



A Report on Event/Activity
submitted to AICTE-SPICES

AICTE New Delhi

(AY: 2021-2022)

Technohunt-2022:

**A treasure hunt based electronic
circuit designing contest.**

Duration:

13th November, 2022

to

20th November, 2022

Organized and conducted by:

Bhartiya Vidya Bhavan's
Sardar Patel Institute of Technology
Munshi Nagar, Andheri (W), Mumbai-
400058, Maharashtra, India
Electronics Student Association (ESA)
Electronics Engineering Department

Head of the Institute

Dr. B. N. Chaudhari

Head of the Department

Dr. D. C. Karia

Dr. Reena Sonkusare

Report Submitted by:

Dr. Prashant V. Kasambe (Coordinator)

Prof. Najib Ghatte (Co-coordinator)

Electronics Student Association (ESA)

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1. Preamble

Learning by doing is accepted as one of the promising tools of teaching and learning. Evaluation based on Outcome Based Evaluation (OBE) proposed by National Board of Accreditation (NBA) is accepted standard by Higher Education Institution (HEI). Electronic Student Association (ESA), Electronics Engineering Department of Bhartiya Vidya Bhavan's, Sardar Patel Institute of Technology, Mumbai, Maharashtra, India is sponsored under AICTE-SPICES for the Academic Year 2020-21 to conduct technical activities. Keeping all these aspects in view, ESA proposed to organize Techo-Hunt 22 Event: A treasure hunt based electronic circuit designing contest.

The entire contest was conducted in two events. The first was named as Pre-Event Workshop in which the participating teams were given the hands-on training on circuit simulation, PCB design and packaging tools. During this workshop, the teams were also trained on the second event of the contest. The main theme of the second event was designing and simulation of the electronic circuit using Top to Down design approach.

The winners were declared based on the cumulative score of the evaluation conducted during both the events of the contest; a quiz based on the contents of the Pre-Event Workshop and score in three independent phases during circuit designing event. The main highlight of both the events was participants team were judged by a panel of industry/ academic experts.

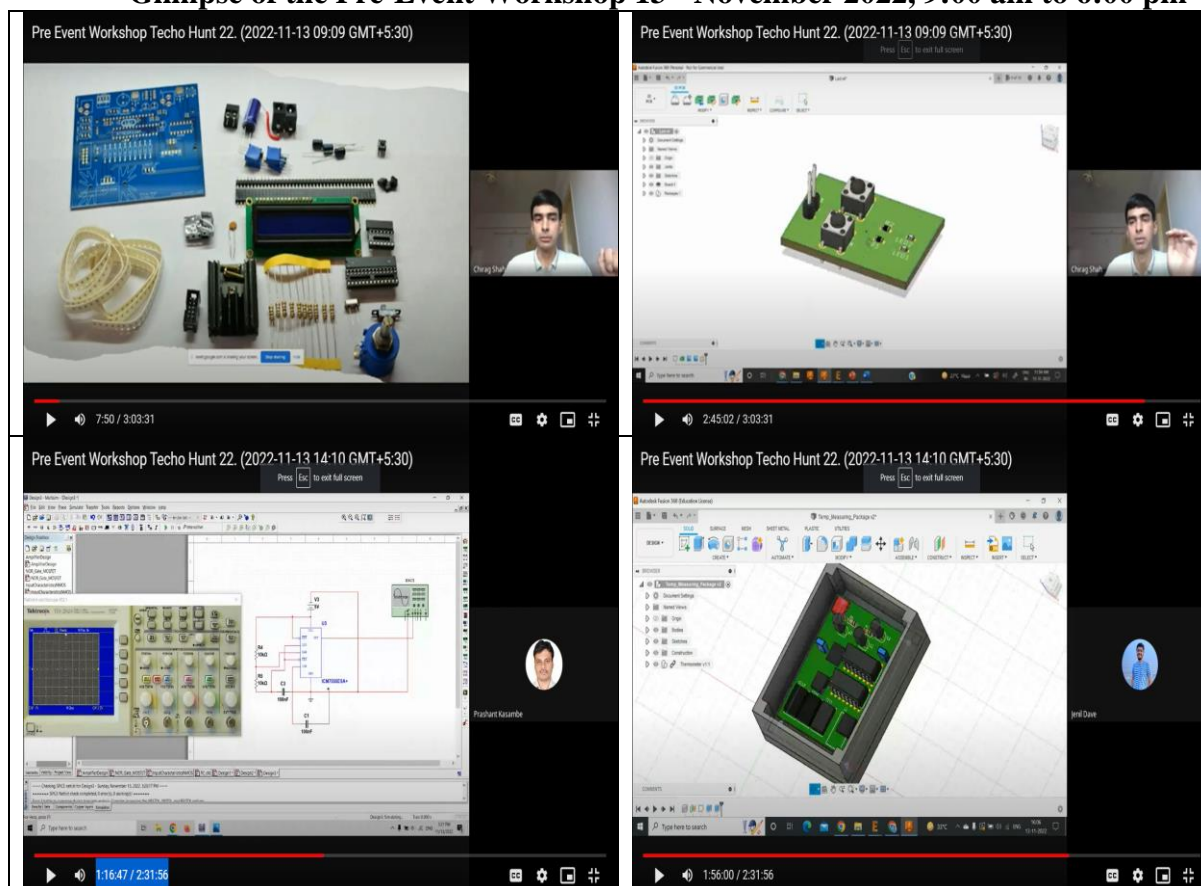
A total of 27 teams and 15 teams across various undergraduate and diploma engineering colleges participated in Pre-Event Workshop and main event, respectively. The contest was a grand success due to hard work from all the members of ESA, expert guidance and most importantly active participation from all participating teams. The institute coordinators of the AICTE-SPICES would like to sincerely thank respected authorities of the institute, Dr. B. N. Chaudhari (Principal, S.P.I.T.), Dr. D. C. Karia, (HoD, Electronics Department), Dr. Reena Sonkusare (HoD, Electronics & Telecommunication Department), all Teaching and non-teaching staff of the Department and most importantly respected authorities at AICTE, New Delhi for sponsoring this event. The coordinators expect the active involvement of ESA for conducting events in future under AICTE-SPICES.

2. Pre-Event Workshop

The main objective of the Pre-Event Workshop was to train participating teams on the CAD tools which are integral part of the main event of this contest, introduce the pre-requisite, different phases of evaluation during the main event and to prepare them for events in future.

The workshop was conducted on line mode on 13th November 2022. A total of 27 teams across various undergraduate and diploma engineering colleges participated in the workshop. Mr. Chirag Shah, Associate Engineer Hardware Design, Log9 Materials, Bengaluru, Karnataka, India, Mr. Aditya Patwardhan, Dr. Prashnat Kasambe and Mr. Jenil Shah from Electronics Engineering Department, Sardar Patel Institute of Technology, Mumbai, were the experts for hands on session on PCB Design using Eagle, Circuit Simulation using NI Multisim, and Packaging using Fusion 360 CAD tools, respectively. The attendance was not compulsory for this workshop, however to motivate participation, the **Team of the Workshop** was declared based on the highest score of an online Quiz of 20 marks conducted at the end of workshop. All the teams participated very actively during these online sessions.

Glimpse of the Pre-Event Workshop 13th November 2022, 9:00 am to 6:00 pm



3. Electronic Circuit Design Event:

The inaugural ceremony of the AICTE-SPICES programme at S.P.I.T. and the event was conducted in the hands of Chief Guest Prof. Vivek Nar, D. J. Sanghavi College of Engineering, Mumbai. The primary objectives of the main event were to evaluate participants based on the team work, and their skills gained during pre-event workshop as well as through the curriculum they have undergone in electronic circuit analysis, design and measurements. The main event was conducted in 3 phases (150M) as follows. Just like in any treasure hunt event, participants were given a chance to use 2 lifelines during this entire event. The student volunteers were assigned the task of providing technical help using these life lines. Any participating team using more than 2 life lines was penalized for 5M for each extra life line.

The event was conducted on 20th November 2022 in offline mode. At the beginning of the event in Phase 1, each participating team was given a Techno-Hunt kit consisting of discrete form of various blocks and circuits which represents the solution of the problem statement they have been assigned based on the lucky draw. Each participating team was also given a A3 size drawing sheet, sketch pens of different colors, pencils, glue and A4 size pages. Using these materials, each participating team is given the task to develop the correct block diagram and circuit diagram based on the assigned problem statement. The rubrics for this Phase 1 were as follows: Identification of correct sequence of blocks (10M), Correctness in the connections between the various blocks (10M), Identification of correct connection of DC Power Supply (10M) and Correctness in the Colour code in connecting the blocks (05M). This phase was aimed at evaluating the top to down design methodology skill of the participants.

In Phase 2, the task based on usage and working principle of test and measuring instruments was assigned to evaluate one of the important skills of any design engineer to use appropriate measuring instrument for measurement. It consists of rubrics as follows: Identification of correct measuring equipment (05M), Identification of correct control knob of the measuring equipment (05M), Appropriateness of connections for the measurement to be conducted (05M), Correctness in the measurement conducted (05M).

The fundamental knowledge of electronic devices, circuits and troubleshooting skills is very important while developing and analyzing the circuits. In Phase 3, the Quiz of 20 (M) was conducted on Moodle platform and the task based on simulating the given circuit was assigned to test the circuit analysis skills of a design engineer. It consists of rubrics as follows: Identification of correct components from the component library (15M), Correctness of the connections of the circuit (15M), Correctness in the component parameters for desired functionality (15 M), and Correctness in the desired output (15M).

The knowledge of the hardware components is very much essential to develop any electronic circuit. To test this fundamental skill and to incorporate a flavour of hardware in the contest, the participating team was given the task of identifying the names of various electronic and electrical components within a stipulated time from an exhaustive list of correct names of the components (15M).

Prof. Akhil Masurkar, Vidyalankar Institute of Technology, Mumbai, Prof. Vivek Nar, D. J. Sanghavi College of Engineering, Mumbai and Dr. Prashant Kasambe, S.P.I.T., Mumbai were the experts for evaluation. Prof. Akhil Masurkar was the Chief Guest for prize distribution ceremony. Based on the scores of each phase and score in Pre-Event Workshop, following teams were declared as winners of the contest. For outstanding performance by one of the teams from Diploma in Engineering was awarded for consolation prize.

4. List of Winning Teams

The list of winning teams is as follows:

Rank	Name of the Team and Members		Details of the Team
1	TECHTRONICS	1) ATHARV MORE 2) NIPUN MENON 3) SHUBHAM SONEJI 4) KEVIN DEDHIA	D. J. Sanghavi College of Engineering, Mumbai
2	TECHNOBRATS	1) ANUSHRI DESHMUKH 2) HIBA FATIMA 3) DEVRAJ PANCHAL 4) ADITYA NARAYANE	Sardar Patel Institute of Technology, Andheri, Mumbai
3	OPTIMIZE PRIME	1) ADITYA KULKARNI 2) TANYA ANUPAM 3) KUNAL THAKUR	Sardar Patel Institute of Technology, Andheri, Mumbai
3	HUSTLERS	1) GAYTRI THAKRE 2) SRI ANVIKA RAVI 3) ANJALI GOTHWAL 4) SAKSHI RANE	Veermata Jijabai Technological Institute, Matunga, Mumbai
4 Consolation Prize	CIRCUITRONS 555	1) SWAROOP MANE 2) AVANISH BELEL 3) ANUS KHATRI	Shri. Bhagubhai Mafatlal Polytechnic, Vile Parle, Mumbai

The event was a grand success due to hard work from all the members of ESA, expert guidance and most importantly active participation from all participating teams. The institute coordinators of the AICTE-SPICES would like to sincerely thank with due respect the participation, guidance, help, and support from Panel of Judges Prof. Akhil Masurkar, Vidyalkar Institute of Technology, Mumbai, Prof. Vivek Nar, D. J. Sanghavi College of Engineering, Mumbai as well as Mr. Chirag Shah, Mr. Aditya Patwardhan, Dr. Prashnat Kasambe and Mr. Jenil Shah for conducting Pre-Event Workshop successfully.

The support from Dr. D. C. Karia, HoD, Electronics Department, Dr. Reena Sonkusare HoD, Electronics & Telecommunication Department, all Teaching and technical staff of the Department namely Mrs. Deepali Yamgar, Mrs. Pallavi More, Registrar, Mrs. Sangeeta Fernandes, Accounts and S.P.I.T. office staff of the institute was very crucial. Most importantly sincere thanks to Dr. B. N. Chaudhari, Principal, S.P.I.T. for accepting the proposal of this event, mentoring and financially supporting this event for procurement of all the resources required to conduct this event. The coordinators would like to extend sincere thanks to respected authorities at AICTE, New Delhi for sponsoring this event. The coordinators expect the active involvement of ESA for conducting events in future under AICTE-SPICES.

5. ESA: AICTE SPICES on Social-Media

ESA is active on social media with tagging AICTE-SPICES. Following are the weblinks.

LinkedIn: <https://www.linkedin.com/company/electronics-student-association/>

Instagram: https://instagram.com/esa_spit?igshid=MDM4ZDc5MmU=

6. Student Association Promoted:

This event was conducted in association with Forum for Electronics and Telecommunication Students (F.E.T.S.), Department of Electronics & Telecommunication Department and IIC, S.P.I.T.

Glimpse of the Electronic Circuit Design Event: 20th November 2022, 9:00 am to 6:00 pm





