



**BMS College of Engineering,
Bull temple Road, Bengaluru**

Report

on

TELECOMBAT


National Level Project Contest

(Under IEEE Student Chapter)


5th May 2018 (9:30 am to 8.00 pm)

**Organized by
Department of Telecommunication Engineering**

Poster



B.M.S. College of Engineering, Bangalore
Dept. of Telecommunication Engineering
Presents




TELE COMBAT

A National Level Project Contest

Under IEEE BMSCE Student Chapter

Event Date: 5th May 2018
Venue: BMS Indoor Stadium

Last Date to submit the Abstract of Project/Model: 25 April 2018




REGISTRATION IS OPEN!

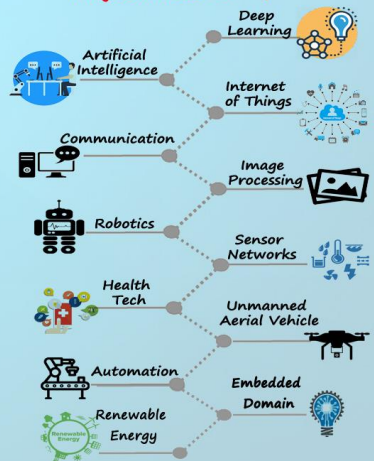
Fee: 500 /- per team
30% Discount for IEEE Members

Contact:
Dr Prasanna Kumar M K,
Mob: 7259793487
Email: telecombat@bmsce.ac.in

Open to ECE, EEE, TCE, ML and E&I Students



2 1 3
Attractive Cash Prizes for Best three Projects



- Artificial Intelligence
- Deep Learning
- Internet of Things
- Communication
- Image Processing
- Robotics
- Sensor Networks
- Health Tech
- Unmanned Aerial Vehicle
- Automation
- Embedded Domain
- Renewable Energy

Invitation



BMS COLLEGE OF ENGINEERING, BENGALURU-19
(Autonomous Institute Affiliated to VTU)



Department of Telecommunication Engineering

(Accredited by NBA For FIVE Years in Tier-1 Format)

Cordially invites you for the Inaugural Function of

National Level Project Contest

TELECOMBAT

On Saturday, 05th May 2018 at 9:00AM

Inaugurated by

Dr. B.S.Ragini Narayan

Presided by

Dr. K Mallikharjuna Babu

Chief Guest

Colonel Shankar

Alpha Design Technologies

Guest of Honour

Gopalan Oppiliappan

Group Head - Advanced Insights Enterprise Analytics, Intel Corporation

Distinguished Guests

Dr. B.V. Ravishankar

Vice-Principal, BMSCE

Dr. Ravishankar Deekshit

Dean - Student affairs, BMSCE

Dr. B. Kanmani

Dean - Academics, BMSCE

Dr. Rajeshwari M Hegde

HOD, Telecommunication Engineering, BMSCE

Event Brochure

National Level Project Contest Registration form

1. Name:.....
2. College:.....
3. Department:.....
4. USN.....
5. Project title.....
6. Phone:.....
7. Email id:.....
8. DD No..... Date.....
9. Online transaction details.....
10. Signature:.....

For registration Contact Coordinators

Dr. Prasanna Kumar M K, Assistant Professor, TE, 7259793487

Ajith G, Student Coordinator, TE 8892565902

Advisory Committee

Dr. K Mallikharjuna Babu
Principal, BMSCE

Dr B V Ravishankar
Vice-Principal, BMSCE

Dr Ravishankar Deekshit
Prof & Dean, Student Affairs, BMSCE

Dr B Kanmani,
Prof & Dean, Academics, BMSCE

Mr Gopalan Oppliappan
Group Head - Advanced Insights
Enterprise Analytics , Intel Corporation

Mr Vishal Goutham
Director, Zscaler Softech India Pvt. Ltd.

Mr Mahesh N S,
Director, Vigven Tech Mark Pvt Ltd

Mr Anand Bhat,
Director of Engineering, Intel India

Organizing Committee

Dr Rajeshwari Hegde, Associate Prof & Head, Dept. of Telecommunication Engg

Prof. Manjunath P S, Assistant Prof, Dept. of Telecommunication Engg

Dr Prasanna Kumar M K, Assistant Prof, Dept. of Telecommunication Engg

Prof. Balachandra K, Assistant Prof, Dept. of Telecommunication Engg



"Projects we have completed demonstrate what we know - future projects decide what we will learn."
— Dr Mohsin Tiwana

BMS College of Engineering
Department of Telecommunication Engg.

Organizes



TELECOMBAT

National Level Project Contest
(Under IEEE BMSCE Student Chapter)

5th May 2018

Venue: TE Department

About the College

BMS College of Engineering was founded in the year 1946 by Late B M Sreenivasaiiah, and nurtured by his illustrious son, Late B S Narayan. BMSCE is the first private sector initiative in Engineering Education in India. BMSCE is in the field of Engineering Education over 7 decades of dedicated service. BMSCE today offers 13 Under Graduate & 16 Post Graduate courses, both in conventional and emerging areas. At present, 15 Departments are recognized as Research Centers offering PhD/MSc Engineering by Research in Science, Engineering, Architecture and Management. First Institution in the state bestowed with NBA Accreditation in Tier I Format (Washington Accord). World Bank funded TEQIP Phase I and Phase II Institute and Partner Institution of the Melton Foundation, USA which advocates Global Citizenship. Autonomous Institute (UGC approved) since 2008.

About the Department

The department of Telecommunication Engineering established in the year 1986 offers four year Under Graduate program. The department was accredited by NBA for five years under Tier-I. The department has successfully implemented four AICTE-MODROBS projects and one AICTE-IIPC project. With a view to increase Industry-Institute-Interaction, the department has signed MOUs with National Instruments and Stellapps Technologies for enabling students to carry out internship, implement projects, and pursue

research. Research carried out in the department has resulted in 71 Peer-Reviewed Journal publications, 167 International Conference publications and 32 National Conference publications. The quality of the students is reflected in good on-campus/off-campus recruitments together with their securing admissions for higher education in prestigious Universities in India and abroad..

About the event

Global problems of today need to have global solutions being developed in a distributed manner worldwide. The global problems have so deeply rooted in terms of its criticality, imminence and rate of growth that nominal solutions are unable to provide sustainable solutions. Coincidentally, ample infrastructure for realizing innovative solutions is affordable through governmental agencies, institutional support, R&D establishments and corporate CSR with no significant effort and cost. However, amidst such congenial ecosystem, innovative minds and their nurturing are at scarce and manifests as a show stopper in the process of realization of solutions. As such, nurturing young minds to appreciate complex problems and to think of innovative solutions either to alleviate prevalent problems or to improve the quality of life become the responsibility of technical institutions. Solutions devised, specifically, to address prevalent solutions are, specially, treated as projects for community services. Innovations under technology banner hovers, to a great extent, on

electronics, telecommunications, networking, computer science and information technologies.

Registration

The registration fee is Rs 500/- per team. In order to participate, submit 500 words abstract to telecombat@bmsce.ac.in, no later than **25th April 2018**.

The registration fee is to be paid to the account given below

HOD –Telecommunication
Bank-Allahabad Bank
Account number- 20274184938
IFSC Code-ALLA0212011
Branch : Hanumanthnagar

Themes

The projects can be from the areas of

Communication,
Signal Processing,
Artificial Intelligence and Machine Learning,
Internet of Things,
Image Processing,
Robotics,
Sensor Network,
Health Care Systems,
Automotive Electronics,
Home/Industry Automation
Renewable Energy
but not restricted to.

About the contest

On 5th of May 2018, the Department of Telecommunications Engineering, BMSCE, organised a national level project contest “Telecombat”, to bring together many young engineering minds to demonstrate innovation and technology trends. An overwhelming response with over 80 registrations from various engineering institutes validates the need of providing such platforms and opportunities to students to help them develop critical and design thinking. The competition witnessed a plethora of solutions from combining speech recognition with IoT to minimising energy costs through Solar innovations and from creating unique Opto-Sono converters using advanced image processing to extraordinary application of technology in the field of farming and agriculture.

The organizing committee introduced a very innovative approach in this contest, which is worth noting here. All project proposals had to suppress their college information so that the judges will not have any bias regarding the institution from which the students are participating.

Over 90 teams from all over India had participated in the event making it a grand success. The contest was a way for students to interact with industry experts and gain valuable insight and feedback from them.

Chief guest

Shri R Ramachandra Murthy
Senior vice president
Alpha Design Technologies

Guest of Honour

Shri Gopalan Oppliaapan

Group Head - Advanced Insights & Cognitive AI ,
Intel Corporation

Panel of Judges

Panel of 12 judges from various industries evaluated the projects based on the rubrics set by the organizers. A brief profile of the judges are as follows.

1. Dr J Krishna Kishore, Scientist G, ISRO

Dr. J.K. Kishore did his B.Tech in Electrical Engineering at IIT Madras and M.Tech in Electronics & Communication at IIT Bombay before joining ISRO Satellite Center in Jan 1990. He has also completed his Ph.D in applying Genetic Programming for Pattern Classification & Remote Sensing applications at Dept. of Aerospace in IISc in 2001. He was associated with delivery of Avionics and On-board computer systems for both Remote Sensing and Communication Satellites. Dr. J.K.Kishore has been actively involved in guiding several Ph.D / PG Students. He has over 50 publications in International / National Journals and Conferences. He is also the recipient of "Team Award for Success of Cartosat-2" from Chairman ISRO / President of India in June 2007. He was awarded the prestigious Prof **SVC Aiya Memorial IETE** award for his contributions to R & D and Engineering Education in May 2016. Presently he is working for the Docking Mission Programme.

2. Dr Jayakumar-Founder, Rinanu Semiconductors

Known to the world as Dr. JK, in Electronics & computer engineering, has recently ventured in setting (Rinanu Semiconductor LLp) up a first in of its kind Semiconductor Manufacturing facility in Electronic City, Bangalore, Karnataka.

Undergraduate is in Aerospace Engineering from Madras Institute of Technology (1987), who did his Masters (1990) and obtained Doctorate (1999)

in Systems and Control engineering from IIT Bombay and Research Fellowship at Electrical Engineering (called as ESAT) department of KU Leuven University in Belgium.

He began his career working in HAL (1987-88), Cranes Infotech (1995-97), Mistral Solution Pvt Ltd (1997-2000) before launching himself in the startup world by steering brands like Epigon Media Technologies (2000-2012) and many more. A truly respected brand across the globe in the field of Digital Media Codec design and development for Digital Signal Processors.

- JK has been one of the core team (MIT Media Lab, Analog Devices, Mistral Solutions) heads in the design and development of products like the “Karaoke Machine” (one that enabled TAITO Corp. Japan to become No. 2 in the world for Networked Karaoke).
- Another major achievement of past has been his contribution in development of the solution “Satellite Radio Receiver”, which we in the 1990’s recognized by the brand name “WorldSpace”.
- In recent past he has been instrumental in design and development of IoT solutions in domains of Industrial Internet of Things (IIoT) by using IBM WATSON IoT Platform
- Working on Radar Signal Processing

A person inspired by Dr. APJ Abdul Kalam, where APJ quotes “**If you want to shine like a Sun, first burn like a Sun**”. You will find Dr. JK working 24x7, ideating, prototyping and triggering solutions of quality to every challenge in the field of electronics and communication engineering.

3. **Mr Natarajan- Associate Director (Retd), ADE**

Holds B.E (ECE) from REC ,(NIT) Trichy and M.Tech (computer science) from IIT Powai, Mumbai. Retired as Associate Director in the rank of Outstanding Scientist from Aeronautical Development Establishment. 39 years experience Defence R&D projects mainly in the development of airborne and Ground electronics systems for UAVs. Was Group Director in charge of UAV technology divisions including communication, sensors and Integration. As Program Director UAV headed the development of UAV systems.

4. Mr Mahadevan- Managing Director & CEO, Vigven Tech Mark Pvt Ltd

5. Mr Mahesh N S- Director , Vigven Tech Mark Pvt Ltd

6. Mr Rachit Gupta- General Manager-Strategic Initiatives, Stellapps Technologies

7. Mr Anand Bhat- Director of Engineering, Intel Corporation

Anand Bhat, as Director of Engineering, Intel India leads the DFT division for IOTG group at Bangalore design center. In his current role, he is responsible for delivering state of the art design architecture implementation for enabling Si test at wafer level and package level. Prior to joining Intel, he has served as Director of Engineering at Qualcomm, Senior Manager, DFT at Texas Instruments. Anand has overall 17+ years of experience in VLSI industry specializing in Design for Test (DFT). He has been part of driving many innovations, around 10+ inventions, with more than 5 granted patents. He has authored several papers in various technical conferences. He holds Bachelor degree in Electronics and Communication Engineering from SDM College, Dharwad.

8. Mr Vishweshwar Hegde- Director, Founder, IOT, SDN, Design Thinking Startup

Hold BE degree in Computer Science from Mysore University, Masters in Software Systems from Birla Institute of Technology and Science, Pilani, MBA from Institute of Product Leadership. Deep understanding on Product Management, Leadership, Architecture, end-to-end solution/product execution and building start-ups. Good exposure on identifying product idea, creating value proposition and positioning into market. Curious to learn new technology, life values and interacting with people. Strong in building solutions on IoT, Machine Learning, AI, SDN, NFV, SD-WAN, Cloud, Analytics, Open Stack and Virtualization.

Over 18 years of experience in product development, innovation and product management activities.

9. Mr Girish-AMD

10. Mr Suyash Bhatt- Design Engineer, Tetronix

Suyash Bhatt is a BMSCE alumni and graduated from the department of TCE in 2012. He joined Tektronix R&D center in Bangalore soon after graduating and has been working as a Design engineer for the past 5.5 years. His core work at Tektronix includes application of DSP and other software methodologies to develop solutions mainly in the domain of High Speed serial Data communication technologies. He has also been involved in several marketing activities.

11. Mr Mukthesh Padke-Nihon Communication

Holds Masters degree in Information technology from N M V , Pune, Maharashtra. Working as Director, Nihon Communications Solutions, Bangalore.

12. Mrs Harini Dhanasekaran, Product lead & Member of technical staff, Stellapps

Registration



TELECOMBAT-A National level Project Contest under IEEE-BMSCE student chapter was formally inaugurated on the morning of 5th May 2018 at the B S Narayana Hall, BMSCE. The project contest started in a grand way E with an elite panel of judges and dignitaries inaugurating the event.

The inaugural function was graced by the chief guest Shri R Ramachandra Murthy, Senior Vice President, Alpha Design Technologies, Shri Gopalan Oppiliappan, Group Head, Advanced Insights Enterprise Analytics , Intel Corporation , Principal Dr K Mallikharjuna Babu, Vice Principal Dr B V Ravishankar and Dr B Kanmani, Dean Academics.



Student participants from various Engineering Colleges across the state were witness to the event. Among others present were the Faculty co-ordinators Dr Rajeshwari Hegde, Associate Professor & Head, Prof. Manjunath P S, Dr M K Prasanna Kumar and Prof Balachandra K of Dept. of Telecommunication Engineering.

Sameer Kulkarni, 4th semester student of Telecommunication Engineering started the inaugural with an invocation. For the remaining part of the function, Ms Sumedha Kulkarni, an 8th semester student was the host.

A welcome speech by Dr Rajeshwari Hegde, HOD-Dept. of Telecommunication Engineering followed the invocation where the chief guest, guest of honor judges, faculties and student participants were welcomed. Thereafter, the chief guests were invited to address the gathering.



Dr. K. Mallikharjuna Babu addressed the students that the success of an institution comprises of efforts from faculty, students and the industry and a person can succeed only with mutual help and interaction with the society. He inspired the students to become successful and achieve their goals.



Dr. B. V. Ravishankar, spoke about the importance of acquiring and applying knowledge but more importantly, applying knowledge to cater to the needs of the society is even more crucial and told the students how implementing projects is the basis for outcome-based engineering



Prof Manjunath P S addressed the students that finding solutions to global problems depends upon nurturing students to develop innovative ideas to improve the quality of life and how competitions like this help achieve that goal.



Prof. B. Kanmani addressed the students and spoke about the tremendous achievement the Department of Telecommunication has earned by organizing a national level project contest, with a large number of participants and highly experienced judges. She spoke briefly about the purpose and benefits of the competition and how a blind judging will take place to ensure a fair determination of the winners.



The Chief Guest, Shri R Ramachandra Murthy, shared his views and spoke about the changes that have occurred in the Telecommunication industry in the recent years, the necessity of being self-reliant in technology and how Telecommunication plays a major role in the defence sector.



The Guest of Honour, Shri Gopalan Oppiliappan shared his thoughts about how doing a project displays the amount of knowledge a student has acquired and the level of understanding they have reached in a particular subject and spoke about the various benefits of implementing projects and showcasing it in competitions. He also told that the Project contest would help the students to “project “ their ideas.



Dr. J Krishna Kishore spoke about how the government has been encouraging students through Make in India, Digital India, and various initiatives to come up with innovative ideas, he also spoke about the dependence of industrialization with defence and how one affects the other greatly. He urged the students to take up a career path different from the IT sector and utilize the abundant opportunities opening in the aerospace and defence industry.

The importance of student projects and their value to society and industry was emphasized consistently by all speakers.



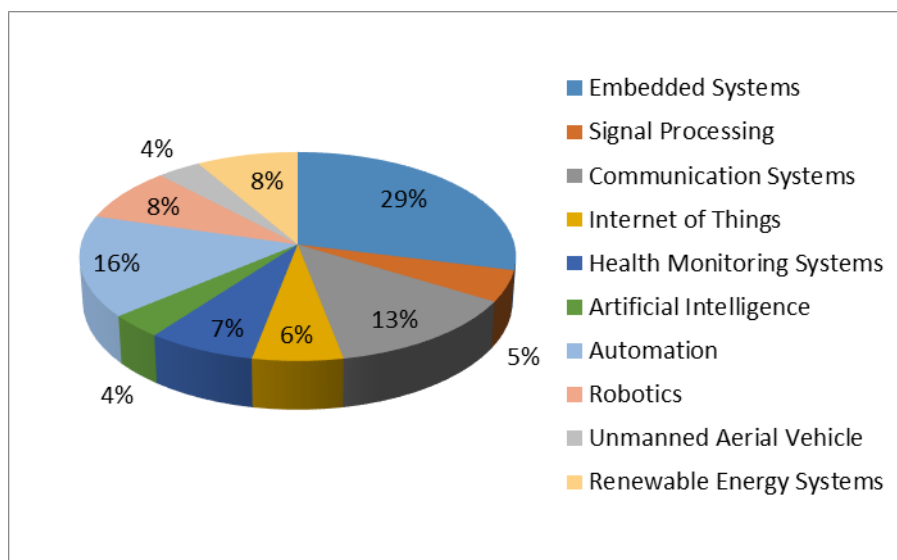
The inaugural function was concluded by a vote of thanks by Prof. Balachandra K, faculty, Dept. of Telecommunication Engineering. Heartfelt thanks were extended to the chief guests, Principal and Vice Principal for taking time from their busy schedule to grace the occasion. The sponsors of TELECOMBAT were mentioned with a special thanks as without whom the contest could not have been realized. The Main Sponsor – Alpha Design Technologies, Telecom Alumni, Nihon Communications Solutions, Byjus, Vigven and BMSCE-IEEE student chapter. The student co-ordinators and volunteers were commended for making an all-out effort by taking time out of their regular schedule to invest hard work, enthusiasm and creativity to make the contest a reality.



The project contest venue was inaugurated by Shri Ramachandra, Senior Vice President, Alpha Design Technologies, Shri Gopalan Oppiliappan, Group Head, Intel Corporation and Principal Dr K Mallikharjuna Babu.



More than 400 students from various Engineering colleges across the state participated in the contest. Most of the projects were from the following categories mentioned in the diagram.



The ninety projects were spread across Analog electronics Lab, Digital Electronics Lab, Communication Lab, Research Lab, Computer Lab and Project lab.. A panel of 12 judges from various industries evaluated the projects based

on the rubrics set by the organizers. Two industry experts formed a team to evaluate 15 projects in the first round. 6 teams of industry experts evaluated a total of 90 projects. The project rubrics was known to the judges well in advance to evaluate the projects effectively.

Analog Electronics Lab



Digital Electronics Lab



Computer Lab



Communication Lab



Research Lab



Final round of evaluation-Discussion with industry experts

For the final round of evaluation, there were 6 industry experts and all the judges evaluated all the projects based on the rubrics and the average was taken.



Final round of evaluation



Valedictory function



Winners

3rd Prize



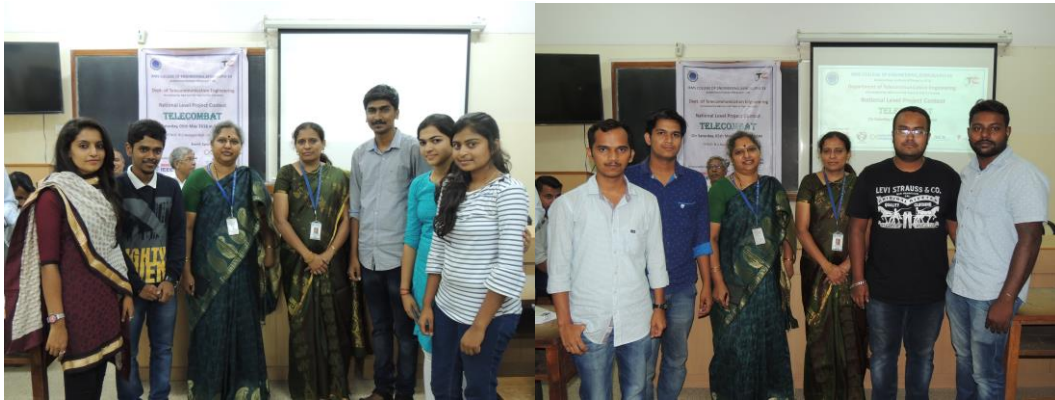
2nd prize winner



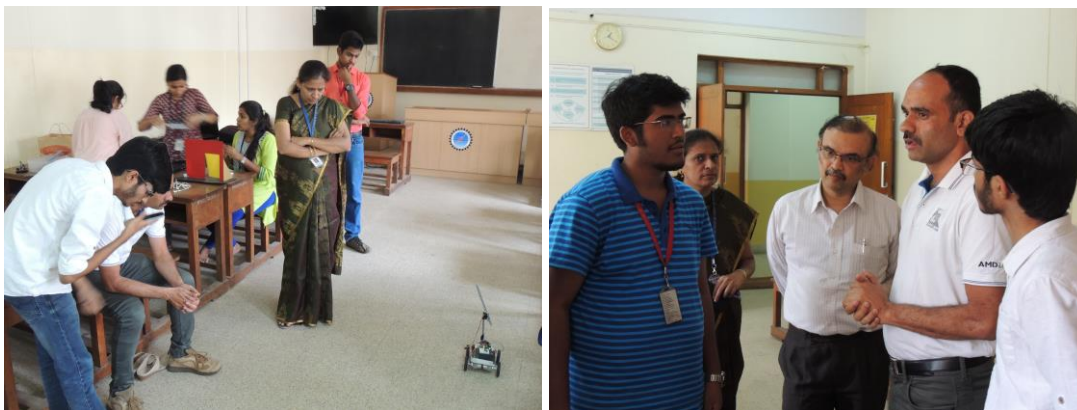
1st prize winner



Consolation prizes



Mini project demonstration



Assessment of Projects

A panel of twelve judges is framed from various industries with subject expertise in the field of embedded systems, deep learning, internet of things, unmanned aerial vehicle, renewable energy systems, signal processing and robotics etc. These twelve judges are regrouped into six teams with two judges in every team. Each team is given a task of evaluating about 15 projects randomly. It was a blind review process without mentioning the department and institute name of each and every batch of project students. We called this evaluation as Round 1 during the event. Round 1 took about half a day to complete the evaluation by all teams of judges successfully. Total 90 batches of projects were evaluated during Round 1 by 6 teams of judges. The sample evaluation sheet used in the event is as shown in Table 1.

Table 1: Sample evaluation sheet used in the event for project assessment

PID (Project ID):	
Project Title:	
Rubrics	Score
Innovation	10
Resesarch	10
Societal concern	10
Presentation	10
Questions & Answers	10
Total	50

Each project was evaluated based on the rubrics mentioned in Table 1. Three best projects were selected by each of the six panels of judges. So totally 18 projects were selected for Round 2 of evaluation out of 90 projects. Certificate of participation was issued to all the students participated in Round 1 of evaluation to support their efforts put in to come out with a project idea. The Round 2 of evaluation is done as follows. All twelve judges have gone through each of the 18 projects and assessed based on the rubrics given in Table 1. It took around 4 hours to complete the Round 2 of evaluation. All scores were consolidated for each project and top 3 projects were rewarded with certificate of appreciation and prize.

Outcome of the Project Contest

The outcomes of the project contest are discussed here with respect to graduate outcomes defined by NBA (National Board of Accreditation). The Figure 1 shows broad area of themes covered under project contest. Covering

major areas of research gives an overall idea of present technology to the lower semester under graduates (non-participants of the project contest) during project exhibition. The rubrics mentioned in the table 1 address most of the graduate attributes defined by NBA as shown in table 2.

Table 2: Graduate Attributes addressed through the Project Contest

Sl. No	Graduate Attributes (GAs) defined by NBA	Rubrics used in Evaluation of Projects	GAs addressed with PBL*	GAs addressed without PBL*
1	Engineering Knowledge	Innovation & Resesarch	✓	✓
2	Problem Analysis		✓	✓
3	Design/Development		✓	✓
4	Conduct Investigations		✓	
5	Modern Tool Usage		✓	
6	The Engineer & Society	Societal Concern	✓	
7	Environmental Issues		✓	
8	Ethics		✓	✓
9	Team Work	Presentation, Questions & Answers	✓	
10	Communication		✓	✓
11	Project Management		✓	
12	Life Long Learning		✓	

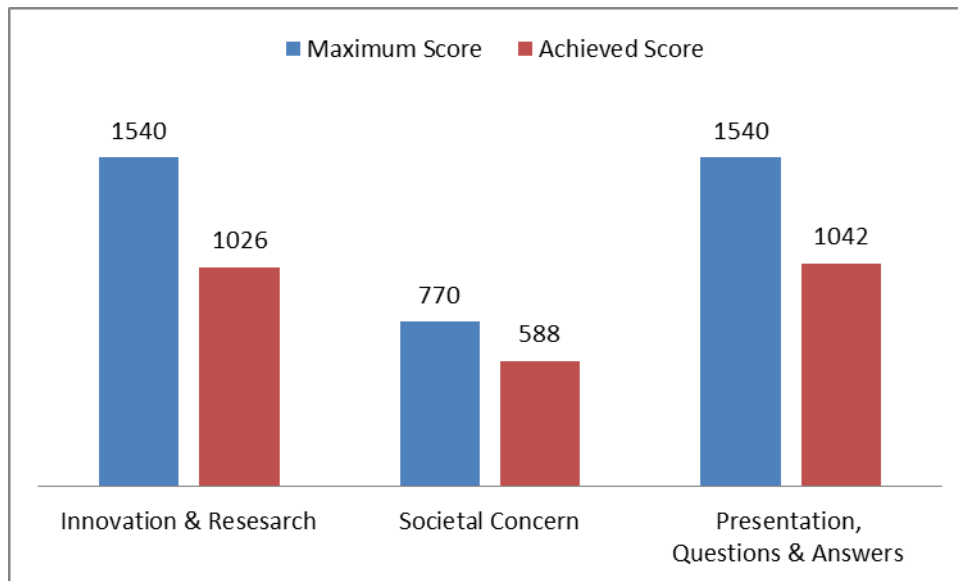


Figure 2: Comparison of maximum score and achieved score with respect to rubrics

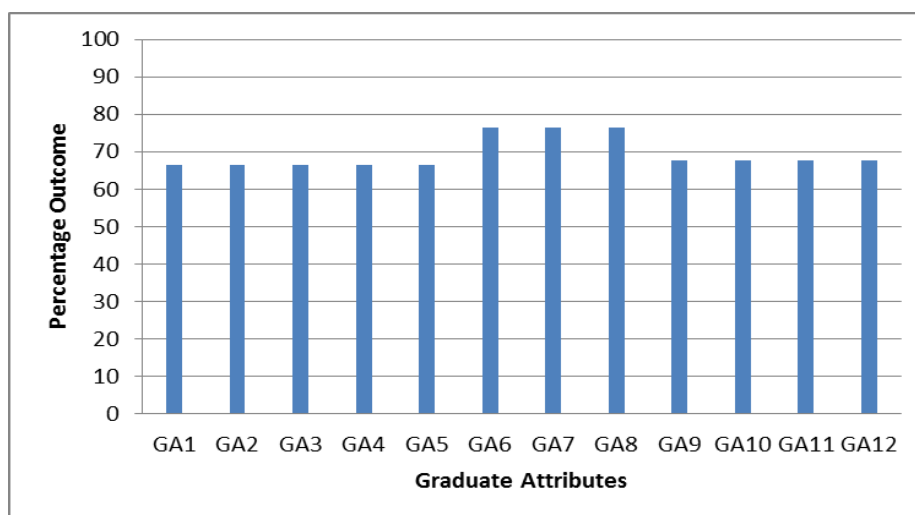


Figure 3: Percentage outcome with respect to Graduate Attributes

Figure 2 shows the comparison between maximum score set during project contest and achieved score by students with respect to rubrics mentioned in Table 1. It shows consolidated outcome from all 90 projects consisting of around 350 students from various institutes and specializations. Figure 3 shows percentage outcome of graduate attributes according to the rubrics mapping given in table 2. The outcomes achieved by participants of project contest are satisfactory which is evident from Figure 2 and Figure 3.

APPENDIX A: Registration/Participants Details of TELECOMBAT 2018



BMS COLLEGE OF ENGINEERING, BENGALURU
(Autonomous College under VTU)
Department of Telecommunication Engineering
(Accredited by NBA for Five Years in Tier-I Format)



Registration Details
TELECOMBAT- 2018
A National Level Project Contest
May 5, 2018

Project ID (PID)	NAME	College	Dept.	SEM	Project Title	Mail ID	Contact No.
PID-1	Varsha kJ Vanajakshi M Spurthy A	SRI SAIRAM COLLEGE OF ENGINEERING Bangalore	ECE		IOT based fault diagnostic device for photovoltaic panels	varshareddy231@gmail.com Vanajakshim1997@gmail.com Spurthygowda700@gmail.com	9900531575 8095769975 9092106226
PID-2	Chaitra R Manasa M Sanjana K Thejaswini	GSSS Institute of Engineering and Technology for Women, Mysuru	TCE		WILD ANIMALS DETECTION AND ALERTING USING X- BAND DOPPLER RADAR FOR CROP PROTECTION	manasamahadev96@gmail.com	
PID-3	NAVYASHREE R CHAITRA O RASHMI V RANJITHA R	sairam college of engineering	ECE	8	water monitoring control using Iot	navya1630zak@gmail.com chaitramontakar@gmail.com rashugombae25@gmail.com ranjuprkruthi@gmail.com	9036698072 9740630311 8892302054 9632202903
PID-4	GAYITHRI S.P PAVITHRA.N PRAKRUTHI.P SANGEETHA.V	sri sairam college of engineering .	ECE		Smart metro station for public safety	pavithra10reddy@gmail.com	

PID-5	Aravind Kumar C. S Soundharya V. Bhimanpalli Shrinivas B.P	SRI SAIRAM COLLEGE OF ENGINEERING Bangalore	ECE		AUTOMATIC DETECTION & REMOVAL OF CO IN LMV'S	Aravindofficial@outlook.com	
PID-6	Keerthi P R Krupasagar GG Pooja Shankpal Sourav P shetty	MAHARAJA INSTITUTE OF TECHNOLOGY	CSE	8	REAL TIME BUS TRACKING USING CLOUD DEPLOYMENT	keerthichiltu@gmail.com krupasagar8003@gmail.com poojashankpal@gmail.com sourav.shetty@yahoo.com	9035239985
PID-7	SOUNDARYA R PRIYANKA N TEJASWINI A PAVITHRA M	SRI SAIRAM COLLEGE OF ENGINEERING Bangalore	ECE		SMART GARBAGE DETECTION SYSTEM USING IOT THROUGH MOBILE APP	soundarya1216@gmail.com priyankaneel17@gmail.com tejabuji25@gmail.com pavithragowda2020@gmail.com	9742353509 8792507405 9742706972 9080860511
PID-8	SUSHMA V SHRUTHI G USHA RAANI R SUDHA V	SRI SAIRAM COLLEGE OF ENGINEERING Bangalore	ECE		ATM Security using Fingerprint Authentication and OTP	sushma2013.v@gmail.com shruthi2013.g@gmail.com usharani1206r@gmail.com sudhav1996@gmail.com	9844582819 9535843011 8050948247 8971727578
PID-9	K S Divya Subha M Kouser Banu Krishnamurthy Harathi	SRI SAIRAM COLLEGE OF ENGINEERING Bangalore	ECE	6	SMART BLIND PERSON	harathikrishnamurthy67@gmail.com subhasm1996@gmail.com kouserbanu3@gmail.com ksdivya04048@gmail.com suganya.ece@sairamce.edu.in	8220009088 7619128510
PID-10	Bhargavi M S Prakruthi R Sahana S Sneha S V	GSSS Institute of Engineering and Technology for Women, Mysuru	TCE		Adaptive lighting and Carbon-monoxide Monitor	snehavishwanathsr.sv@gmail.com	

PID-11	Rajashree H S Sahana B Surabhi S T N Apoorva	GSSS Institute of Engineering and Technology for Women, Mysuru	TCE	8	INDOOR POSITIONING AND TRACKING USING BLE TECHNOLOGY	apoorvanagendra1997@gmail.com ajashreerao@gmail.com sahana.balakrishna@gmail.com surabhivasishta@gmail.com	9886892116 8762772866 9110430632 8861994730
PID-12	Aparna.A Harshitha.C Harshitha J.H Joyci.L	Sambhram Institute of Technology	ECE	8	DIGITAL FUNCTION GENERATOR WITH OSCILLOSCOPE AND VARIABLE POWER SUPPLY FOR ACCADEMIC PURPOSE	aaparna005@gmail.com harshithaj.h@gmail.com joycil731@gmail.com harshitha.ec2014@gmail.com	90350 17825 7022912240 9902327046 9945115276
PID-13	Manjushree C Madhusudan R V Surya M Nikhil K	RAMAIAH INSTITUTE OF TECHNOLOGY	EIE	8	ATTENDANCE MANAGEMENT SYSTEM USING REAL TIME FACE RECOGNITION	manjushree.manju34@gmail.com madhusudhanrv21@gmail.com	8105909218 7019231853 7338332020 8553470488
PID-14	AKARSH HOSAMANI DEEPAK M SANDHYA RANI R BHUMIKA JJ SWAMY	MAHARAJA INSTITUTE OF TECHNOLOGY MYSORE	CSE	8	Control of Wheelchair for Handicapped via Iris Movement using Image Processing	akhosamani@gmail.com dpakronaldo07@gmail.com bhumikagudi19@gmail.com sandhyaramu1996@gmail.com	7406357242
PID-15	NEHA M AKASH DEEPAK NAMRATHA SHIVAKUMAR	SRI SAIRAM COLLEGE OF ENGINEERING Bangalore	ECE	8	ANDROID CONTROLLED WILDLIFE OBSERVATION ROBOT	nehamnarayan@gmail.com , sagarnamratha023@gmail.com adphase23@gmail.com	9538494828 9916431129 9741074474

PID-16	S. Annapurna Kavya S.B Sunil R Candrashekar .S	Sri sairam college of engineering, Bangalore	ECE	8	SMART STREET LIGHTING SYSTEM	anu.annapurna1994@gmail.com Kavyabasavaraj@gmail.com sunilshetty9519@gmail.com chandrashekarsec@gmail.com	9739872469 9739872469 9632363370
PID-17	Arkaj Rudrappa Hosatti Sachin NJ	SAMBHRAM INSTITUTE OF TECHNOLOGY BENGALURU	ECE		AUTOMATIC LPG LEAKAGE DETECTION, USAGE LEVEL INDICATION AND REAL TIME LPG MONITORING SYSTEM USING GSM	sachin.nj29@gmail.com arkaj4u@gmail.com hkrudrappa@gmail.com	
PID-18	Aruna S Bhavyashree C Kushal Suraboyana Meghana S	Sambhram Institute of Technology, Bangalore	ECE		THE INTELLIGENT SUITCASE	kushalsuraboyana143@gmail.com	
PID-19	KAVYA K SAIPRIYA M LEGESWARAN JAYASUDHA L	SRI SAIRAM COLLEGE OF ENGINEERING Bangalore	EEE	8	SOLAR POWERED HETEROGENEOUS WEARABLE ADAPTOR CHARGER FOR PEOPLE ON THE MOVE	kavya101296@gmail.com	9741074474
PID-20	Sanjaya.M.V Purushotham .G Shridhar Hegde	BMS Institute of Technology , Bangalore	TCE		Development of an Agricultural Drone for Arecanut Farms	sanjayamv@gmail.com	

PID-21	Asha.S Nisarga.D Prarthana.J S.Ganasri	GSSSIETW,Mysuru	TCE		REAL-TIME AUTOMATED SYSTEM TO RECOGNIZE LABEL PRINT QUALITY AND CORRECTNESS USING RASPBERRY PI	lathagopal95@gmail.com	9113667080
PID-22	Meghana R Thejashwini B R Varsha Iyengar G Veekshitha R R	GSSS Institute of Engineering and Technology for Women, Mysuru	TCE	8	Wireless switchbox for communication for the people for unintelligible speech	meghanagowdarr@gmail.com theju151@gmail.com varshagiengar25@gmail.com Veekshithar@gmail.com	8296358969
PID-23	HARSHITHA.M HARSHITHA.A ANUSHREE NR ANILKUMAR.M	SRI SAIRAM COLLEGE OF ENGINEERING Bangalore	ECE	6	Automatic Railway Gate Control System Using Microcontroller	harshithamm97@gmail.com harshithaanjinappa@gmail.com anushreenarasi@gmail.com animuninara@gmail.com	9611099959 9036163583 8861795368 8496851080
PID-24	ANIL KUMAR R. MADHUKUMAR H. PRATAPA JAIN THIMMEGOWDA MC	SAMBHRAM INSTITUTE OF TECHNOLOGY	ECE	8	Bus Navigation System with Effective Data Transmission and Wireless Communication	pratapjain04@gmail.com Ank3300@gmail.com Madhukumarh777@gmail.com Pratapjain04@gmail.com Thimmegowda453@gmail.com	9743300160 7975349036 9449458614 9740819226
PID-25	K.T.VENKATESH SAMITH.S CHAITRA Bhuvanewari.N	SRI SAIRAM COLLEGE OF ENGINEERING	ECE		INTELLIGENT IRRIGATION SYSTEM	ktvenkatesh847@gmail.com	7795310163

PID-26	Pratiksha Pai	Bangalore Institute of Technology	ECE		Usage of Tone Based ASCII Representation in Image Sonification	1312pratiksha@gmail.com	998675432
PID-27	ANU P Bhavani Bhumika M U Nischitha B M	MIT, MYSORE	CSE	8	Fingerprint Reconstruction From Minutiae	anuputti67@gmail.com bhavanimgowda@gmail.com bhumikauday@gmail.com nishumanjunathbs@gmail.com	9632789705
PID-28	Punya S Gouda Nikhil R S Athulya M Julie	Sambhram Institute Of Technology,Bengaluru-	ECE	8	ARECA LEAF PROCESSING USING PIC CONTROLLER	asathulya09@gmail.com spunya96@gmail.com	7795557179 8951314390
PID-29	Pooja.R.Sajjan Amrutha J.V. Bhavyashree Kavya.N.	Sambhram Institute of Technology	ECE	8	Security based vehicle system with smart parking and ambulance notification	pooja.sajjan23@gmail.com amruthavarshini15@gmail.com bhavyashree392@gmail.com kavyagowda5898@gmail.com	8123545898
PID-30	Sheetal c Medhavi Simran Sunilkumar R Vijayashree B R	Sambhram Institute of Technology Bangalore	ECE	8	EMERGENCY DETECTION AND MONITORING THE DAILY ROUTINE OF THE CATTLE USING IOT	sunilcgr678@gmail.com simran341997@gmail.com vijibr12@gmail.com sheetalcmehavi123@gmail.com	9844686097 9591142077 8762326510 8970061740
PID-31	Kiran S M Charith D U Srinivas A Govind N Pachapure	DSCE, Bengaluru	TCE	8	RETINAL DISEASE SCREENING THROUGH LOCAL BINARY PATTERNS	smkiran.09@gmail.com 4748charith@gmail.com srinivascena93@gmail.com gb4379@gmail.com	8123873689 9886200774 9632950769 7849060003

PID-32	Chandana J K S Keerthi Kalpitha Gowda Nandini B K	GSSS INSTITUTE OF ENGINEERING & TECHNOLOGY FOR WOMEN	ECE		Loco-Pilot vision enhancement system: TRINETRA(Third Eye) for Indian Railways	kalpithagowda30@gmail.com	
PID-33	Ambika B R Poornima G S Thanushree K M Thanushree S Swetha K	GSSS INSTITUTE OF ENGINEERING & TECHNOLOGY FOR WOMEN	TCE	8	IOT BASED ARTIFICIAL INTELLIGENCE WOMEN PROTECTION DEVICE	ambikabr1996@gmail.com Poornimags562@gmail.com thanumahesh311@gmail.com thanushreeswamy@gmail.com	7676635646
PID-34	GOWTHAM G V B S AISHWARYA DEVAKI V SHENOY Namitha M N	DAYANANDA SAGAR COLLEGE OF ENGINEERING	TCE	8	RFID Penalty Tracking System with Traffic Control	gowthamvenkatesh1996@gmail.com bsaishwarya96@gmail.com devakishenoy@gmail.com namitha.veena25@gmail.com	9538986089 8792514213 9844617006 81239 25188
PID-35	Yogesh V Bommannagari Gowthami Shravani M Sandesh Kolakar	Dayananda Sagar College of Engineering, Bangalore,	ECE	8	Google Voice Assistance Based Smart Home	hyogesh14@gmail.com gowthamibommannagari888@gmail.com masanisravani1@gmail.com sandeshak4777@gmail.com	9986402406 9741888458 9035433639 8310096811
PID-36	SHYAMSHARATH	CMRIT BENGALURU	ECE	8	SUSTAINABLE INDIGENOUS POWER SOLUTIONS WITH AFFORDABLE INFRASTRUCTURE	shya15ec@cmrit.ac.in	9591612484
PID-37	MAHESH. M AKSHAYAKUMAR BIRADAR DILEEP HOSMANI SHASHIKUMAR. R	Sambhram institute of technology, Bangalore	ECE	8	SMART WAREHOUSE MANAGEMENT AND IRRIGATION CONTROLLED SYSTEM	Mahesh.m123mahi@gmail.com akshayakumarbiradar@gmail.com Dileepece039@gmail.com Shashikumarsk515@gmail.com	8884801248 9747805021 8095893504 8197981501

PID-38	Sivisona J Sushma N Deeksha S Anita S	SRI SAIRAM COLLEGE OF ENGINEERING BANGALORE	ECE		AN INTELLIGENT POWER SAVER FOR STREET LIGHTS	sivisonajeyakodi@gmail.com	
PID-39	SNEHA R YASHAS K R SHWETHA G P SHARATH BABU	Ramaiah institute of technology ,Bangalore	EIE	8 8 6 8	DESIGN OF INSPECTION AND CLEANING ROBOT	snehavinci18895@gmail.com yashurev7ry@gmail.com shwethagp756@gmail.com sharathbabu1997@gmail.com	8867937723 7019994556 9916462467 9448970162
PID-40	Aishwarya H C Ramya H Sreyas V S Vittal A	Sambhram Institute of Technology	ECE	8	DENSITY BASED TRAFFIC SIGNAL WITH EMERGENCY OVERRIDE AND JUNCTION TO JUNCTION COMMUNICATION	aishwaryahc96@gmail.com ramyah898@gmail.com cksreyaspillai@gmail.com vittalsharma@gmail.com	9739500361 9743248658 9986154518 7026665386
PID-41	Sushith R Mandavi Dubey Vaishnavi.S Nithin Athreyas CN	Sambhram Institute of Technology, Bengaluru	ECE	8	WIRELESS CONTROLLED ROBOT FOR EXPLOSIVE DETECTION AND DIFFUSION USING GSM MODULE	sushithdarsh@gmail.com drayshi01@gmail.com athreyas1996@gmail.com vyshu2511@gmail.com	9738094640 8618406216 9900606493 9008906253
PID-42	Kavya Alur Abhishek V Bhoomika B S	Sambhram Institute of Technology, Bengaluru	ECE	8	Elimination of Mediators between Farmers and Consumers in Warehousing by Implementing Cold Storage	alur.kavya1996@gmail.com abhishekv205@gmail.com bhoomikabs95@gmail.com	7411815150

PID-43	Mubarak s Hitesh kumar choudhary Asha k Reddy Kishor kumar k	Sri Sairam College Of Engineering	EEE		Cloud based physical monitoring system using sensors	Sdmk46@yahoo.com hiteshkumar6154@gmail.com ashakreddy1998@gmail.com kishorkumark@gmail.com	9900941503 9886620048 7259618653 9480229668
PID-44	SATISH KUMAR SHAH SYED HAMID KHADRI VIJAY JAISWAL VIJAY S	SAMBHRAM INSTITUTE OF TECHNOLOGY	ECE	8	CONVENIENT AND SECURED VOTING SYSTEM USING RFID AND GSM TECHNOLOGY	vi42751@gmail.com chintooool143@gmail.com syedhamidkhadri@gmail.com Vijayjaiswal1490@gmail.com	8884987409 9538469890 8971937392 7090664142
PID-45	RAKESH B S MOHAMMED ABREETH M PRADEESHAN K VIKRAM J	SRI SAIRAM COLLEGE OF ENGINEERING, BENGALURU	EEE	8	INTELLIGENT DETECTION OF POLLUTION SYSTEM (I-DOPS)	Rakeshbs580@@gmail.com abreethmd@gmail.com Pradeeshan178@gmail.com Vickydatha.777@gmail.com	8722326485 7010263021 7845193389 8660835851
PID-46	Reshma S Rekharani NN Pooja RN Shashank JV	SAMBHRAM INSTITUTE OF TECHNOLOGY BANGALORE	ECE	8	VOICE BASED NAVIGATION SYSTEM FOR VISUALLY IMPAIRED PEOPLE USING RFID AND ZIGBEE TECHNOLOGY	reshma.yadav014@gmai.com rekhanswamy@gmail.com poojamgowda@gmail.com shashankjv447@gmai.com	8792565736 8495019271 8861287881
PID-47	Sangeetha Malini. Y Papusharmah	sait,bengaluru	ECE		Road safety and In- Vehicle monitoring System	sangitha1218@gmail.com ymalini5296@gmail.com papusharmah@gmail.com	
PID-48	BHAVANI SINGH J DEVARAJ S DIVAKARA A P SUBRATA CHOWDHURY	SRI SAIRAM COLLEGE OF ENGINEERING	EEE	8	SNEA: USING OPTOELECTRIC SYSTEMS (SMART NEW ERA ARG- APPLICATIONS USING OPTO ELECTRIC SYSTEMS)	bhavani6596@gmail.com ranya.eee@sairamce.edu.in raviangadi404@gmail.com rajeshwariwatersupply@gmail.com	9043330947
PID-49	P Rashmi Shamala H N Akshay D G Amodh	Sri Venkateshwara college of Engineering, Bengaluru	EIE	8	AUTOMATIC GARBAGE COLLECTING ROBOT USING RENEWABLE SOURCE OF ENERGY(SOLAR)	rashmi.p858@gmail.com shamlanacharya07@gmail.com Akshayd95@gmail.com amodh.krishna@gmail.com	9035646288
PID-50					SMART WHEELCHAIR	sushma.goud86@gmail.com	
PID-51	FAIROZKHAN PATHAN ROOPARAJ TELIREKHA APPASAHEB	SRI SAIRAM COLLEGE OF ENGINEERING	EEE	8	IOT BASED MULTI PARKING	fairozkanp007@gmail.com	
PID-52	Amulya.J.P Krishna.H Chandra.R. Ambika.P.V Mahesh	Sri Venkateshwara College Of Engineering	EEE		A Modified SEPIC Convertor For Street Lighting	amulyajp12345@gmail.com	

PID-53	Neeraja.A Harshitha.L Bindu M.R Harshitha.S	Sri Venkateshwara College of Engineering	EEE	8	An IOT BASED SMART AND SECURED E-CAMPUS	harshithaharshu29@gmail.com aneerajanand@gmail.com bindugowdamr.2196@gmail.com harshithagowda.s27@gmail.com	9164882927 9902941139 8970306986 9844801048
PID-54	Adarsh B.p Deepika Bhat Shashikumar G.B Rakshitha S Anusha G V	Jawaharlal Nehru National College of Engineering	ECE TCE TCE TCE	6	AUTOMATIC RATION DISTRIBUTION SYSTEM	bpadarsh8@gmail.com manikantatk24@gmail.com ddeepikabhat@gmail.com rakshasadanand@gmail.com	7406686010 8884562302 8792517578 9741013760
PID-55	Mohammed Akramulla Mohammed Shabbir Rhea Flavia Menezes Tanya Saxena	AMC Engineering College	ECE	8	Communication using RTL-SDR	ttanyasaxena@gmail.com akram333rd@gmail.com mdshabbir.amc@gmail.com menezesrhea246@gmail.com	8310028959 9066069412 7829792814 8792659716
PID-56	Nikhil G R Nilan Reddappa Shetty M K Teja V R Veena R	Sambhram institute of technology	ECE		SMART PARKING ALERT SYSTEM AND DIGITAL DOCUMENT VERIFICATION FOR VEHICLES	teju21karan10@gmail.com sushma.goud86@gmail.com nikhilgr30996@gmail.com nilanreddappasetty@gmail.com r.veena1996@gmail.com	9743906886 9632400000 9945192376 8867043846
PID-57	Subham Agarwal Saurabh Kumar Vinodkumar L T Suraj S	SRI SAIRAM COLLEGE OF ENGINEERING, BENGALURU	CSE	6 6 6 8	Smart Learning using Augmented Reality	subham.ashok.p8@gmail.com	
PID-58	Darshan H O Gaurav J K Pratheek Parasam Tharun kumar S	Dr. Ambedkar Institute of Technology	TCE TCE IT MECH	8	Novel Technique To Remotely Monitor And Control Waste Water Treatment System	Pavanj@cymbelinein.com, pavanj278@gmail.com, badkilayasrinivas@gmail.com stharunkumar77@gmail.com	9035437164 96638274589 73110475597 38972697
PID-59	Manish raj Susenty kumari Avinash Kumar singh Sujata D.S	SAMBHRAM INSTITUTE OF TECHNOLOGY BENGALURU	ECE		Aadhar Card based Biometrics Electronic Voting System with Embedded Security Along With Remote Access	manish4938@gmail.com	
PID-60	Hemanth Kumar C S Tejashwini G Suvini Alexander A	Sambharam Institute Of Technology			HYBRID POWER GENERATION USING NON- CONVENTIONAL ENERGY SOURCES	john.alexander68@gmail.com	
PID-61	Ashmin Dhungana Akshay Munoli Akhilesh Kumar Saroj Kumar Sharma	Sambhram Institute of Technology	ECE	8	Indoor Air Monitoring And Control System	dhungana.ashmin@gmail.com akshaymunoli26@gmail.com akhileshkuy@gmail.com saroj.sharmasrk@gmail.com	9741307820 8861718921 9986056807 9939957623
PID-62	Abhishek.K Bablu.K Ashutosh.K Rajesh.Y	Sambhram Institute of Technology	ECE	8	Petroleum and natural gas leakage information monitoring system using GPS and wi-fi	abhishekkachroo1@gmail.com babluromsom@gmail.com mailashusait@gmail.com rajesh15391@gmail.com	7760900938
PID-63	MOHAMMED JUNAID MOHAMMED ZUBAIR KANNALAH MISHRA VASUDEVAN E	AMC Engineering College	ECE	8	INTEGRATIVE SOCIETY-A SMARTER WAY TO COEXIST	vdevan232@gmail.com	7892661531 9620400000

PID-64	Sushma Chowdhury Sushmita Chowdhury Swati Kumari Surbhi Sharma	Sambhram Institute of Technology	ECE	8	AUTO AIMING PROGRAMMABLE GUNNING SYSTEM	chowdhurysushma11@gmail.com csushmita707@gmail.com kswati1997@gmail.com	9742012329 9742900000 8073146944
PID-65	Baijanath Tharu Kamal kumar Yadav Deepak Dinesh J	Sambhram Institute of Technology	ECE	8	Optoelectronics Based Embedded System for Milk Quality Analysis	bijoy.st7@gmail.com	7406948431
PID-66		Sambhram Institute of Technology			I2V and V2V Communication based VANET to Optimize Fuel Consumption at Traffic Signals	preran69@gmail.com	
PID-67	ashim chakraborty raj kumar singh manash das	Sambhram institute of technology	ECE	8	android based monitoring human knee joint movement using wearable computing	ashim7829@gmail.com	
PID-68	MEDA NAGARAJU DIMPLE LOHITHA A S RAMYA B K D MITHUN GEORGE	DAYANANDA SAGAR COLLEGE OF ENGINEERING	ECE		DISTAL SDR BASED COMMUNICATION USING USRP 2930	dimple.meda@gmail.com lohithaas@gmail.com bkr2304@gmail.com mithungeorge09@gmail.com	9611428220 7795598424
PID-69	KIRAN V PARVATEKAR SHEBIN M ZACHARIA SHREYA V SHEELVANT TANYA NANALIAH	BMSCE	TCE	8	EnviDron - A drone that purifies air	kiranparvatekar05@gmail.com shebin22@gmail.com shreyavsheelvant4@gmail.com tanyannh289@gmail.com	9880456640, 8123752860, 9620858363, 9448727785
PID-70	Sumedha R Kulkarni Priyanka S Vedeshwar	BMSCE	TCE	8	Autonomous Intelligent Robot for Visually Impaired	sumedha.rk.05@gmail.com , priyani.vedeshwar@gmail.com	7795264403, 9481111312
PID-71	Anup G Madwesh Butt V Mohammed Saqib Asghar Ankush Kumar Singh	BMSCE	TCE	8	IOT Based Voice controlled Personal Assistant	madwesh.bhat828@gmail.com	9632648903
PID-72	Sushanth S C B Manikanta Raghu P	BMSCE	TCE	8	CAN Infrastructure for Automotive Applications	sushanthreenivas08@gmail.com , cb.manikanta@gmail.com , raghudec2@gmail.com	8147601204
PID-73	Yash Verma Viny Kinger Raasha Raphique R.S. Sravya	BMSCE	TCE	8	Smart Entry System	yash.verma28@gmail.com , kingervinny@gmail.com , raasha25@gmail.com , sravyars27@gmail.com	8210858322, 6360644035, 8105668952, 8951583886
PID-74	Shrenik parakh Rishi Raj Kumari abhaya vatsal p	BMSCE	TCE	8	Integrated health care architecture	parakh.shrenik95@gmail.com , rishi7038@gmail.com	8951487023
PID-75	Divya Prakash Shruthi Janardhan Harshita Radesh	BMSCE	TCE	8	Fall detection sensor using tri-axial accelerometer	divyaprakash0511@gmail.com , harshitaradesh95@gmail.com , shrooty.janardhan@gmail.com	9686461364
PID-76	Keerthana R Komala S Kruthi Bharadwaj S Pavithara B S	BMSCE	TCE	8	Fishermen Alert System For Border Crossing	komalashivalinga1996@gmail.com	8867285891

PID-77	Aanekallu Abhishek Ganapathi M Hegde Suresh Kumar KM Divin Christopher Lobo	BMSCE	TCE	8	Revolution in the highway system	rightabhi97@gmail.com gappuhegade202@gmail.com singamsuresh888@gmail.com divin.christopherlobo@gmail.com	8088783197 9066147547 9036648758 7829159649
PID-78	Ankitha B K Chandana E Rashmi K Suma K	BMSCE	TCE	8	Smart Auto-Detection Vehicle System	ankithabk24@gmail.com chandanaachandu248@gmail.com rashmik369@gmail.com sumajagthap@gmail.com	9482204254 9739748747 7411191668 8147556548
PID-79	Prajwal G Rajiv Regmi Raghu H N	BMSCE	TCE	8	LIFI COMMUNICATION	g.prajwal36@gmail.com regmi_rajiv@yahoo.com hnraghu8@gmail.com	8197220801 7406616433 7019564815
PID-80	Nikhil Srikar K A Harshini VC Harshita B	BMSCE	TCE	8	Low Cost Breath Analysed Ignition Interlock System	mikhilsrikar23@gmail.com vc.harshini5@gmail.com harshubanu@gmail.com	7795879826 8867607199 9620199531
PID-81	Ajith G Narasimha Bharadwaj C Naveen Kumar T S Snrharsha Nag T S	BMSCE	TCE	8	UAV aided Irrigation using Object Detection through Wireless Communication Technology	ajithbalaji.govind@gmail.com, cbharadwajn@gmail.com, naveents360@gmail.com, tshnag@gmail.com	8892565902, 9449256723, 9686725240, 9738157194
PID-82	Ranjita V C Tejashwini G Yuvashree K Chaitra S	BMSCE	TCE	8	Automated Spy robot	ranjitavijapur1996@gmail.com tejusurya003@gmail.com yuvaashree.kumar@gmail.com chaitrasounderraj@gmail.com	7760924720 9738760568 9738085038 9008529986
PID-83	Anshuman Mohanty Pranav Giria Saptaswa Pal Vishruthi K Acharya	BMSCE	TCE	8	Triple Tier ATM Protection	anshuman.mohanty95@gmail.com, giriapranavpg7@gmail.com, saptaswapal1996@gmail.com, vishruthi.acharya@gmail.com"	8073744824 8867946511 7204634597 8861064899

PID-84	Abhiraj Singh Pahargarh Adhiraj Singh Pahargarh Anil B.S Shrisha Bharadwaj	BMSCE	TCE	8	Robot Navigation using Artificial intelligence	bhanwar.abhiraj@gmail.com adhiraj.pahargarh@gmail.com anil.battalahalli@gmail.com coolshrisha@gmail.com	9742770480 8123490647 7019013790 9986930545
PID-85	Akshay K M R Harshavardan Rahul Hebbbar A Roshan	BMSCE	TCE	8	Implementation of Security System and it's Interconnection with Lighting	rahulhebbbar1996@gmail.com akshaykm99@gmail.com harshavr25@gmail.com roshangrwl@gmail.com	9739442644 8123285045 9901742778 7903113842
PID-86	Sayali Prakash Patil Swagath B Rahul V Mohammed Arfan	BMSCE	EEE		Design and Development of Solar Electric Hybrid Heated Bed Smart Electric Stove	patilsayali787@gmail.com swagath.b.18@gmail.com e.j.rahul1918@gmail.com brainhackerz15@gmail.com	7204133010 80958326977 259227246 8050280384
PID-87	Rahul V Swagath B Mohammed Arfan Sayali Prakash Patil	BMSCE	EEE		Vision Based Autonomous Path Traversing Robot For Agriculture	e.j.rahul1918@gmail.com swagath.b.18@gmail.com brainhackerz15@gmail.com patilsayali787@gmail.com	8050280384 8095832697 7259227246 7204133010
PID-88	Gyanendra kumar Sah K Eshwar Tilin Oommen Deevyendu N Shukla Parimal Gorat	BMSCE	EEE		HYBRID SOLAR UPS FOR DOMESTIC APPLICATIONS	gyanendra.kr.sah@gmail.com tilinoommen1607@gmail.com deevyendunshukla@gmail.com patilsayali787@gmail.com esh.eshwar.eshwar.esh@gmail.com parimal.gorat2@gmail.com	9036910722

PID-89	Shreesh Kulkarni Sourabh TK	BMSCE	EIE		Strength Analysis in Arboriculture	sourabhk96@gmail.com	
PID-90	CHETNA B.R (EIE) LAKSHITAA SHARMA (EIE) SPANDANA SKANDAN (ML) ANANTH ADISESH (ML)	BMSCE	EIE AND ML		ANALYSIS AND DIAGNOSIS OF INFANT CRY CHARACTERISTICS	chetna.towerbridge@gmail.com	
PID-91	SNEHA.G.M SNEHA.P. B SUSHMA.C. R V. SUPRIYA	SAMBHRAM INSTITUTE OF TECHNOLOGY	ECE		AUTOMATIC IRRIGATION CONTROL AND SOIL MONITORING SYSTEM USING GSM MODULE	snehapbms1@gmail.com	
PID 92	LAVANYA KN NISCHITHA BR RAMYA SHREE D T ASHA	BMSCE	TCE	8	VISION INTERFACED WARFIELD ROBOT WITH WIRELESS VIDEO TRANSMISSION	ashathota40@gmail.com	
PID 93	Sowdhamini R Gowthami DR Santosh kumar	SAMBHRAM INSTITUTE OF TECHNOLOGY			Microcontroller Based Room Automation And Bidirectional Visitor Counter	sowdhamini.ramya196@gmail.com	

APPENDIX B:

BMS COLLEGE OF ENGINEERING, BENGALURU

Dept. of Telecommunication Engineering

Allotment of space for project exhibition - TELECOMBAT 2018

Block	Venue	Floor	PID (Project ID)
TELECOM	CLASS ROOM EC 209	2	4 TH SEM MINI PROJECT STUDENTS
TELECOM	ANALOG/DIGITAL ELECTRONICS LAB	1	3,4,9,11,13,14,15,16,19,20,21,22,23,24,25, 26, 47, 55 27,28,29,30,31,32,33,34,35,90 70,71,72,73,74,75,81, 82, 92
TELECOM	COMPUTER SIMULATION LAB/SYNTHESIS LAB	1	4 TH SEM MINI PROJECT STUDENTS (INNER LAB) 76,77,78,79,80,39, 40, 42(OUTER LAB)
TELECOM	ANALOG/DIGITAL COMMUNICATION LAB	2	6,12, 17, 41,64,65,67,68,69, 91 44,45,46,48,51,54,56,57,58,59,60,61, 62 83,84,85,86, 87
TELECOM	TCE PROJECT LAB	3	36,48,88,89,37,93

APPENDIX C:


SCHEDULE-TELECOMBAT 2018

Time	Event	Venue
8.15-8.45 am	Project set up by respective teams	Telecom Block-1,2 and 3 floor according to PID allotted
9 am	Inauguration	BSN Hall, PG Block
9.30 am	Tea Break	Outside BSN Hall, PG Block
9.45 am-10 am	Group Photo	Outside BSN Hall, PG Block
10 am-12.30 pm	Project Demo/Evaluation Round 1	Telecom Block-1,2 and 3 floor according to PID allotted
12.30-1pm	Lunch Break	Multi Purpose Hall/Hostel Mess
1pm-2 pm	Project Demo/Evaluation Round 2	Telecom Block-1,2 and 3 floor according to PID allotted
2pm-2.15pm	Finalization of Results by judges	Telecom Block
2.30 pm -3 pm	Valedictory [Announcement of winners, certificate distribution to winners]	BSN Hall, PG Block
3pm-3.15pm	Tea Break	Outside BSN Hall, PG Block
3.15 pm	Certificate Collection [for other participants]	Outside BSN Hall, PG Block

APPENDIX D: SAMPLE RUBRICS SHEET


PID	PROJECT TITLE	Innovation (10)	Research (10)	Societal concern/Applications(10)	Overall Presentation(10)	Q &A (10)	Total (50)
3	water monitoring control using Iot						
4	Smart metro station for public safety						
9	SMART BLIND PERSON						
11	INDOOR POSITIONING AND TRACKING USING BLE TECHNOLOGY						
13	SMART ATTENDANCE MANAGEMENT SYSTEM USING REAL TIME FACE RECOGNITION						
14	Control of Wheelchair for Handicapped via Iris Movement using Image Processing						
15	ANDROID CONTROLLED WILDLIFE OBSERVATION ROBOT						

APPENDIX E: SAMPLE CERTIFICATION



BMS COLLEGE OF ENGINEERING, BENGALURU
(Autonomous institute, Affiliated to VTU)

Department of Telecommunication Engineering
(Accredited by NBA for Five Years in Tier-I Format)



Certificate of Appreciation

TELECOMBAT
(A national level project contest)
May 5, 2018 at BMS College of Engineering, Bengaluru

*This is to certify that _____ of _____ College has participated and won **FIRST PLACE** in **TELECOMBAT**, a National Level Project Contest organized by the Department of Telecommunication, BMS College of Engineering on 5th May 2018 under IEEE BMSCE student chapter.*

Dr. Rajeshwari M Hegde
Head, Dept. of TE
BMS College of Engineering

Dr. K Mallikharjuna Babu
Principal
BMS College of Engineering



BMS COLLEGE OF ENGINEERING, BENGALURU

(Autonomous institute, Affiliated to VTU)



Department of Telecommunication Engineering

(Accredited by NBA for Five Years in Tier-I Format)

Certificate of Participation

TELECOMBAT

(A national level project contest)

May 5, 2018 at BMS College of Engineering, Bengaluru

*This is to certify that _____ of
_____ College has participated in TELECOMBAT, a National Level Project
Contest organized by the Department of Telecommunication, BMS College of Engineering on 5th May 2018
under IEEE BMSCE student chapter.*

Dr. Rajeshwari M Hegde
Head, Dept. of TE
BMS College of Engineering

Dr. K Mallikharjuna Babu
Principal
BMS College of Engineering

Details of Statement of Expenditure towards the Programme

Sl.No.	Particulars	Amount (Rs)
1	Certificates	5000
2	Mementos	6961
3	Hospitality	24,800
4	Bouquets	550
5	House Keeping	1000
6	Prize money	45,000
Total		90, 211

Sponsorship Details

Sl.No.	Particulars	Amount (Rs)
1	Registration	26,000
1	Alpha Design Technologies	25,000
	From Alumni	39,400
2	Byjus	5000
3	Vigven Tech Mark	5000
4	Nihan Communication	10,000
5	IEEE	6900
Total		1,00,400