class Honors in Electronics & Communication from Mahatma Gandhi University, Kottayam, Kerala in 2015. She holds 5 years of teaching experience. She has also published several papers in reputed national and international conferences. Her research interests are in the areas of Wireless Communication, RF & Microwave Active Devices.



Ms. Arathy Rajeev
Assistant Professor



Ms. Ruby Mann
Assistant Professor

Ms. Ruby Mann is presently working as an Assistant Professor at Raj Kumar Goel Institute of Technology as a part of the Electronics and Communication Department. She is Pursuing PhD (VLSI Design), titled: “Modeling, Simulation and Characterization of High Electron Mobility Transistor” (Recently published article in International Journal) from Indira Gandhi Delhi Technical University for Women, New Delhi. She completed her M.Tech (VLSI Design), from Indira Gandhi Delhi Technical University for Women, New Delhi and B.Tech (Electronics & Communication) from Bhagwan Parshuram Institute of Technology, Rohini (GGSIPO University, Delhi).

She completed Internship at Tata Power Delhi Distribution Limited (TPDDL) and Defence Research and Development Organization (DRDO) in Electronics Department at Centre for Fire, Explosive and Environment Safety lab. She is a dynamic and hardworking go-getter with abilities to accept challenges and deliver results.

INDUSTRIAL VISIT TO AUTOMATION ENGINEERS A.B. PVT LTD.

The Electronics and Communication Department of Raj Kumar Goel Institute of Technology, Ghaziabad organized a one-day Industrial visit to AUTOMATION ENGINEERS A.B. PVT. LTD, NOIDA on 2nd March 2022 for 3rd-year students of ECE department. The visit was organized with prior permission and guidance of Respected HOD **Dr. R.K.Yadav**.

The main objective behind the visit was to make students aware of how various activities like designing, assembling, cost management are carried out in the company.

The industrial visit was witnessed by 55 students, who were accompanied by the Faculty

Ms. Charu Tyagi

Mr. Deepak Kumar.





Automation Engineers A. B. Pvt. Ltd. is a Company run and managed by professionals, renowned in the Automation industry in their respective areas of expertise. The average experience of the key personnel is more than 25 years. AEAB has been serving the industry for almost the last two decades. Namely, the solution offered covers the application of PLC, DCS, Electrical Drives, MCC, PCC and Instrumentation.

The students were very enchanted as Automation Engineers A.B. Private Limited, opens door form merging their Electronics skills with current requirements of the information era.

They also discussed how students can start developing small projects and turn it into a gigantic product which will be a milestone for the Electronics and Automation Industry. They set up a huge horizon to develop projects and research activities.

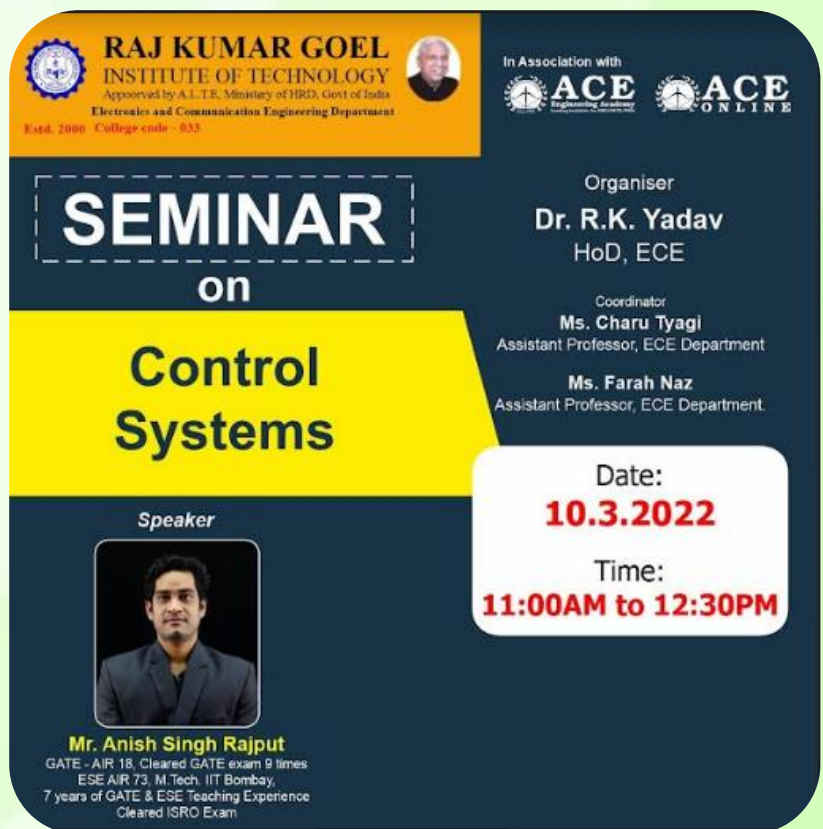
SEMINAR ON CONTROL SYSTEM

A seminar on the topic of Control Systems was organized on 10 March, 2022 in Association with ACE Engineering Academy for 2nd, 3rd & 4th year students.

The speaker of the day was **Mr. Anish Singh Rajput**. He is a senior faculty member at ACE Engineering Academy and a motivational speaker with rich academic credentials. He completed his M.Tech from the prestigious IIT Bombay. And now he devotes his major time helping thousands of students to prepare for competitive exams, many of whom emerge as Top Rankers.

In this seminar, he explained about various concepts of Control Systems. The main topics which are important for any competitive exam. He also told about the tricks to solve questions in brief. Control system is a very mandatory subject for any competitive exam or for any interview which includes a very good weightage. He also told to students to continuous practice about the numerical related to the subject.

The seminar was very knowledgeable for all the students. They got a chance to interact with Mr. Rajput. They get highly motivated & ask their queries from the speaker.



RAJ KUMAR GOEL
 INSTITUTE OF TECHNOLOGY
 Approved by A.I.T.E. Ministry of HRD, Govt of India
 Electroics and Communication Engineering Department
 Estd. 2000 College code - 933

In Association with
ACE Engineering Academy
ACE ONLINE

SEMINAR
 on
Control Systems


Organiser
Dr. R.K. Yadav
 HoD, ECE

Coordinator
Ms. Charu Tyagi
 Assistant Professor, ECE Department

Ms. Farah Naz
 Assistant Professor, ECE Department

Date:
10.3.2022

Time:
11:00AM to 12:30PM

Speaker

Mr. Anish Singh Rajput
 GATE - AIR 18, Cleared GATE exam 9 times
 ESE AIR 73, M.Tech, IIT Bombay,
 7 years of GATE & ESE Teaching Experience
 Cleared ISRO Exam

FACULTY ACHIEVEMENTS

1. Dr. R K Yadav published a research article entitled “Early Detection of Foot Ulceration In Type II Diabetic Patient Using Registration Method in Infrared Images And Descriptive Comparison with Deep Learning Methods” in Springer The Journal of Supercomputing on 19th March 2022.
<https://link.springer.com/article/10.1007/s11227-022-04380-z>
2. Dr. R K Yadav published a research article entitled “ Pearsons Correlation and Background Subtraction (BGS) Based Approach For Objects Motion Detection in Infrared Video Frame Sequences” in Springer Statistical Papers (2022) on 7th June 2022.
<https://link.springer.com/article/10.1007/s00362-022-01323-x>
3. Dr. R K Yadav published a research article entitled “An Effective Study on Particulate Matter (PM) Removal Using Graphene Filter” in Book - Sub-Micron Semiconductor Devices (2022).
<https://www.taylorfrancis.com/chapters/edit/10.1201/9781003126393-5/effective-study-particulate-matter-pm-removal-using-graphene-filter-katyayani-bhardwaj-aryan-yadav>
4. Dr. R K Yadav published a research article entitled “An improved statistical approach for moving object detection in thermal video frames” in Springer Multimedia Tools and Applications (2022).
<https://link.springer.com/article/10.1007/s11042-021-11548-x>
5. Dr. R K Yadav published a research article entitled “**Facial Feature-Based Human Emotion Detection Using Machine Learning** in Book- Artificial Intelligence and Cybersecurity (2022)
<https://www.taylorfrancis.com/chapters/edit/10.1201/9781003097518-7/facial-feature-based-human-emotion-detection-using-machine-learning-mritunjay-rai-gha-asim-husain-rohit-sharma-tanmoy-maity-yadav>
6. Mr. Kunal Lala participated in International One Week Faculty Development Program on Research Methodology, from 02/05/2022-07/05/2022, organized by Kamla Nehru Mahavidyalaya Nagpur.

PLACEMENT DATA

S. NO.	ROLL NO.	NAME OF THE STUDENTS	NAME OF COMPANY	PACKAGE OFFERED (LAKH PER ANNUM)
1	1803331024	ANUSHKA MISHRA	NUCLEUS SOFTWARE	4.25
2	1803331037	DEEPANSHI SRIVASTAVA	NUCLEUS SOFTWARE	4.25
3	1803331004	ABHISHT BINDAL	NUCLEUS SOFTWARE	4.25
4	1803331100	SWARNIMA VERMA	NUCLEUS SOFTWARE	4.25
5	1803331103	UJJAWAL PANDEY	NUCLEUS SOFTWARE	4.25
6	1803331063	NIDHI SINGH	WIPRO	3.5
7	1803331076	RICHA SHARMA	WIPRO	3.5
8	1803331025	ARPIT VERMA	WIPRO	3.5
9	1803331059	MEGHA AGRAWAL	WIPRO	3.5
10	1803331031	AVINASH TRIVEDI	WIPRO	3.5
11	1803331093	SHRISTI SRIVASTAVA	WIPRO	3.5
12	1803331091	SHIVENDRA PRATAP	WIPRO	3.5
13	1803331005	ADITYA SRIVASTAVA	WIPRO	3.5
14	1803331109	VINAY TIWARI	WIPRO	3.5
15	1803331062	NAVENDU SHARMA	WIPRO	3.5
16	1803331071	PRIYANSHU	WIPRO	3.5

17	1803331054	MAREPALLI SRAVANA KIRTANA	WIPRO	3.5
18	1803331024	ANUSHKA MISHRA	WIPRO	3.5
19	1803331048	ISHA SAXENA	WIPRO	3.5
20	1803331073	PUSHPENDRA SRIVASTAVA	WIPRO	3.5
21	1803331042	HARSHIT GUPTA	WIPRO	3.5
22	1803331100	SWARNIMA VERMA	WIPRO	3.5
23	1803331018	ANKIT GUPTA	WIPRO	3.5
24	1803331035	CHHAVI RATHORE	WIPRO	3.5
25	1803331004	ABHISHT BINDAL	WIPRO	3.5
26	1803331092	SHREYASH SAHU	WIPRO	3.5
27	1803331093	SHRISTI SRIVASTAVA	TCS	3.36
28	1803331078	RIDDHI SINGH	TCS	3.36
29	1803331039	GARGI VERMA	TCS	3.36
30	1803331037	DEEPANSHI SRIVASTAVA	TCS	3.36
31	1803331063	NIDHI SINGH	TCS	3.36
32	1803331054	M.S.KIRTANA	TCS	3.36
33	1803331034	AYUSHI PATEL	TCS	3.36
34	1803331057	MANSI	TCS	3.36
35	1803331032	AYUSH MISHRA	APPINVENTIV TECHNOLGIES	3.6 - 4.2
36	1803331062	NAVENDU SHARMA	APPINVENTIV TECHNOLGIES	3.6 - 4.2
37	1803331080	SACHIN YADAV	APPINVENTIV TECHNOLGIES	3.6 - 4.2
38	1803331061	MOHD. WASIQ	APPINVENTIV TECHNOLGIES	3.6 - 4.2

39	1803331008	AKASH GUPTA	APISERO	5.1
40	1803331032	AYUSH MISHRA	APISERO	5.1
41	1803331048	ISHA SAXENA	TCS	3.36
42	1803331115	UTKARSH KUMAR	TCS	3.36
43	1803331106	VIKAS KUMAR DUBEY	BIRLASOFT LTD.	3.6
44	1803331092	SHREYASH SAHU	ML OUTSOURCING SERVICES PVT LTD.	3
45	1803331033	AYUSH PANDEY	ALGOWORKS TECHNOLOGIES	3
46	1803331039	GARGI VERMA	WIPRO	3.5
47	1803331045	HIMANSHU DUBEY	WIPRO	3.5
48	1803331067	PRASHANT PANDEY	WIPRO	3.5
49	1803331080	SACHIN YADAV	WIPRO	3.5
50	1803331115	UTKARSH KUMAR	WIPRO	3.5
51	1803331031	AVINASH TRIVEDI	TCS	3.36
52	1803331042	HARSHIT GUPTA	TCS	3.36
53	1803331031	AVINASH TRIVEDI	MOTILAL OSWAL FINANCIAL SERVICES	3.5
54	1803331096	SUMAN KUMARI	HCL TECHNOLOGIES	3.65
55	1803331086	SHEETAL SINGH	ARYSON TECHNOLOGIES PVT LTD.	1.8
56	1803331106	VIKAS KUMAR DUBEY	NETPROPHETS CYBERWORKS	3

57	1803331047	HRITIK SONI	SUGAL & DAMANI GROUP	4.6
58	1803331040	GAURAV KUMAR	SUGAL & DAMANI GROUP	4.6
59	1803331112	YASH YADAV	MOBCODER TECHNOLOGIES PVT LTD	3.2 - 3.6
60	1803331045	HIMANSHU DUBEY	NTT DATA	3.5
61	1803331033	AYUSH PANDEY	NTT DATA	3.5
62	1803331079	RIYA TOMAR	HCL TECHNOLOGIES	3.65
63	1803331050	JAGRITI CHATURVEDI	NTT DATA	3.5
64	1803331073	PUSHPENDRA SRIVASTAVA	NTT DATA	3.5
65	1803331075	RANA PRATAP SINGH	NTT DATA	3.5
66	1803331097	SUMEET SINGH	NTT DATA	3.5
67	1803331112	YASH YADAV	NTT DATA	3.5
68	1803331039	GARGI VERMA	HARMAN KARDON	5
69	1803331026	ARUN KUMAR	MOBCODER TECHNOLOGIES PVT LTD	3.2 - 3.6
70	1803331027	ASHUTOSH PRAJAPATI	CLOUD ANALOGY	3
71	1803331051	JAI SINGH RANA (ON HOLD)	HARMON KARDON	5
72	1803331077	RIDAM BHALLA	BYJU"S	6
73	1803331046	HIMANSHU MISHRA	WIPRO HR SERVICES INDIA PVT LIMITED	3.3

74	1803331026	ARUN KUMAR	WIPRO HR SERVICES INDIA PVT LIMITED	3.3
75	1803331014	ANAND TIWARI	WIPRO HR SERVICES INDIA PVT LIMITED	3.3
76	1803331010	AMAR SINGH	WIPRO HR SERVICES INDIA PVT LIMITED	3.3
77	1803331027	ASHUTOSH PRAJAPATI	WIPRO HR SERVICES INDIA PVT LIMITED	3.3
78	1803331011	AMIT KUMAR	WIPRO HR SERVICES INDIA PVT LIMITED	3.3
79	1803331001	ABHISHEK	WIPRO HR SERVICES INDIA PVT LIMITED	3.3
80	1803331036	CHITRANSH SRIVASTAVA	SISL INFOTECH	3.6
81	1803331036	CHITRANSH SRIVASTAVA	LIT INDIA PVT LTD.	1.92
82	1803331098	SURYA PRATAP KUSHWAHA	AMARA RAJA BATTERIES LTD.	1.32
83	1803331060	MD TAUHIR ANSARI	TECH MAHINDRA	2.6
84	1803331078	RIDDHI SINGH	TECH MAHINDRA	2.6
85	1803331045	HIMANSHU DUBEY	TECH MAHINDRA	2.6
86	1803331026	ARUN KUMAR	TECH MAHINDRA	2.6

87	1803331014	ANAND TIWARI	TECH MAHINDRA	2.6
88	1803331053	KUNAL PANCHAL	TECH MAHINDRA	2.6
89	1803331049	ISHIKA VERMA	TECH MAHINDRA	2.6
90	1803331013	AMIT YADAV	TECH MAHINDRA	2.6
91	1803331108	VIKRAM SINGH	TECH MAHINDRA	2.6
92	1803331094	SINTU SINGH	TECH MAHINDRA	2.6
93	1803331104	UTTKARSH SANJAY KUMAR	JK INTERNATIONAL	1.56
94	1803331060	MD TAUHIR ANSARI	BUREAU VERITAS GLOBAL SHARED SERVICES CENTER	3
95	1803331077	RIDAM BHALLA	VIVO MOBILE INDIA PVT LTD.	3.6
96	1803331027	ASHUTOSH PRAJAPATI	VIVO MOBILE INDIA PVT LTD.	3.6
97	1803331009	AKSHAT GAUR	VIVO MOBILE INDIA PVT LTD.	3.6
98	1803331072	PRIYANSHU JOSHI	COOL INDIA	2.8
99	1803331046	HIMANSHU MISHRA	TCS	3.36
100	1803331052	JYOTSNA TRIPATHI	UNICORN DENMART LIMITED	3.12

FACULTY TECHNICAL CORNER

SILENT SOUND TECHNOLOGY

Everybody has the experience of talking aloud in the cell phone in the midst of the disturbance while travelling in trains or buses. There is no need of shouting anymore for this purpose. 'Silent sound technology' is the answer for this problem.

The Silent sound technology is an amazing solution for those who had lost their voice but wish to speak over phone. It is developed at the Karlsruhe Institute of Technology and you can expect to see it in the near future. When demonstrated, it seems to detect every lip movement and internally converts the electrical pulses into sounds signals and sends them neglecting all other surrounding noise. It is definitely going to be a good solution for those feeling annoyed when other speak loud over phone.

'Silent Sound' technology aims to notice every movements of the lips and transform them into sounds, which could help people who lose voices to speak, and allow people to make silent calls without bothering others. Rather than making any sounds, your handset would decipher the movements your mouth makes by measuring muscle activity, then convert this into speech that the person on the other end of the call can hear. So, basically, it reads your lips. This new technology will be very helpful whenever a person loses his voice while speaking or allow people to make silent calls without disturbing others, even we can tell our PIN number to a trusted friend or relative without eavesdropping. At the other end, the listener can hear a clear voice. the awesome feature added to this technology is that "it is an instant polyglot" I.E, movements can be immediately transformed into the language of the user's choice. This translation works for languages like English, French & German. But, for the languages like Chinese, different tones can hold many different meanings. This poses Problem said Wand. He also said that in five or may be in ten years this will Be used in every day's technology.

Methods:

Silent Sound Technology is processed through some ways or methods. They are:

1. Electromyography (EMG)
2. Image Processing

Electromyography:

- The Silent Sound Technology uses electromyography, monitoring tiny muscular movements that occur when we speak.
- Monitored signals are converted into electrical pulses that can then be turned into speech, without a sound uttered.
- Electromyography (EMG) is a technique for evaluating and recording the electrical activity produced by skeletal muscles.
- An electromyography detects the electrical potential generated by muscle cells, when these cells are electrically or neurologically activated.
- Electromyography sensors attached to the face records the electric signals produced by the facial muscles, compare them with pre-recorded signal pattern of spoken words
- When there is a match that sound is transmitted on to the other end of the line and person at the other end listen to the spoken words.

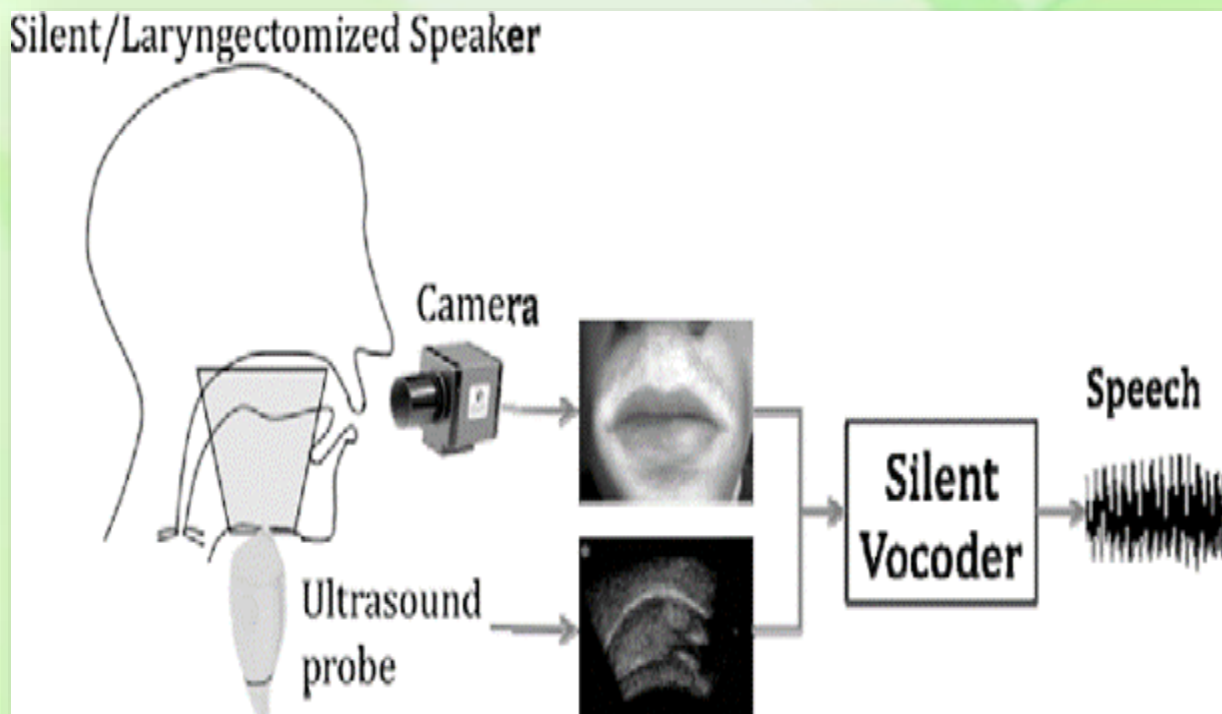


Image Processing:

- The simplest form of digital image processing converts the digital data tape into a film image with minimal corrections and calibrations.
- Then large mainframe computers are employed for sophisticated interactive manipulation of the data.
- In the present context, overhead projectors are employed to analyze the picture.
- In electrical engineering and computer science, image processing is any form of signal processing for which the input is an image, such as a photograph or video frame; the output of image processing may be either an image or, a set of characteristics or parameters related to the image. Most image-processing techniques involve treating the image as a two-dimensional signal and applying standard signal-processing techniques to it.



Ms. Farah Naz
Assistant Professor, ECE Dept

STUDENT TECHNICAL CORNER

MODEM DESIGNS

Telephones are amazing: they can carry the sound of your voice from one side of the world to the other in a matter of seconds by making electricity flow down a wire. Telephones are also the power behind the Internet—without them, it would be almost impossible for most of us to go online.

But telephone technology is still partly analog: information is transmitted down phone lines as continuously varying electrical signals. How, then, do digital computers communicate across analog telephone lines designed to carry speech? Simple: they use modems, devices that turn digital information into analog sound signals for the telephone journey and then turn it back again at the other end. Think of modems as translators. Computers speak digital, and telephones speak analog, so you need modems to translate between the two.

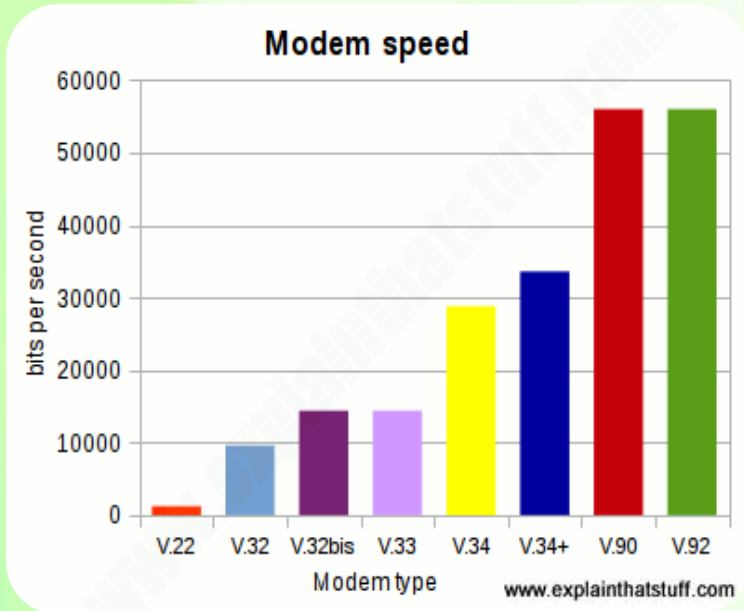
Standards & Speed

If you have a very fast modem but your ISP has only a slow one, the two devices will be forced to communicate at the slower speed. Every dialup modem works according to a particular international standard (a number prefaced by a capital letter V)—and this tells you how quickly it sends and receives data in bits (binary digits) per second (usually abbreviated bps). The most common standards are:

Standard	Speed (bps)
V.22	1200
V.32	9600
V.32bis	14,400

The older standards, such as V.22, assumed the connection between two computers was mostly analog; newer standards like V.90 achieve higher speeds by assuming the connection is at least partly digital. Chart: Here's the same information from the table shown graphically. You can see that the most recent standards (like V.90) are about 4–5 times faster than the earlier ones.

Command Sets



If you use the Windows operating system, you don't normally need to worry about how your modem communicates: it's all done automatically for you. But you can get your modem to send extra control commands, if you're having problems with it making calls. The exact commands you can use vary from manufacturer to manufacturer and from modem to modem, but a few are usually the same on every modem.



Vaibhav Dixit
ECE, 3rd Year

ALUMNI SPEAK

Raj Kumar Goel Institute of Technology has been the most enthralling journey of my life. It has been an institute which has helped me nurture my skills as an engineer and grow in leaps and bounds. RKGIT has given me the support and confidence to grow both personally and professionally. The faculty has been a great support with their tireless efforts in my upbringing as an engineer. They have supported me not only in academics but also in extra-curricular activities. The constant support provided by the placement officer has given us the confidence to do well in our placements. This college has been like a family and I will always remember and cherish every moment of my life spent here."



Aditya Chawla

Company: FEV INDIA Pvt. Ltd.

Package: 8 LPA

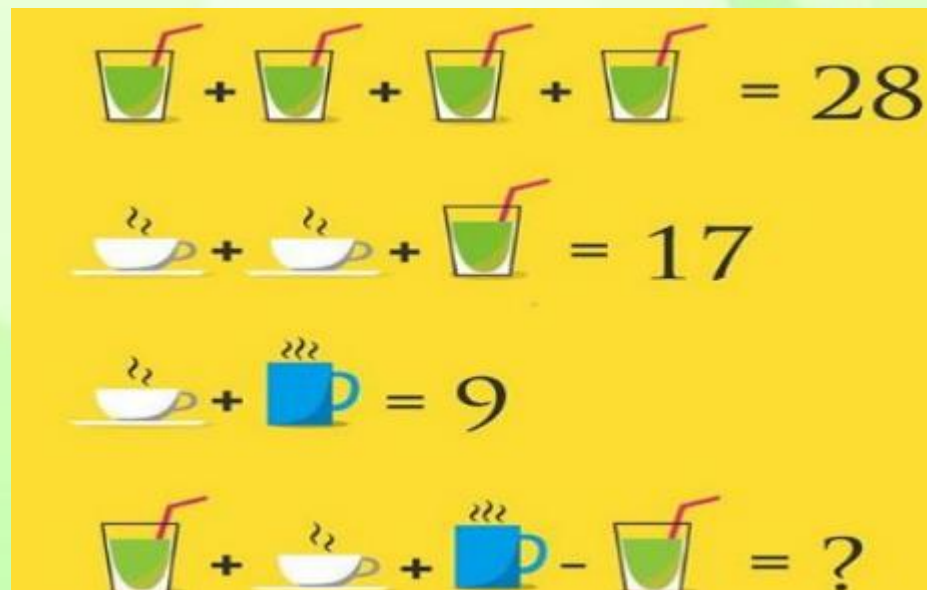
Batch: 2016-2020

BRAIN TEASERS

1. Enter the letters A, B, C and D once in each row and column. The clues outside the grid indicate which letter appears first from that direction.

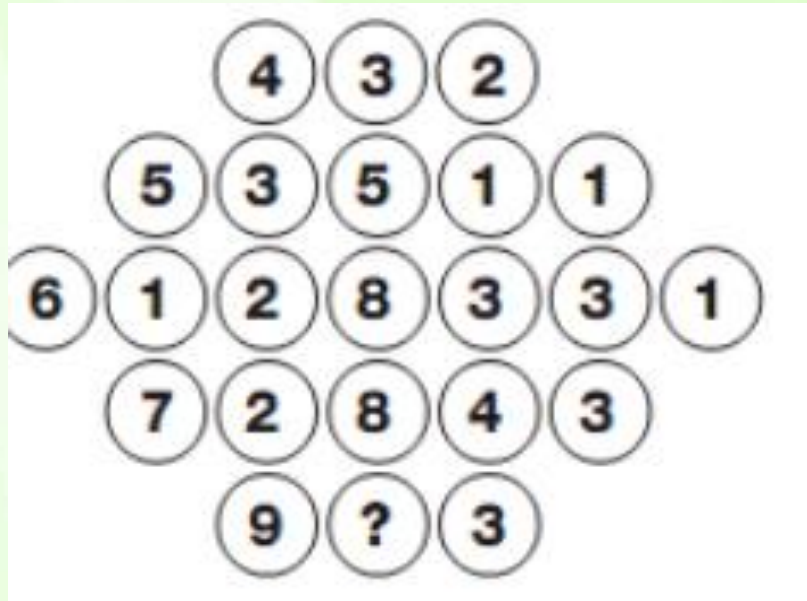
	A	B	C	D			
C							
							C
							C
							C
C							
C							
	C		A	C	A		

2. Solve:



$$\begin{aligned}
 & \text{Glass} + \text{Glass} + \text{Glass} + \text{Glass} = 28 \\
 & \text{Cup} + \text{Cup} + \text{Glass} = 17 \\
 & \text{Cup} + \text{Mug} = 9 \\
 & \text{Glass} + \text{Cup} + \text{Mug} - \text{Glass} = ?
 \end{aligned}$$

3. What number comes inside the circle?



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

5. A man is trapped in a room with only two possible exits. Through the first door is a room with an enormous magnifying glass causing the blazing hot sun to instantly burn anything that enters. Through the second door there is a fire-breathing dragon. How does the man escape?