



RAJ KUMAR GOEL INSTITUTE OF TECHNOLOGY



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THE VOICE OF ECE DEPARTMENT



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INDUSTRIAL VISIT TO HUAWEI TECHNOLOGIES

Department of ECE had organized Industrial visit at Huawei Technologies Limited Gurugram, Haryana on 3rd March 2017 for 3rd Year EC students. Total 100 students got opportunity to visit. The students were accompanied by Mr. Pawan Kumar Verma, Dr. Amit Pandey, Mr. P.C Mishra and Mr. Deepak Kumar. The college buses were provided for the transportation.

Huawei Technologies Co. Ltd. is a Multinational networking company headquartered in Shenzhen, Guangdong. It is the largest telecommunications equipment manufacturer in the world, having overtaken Ericsson in 2012. The students visited Communication Lab. A lot was informed about the background of Huawei.

Major emphasis during the visit was given on the paid training programs offered by Huawei in the NCR Regions. Couples of experts from the industry were also present to give an insight about the present scenarios in the telecommunication industry.



WORKSHOP ON INTERNET OF THINGS (IoT)

Department of Electronics & Communication Engineering organized a workshop on IOT (Internet of Things) on 4th Mar 2017 under AECE.

The Session was delivered by Mr. Anuj Rai. IoT is simply the network of interconnected things/devices which are embedded with sensors, software, network connectivity and necessary electronics, that enables them to collect and exchange data, making them responsive.



The Internet of Things (IoT) has been labeled as “The Next Industrial Revolution” because of the way it will change the way people live, work, entertain, and travel, as well as how governments and businesses interact with the work.

The session was very interesting and very helpful to enhance the knowledge about the basic concept of internet of things and learn about future demand of the newly emerging technologies.

Students were very excited during the whole session as they wanted to know how Internet of things (IoT) works in our daily life, like FITNESS TRACKER which tracks our daily health record.

More than 150 students of different branches like ECE, CSE, EEE, IT, AEI and ME participated in this workshop, to enhance their skills. Dr. Pawan Kumar Verma coordinated the event.



HOLI CELEBRATION

Department of Electronics & Communication Engineering organized a HOLI celebration program on 13th march 2017. The celebration started with the welcome ceremony and introductory message given by Dr. Dharendra Kumar (HOD ECE). The cultural part of the event was coordinated by Ms Anamika, Ms Hasmat Usmani, Ms Riju Jindal, Ms Renu Rani, Ms Neha Goel, Ms Vartika Anand, Ms. Richa Gupta, Ms. Charu Tyagi and other faculty and staff members present there. Mr Abhinav Goel organized Tambola to engage all, which was a joyful game. Then SAC Chairman Mr Pawan Shukla presented melodious song. Dean 2nd shift Dr. Puneet C. Srivatava also presented a very heart touching song. A loving performance (an old romantic song) was later given by Dean SW, Mr H. G. Garg. Director also presented a very old Gazal of Gulam Ali and dispersed the environment with the fragrance of Aligarh. After the philosophical performance (a song of Mukesh) by HOD Electronics, Dr Dharendra Kumar, Professor Laxman Prasad presented a very beautiful Shayari. The song presented by Ms. Anamika was highly applauded. The performance of Mr. Manish Srivastava on Madhushala was simply marvellous. The event was assisted by Mr Prem Tyagi, Mr Vijay Rawat and other lab staff members with Mr Anuj and Mr Rajpal. Any program of ECE Department doesn't complete without the excellent photography of Mr. Kuldeep Tyagi. After the cultural program was lunch and then all guests, faculty and other staff members present there started to enjoy themselves by colouring each other with vibrant colours.

The event was graced by the presence of Prof. B.K. Gupta, (Group Advisor, RKG Group of Institutions), Dr. Laxman Prasad (Director (R&D), RKG Group of Institutions), Dr. R.P. Maheshwari (Director, RKGIT), Prof. Y.K. Gupta (Dean, 1st shift), Mr H.G Garg (Dean Student Welfare), Dr. Puneet C. Srivasatava (Dean, 2nd Shift), Mr. Pavan Shukla (Co-ordinator ECE, 2nd shift). Other faculty members Dr. Anil Kumar Pandey, Mr. Vaibhav Sharma, Mr Ankit Tripathi, Mr. Jagdeep Singh, Mr. Sandeep Bhatia, and Mr Jassu Kumar were present.



NATIONAL CONFERENCE ON

“Advancement in Microwave & Photonic Device for Electronic Communication System” (AMPDECS-2017)

After long waiting, the day finally came when everyone was full of energy to celebrate the National Level Academic event. This conference was sponsored by DRDO and partially sponsored by CETPA and Apron technologies.

It was a three days conference in which a number of academicians, researchers and industry people visited our campus to interact with each other.

The inaugural ceremony started with the introduction delivered by Mr. Kunal Lala, followed by the welcome address by Dr. Dharendra Kumar. The esteemed dignitaries offered flowers to the goddess of knowledge Sarswatiiji, followed by Sarswati vandana by some of the students of ECE department.

Several high quality research papers were published by the faculty members of ECE Department, RKGIT and several institutions like IFTM, Moradabad, Maharaja Surajamal University Delh, MRCET Hyderabad etc.



Prof. Vinay Kumar Pathak(Vice-Chancellor),Dinesh Kumar Goel(Chairman,RKG Group of Institute), Prof. B.K. Gupta(Group Advisor, RKG-Group of Institute),Dr. Laxman Prasad (Dierector R&D),Prof.R.P. Maheshwari (Dierector, RKGIT), Prof. Dharendra Kumar (HOD-ECE), Prof. A.K. Verma (Adjunct Professor) shared their views and ideas on “Advancement in Microwave & Photonic Device for Electronic Communication System” regarding its importance and application.

National Advisory Committee

Prof. Asok De, National Institute of Technology, Patna

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Dr. Jigyasa Sharma, National Institue of Technology, Patna

Dr. Abhilash Mishra, Maharashtra Institue of Technology, Aurangabad

The plenary session was presented by Prof. Anjanan Basu, IIT-D, on, "Microwave Circuits". He defined what are radiating systems and told about the limitations of the microwave, how it is complicated and how mathematical equations made it less popular. He also told that new technologies are being developed in microwave field and we should step out of our regular activities and have a look on the works going on in this field.



Conference continued with the, Plenary Session: by Mr. S.P.Tripathi, Consultant, and Candlestick Consulting LLP on "Microwave testing and measurement".

Another Plenary session was taken by Mr. Shiv Narain, Technical Manager, CEL, Ghaziabad on "Fabrication and testing process of C and X band ferrite phase shifter and application".

The Second Session was on "Microwave Photonic Components Testing and Measurement" and was taken by Mr. S.P.Tripathy Consultant, Candlestick Consulting LLP.

Prof. Satyakesh Dubey delivered his expert talk on microwave devices.

Then after the tea break the session was continued by Mr. Shiv Narain, Technical Manager, CEL, and Ghaziabad.

On day 2, the session started with the following:

Third Session: *It was on “Microwave and Photonic Devices”, and was taken by Dr. Binod Kanaujia, JNU, Delhi.*

Then the session was forwarded to Dr. Dharendra Kumar, RKGIT, Ghaziabad, who spoke on “Application of EBG and Fractal Structures of Microwave Circuit”.

The next Session was taken by Dr. M.R.Tripathi, Amity University, Noida who told about “MIMO Antenna for High Speed Networks”.

Fourth Session: *On the third day the session began with the Expert talk on “Photonic Devices, LASER, etc.” By Prof. Maiuddin, Jamia Millia Islamia, Delhi.*

Another Plenary Session was taken by Dr. Jigyasa Sharma, on “Meta Material and Its Application for millimeter wave circuit design”.

The conference proceeded with another Plenary Session: by Dr. Rajeev Singh Yaduvanshi, Ambedkar Institute of Technology, Delhi who spoke on “Dielectric Resonator Antenna”.

After the lunch, Special Technical talk was there on MATLAB. The closing ceremony of the event included the Valedictory and Certificate Distribution session. And the event ended with lots of encouragement and motivation for the students to work and look forward in the recent research and development work in Microwave and Photonic Devices.

FACULTY TECHNICAL CORNER

By: Ms. Richa Gupta

Isolated ADC: “A New Sigma-Delta Modulator from Broadcom”

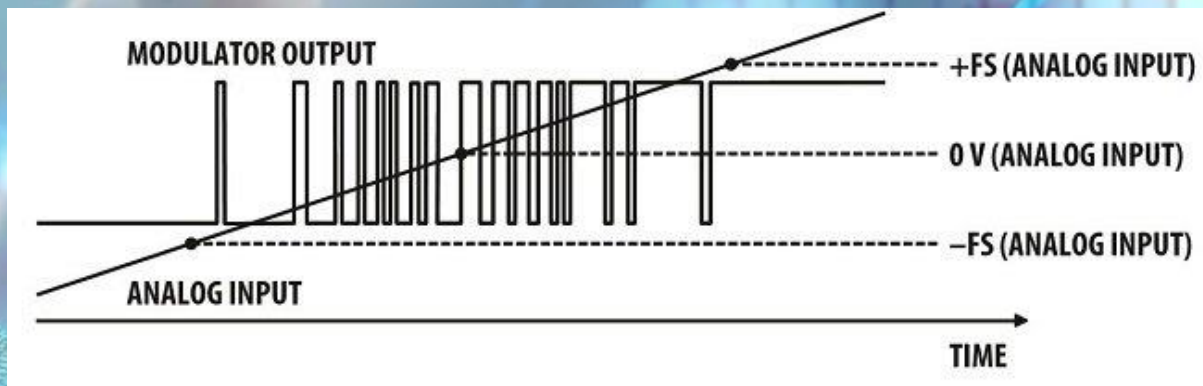
Isolation components, such as the ACPL-C799, allow transferring data without establishing a direct electrical connection between two parts of a system.

Galvanic isolation is an important design technique when one portion of a circuit must be separated from the voltages or currents in another portion of the system. The trick is moving electrical information between these sub circuits.

A typical approach is the use of light. However, optical coupling can become a bit unwieldy when you're dealing with multiple digital signals. If you have an eight-bit parallel data bus, a direct implementation would require eight separate LED-plus-optical-detector circuits.

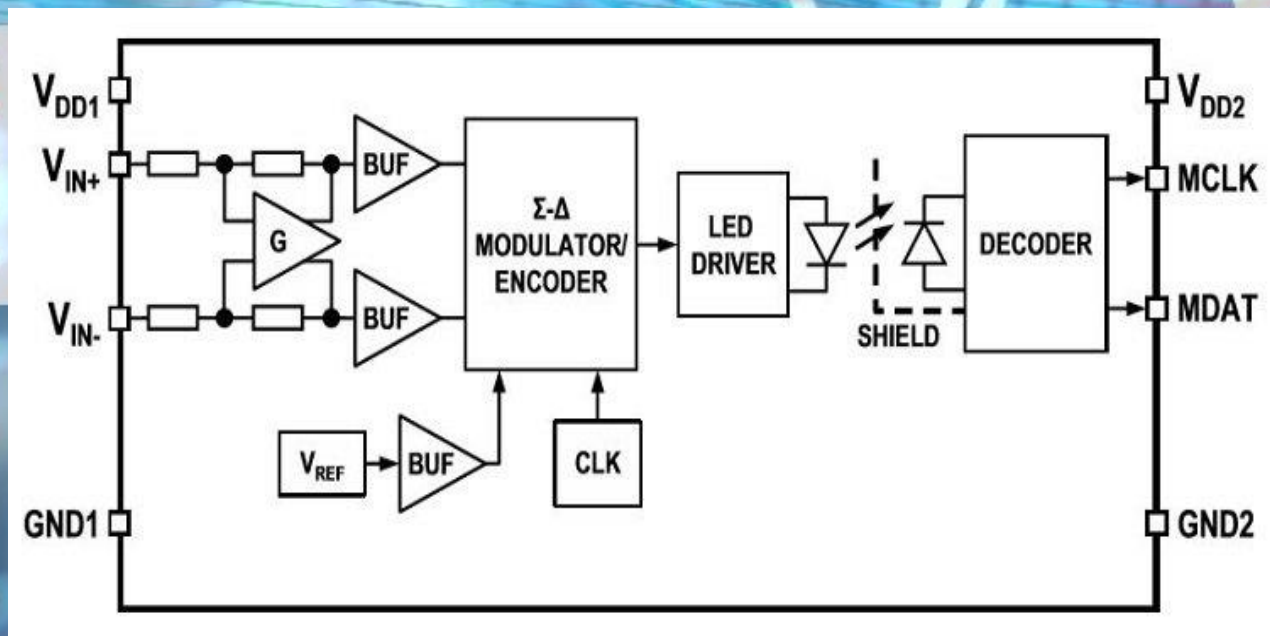
So let's say you have an analog signal in one portion of your circuit, and you want to digitize this signal and pass the data to another portion. What happens when these two sub circuits must be galvanically isolated? We don't want a 16-bit parallel-output ADC that will lead to an interface consisting of 16 optocouplers.

A much more reasonable approach is to digitize the signal in a way that results in fewer digital interconnections, and the natural choice in this case is sigma-delta modulation:



Here we have a conversion scheme that maps the analog input voltage to a certain density of logic-high vs. logic-low states. The result is a one-bit output signal that, despite being single-bit, can represent conversion resolutions that are quite impressive. (A quick Digi-Key search indicates that sigma-delta ADCs currently offer resolution as high as 32 bits.)

The Integrated Approach

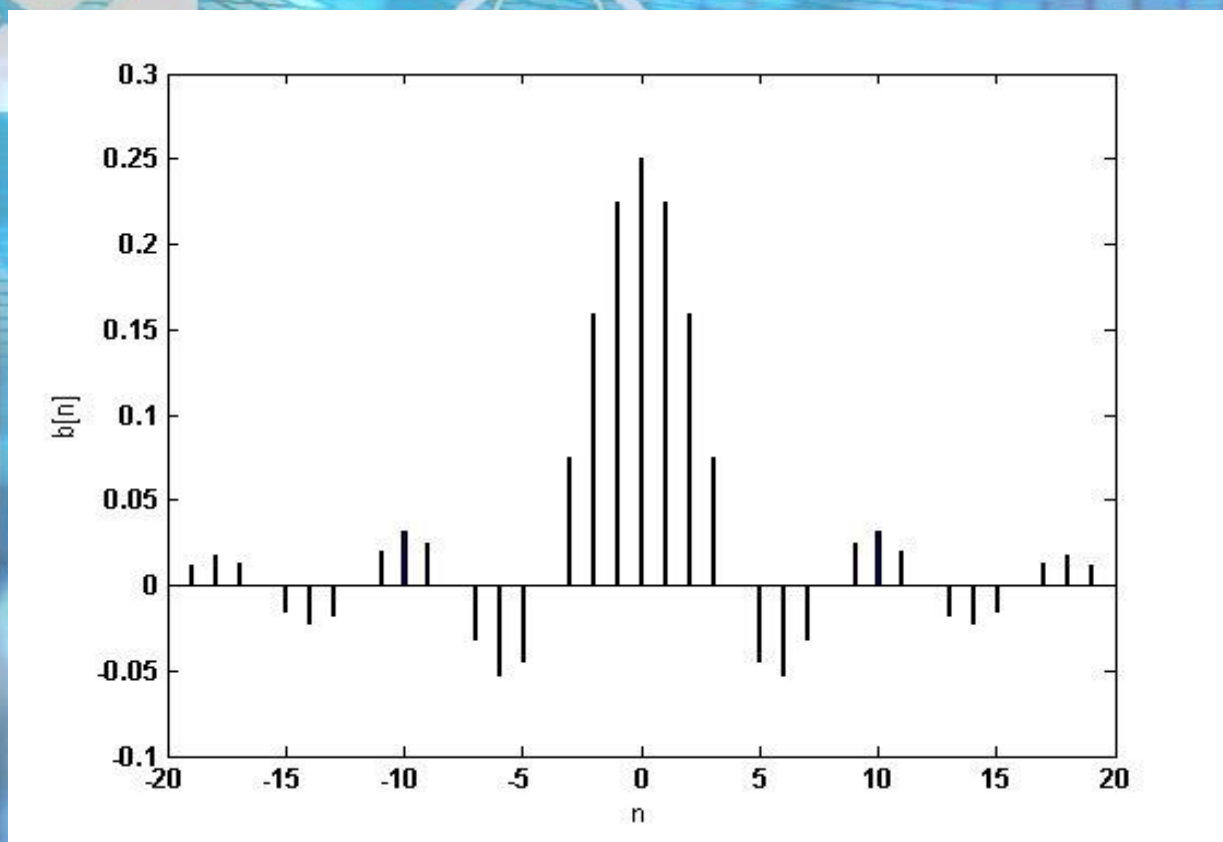


The ACPL-C799 shown above incorporates analog signal processing, sigma-delta modulation, and the optical-coupling interface. The output consists of the sigma-delta digital signal and the corresponding clock signal (the frequency is 10 MHz and note that it's generated internally—no oscillator required).

The Filter

Generally we want our ADC data in the form of (digital) numbers. Therefore ACPL–C799 requires some additional circuitry.

To be more specific, a decimation filter is required; this signal-processing block converts the one-bit data stream into typical multi bit data, and at the same time it reduces the sampling rate. The datasheet recommends a sinc filter, and it also notes that you can use an FPGA or a digital signal processor for this task.



The exact nature of the final ADC data depends on the characteristics of the filter, not on the ACPL-C799 itself. The datasheet gives an example in which the filter has a decimation ratio of 256 and is designed for 16-bit output data. This will result in a sample rate of $(10 \text{ MHz})/256 \approx 39 \text{ kHz}$ and an ADC resolution of 16 bits.

The Analog Side

The ACPL-C799's analog input range—positive 80 mV to negative 80 mV—is quite small, so a voltage divider (and then a buffer) is required to ensure that input signal is compatible. The following table gives an idea of how different input voltages correspond to the sigma-delta data and the filtered ADC data.

Analog Input	Voltage Input	Density of 1s	ADC Code (16-bit unsigned decimation)
+Full-Scale	+80 mV	100%	65,535
+Recommended Input Range	+50 mV	81.25%	53,248
Zero	0 mV	50%	32,768
-Recommended Input Range	-50 mV	18.75%	12,288
-Full-Scale	-80 mV	0%	0

Also, the datasheet specifies a “linear” input range of ± 50 mV, not ± 80 mV. Yet the table reproduced above clearly indicates a ± 80 mV range.

The analog input circuitry is fully functional at voltages up to ± 80 mV, but linearity performance diminishes beyond ± 50 mV. The datasheet states enigmatically that the analog input stage accepts voltages of “ ± 50 mV (full scale ± 80 mV).”

STUDENT'S ACTIVITIES

Student Technical Corner

UREA Battery

By: - Varun Mishra

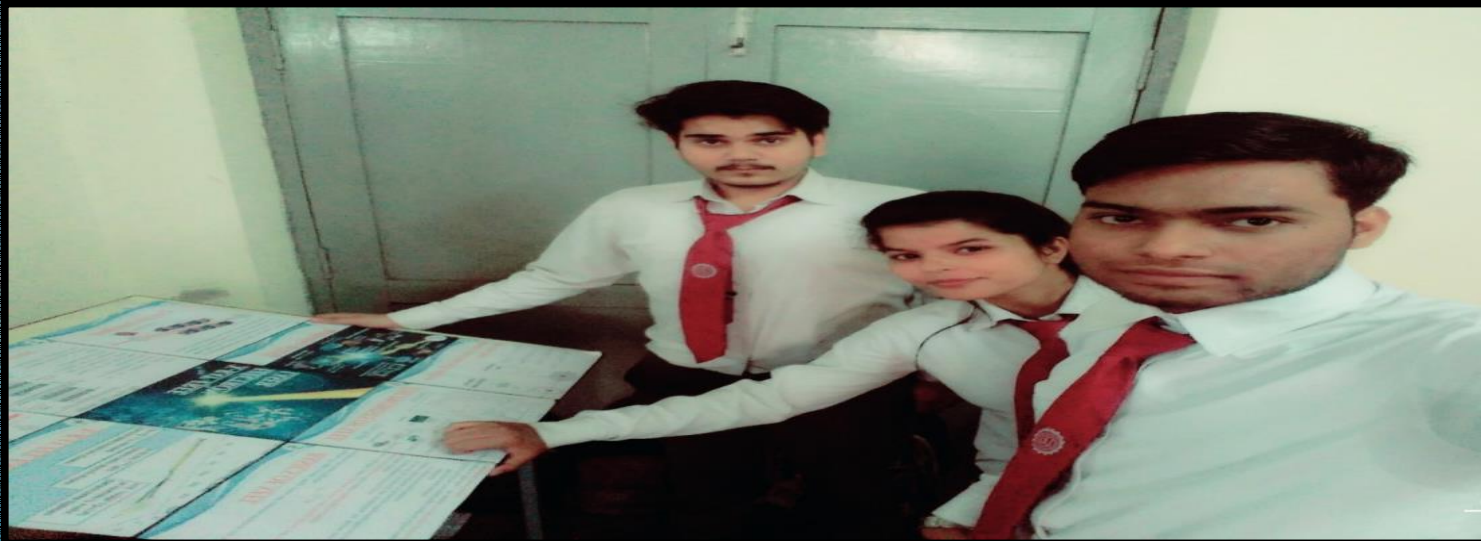


We all know the cliché of a scientist yelling “EUREKA” after making a discovery. In this case, it was engineers at Stanford university shouting “UREA” after creating a battery that uses urea – a component of urine – as its electrolyte. When combined with electrodes made from aluminum and graphite, this battery is non-flammable, efficient and inexpensive. Laboratory testing showed that it’s capable of delivering over 1500 charge cycles at a relatively quick charging rate.

The battery’s chemistry has an energy density of just under 100Wh/kg, less than that of a Li-ion battery that makes it suitable for stationary applications like grid-level or residential energy storage, but undesirable for electric vehicles and other mobile uses. Its quick charging rate would be a welcome feature in EV battery. On the other hand, if it can charge quickly enough, the smaller capacity might not be an issue, especially if it drastically lowers the cost. Its non-flammable, a nice attribute of any battery.

STUDENT ACHIEVEMENTS CORNER

- **ROHAN SHARMA** (IInd Yr.), **RUPAL MISHRA** (IInd Yr.) and **VARUN MISHRA** (IInd Yr.) came 1st in **POSTER PRESENTATION COMPETITION** held on **THE SCIENCE DAY**.
- **AYUSHI PAL** (IInd Yr.) secured 3rd position in Long Jump in **SPORT FEST 2k17**.
- **SHASHANK BINDAL** (IIInd Yr.) secured 1st position in JAM organized by **ABESEC** at **TEJAS 2017**.
- **VASTALYA KUMAR DUBEY** (IIInd Yr.) secured 2nd position in JAM organized by **ABESEC** at **Tejas 2017**.
- **Team SILICONIANS** comprised of **SHASHANK BINDAL** (IIInd Yr.), **VASTALYA KUMAR DUBEY** (IIInd Yr.), **NAMAN SINGH** (IIInd Yr.), **PRANAV MISHRA** (IIInd Yr.) Secured 2nd position in **AD-MAD Show** organized by **ABESEC** at **Tejas 2017**.
- **VIDHI BHATNAGAR** (IIInd Yr.) participated as an Executive Board member (Rapporteur) in United Nation General Assembly in **UNGA-DISEC** at **KIET Model United Nations 2017**.
- **VIDHI BHATNAGAR** (IIInd Yr.) was awarded with the title of **BEST DELEGATE** for representing **People's Republic of China** at **IIT Roorkee Fest COGNIZANCE 2017**, by the Executive Board in **IIT MUN (Model United Nations)**.



Why students don't get good rank in GATE?

What do they do wrong?

Ankit Goyal's Answer-

Ankit Goyal, GATE-2013 AIR-8, GATE-2014 AIR-1,

This is a very good question that what makes a student under perform in GATE. I have been teaching in GATE for almost 4 years and I have seen many promising students not performing up to expectations. There are various reasons for this common problem,

One of the biggest reasons is Concentration Lapse, which means that at some point while solving the problem you may lose focus and end up committing a mistake.

The other reason is inability to deal with Exam Pressure. No matter how many mock tests you give the pressure of the exam cannot be matched with the environment of mock tests.

The third reason is Weak Memory, which causes us to confuse between different formulas and we may end up using incorrect formula.

The other reason can be Weak Aptitude. Many students may not realize this but aptitude is just not another subject but it is related to thinking capability of an individual so if you constantly practice mind boggling questions then you will have a habit of analyzing any problem.

The next reason is Theory vs. Problem Solving. The education system in colleges is such that our major focus remains on learning whatever is needed for exam and forgetting it immediately after the exam due to which we are not able to learn any subject.


The next reason can be the candidate not being exam oriented as we know the course is vast so if you go for in depth understanding of each concept then you may not be able to solve enough problems.

The last reason is Weak Calculation. Due to scientific calculators available to us we generally leave the habit of solving the simplest problems by hand and we totally rely on calculators. Since, GATE has online calculator, a lot of time may get wasted in such calculations.

These are some of the causes that have come to my notice but the question should be how to get rid of these factors to score well in GATE exam. The points that I will list here will be in same order as the cause of the problem,

Due to smart phones and internet penetration we are engaged in our phones which reduce our concentration span. So, I would like to recommend that you keep your mobile away with internet switched off during your study hours to increase concentration. Also, read any question twice carefully before solving to see if there is any twist in the tale.

To deal with exam pressure you need to have multiple strategies to attempt the exam based on how the paper is. This is so because if you have a fixed strategy of attempt and paper is somewhat different then you may not be able to adapt and give your best. Also, appear in as many other exams available as possible to get acquainted with exam environment.



The key to better memory is constant revision because the memory inks in our brain are temporary and to make them long lasting we must constantly refresh them by revision (like DRAM). So keep a day of week reserved for revision.

To improve thinking ability and analytical ability keep 1 hour each day reserved for aptitude problems by any book or study material. This will help in multiple exams as well as improve your analytical thinking.

If you join any classes then your major focus while self study should be to solve as many problems as possible. In my time, I used to focus only on problems and I learnt many concepts which were otherwise did not strike me while reading from standard books.

Read only the topics mentioned in exam course and do not over think any topic. This is so because at a time you have to be good at 10–15 subjects so you cannot be a master of all rather try to be above average so that you can solve problems of each subject.

To improve calculation skills, perform most of the calculations by hand like addition, subtraction, equation solving so that you do not need calculator in exam time. I have a habit of oral computation which enhanced my speed of attempt in GATE exam.

I hope this gives you a thorough list of possible reasons of failure in GATE exam and you can now deal with any of these issues if these apply in your case. Nevertheless, I wish you all the best for GATE exam.

PLACEMENT INFORMATION

S. No.	Roll No.	Name of the Students	Branch	Name of Company	Package Offered (Per Annum)
1	1303331030	BRIJENDRA PRATAP SINGH	ECE	Acelerar Technologies	1.68 LPA
2	1303331078	SABIH AHMAD	ECE	Maintec Technologies Pvt. Ltd.	1.80 LPA
3	1303331085	SHALINI PANDEY	ECE	TCS	
4	1303331010	AKASH KUMAR CHOUDHARY	ECE	Edureka	4.65 LPA
5	1303331088	SHIVANGI SHARMA	ECE	ANR Software	2.17 LPA
6	1303331091	SHYAM NARAYAN GUPTA	ECE	ANR Software	2.17 LPA
7	1303331807	ANKITAMATHUR	ECE	ANR Software	2.17 LPA
8	1303331059	NIDHI GUPTA	ECE	ANR Software	2.17 LPA
9	1403331901	PUJA SRIVASTAVA	ECE	iSource	1.8 LPA
10	1303331046	RACHNA PAUL	ECE	CMS IT Services Pvt Ltd.	1.8 LPA
11	1303331816	GESU JAISWAL	ECE	CMS IT Services Pvt Ltd.	1.8 LPA
12	1303331816	GESU JAISWAL	ECE	Czentrix	1.8 LPA

ALUMINI SPEAK

NAME-*Akshat Joshi*

BATCH-*2011-2015*

CURRENT JOB PROFILE-*IIT Hyderabad PG*

FACULTY AND THE STATURE OF STUDY IN RKGIT



Faculties are erudite with deep knowledge in their specialization. Classes are interactive with doubt clearing sessions. Overall a great place to learn.

ANY PARTICULAR FACULTY WHICH HAD LEFT A DEEP IMPACT ON YOU?

Mr. Puneet C. Srivastava, though strict, one of the best faculties at RKGIT. Always guided me at the odd times as my Alma Mater.

WHAT WAS THE HIGHLIGHT OF YOUR COLLEGE EXPERIENCE? IS THERE SOMETHING THAT WILL STAND YOU OUT; SOMETHING THAT YOU WILL ALWAYS REMEMBER

My College was a mixed story with both success and failures. But faculties were always there to help me at odd times. The friendly and interactive classroom sessions are the one which will be always remembered.

ABOUT YOUR HOSTEL LIFE/ANY INCIDENT FROM YOUR HOSTEL LIFE

Hostel life was awesome with both studies and enjoyment. Students were awesome and friendly.

ABOUT YOUR FRIENDS FROM RKGIT

My friends always supported me and had full faith in me. Overall it makes me nostalgic when I remember those days.

WHAT DO YOU LIKE THE MOST ABOUT RKGIT?

RKGIT has everything to be liked. Good campus with awesome faculties and students anyone would like to be a part of.

ONE THING WHICH RKGIT TAUGHT YOU

RKGIT taught me to hard work and made me penchant to explore more in the field of technical education.

HOW THE COURSE YOU STUDIED HELPS YOU PRESENTLY IN YOUR TODAY'S WORK-PLACE?

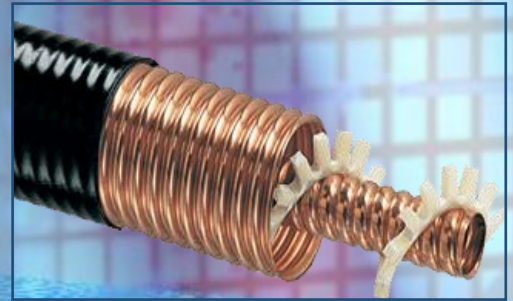
Knowledge of thorough concept related to the field of electronics always helps me to do my research in a better way.

ANY MESSAGE FOR YOUR JUNIORS

I would just say that set a goal in your life and strive hard until u achieve. There should be no impossible in the dictionary of your life.

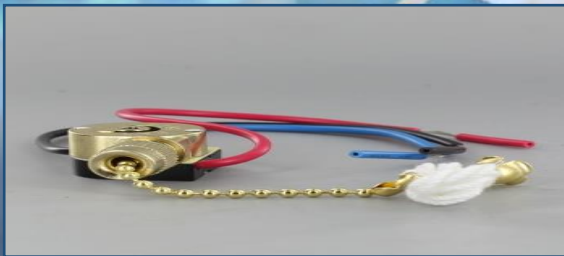
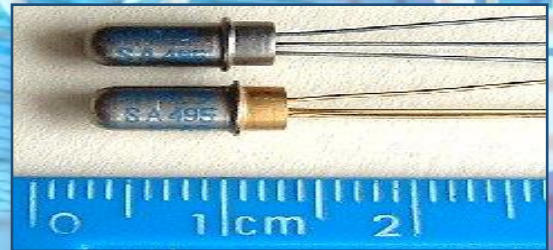
COROLLARY

Air-dielectric coax: *A special type of coaxial cable designed to have minimum loss. The space between inner and outer conductors is mostly empty (i.e., air-filled). Some such cables are sealed and filled with an inert gas. The inner conductor is held away from the inner wall of the outer conductor by beads, washers, or a spiral wound filament of high-grade dielectric material, such as polyethylene.*



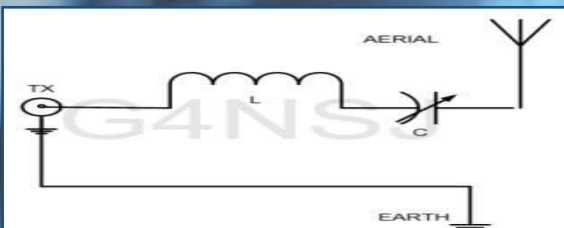
Allen wrench: *A tool used to tighten or loosen an Allen screw. It is a hexagonal rod and is available in various sizes.*

Alloy transistor: *A transistor whose junctions are created by alloying.*



Chain switch: *A switch that is actuated by pulling a light metal chain. Successive pulls turn the switch alternatively on and off.*

Photo FET: *A Field-Effect Transistor that exhibits properties similar to those of a bipolar photo transistor.*



Series antenna tuning: *Antenna-feeder tuning in which a separate tuning capacitor is connected in series with each wire. Compare parallel antenna tuning.*

NOBLE PERSONALITIES-BHARAT RATNA AWARDEES



Atal Bihari Vajpayee is an Indian politician who was the 10th Prime Minister of India, first for 13 days in 1996 and then from 1998 to 2004. A leader of the Bharatiya Janata Party (BJP), he is the first Prime Minister from outside the Indian National Congress party to serve a full five-year term.

On 25 December 2014 the office of President of India announced the **Bharat Ratna Award**, India's highest civilian honour, to Vajpayee. In a special gesture, the President of India conferred Bharat Ratna to Atal Bihari Vajpayee in his residence on 27 March 2015. His birthday, 25 December, was declared "Good Governance Day".

Among his boldest initiatives was the historic bus journey to Lahore in 1999, when he signed the landmark Lahore Declaration with Prime Minister Nawaz Sharif, with both sides pledging to push for peace and security.

India's second nuclear test at Pokhran, in May 1998, also took place during his tenure. A three-time Prime Minister, Mr Vajpayee is considered the gold standard of leadership in the BJP.

His extraordinary thrust to bridge peace with Pakistan came with the Agra summit in 2001, to which he invited President Pervez Musharraf despite the Kargil War that had been fought two years earlier.

Sachin Tendulkar was conferred the **Bharat Ratna**, India's highest civilian award, by the president Pranab Mukherjee on **4th feb 2014**. Tendulkar, 40, is the first sportsperson, as well as the youngest person to receive the award.



Speaking during the ceremony at the Rashtrapati Bhawan, Tendulkar said that though he had retired from the game, he would "continue to bat" for India in all spheres of life. "My cricket has stopped, but I will continue to bat for India and try my best to give people of India a reason to smile," he said.

"I would like to reiterate what I said a couple of months ago about this recognition and dedicate this to my mother and along with her, all the mothers in India who sacrifice their wishes, aspirations for their children so that their dreams come true".



Madan Mohan Malaviya was an Indian educationist and politician notable for his role in the Indian independence movement and as the two time president of Indian National Congress.

The country's highest civilian award **Bharat Ratna**, was conferred posthumously upon educationist Madan Mohan Malviya at Rashtrapati Bhavan on **24 December 2014**, a day before his 153rd birth anniversary. The award was received by Malviya's family for his contribution in the country's freedom struggle and in the field of education.

He was respectfully addressed as Pandit Madan Mohan Malaviya and also addressed as 'Mahamana'.

Malaviya is most remembered as the founder of Banaras Hindu University (BHU) at Varanasi in 1916, which was created under the B.H.U. Act, 1915. The largest residential university in Asia and one of the largest in the world, having over 35,000 students across arts, sciences, engineering, medical, agriculture, performing arts, law and technology. Malaviya was Vice Chancellor of Banaras Hindu University from 1919–1938.

Malaviya was one of the founders of Scouting in India. He also founded a highly influential, English-newspaper, 'The Leader' published from Allahabad in 1909. He was also the Chairman of Hindustan Times from 1924 to 1946. His efforts resulted in the launch of its Hindi edition named Hindustan Dainik in 1936.

Bhimrao Ramji Ambedkar *popularly known as Baba Saheb, was an Indian jurist, economist, politician and social reformer who inspired the Dalit Buddhist Movement and campaigned against social discrimination against Untouchables (Dalits), while also supporting the rights of women and labour.*

He was Independent India's first law minister and the principal architect of the Constitution of India. In 1990, the Bharat Ratna, India's highest civilian award, was posthumously conferred upon Ambedkar. Ambedkar's legacy includes numerous memorials and depictions in popular culture. Ambedkar was a prolific student, earning doctorates in economics from both Columbia University and the London School of Economics, and gained a reputation as a scholar for his research in law, economics and political science. In his early career he was an economist, professor, and lawyer. His later life was marked by his political activities; he became involved in campaigning and negotiations for India's independence, publishing journals, advocating political rights and social freedom for Dalits, and contributing significantly to the establishment of the state of India.

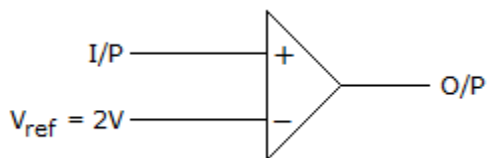


TEST YOUR BRAIN!

1. To prevent a DC return between source and load, it is necessary to use

- A. resistor between source and load**
- B. inductor between source and load**
- C. capacitor between source and load**
- D. either (a) or (b)**

2. If the input to the ideal comparator shown in the figure is a sinusoidal signal of 8 V (peak to peak) without any DC component, then the output of the comparator has a duty cycle of ?

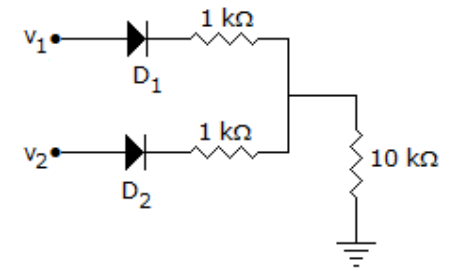


- A. 1/2**
- B. 1/3**
- C. 1/6**
- D. 1/12**

3. A half wave diode circuit using ideal diode has an input voltage $20 \sin \omega t$ volts. Then average and rms values of output voltage are

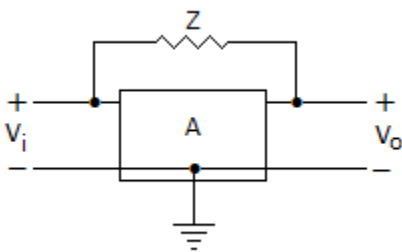
- A. $\frac{10}{\pi}$ V and 10 V**
- B. $\frac{20}{\pi}$ V and 10 V**
- C. $\frac{10}{\pi}$ V and 5 V**
- D. $\frac{20}{\pi}$ V and 5 V**

4. In figure $V_1 = 8\text{ V}$ and $V_2 = 4\text{ V}$. Which diode will conduct?



- A.** D_2 only
- B.** D_1 only
- C.** Both D_1 and D_2
- D.** Neither D_1 nor D_2

5. Gain of the amplifier is 'A'. Then the I/P impedance and O/P impedance of the closed loop amplifier shown below would be



- A.** $Z_i = \frac{ZA}{A-1}$, $Z_o = \frac{ZA}{A+1/A}$
- B.** $Z_i = \frac{Z}{A-1}$, $Z_o = \frac{ZA}{A-1}$
- C.** $Z_i = \frac{ZA}{A-1}$, $Z_o = \frac{ZA}{A-1}$
- D.** $Z_i = \frac{Z}{A-1}$, $Z_o = \frac{ZA}{A+1}$

6. If an amplifier with gain of - 1000 and feedback factor $\beta = - 0.1$ had a gain change of 20% due to temperature, the change in gain of the feedback amplifier would be

- A.** 10%
- B.** 5%
- C.** 0.2%
- D.** 0.01%

UPCOMING EVENTS IN DELHI

EVENTS	WEBSITE	DATE	VENUE
Biometrics India expo	10times.com	25-10-2017	DELHI
International Conference on Industrial Electronics and Electrical Engineering (ICIEEE)	www.allconferencealert.com	7-05-2017	DELHI
Smart cities India exhibitionand conference	10times.com	10-05-2017	DELHI
International Conference on Electrical and Electronics Engineering(ICEEE)	www.allconferencealerts.com	2-07-2017	DELHI
Auto electric Expo	10times.com	18-08-2017	DELHI
Electrical Building Technology India	10times.com	11-10-2017	DELHI

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