Volume:03 Jan-Dec 2018

ELECTRO-MOTTO

Magazine of

ELECTRICAL AND ELECTRONICS ENGINEERING DEPARTMENT

R.V.R. & J.C.COLLEGE OF ENGINEERING (AUTONOMOUS)
Chandramoulipuram, Chowdavaram, GUNTUR – 522 019.

From the Principal

It is always a pleasure to be a part of a team which strives to bring out the talents of students and staff. Electrical and Electronics department of RVR&JC College of Engineering has always been striving to keep itself ahead of the competition. The essential purpose of a magazine is to inform, engage, inspire and entertain a diverse readership including alumni, parents, students, faculty, staff and other friends of the college by telling powerful stories that present a compelling, timely and honest portrait of the college and its extended family. This magazine has made an earnest attempt in this direction and brought out certain aspects to the eyes of the public so that they may understand and know the EEE department even better.

Dr.K.Srinivasu

From the HOD of EEE

I am happy to note that the magazine brought out in our EEE department is of good quality and taste. Hearty congratulations to the editorial team. It is a matter of great pleasure for me to go through the wonderful contributions made by the students. This magazine is intended to bring out the hidden literary talents in the students and to inculcate leadership skills among them. The outside world will come to know about the caliber of our students through this magazine. I extend my thanks to all the contributors for their articles, poems and drawings.

Dr.K.Chandrasekhar

ABOUT THE DEPARTMENT:

The Department of Electrical and Electronics Engineering has been established during the academic year 1994 - 1995 with an intake of 60 students. The intake has been enhanced to 120 from the academic year 2004 -2005 and 180 from the academic year 2013-2014. Department was accredited twice by National Board of Accreditation of AICTE first in the year 2002 with A-Grade for five years, in the year 2007 for three years and in 2012 for two years. Accreditation by NBA for 5th time in 2017. We have over 10 laboratories with advanced equipment and facilities for supporting our teaching and research. It is envisioned to strengthen the quality of its faculty, research and teaching facilities, as well as student's academic performance.

Our vision:

The vision of the department of Electrical & Electronics Engineering is "To impart education leading to highly competent professionals in the field of Engineering who are globally competent and to make the Department a Centre for Excellence".

Our Mission:

The mission of the department of Electrical & Electronics Engineering is "The Integrated development of professionals with knowledge and skills in the fields of specialization, ethics and values needed to be employable in the fields of Electrical Engineering and contribute to the economic growth of the employing organization and pursue lifelong learning**".**

Achievements:

The Department of Electrical & Electronics Engineering standing among all the other branches of our college.

- Accredited "A" grade for three years by NBA, AICTE New Delhi in the year 2017 for three years.
- Accredited "A" grade for two years by NBA, AICTE New Delhi in the year 2012 for two years.

- Accredited "A" grade for three years by NBA, AICTE New Delhi in the year 2007 for three years.
- Accredited "A" grade for five years by NBA, AICTE New Delhi in the year 2002 for five years.
- College Accredited by APSCHE, Hyderabad in academic Audit Grade. It is informed that it is the Second best among the private Engineering Colleges in Andhra Pradesh.
- P.G. Course M.Tech. In Power Systems Engineering was started in 2004 with an intake of 18 students.
- The Students of the department excels in the University Examinations by being University I Rank Every Year.
- The Department is the winner of CZARS Title (Overall Championship) thrice in the years 2008, 2014, 2016 within the college.

Program Educational Objectives:

I. To facilitate the students to become Electrical & Electronics Engineers who able to competent, innovative and productive in addressing the broader interests of the organizations & society.

II. To prepare the students to grow professionally with proficient soft skills.

III. To make our graduates to engage and excel in activities to enhance knowledge in their professional works with ethical codes of life & profession.

Program Outcomes:

Engineering Graduates will be able to:

PO1. **Engineering knowledge**: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2. **Problem analysis**: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3. **Design/development of solutions**: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

PO4. **Conduct investigations of complex problems**: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

PO5. **Modern tool usage**: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

PO6. **The engineer and society**: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

PO7. **Environment and sustainability**: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

PO8. **Ethics**: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

PO9. **Individual and team work**: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

PO10. **Communication**: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reportsand design documentation, make effective presentations, and give and receive clear instructions.

PO11. **Project management and finance**: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO12**. Life-long learning**: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Outcomes (PSOs) of EEE Department:

PSO 1: Graduates of the program must demonstrate knowledge and hands on competence in developing, Testing, Operation and Maintenance of Electrical & Electronics systems.

PSO 2: Graduates of the program must demonstrate knowledge and hands on competence in Modern Engineering tools to engage in life-long learning and to successfully adapt in multi disciplinary environments.

PSO 3: Graduates of the program must demonstrate knowledge in Project Management techniques, environmental issues and Green technologies.

List of Students eligible for academic prizes on Annual day celebrations in 2018

III/IV B.Tech EEE				
Regd No.	**Name**	**Marks**	**CGPA**	**Rank**
Y14EE841	Guntupalli Amani	4867	9.93	First
Y14EE834	Ganta Chaturya	4872	9.89	Second
Y14EE803	Alla Bhargavi	4793	9.86	Third
II/IV B.Tech EEE				
Regd No.	**Name**	**Marks(3400)**	**CGPA**	**Rank**
Y15EE816	Bathina Revanth Kumar	3202	9.93	First
Y15EE925	Racha Yamini	3149	9.93	Second
Y15EE909	Palakollu Naveena	3200	9.90	Third
I/IV B.Tech EEE				
Regd No.	**Name**	**Marks(1600)**	**CGPA**	**Rank**
Y16EE960	Tallapaneni Chandana	1667	9.81	First
Y16EE823	Butti Swarnalatha	1602	9.52	Second
Y16EE910	Nagaboina Likhitha	1592	9.42	Third
II/II M.Tech (PSE)				
Regd No.	**Name**	**Marks(1900)**	**CGPA**	**Rank**
Y15MTPS813	T.R Chandni	--NA---	9.85	First
Y15MTPS812	A.SushmaSreshta	--NA---	9.38	Second
Y15MTPS803	B.Hima Sailavathi	--NA---	9.35	Third

I/II M.Tech (PSE)				
Regd No.	**Name**	**Marks(1900)**	**CGPA**	**Rank**
Y16MTPS812	Porla Sridivya	--NA---	9.79	First
Y16MTPS813	Shaik Nasarvali	--NA---	9.36	Second
Y16MTPS810	Patan Sharuk Khan	--NA---	9.36	Third

Workshop Organized

Department organized National Level Two day workshop on 'Industry Practices in Power System Engineering'during 30 Nov - 01 Dec 2018. The resource persons are Mr. B.A.Mohana Rao, Director (HR & Projects),Mr. T V.V.Siva Rama Kumar,Deputy Executive Engineer,Simulator TI from APGENCO, Vijayawada, Mr.P.Gopala Krishna,Asst. Divisional Engineer, Mr.S.Apparao, ExecutiveEngineer,SAP& IT Applications, Mr.K.S.Kameswara Dev, Executive Engineer (ERP), Mr.T.Sreemannarayana Murthy, Assistant Divisional Engineer, from APTRANSCO, Vijayawada. This workshop aimed to share the practical knowledge of the industry with the faculty and PG students. The focus was on Power system protection, Load forecasting, Energy Audit, Electricity Regulations, ERP & IT Initiatives in Power systems and Data Analytics in Power & Energy Sectors. Policy preferences, in favour of renewable energy that would accelerate this process is also discussed. 78 delegates from various engineering college, participated in the workshop.

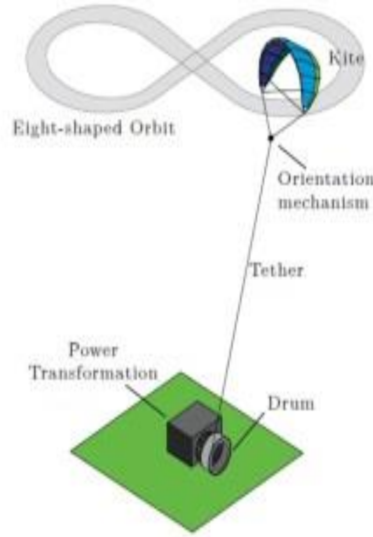
Group photo of Workshop participants

The Kite Generator System: The Future of Wind Energy?

The article discusses the principals involved in various HWAE technologies, the disadvantages of conventional wind turbine systems, and the need to replace them with the kite generator systems especially in India

The third option is to use power kites as renewable energy generators such as the ‘Kite Wind Generator’ of Politecnico di Torino, and the ‘Laddermill’ of the Delft University of Technology as shown in figure 5. In this case, mechanical power is generated when the kites are pulled by wind, transformed them into an electrical one using an on-ground generator. This allows the flying part of the system to be much lighter and avoid using conducting cables. This technology is expected to produce huge amounts of power using a much simpler and safer structure.

Figure 6 shows the basic elements of a Kite Generator System (KGS). On the top is the kite in the shape of a parachute. The natural path followed by this kite is upward with the wind in an eight shaped orbit. The tether is a cheap rope made of fibre having good mechanical strength. The one end of the tether is connected to the kite and the other end is wounded on a drum. The drum rotates to unroll the tether and the kite goes upwards. An electromechanical energy conversion



(EMEC) device is connected on the same shaft as the drum through a gearbox. Hence, the linear kinetic motion of the kite is converted into rotational motion of the drum and is used to generate electricity using an EMEC device.

The Kite Generator System (KGS) is a Relaxation Cycle System; it is composed of a Traction phase. In Traction phase, the kite goes up following an eight shaped orbit, hence, drum unrolls and EMEC device acts as a generator. In the recovery phase, the electrical energy is consumed to bring the kite back down, the EMEC device acts as a motor to deliver the power to the shaft and the drum rolls back the tether.

Comparison of Wind Energy Conversion Technologies

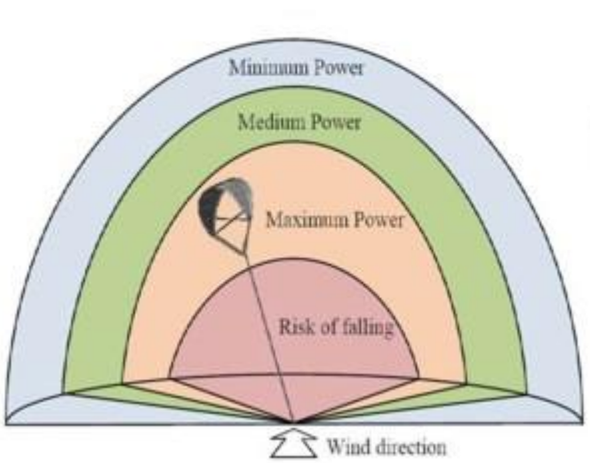


Fig. 8

From the grid connection point of view, wind turbines are not able to produce their rated power continuously due to wind irregularity at their working altitudes, a problem that is less significant in the case of HAWE systems which are supposed to be working at an altitude higher than 400m where the winds are more regular.

Concerning the quality of generated power, it depends whether the system returns power to the energy source or not, meaning whether it has a recovery phase or not. In general, a classic turbine has only one phase of functioning that is a generation, which means that while generating, the resulted power is continuous as long as the turbine is in the power region limited by its cut-in speed and cut-out-speed. This is the case of stationary air rotor systems also.

Meanwhile, kite-based systems and airborne wind turbines have a recovery phase whose goal is to maximize the average generated power and the respect of the constraints of the system, but reflects negatively on the generated power which becomes intermittent. This, however, may be balanced out by the high reversibility of these systems that allows using two or more systems with a suitable choice of the kite's orbits to filter the resulted generated power.

Furthermore, HAWE systems offer mobility and can be invested hugely as it works at a high altitude where the strong wind could be present with little or no wind at low altitudes. Besides, they offer very high adaptability, as their rated power, as well as, generation or consumption phases can be modified by changing the orbit the kite is following e.g. size, rotation and inclination, or changing the altitude. Notably, a kite-based system rated power can be adjusted by changing the kite surface. These adjustments are important to optimise the system's generated power for changing conditions and constraints on it, e.g. Wind speed and direction.

Cost-wise, HAWE systems economise the manufacturing, transportation and construction cost as compared to a wind turbine, e.g. they eliminate the turbine mast cost. Finally, a kite-based system backs down when it comes to the real-time control issue. That is due to the complexity of the system's behaviour, a matter that will not be a problem thanks to the rapid development in computer and information technology, allowing having fast and reliable real-time data processing.

Challenges in adopting Tethered airfoils (Kites) generator system

The power electronic circuitry to act as an intermediate between the grid and the generator is easily available. But it is difficult to design a power electronic circuitry which will act as an intermediate between the generator and the Tethered airfoil (kite) because of the variations in speed. Further, it is difficult to design a control mechanism for the orientation, the curvature of the kite and the gearbox. Finally, the most difficult task is to control and optimize the trajectory of the kite. But the solution to the problem exists and is adopted by various organizations like Makani, Kitenge etc all over the world.

Conclusion

KGS is being adopted worldwide; it is the future of the power industry. Since India is having huge wind energy potential, it should start focusing on technology. As India's on-shore wind capacity remains underutilised and off-shore wind capacity is un-utilised, KGS provides an economical solution to the problem. This technology has the potential to pace up the growth of wind energy contribution to the whole world and it may outperform existing solar PV Modules.

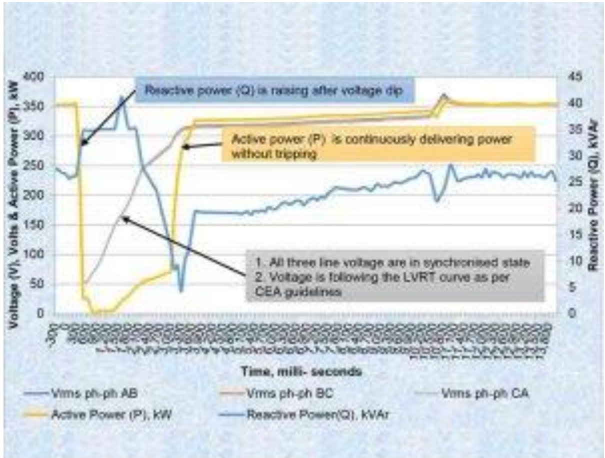
Significance of Low Voltage Ride Through (LVRT) in Solar Inverters

Grid stability is one of the important aspects of energy supply. The article speaks about the LVRT technology that helps power generation companies to stay connected to the grid in order to avoid power outages.

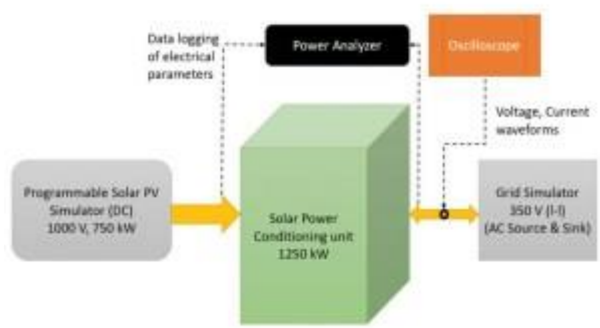
Solar power plants have been increasing in number each year in India and we also see an increase in the use of renewable energy. The use of renewable energy enables the country to become more independent. Solar power plants mainly consist of solar PV modules, grid-connected inverters and transformers. Owing to an increasing number of power plants, the demand for inverters will be high considering we have a target to achieve 175 GW by the year 2020 and 500 GW by 2025.

With one of the leading developing countries, India is pushing onward with a large scale addition of renewable energy by the year 2030. Because of the availability if high renewable energy systems, the stability of the power system needs to be safeguarded. Grid stability is one of the important aspects to consider with regard to energy supply. In order to avoid power outages, it is necessary that power generating plants have control capabilities and protection mechanisms. In the past, these requirements were fulfilled by conventional power plants. In the meanwhile, however, the share of renewable energy sources in the total electricity generation has become so significant that these sources too must contribute to grid stability. Therefore, the transmission system operators have established so-called grid codes with certain critical values and control characteristics that the generating plants have to fulfil. An important part of these requirements is the so-called LVRT capability of generating plants. But what exactly does this term mean? LVRT is a short-form for Low Voltage Ride-Through and it describes the requirement that generating plants must continue to operate through short periods of low-grid voltage that does not disconnect from the grid. Short-term voltage dips may occur, for example, when large loads are connected to the grid or as a result of grid faults like lightning strikes or short-circuits.

In the past, renewable generating plants such as wind turbines were allowed to disconnect from the grid during such a fault and try to reconnect after a certain period of time. Today, because of the significant share of renewables, such a procedure would be fatal. If too many generating plants disconnect at the same time the complete network could break down, a scenario which is also called a ‘blackout’. For this reason, the LVRT requirement has been established which is meant to guarantee that the generating plants stay connected to the grid. Additionally, many grid codes demand that the grid should be supported during voltage drops. Generating plants can support the grid by feeding reactive current into the network and so raise the voltage. Immediately after fault clearance, the active power output must be increased again to the value prior to the occurrence of the fault within a specified period of time. These requirements which at the beginning only applied to wind turbines, now also have to be fulfilled by photo-voltaic systems (PV) and most recently by combined heat and power plants.



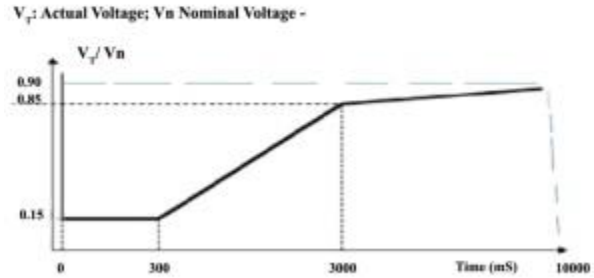
In this diagram, the voltage drops to about 85 per cent of the nominal voltage for a time of 300 ms. The PV inverter recognises the voltage drop and feeds a reactive current of approximately 100 per cent of the nominal voltage into the system for the duration of the fault in order to support the grid. After fault clearance, the active power output is increased to the value prior to the occurrence of the fault within 1 second. Before a generating plant can be connected to the grid, the transmission system operator normally requires a test report or certificate. One of the certification requirements is the measurement of electrical characteristics that includes a test of the LVRT capability. In India, this test can be carried out by a laboratory at the Central Power Research Institute (CPRI), Bengaluru. CPRI is having 540 kVA grid simulator and 750 kW (1000 V & 1800 A) programmable DC source (see Figure 2). During the test, voltage dips are simulated and the behaviour of the inverter is measured and evaluated. The results are documented in a test report which together with other reports forms the basis for certification.

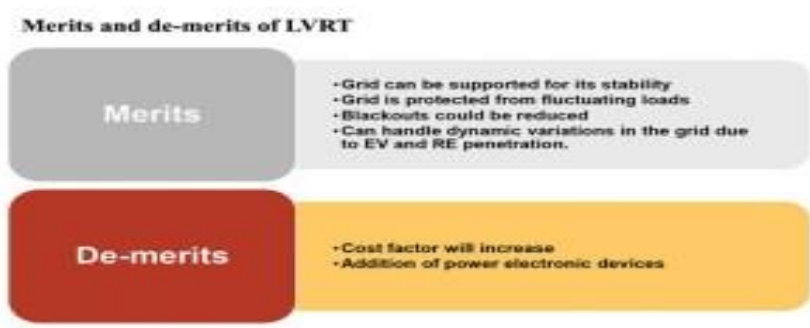


Simulation of LVRT

The simulation of voltage dips requires special technology. Most grid codes and guidelines have specific requirements for the test equipment. According to the international standard for the measurement of power quality characteristics of wind turbines (IEC 61400-21) for example, an inductive voltage divider is recommended which is to be connected ahead of the plant to be tested. For India, CEA Regulations, 2019 for grid-connected equipment. Clause 4(c), Clause B2, Sub Clauses of Central Electricity Authority (Technical Standards for Connectivity to the Grid) (Amendment) Regulations, 2019, Ministry of Power, Notification (New Delhi, dated 6th February 2019) Part III Section 4 provides the requirement for grid-connected equipment for LVRT (see Figure 3).

By using the grid simulator, the voltage dip can be configured. Depending on the respective grid code, different depths of voltage dips have to be simulated, for wind turbines, usually, the dip is less than 5 per cent, 25 per cent, 50 per cent and 75 per cent of the rated voltage are required; for grid-connected inverters usually, the dip is 85 per cent. The duration of the dip is 300 ms only. In some cases, the duration can also be extended to several minutes. German and international guidelines demand the simulation of three-phase as well as two-phase faults. In England, guidelines additionally demand one phase faults against earth. The test system is normally stored in specially equipped standard sea containers and mainly contains the coils and switching devices. Large-size test systems (for generating plants in the multi-megawatt range), often require two or more 40-feet containers. The mobile test system can thus be transported to the respective test site for free-field measurements. PV systems are often tested in the laboratory where the LVRT test system is normally part of the test facility. In cases, however, where manufacturers do not have their own test facility, mobile test containers are used instead.





As an independent measuring institute, CPRI has recently started testing the LVRT capability of grid-connected inverters. Since very recently, CPRI is also able to perform fault ride-through tests with own test systems. These consist of a smaller system for testing generating plants up to 0.5 MW, in grids up to 415 V. The test system is also well equipped for future requirements because it is possible to simulate so-called HVRT tests (overvoltage tests) and FRT test (frequency ride-through from 47.5 Hz to 52 Hz). The first projects with CPRI's own test setup have already been completed successfully on a solar-based grid-connected inverter of 1250 kW capacity, tested at 350 kW. CPRI is accredited by the NABL (National Accreditation Board of Laboratories), according to ISO/IEC 17025:2017. Other terms frequently used and describing the same subject are Fault-Ride-Through, response to voltage drops, performance in case of voltage dips, voltage dip- tests, transient stability, network faults, double-dip test, voltage drops, and performance during network disturbances and behaviour during network disturbances.

Examples of LVRT in Solar Power Plants

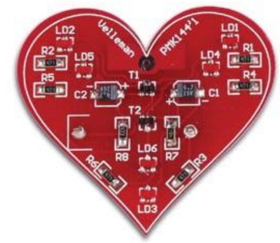
For short system faults (lasting up to 150ms or 300 ms) the inverter in the solar plant has to remain connected to the grid. For High voltage grids, voltage dips of longer durations like 500 ms or 1000 ms or higher, the inverter in the solar power plant have to remain connected to the grid up to more than 2 ½ minutes. As the curve shown in CEA says the inverter to be on top of the curve if voltage follows it. During grid faults or brownouts a solar power plant has to supply maximum reactive current to the grid without exceeding the transient rating of the plant. This will boost the voltage of the grid to maintain stability.

On HV grids, during voltage dips lasting more than 300 ms, the active power output of a solar plant has to be retained at least in proportion to the retained balanced HV grid voltage.

LVRT for Electric Vehicle Charging Infrastructure (EVCI)

Grid-connected inverters need to have LVRT feature in-built in them to support the grid. As electric vehicle supply equipment (EVSE)/ EVCI contains the grid-connected inverter for V2G power flow, the importance of LVRT is increased. EV loads are going to be fluctuating and this making the existing conventional load curve of each region or entire country different than the present scenario. EV loads may not increase the load in the near future but will vary the load curve. Multiple EVCI’s connected to the grid can really help the grid if they possess the LVRT feature in them apart from taking power from EV to the grid (V2G). LVRT based grid-connected inverters in the EVCI’s can play a major role in maintaining the grid stability and security of the country.

Electrical love

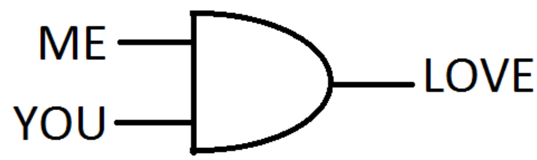


Dear,

From the very minute I saw you I have synchronized myself into the infinite bus of love.my heart started hunting towards you like an alternator.

My eyes are crawling behind you! You have disturbed my mind’s field as a sudden load in an alternator!

Dear, I have lost my steady state stability. Roots of the characteristic equation of my life are now lying on the right half of s-plane.



Dear, I have adjusted my heart’s thevenin’s resistance for the maximum transfer of my love for you. Though we are like electrons of two different atoms let us be the same current for a single love source. Life without you is like an open circuited mesh!

Without you I am like a grounded capacitor. Charge with your ideal supply of love. Your sight has stricken me like a lighting flash which has broken my heart’s dielectric strength.

My dear, my love for you is as pure as the fundamental sine wave. Let us two current carrying wires attracting each other.

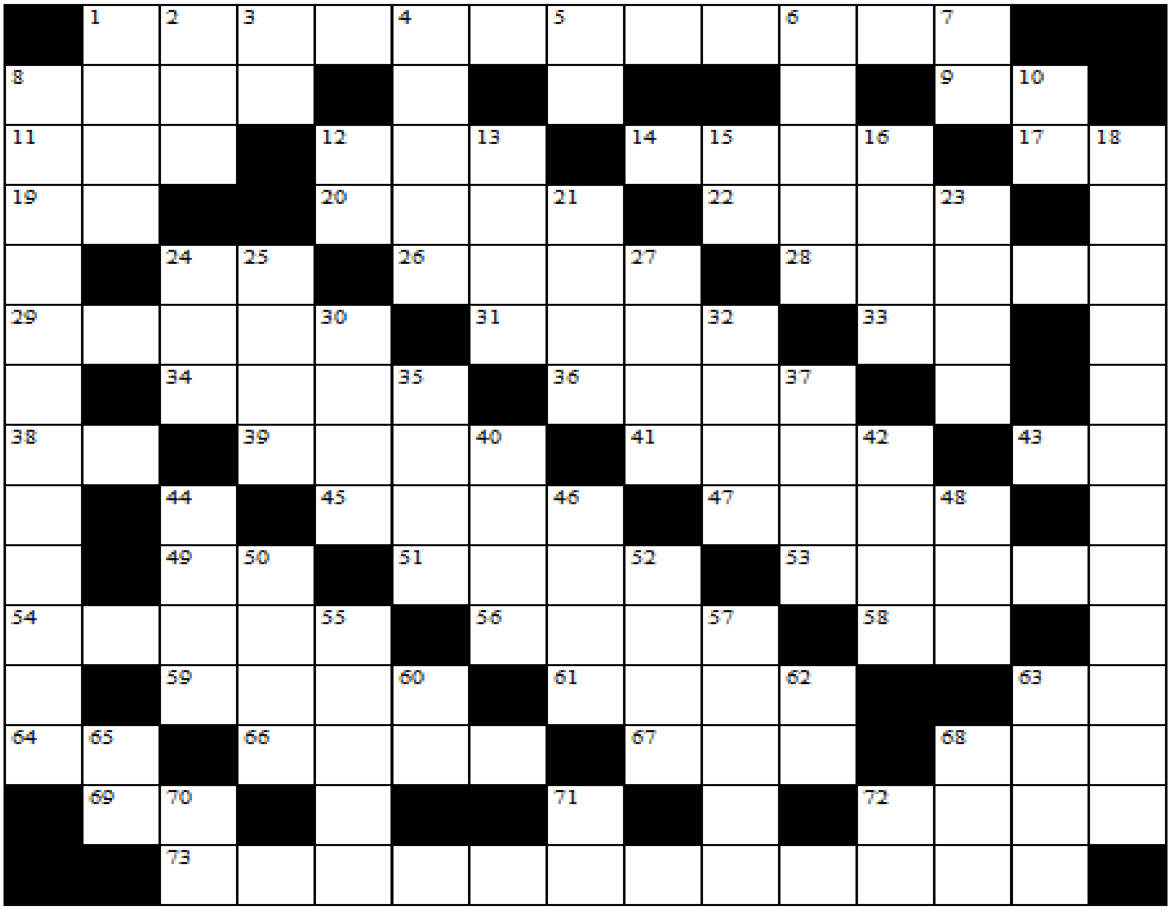
My love for you is as strong as the electromagnetic force! Let us solve the integro-differential equation of our life together. Come with me to Laplace transform our life to live in a new plane of marriage!

Expecting for your transient response!!!!!.........

(S.Teja, IV/IV B.Tech, Y16EE957)

CROSSWORD:

ACROSS	DOWN
1. Signal path with very low or 0 ohms of impedance (2 wds.) 8. General Mobile Radio Service (abbr.) 9. Band between RF and BB 11. Effective frontal area presented to a microwave interrogation system (abbr.) 12. Semiconductor On Insulator (abbr.) 14. Asynchronous Communication Interface Adapter (abbr.) 17. Unit of length (abbr.) 19. Network department (abbr.) 20. Open a fuse 22. Type of high frequency circuit substrate (abbr.) 24. 1e-6 mA 26. Network configuration type 28. Satellite milieu 29. Defense Advanced Research Projects Agency 31. Length times width 33. __ + 23 Down, the world's greatest engineering website 34. Antenna type derived from simple weighted wires dropped from Zeppelin airships 36. Plug-in for computer bus 38. Max or min voltage of a waveform (abbr.) 39. International phonetic alphabet letter "X" 41. Differential Phase Shift Keying 43. Local Oscillator (abbr.) 45. Junk e-mail 47. Application Specific Integrated Circuit (abbr.) 49. Chemical symbol for einsteinium 51. Branch of the armed forces 53. Network device that takes commands from another similar device 54. Min_______ and Max______, in a Karnaugh map 56. Digital intelligence 58. Opposite of I.D. 59. Type of microwave frequency source using element #39 as the core (abbr., pl.) 61. Lacing _____, for bundling cables 63. Morse Code for "from" 64. Chemical symbol for rhodium 66. Type of programmable device (abbr.) 67. Miniature RF connector 68. Precision approach radar (abbr.) 69. Electromagnetic (abbr.) 72. Total Access Communication System (abbr.) 73. Unit of wire size (2 wds., pl.)	1. Miniature RF connector (pl.) 2. Stock symbol for Harris Communications 3. Unix, Linux or Windows (abbr.) 4. Device to assist in the performance of a chore (pl.) 5. Galilean moon 6. Volts, meters, pints, pounds, eg. 7. Semiconductor and calculator company (abbr.) 8. Test equipment that causes a meter decrease (null) when near resonant circuits (3 wds.) 10. Small unit of capacitance (abbr.) 12. Chemical symbol for antimony 13. Islands On The Air (Ham term) 15. Chemical symbol for chlorine 16. Adjacent Channel Power Ratio (abbr.) 18. Instrument designed to measure temperature (pl.) 21. World Amateur Radio Conference 23. 33 Across + _____, the world's best engineering website 24. Non-return to zero (abbr.) 25. Highest point 27. A disk operation 30. Automatic Packet Position Reporting System (abbr.) 32. Advanced Research Projects Agency (abbr.) 35. International phonetic alphabet letter "P" 37. Type of spread spectrum that does not use frequency hopping (abbr.) 40. 36 inches 42. International phonetic alphabet letter "K" 44. The "V" in VLF 46. Million multiply accumulate operations (abbr.) 48. Software drafting tool (abbr.) 50. Internet mail protocol (abbr.) 52. Microwave frequency source using element #39 as the stabilizing component (abbr., pl.) 55. Relating to the sun 57. Strong cable covering 60. Chemical symbol for scandium 62. Logarithmic ratio (abbr.) 63. Type of data conversion device (abbr., pl.) 65. Chemical symbol for helium 68. Programmable logic device (abbr.) 70. Unit of frequency (archaic, abbr.) 71. Electrical safety organization (abbr.) 72. Semiconductor and calculator company (abbr.)



CROSSWORD SOLUTION

R.V.R. &J.C. COLLEGE OF ENGINEERING

(Autonomous)

DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

BATCH : 2014-18 SECTION- A

STAFF SITTING ROW (L TO R) : *P.Venkata Mahesh, N.Dharani Kumar, M.Anitha, N.Chaitanya, Dr.K.Radha Rani, Dr. K.Swarnasree,Dr.K.Srinivasu(Pricpal), Dr.K.Chandrasekhar(Hod), N.C.Kotaiah,*G.B.Sankara Rao Dr. G.Sambasiva Rao, Y.Suri Babu, B.V.Vasantha Rao, K.Nagarjuna.

STANDING 1st ROW : Ranjani, Vijaya Lakshmi, Aishwarya, Bhavya Deepika, Ashita, Gayatri, Tulasi, Sowjanya, Pravallika, Kavitha, Pavani, Vanaja, Swarupa Rani, Amani, Bhargavi,, Chaturya, Manideepthi, Anitha, Thulasi, Sai Chaitanya, Vishnu Priya, Sunitha, Vani Jyothi.

STANDING 2nd ROW : Sumanth Babu, Manideep, Durga Siva Ganesh, Yaswanth, Devendra, Sriram, Mohana Krishna, Vinod Kumar, Akhil, Umamahesh, Venkatesh, Sai Krishna, Bhanu PrakashRajasekhar,, Surendra Reddy, Siva Saivarma

STANDING 3rd ROW : Nagi Reddy, Harish, Rajesh, Ramakrishna, Surendra Babu, Sai Gopi, Yaswanth, Ginjupalli Akash, Sukesh, Venkata Kishore, Hari Krishna, Kiran Bhargav, Hemanth Naik.

B.SAI - 9848406367

R.V.R. &J.C. COLLEGE OF ENGINEERING
(Autonomous)
DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING
BATCH : 2014-18 SECTION- B

STAFF SITTING ROW (L TO R) : Ch.Ranga Rao, N.Dharani Kumar, M.Anitha, N.Chaitanya, Dr.K.Radha Rani, Dr. K.Swarnasree,Dr.K.Srinivasu (Principal), Dr.K.Chandrasekhar (Hod), N.C.Kotaiah,Dr. G.Sambasiva Rao Y.Suri Babu, K.Nagarjuna, P.Venkata Mahesh.

STANDING 1st ROW : Srilalitha, Venkata Srinitya, Meda Anusha, Bhanu Tejaswini, Rupasri, Shaheena, Mounika, Sri Nandini, Manideepthi, Bhavishya, Prameela, Kothapalli Uma, Siva Prasanna, Thirupathamma, Meruga Swapna, Venkata Sai Kavya, Maddi Komali, Sudha Rani, Narne Moulika, Harischandrika, Sree Sravya, Sai Rachana, Aparna.

STANDING 2nd ROW : Chaitanya, Amarnath, Naveen Kumar, Siva Karthik, Sai Baba, Lokesh, Vijaya Krishna, Naveen Kumar, Sai Kumar, Anjan Kumar, Pradeep Kumar, Prathap, Vasu, Prabhakar Reddy, Ravikumar, Tirupathi Rao, Naveen, Yeswanth Kumar, Venkata Kalyan, Venkata Krishna, Rama Reddy, V. Masthan Rao, R. M. Vara Prasad, M. Siva Kumar.

STANDING 3rd ROW : Nagarjuna Rao, Inthiyaz, Brahmam Goud, Manohar, Koteswara Rao, Vinay Kumar, Tejesh, Jeevan Raj, Chandra Sekhar, Nagarjuna Reddy, Nikhil Chowdary, Metuku Manoj, Umakanth Soorya, Suresh Kumar, Ram Mohan, Premkumar, Chaitanya Krishna, Sai Krishna, Manikanta.

R.V.R. &J.C. COLLEGE OF ENGINEERING

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DEPARTMENT OF ELECTRICAL & ELECTRONICS ENGINEERING

BATCH : 2014-18 SECTION- C

STAFF SITTING ROW- (LEFT TO RIGHT) :Ch.Ranga Rao, N.Dharani Kumar, M.Anitha, N.Chaitanya, Dr.K.Radha Rani, Dr. K.Swarnasree,Dr.K.Srinivasu (Princpal),Dr.K.Chandrasekhar (Hod).N.C.Kotaiah, Dr. G.Sambasiva Rao, G.B.Sankara Rao, Y.Suri Babu, P.Venkata Mahesh, K.Nagarjuna.

STANDING 1st row :Vijayalakshmi, Dhana Kumari, Varshita,Hari Priyanka, Sandhya Rani, Sai Sushma, Sri Ravali, Yejandla Manasa, Priyanka, Manisha, Naga Revathi,Pravallika, Srivadana, Shaik Shabnaz, Nafeesa Begum, Prashanthi, Shaik Suhefa, Nihaz Afrin, Durgadevi, Keerthi Sonia, Harika.

STANDING 2nd row :Sridevi, Sai Lavanya, Tejaswi, Nirmala Bhavani, Charitha Philas, Deepika , Saahiti, Raja Kumari.

STANDING 3rd row :Sesi Bhargav,Tejendra Hema Raj Aditya, Naveen Kumar, Tirumala Reddy, Eswara Rao, Chakradhara Rao, Venkatesh Babu, Sainadh, Gowtham Rajesh, Naveen Kumar, Ashok, Krishna Mohan, Sai Kumar, Sai Nikhil, Mani Jaswanth, Raviteja, Ramesh, Rajanikanth, Adam Shafi, Jaya Prakash,R. M. Vara Prasad, V. Masthan Rao, M. Siva Kumar.

STANDING 4rd row :Chandrasekhar Reddy, Siva Prakash Reddy, Sameer Ali, Rajkumar, Appi Reddy, Nandhu Kumar, Varun Kumar, Mani Shankar, Usha Kiran, Eswar Reddy, Shaik Baji,Prabhudhar Reddy, Pavan Kalyan, Manohar, Naveenkumar, Ramoji Naidu, Ashok, John Shaida, Nava Teja, Durga Maheswar.

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