JODHPUR INSTITUTE OF ENGINEERING AND TECHNOLOGY

THE SPARK

Dept. of Electrical Engineering

Issue - 13 | December - 2017 | Half Yearly Newsletter

JIET Group of Institutions

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VISION

To become a globally recognized institution in technical and professional education, and to provide career and research oriented, value based education to serve the society.

MISSION

To develop a holistic educational approach that blends fundamentals and hands-on experience.

To build a diverse academic environment that fosters problem solving ability, team spirit, leadership, and commitment towards quality.

To promote exchange of ideas, innovation, research and entrepreneurial skills so as to face global challenges.

To inculcate ethical values and sense of responsibility towards society.

PROGRAMME EDUCATIONAL OBJECTIVES

1. **Preparation:** Electrical Engineering graduates should be competent enough in the practice of Electrical Engineering in industry, research & development and public service units.
2. **Breadth:** To provide students with a solid foundation in mathematical, scientific and electrical engineering fundamentals required to solve problems related to electrical engineering and to prepare the students for post-graduate programs.
3. **Core Competence:** To train students with good scientific aptitude in Electrical broadband so as to comprehend, analyze, design, and create novel products and solutions for sustainable development of society.
4. **Learning Environment:** To motivate the students toward continuous professional development through individual effort and life-long learning for a successful professional career.
5. **Professionalism:** To inculcate professional and ethical attitude, effective communication skills, team spirit, leadership, multidisciplinary approach, and an ability for self-education as well as self-employment amongst the students.

LIST OF PROGRAMME OUTCOMES (POS)

PO1: Apply knowledge of mathematics, science and engineering towards solving business and scientific problems.

PO2: Identify, formulate and solve complex engineering problems.

PO3: Apply functions and principles of various courses such as communication systems, linear integrated circuits and VLSI design circuits to design electronic circuits and systems using software and hardware.

PO4: Examine, analyze and evaluate software/hardware system or component or process and decide if it meets the requirements of end users.

PO5: Understand the need and acquire skills to use modern engineering tools that are necessary to become successful software and hardware professionals.

PO6: Understand and analyze the impact of solutions in the local and global societal context including health, safety and legal issues.

PO7: Understand the importance of environment to develop skills and knowledge for sustainable Development.

PO8: Realize and understand professional, ethical and cultural responsibilities.

PO9: Work as a team player and strive for self-excellence.

PO10: Communicate effectively with an elite audience.

PO11: Understand the various principles of management and apply the same in their day to day aspects.

PO12: Engage in life-long learning towards enduring professional development.

PROGRAMME SPECIFIC OBJECTIVES (PSOS)

PSO1: Graduate will demonstrate an ability to analyze, interpret and design the various components of electrical power systems.

PSO2: Graduate will demonstrate an ability to analyze, interpret and design the various components of electrical control systems.

PSO3: Graduate will demonstrate an ability to analyze, interpret and design the various components of modern electric drives.

PSO4: Graduates will demonstrate an ability to analyze, interpret and design various aspects of non-conventional energy product for better future.

MESSAGE FROM THE HEAD OF DEPARTMENT

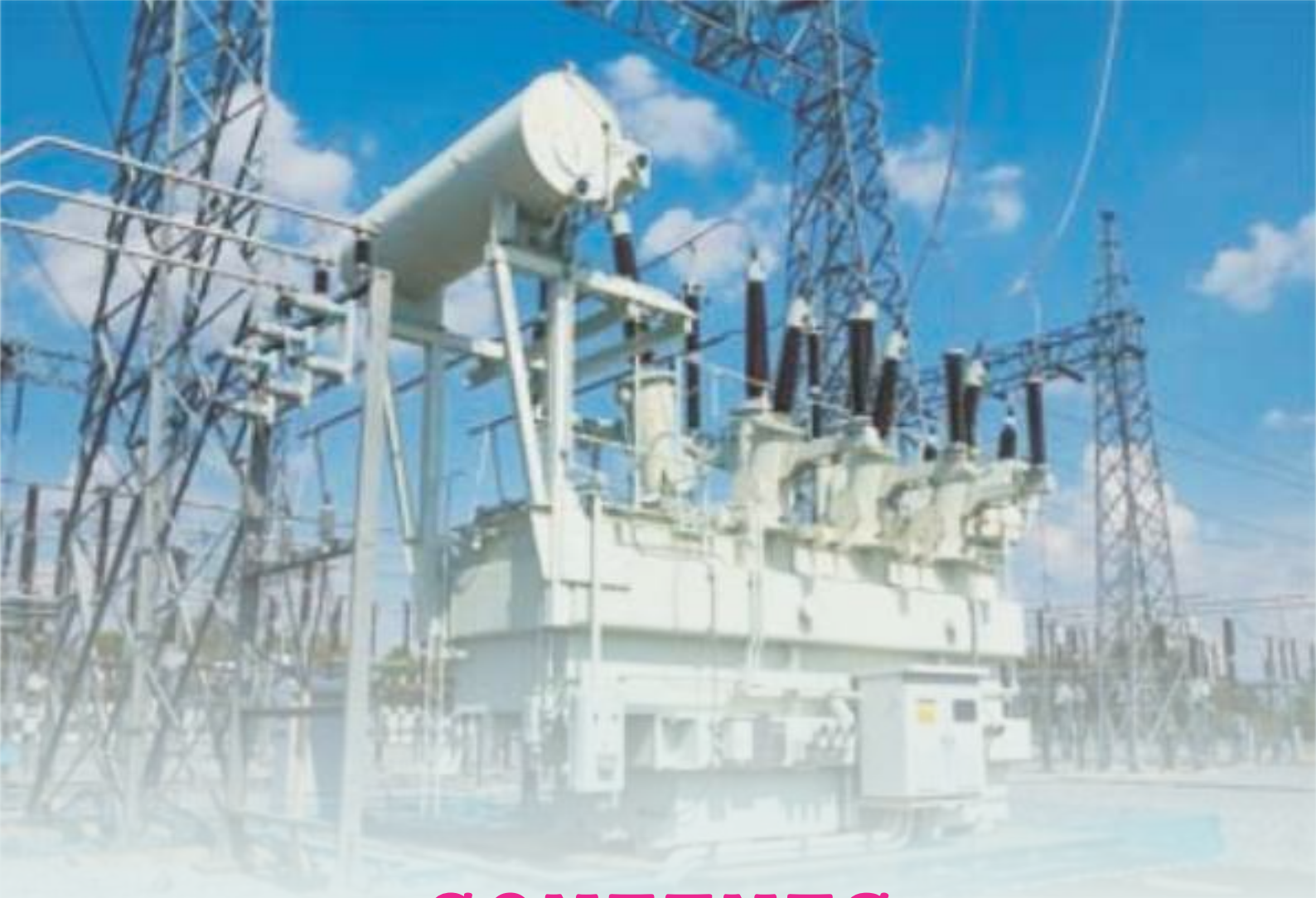
It gives me immense pleasure to congratulate the consolidated efforts of the editorial team of 'SPARK' the biannual newsletter, for its successful launch of the latest edition for session July 2017 till December 2017 of the department of Electrical Engineering. I wish persistence development of department in the upcoming time.

Dr. Kusum Agarwal
Head U.G.,
Department of EE, JIET

FROM THE EDITORIAL DESK

Newsletter is not only a platform to showcase your achievement but also a source of inspiration.With a sense of pride and satisfaction we would like to say that with the active support of the faculty and students, 'SPARK' has come alive. With all the efforts and contributions put in by the students, we truly hope that the pages that follow will make some interesting reading.From July 2017 till December 2017, an appreciable increment in the students and faculty accomplishments section has been observed. Happy learning!

Mr. Vineet Gehlot
Assistant Professor, EE, JIET
Member of Internal Publication Cell, JIET



CONTENTS :

GUEST LECTURES (EXPERTS FROM OUTSIDE JGI)

- A video lecture of Prof. S. Banerjee (Professor, IIT Kharagpur) was organized on “Fundamentals of Single and Double Basin Tidal Systems" for the students of Final year (E section) on 31 July 2017 at LT-18 and for IV year (M Section) on 28 July 2017 at LT-17 respectively.
- Prof. M.G.Soni (Assoc. Prof. and Former Head, Department of Electrical Engineering, MBM Engineering College, JNV University, Jodhpur) delivered an expert lecture to the students of III Year (E sections) on “Nyquist Stability Criterion” on 24 August 2017.
- Er.M.L.Khanchandani (Retd. Executive Engineer, Rajasthan State Electricity Board, Jodhpur) delivered an expert lecture to the students of III Year (E & M sections both) on “Practical Overview of Transmission & Distribution” on 22August 2017 at JIET Conference Hall.
- Prof. D.P.Kothari (Professor Emeritus; Department of Electrical Engineering & Former Director, IIT Delhi) delivered an expert lecture to the students of II & III Year (Both E &M Sections) on “Energy & Environment Problems facing the Third World and their Probable Solution for Sustainable Development” on 12/09/2017 at JIET Conference Hall.

- Prof. M.G.Soni (Assoc.Prof. & Former Head, Department of Electrical Engineering MBM Engineering College) delivered an expert lecture to the students of III Year (E Section) on “Nyquist Stability Criterion” on 11/9/2017 at LT-15.
- A video lecture of Prof. (Dr.) L.Umanand (Professor,IISC,Bangalaore) was organised for the students of III Year (E&M Section) on “Buck Boost Converter” on 28/10/2017 at LT-16.

EXPERT LECTURES (EXPERTS FROM WITHIN JGI)

- Mr. Harish Khyani (Assoc. Prof and Dy HOD, Dept. of EE, JIET) delivered an expert lecture to the students of III Year (E section) on “Overview of control systems” on 13 July 2017 at LT- and to III Year (M section) on 14 July 2017 at LT- respectively .
- Mr. Chandra Shekhar (Assoc. Prof ,Dept. of EE, JIET) delivered an expert lecture to the students of II Year (C section) on “Graph Theory v/s Classical method of analyzing circuits” on 27 July 2017 at LT-15.
- Mr. Shrawan Ram Patel (Assoc. Prof ,Dept. of EE, JIET) delivered an expert lecture to the students of Final Year (E section) on “Overview of power system planning and load forecasting” on 29 July 2017 at LT-17.
- Ms. Kusum Agarwal (Assoc. Prof and Head, Dept. of EE, JIET) delivered an expert lecture to the students of Final Year (E section) on “Fundamentals of Solar PV” on 5 August 2017 and to Final Year (M section) on 4 August 2017.
- Prof. (Dr.) Rajendra Karwa (Campus Director, JIET) delivered an expert lecture to the students of Final Year (E and M sections both) on “Performance of Flat Plate Collectors” on 10August 2017 at JIET Conference Hall.
- Mr. Sanjay Bhandari (Assoc. Prof, Dept. of ECE, JIET) delivered a motivational lecture to the students of III Year (E section) on “Career guidance on Training, GATE and Co- Curricular activity” on 14August 2017.
- Mr. Navneet Maru (Assoc. Prof and Dy. HOD (Academics), Dept. of EE, JIET) delivered an expert lecture to the students of III Year (E&M Section) on “Memory Classification” on 11/10/2017 at LT-17.
- Ms. Kusum Agarwal (Head, Department of Electrical Engineering, JIET) delivered an expert lecture to the students of III Year (E Section) on “Characteristics of DC Shunt Generator, Voltage Build up, Critical Resistance and Critical Speed” on 01/09/2017.
- Mr.Vinit Mehta (Assoc. Prof, Department of Electrical Engineering, JIET) delivered an expert lecture to the students of Final Year (E&M sections) on “Z-bus Formulation and Algorithm” on 27/09/2017.
- Mr.Vinit Mehta (Assoc. Prof, Department of Electrical Engineering, JIET) delivered an expert lecture to the students of III Year (E&M Section) on “Geometric Mean Distance” on 12/10/2017 at JIET Conference Hall.
- Prof. (Dr.)PunitaS oni (Head, Department of Management Studies , JIET) delivered an expert lecture to the

students of Final Year (E&M Section) on "Economics for Electrical Engineers " on 25/10/2017 at LT-17.

- Mr..HarishKhyani(Assoc. Prof and Dy. HOD(Administration),Dept. of EE,JIET) delivered an expert lecture to the students of II Year (E Section) on "Circuit transients and Laplace Transform Analysis" on 02/11/2017.
- Dr.Rashmi Vyas (Assoc. Prof, Department of applied sciences, JIET) delivered an expert lecture to the students of III Year (E section) on "Self Exploration Process" on 31 August 2017 at LT- 16.
- Mr .Navneet Maru (Assoc. Prof and Dy. HOD Academics, Dept. of EE,JIET) delivered an expert lecture to the students of II Year (E Section) on "Bootstrap Circuits and Darlington Amplifier." on 14/11/2017.
- Mr.Chandershekhar Singh (Assoc. Prof, Dept. of EE,JIET) delivered an expert lecture to the students of II Year (E) on "Preparation for Circuit Analysis-I: University Point of View" on 14/11/2017.

UNIVERSITY RESULTS (2017-18)

III Year (VI Sem) (Batch 2018) I Shift

Position	Names of the Students	Percentage
I	Vaibhav Gehlot	87.8%
II	Neha Patwa	85.5%
III	Varshita Mathur	83.4%

III Year (VI Sem) (Batch 2018) II Shift

Position	Names of the Students	Percentage
I	Nakshatra Gaur	77.4%
II	Narendra Panwar	76.5%
III	Amit Tak	76.3%

II Year (IV Sem) (Batch 2019) I Shift

Position	Names of the Students	Percentage
I	Vikram Choudhary	86.3%
II	Mahima Gupta	84%
III	Pankaj Katta	83.5%

II Year (IV Sem) (Batch 2019) II Shift

Position	Names of the Students	Percentage
I	Gaurav Prajapat	80.4%
II	Anil	80.2%
III	Ashansh Bhandari	78%

ORIENTATION PROGRAM (FOR THE II & III YEAR STUDENTS)

An orientation program has been organized for the students of II year & III year at the department from 3 July to 5 July 2017.The details of which are as follows :

II YEAR (III SEM)

1. Introductory lectures on various subject topics.
2. Interactive session on Career opportunities.
3. Sessions on preparation for GATE and IES Exams
4. Interaction with Patron of the department
5. Interactive session with Alumni of department

III YEAR (V SEM)

1. Introductory lectures on various topics.
2. Interactive session on Career opportunities and preparation for GATE and IES.
3. Interaction with Patron of the department
4. Interactive session with Alumni of department

INDUSTRIAL VISIT

Mr. Harish Khyani (Assoc. Prof. and Dy. HOD, Administation, EE Dept.,JIET) and Mr. Shrawanram Patel (Assoc. Prof, Department of Electrical Engineering, JIET) organized a visit to Rooftop to Solar Power Plant at JIET , Jodhpur for the students of Final Year (E) on 5 August 2017 .

OPEN HOUSE 2017

During the technical event, Open House, the department including all laboratories in functional mode were exhibited to the students of various schools of Jodhpur.

In this regard, the department formed four committees for smooth conduct of various technical competitions organised during the event.

This year, 22 new Working models were displayed along with 7 non-working models and 33 charts. The top three working models, non-working models and charts relating to the departmental theme, “Smart and Efficient Technologies for Energy Harvesting” under various categories were judged by a panel of jury which consists of Prof (Dr.) Jaya Shri Vajpai (Professor, Department of EE, MBM Engineering College), Prof (Dr.) B.S. Sisodiya (Professor, Department of Mechanical Engineering, JIET) and Mr.Dhawal Badgurjar (Alumni- 2009 batch, & Director- RLED Innovations).

The results of various technical competitions are as follows:

Chart & Poster Making Competition			
S.No.	**StudentS**	**Title**	**Semester**
1	Pragya Acharya Priyal Sharma	“Smart Technology”	V
2	Garima Jaggi Ekansh Gehlot Ankit Dadhich Navaneet Suthar	“Smart and Efficient Future”	V
3	Mayank Sharma Krishnapal Singh Krishna Pal Singh Deora Dinesh Kumar	“Advanced Footstep Power Generation System”	V

Working Projects			
S. No.	**Students**	**Title**	**Semester**
1	Himanshu Kalla Deepak Vyas Harshit Bohra Tikam Chand	“Solar Based Agriculture Screw Crow”	V
2	Bhattesh Kumar	“2D-Plotter”	VII
3	Nikhil Sengwa Pankaj Katta Mahendra Sanecha Shivani Mehta Purnima Chandak	“Home Automation System using Bluetooth”	V

Static Projects			
S. No.	**Students**	**Title**	**Semester**
1	HimaniVyas HimaniSaraswat HarshitBohra SrivatsDadhich	“Roof Top Solar Panel Calculation for Building”	V
2	Chandrash Sharma DharmendraChouhan Deepak Jayani Deepak Vyas Abhilash Sharma	“Green & Clean India”	V
3	Nikita Choudhary Mahima Gupta PoojaBhati	“Modern Way of Energy Harvesting for Clean India by Renewable and Non-Renewable”	V

FACULTY ACCOMPLISHMENTS

- Prof. Kusum Agarwal (Assoc. Prof and Head, Dept. of EE, JIET),Mr.Kapil Panwar(Analytics Dept, Mahindra Susten Pvt. Ltd.) and Satish Pandey (Analytics Dept, Mahindra Susten Pvt. Ltd.), published a research paper on "Indian climate based weighted conversion efficiency of solar photovoltaic inverter for north & south zone" in the International Journal of Current Engineering & Technology organized by INPRESSCO.
- Mr.HarishKhyani (Assoc. Prof and Dy HOD, Dept. of EE, JIET), attended an IEEE sponsored webinar on Smart Grid titled "Why an Active Grid Demands Greater Collaboration?"on 13th July 2017 .
- Prof. Kusum Agarwal (Assoc. Prof and Head, Dept. of EE, JIET) has been appointed as a member of the Technical Committee for 2nd International Conference on "Power and Renewable Energy" (ICPRE 2017) to be held in University of Electronic Science and Technology of China, Chengdu, China during September 20-23, 2017.
- Mr. Harish Khyani (Assoc. Prof and Dy. HOD Administration, Dept. of EE,JIET) attended a Webinar on "New Directions for Energy Storage" organized by IEEE, Smart Grid Education Committee on 7 September 2017.
- Mr.Chandershekar Singh(Assoc. Prof ,Dept. of EE,JIET) and Mr.Shrawan Ram Patel(Assoc. Prof ,Dept. of EE,JIET), attended a Seminar cum Training Program on "Mi-Power Software" (11- 15 September 2017) organised by Department of Electrical Engineering, MBM Engineering College, Jodhpur.
- Mr.Vineet Gehlot (Asst. Prof & Faculty Coordinator- IPC Cell.,JIET) attended a Webinar entitled " Unlocking the Value of IoT: A Cognitive Energy System Future" organized by "IEEE Smart Grid Education Committee" on 5 October 2017.
- Prof. KusumAgarwal (Assoc. Prof and Head, Dept. of EE, JIET) successfully completed her Ph.D on 28 November, 2017 with specialization in "Performance Maximization of Small Scale Grid connected Solar Photovoltaic Power Plants", under the guidance of Prof. (Dr.) Avdhesh Sharma (Professor, Former Head, Department of Electrical Engineering, MBM Engineering College, JNV University, Jodhpur).
- Mr. Harish Khyani (Assoc. Prof and Dy. Head (Administration), Dept. of EE, JIET) and Mr.DhanrajChouhan (Asst. Prof, EE Dept., JIET) successfully completed 12 weeks' NPTEL online certification course on "Design of Photovoltaic Systems" organized by IISC, Bangalore from 24 July 2017 to 22 October 2017.The certification of Mr.DhanrajChouhan (Asst. Prof, EE Dept., JIET) comes under the category of "Elite" for scoring 75% marks in course completion examination.
- Mr. Pratik Bhansali (Asst. Prof.) participated in 4-day faculty training on IBM module "IoT Application Development and Deployment using IBM BlueMix" (4Dec. -7 Dec., 2017) at Poornima College of Engineering, Jaipur. The training will be conducted by the experts from IBM, Mr. Krishan Kumar (IBM Subject Matter Expert) and Mr. Girish Chandra (Software Consultant).

STUDENTS' ACCOMPLISHMENTS

Mr. Chaitanya Sahdev (III B. Tech V Sem)

- He has been certified by country level “WheeBox Employability Skills Test” endorsed by Confederation of Indian Industry and Association of Indian Universities on 30 August 2017.
- He attended INAE (Indian National Academy of Engineering) YOUTH CONCLAVE 2017, organized by Birla Institute of Scientific Research, Jaipur (August 11 -12, 2017).
- He was the coordinator for the NSS(National Service Scheme) program on 25 September 2017 at JIET.
- He has successfully completed 12 weeks' NPTEL online certification course on “Introduction to Research” The certification comes under the category of “Elite”.

- He presented a research paper titled "Laws and Women" in 9th International conference on Science, Technology and Management (ICSTM-17) organized by A.R Research publication & International Research Publication on 14 October 2017. His work has been published in International Journal of Advance Research in Science and Engineering (ISSN (O): 2319 -8354, ISSN (P):2319-8346, Volume-6, Issue-10, October 2017).
- He has been appointed as an Member of Editorial Board in A.R Research Publication & Conference World from 2017-2020.He also participated in Incredible India Quiz organized by MyGov.in.
- He has been selected the Campus Ambassador of “GREedge and and for IIT Hyderabad-ELAN & ENVISION'18.
- He has been selected in Rajasthan Hackathon 3.0 to be held on 2'December at Udaipur.
- Mr.VikramChoudhary (III Year, I Shift) has been certified by National level “Whee Box Employability Skills Test” endorsed by Confederation of Indian Industry and Association of Indian Universities on 30 August 2017.
- Mr.Prasun(II Year ,Dept. of EE,JIET) and Mr.Pushpender Singh Parihar(Final Year, Dept. of EE,JIET) hav been selected for Sports Competition(Badminton team) organised by RTU, Kota.
- Arpita Vyas(II Year,Dept. of EE,JIET) was the coordinator for the NSS(National Service Scheme) program on 25 September 2017 at JIET.
- Mr AnujBohra (Final Year, II shift,) will represent West Zone, Rajasthan (nominated as Captain by RTU, Kota) for National Level Table Tennis tournament.
- Mr.Rahul Mewara (II Year, E Section) and Mr.Bhanu Pania(Final Year, M Section) are selected in RTU Cricket Team and will represent RTU in National Level Western Zone Tournament.
- Pooja Kanwar Rathore and .Medhavi Fofliya (II, B.Tech, III Sem) won Gold medals in Kho-Kho competition organised by RTU Kota.
- Mr.Jagmal Singh (III Year, I Shift) participated in one day workshop on “MATLAB” in “Rendezvous-2017” at IIT, Delhi on 13th Oct 2017. He also participated in workshop on “Cloud Computing” at JIET on 23-24 Sep 2017.

- Mr.Priyanshu Raj (III Year, I Shift, Dept. of EE, JIET) participated in one day workshop on “MATLAB” in “Rendezvous-2017” at IIT, Delhi on 13th Oct 2017. He also participated in workshop on “Cloud Computing” at JIET on 23-24 Sep 2017.
- National Service Scheme (NSS), JIET in collaboration with Nehru Yuva Kendra Sanghtan organised Blood Donation Camp & Swacch Bharat Abhiyan on 25 September 2017. The following students actively participated in the blood donation camp :

a) BalkishanSolanki (V Sem, II shift)
b) SumitMundel (V Sem, I shift)
c) Deepak Vyas (V Sem, II shift)
d) Bharat Singh (V Sem, II shift)
e) Anil (V Sem, II shift)
f) PoojaBhati (V Sem, I shift)

The following students participated in the Swacch Bharat Abhiyan organized at Mogra:

a) Vijay Singh (V Sem, I shift)
b) Virendra Singh (V Sem, I shift)
c) ArpitaVyas (III Sem)
d) ChaitanayaSahadev (V Sem, I shift)
e) Anil (V Sem, II shift)
f) Mahipal Singh (VII Sem, I shift)
g) Dilip Singh (VII Sem, II shift)
h) Bharat Singh (V Sem, II shift)
i) Deepak Vyas (V Sem, II shift)

PLACEMENTS

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GLOBAL Engineering Corporation

Harsh Bhati

IQ TEST

01. The resistance of wire varies inversely as
(a) Area of cross section (b) Length
(c) Resistivity (d) Temperature
02. Which of the following quantities are same in all parts of a series circuit?
(a) Voltage (b) Power
(c) Current (d) Resistance
03. Which of the following statements is false in case of a series circuit?
(a) The voltage drop across each resister is same
(b) The current flowing through each resistor is the same
(c) Applied voltage is equal to the sum of voltage drops across individual resistors are additive
(d) None
04. The insulating material for cables should
(a) Be acid proof (b) Be non-inflammable
(c) Be non-hygroscopic (d) Have all above properties
05. In a cable immediately above metallic sheath is provided.
(a) Earthing connection (b) Bedding
(c) Armouring (d) None of the above
06. The current carrying capacity of cables in D.C. is more thanthat in A.C. mainly due to
(a) Absence of harmonics (b) Non-existence of any stability limit
(c) Smaller dielectric loss (d) Absence of ripples
(e) None of the above
07. In case of three core flexible cable the colour of the neutral is
(a) Blue (b) Black
(c) Brown (d) None of the above
08. Cables are used for 132 kV lines.
(a) High tension (b) Super tension
(c) Extra high tension (d) Extra super voltage
09. The advantage of oil filled cables is
(a) More perfect impregnation (b) Smaller overall size
(c) No ionisation, oxidation and formation of voids (d) all of the above
10. The breakdown voltage of a cable depends on
(a) Presence of moisture (b) Working temperature
(c) Time of application of the voltage (d) All of the above
11. In capacitance grading a homogeneous dielectric is used.
(a) Yes
(b) No
12. Which D.C. motor will be preferred for machine tools?
(a) Series motor (b) Shunt motor
(c) Cumulative compound motor (d) Differential compound motor
13. Differentially compound D.C. motors can find applications requiring
(a) High starting torque (b) Low starting torque
(c) Variable speed (d) Frequent on-off cycles
14. Which D.C. motor is preferred for elevators?
(a) Shunt motor (b) Series motor
(c) Differential compound motor (d) Cumulative compound motor
15. In case of a 4-pole D.C. generator provided with a two layer lap winding with sixteen coils, the pole pitch will be
(a) 4 (b) 8
(c) 16 (d) 32

ANSWER KEY

1. A	2. C	3. B	4. D	5. B	6. C	7. A	8. D
9. D	10. D	11. B	12. B	12. B	13. B	14. D	15. B

Team Work

PATRON

Prof. (Dr.) Rajendra Karwa

Campus Director - JIET

CHIEF EDITOR

Dr. Ankita Mehta

Associate Prof. (English)

Member - Personality &

Skills Development (PSD), JGI

FACULTY COORDINATOR

Mr. Vineet Gehlot

Asst. Prof., EE, JIET

JAS MEMBER

Ms. Sejal Parihar

DESIGN & LAYOUT

Mr. Anil Chandora (Admin)

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