

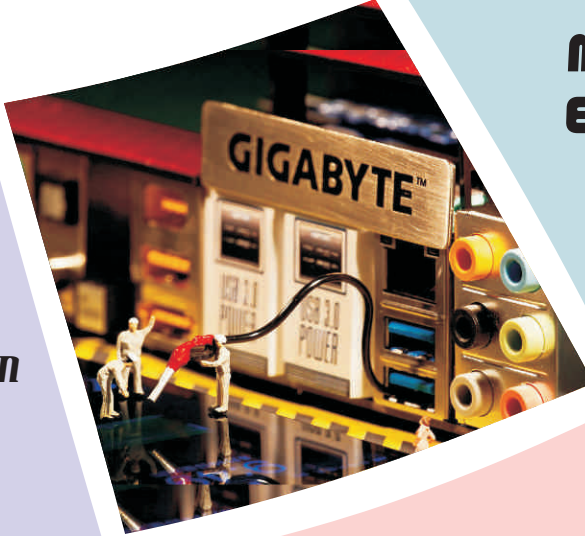
# MANTHANA 2020

## ಮಂಥನ 2020



**MECHANICAL  
ENGINEERING**

**ELECTRONICS  
AND  
COMMUNICATION  
ENGINEERING**



**COMPUTER SCIENCE  
ENGINEERING**



**BMS INSTITUTE OF TECHNOLOGY AND MANAGEMENT**



Estd. in 2002 | Affiliated to VTU | Approved by AICTE |  
Accredited by NAAC with 'A' Grade

Doddaballapura Main Road, Yelahanka, Bengaluru – 560 064

Ph:080-28561576, 080-28567187, Fax: 080-28567186

[www.bmsit.ac.in](http://www.bmsit.ac.in)



**Late Sri B. M. Srinivasaiah**  
Founder, BMSET



**Late Sri B. S. Narayan**  
Donor Trustee, BMSET

## **Founder's Vision**

*Promoting prosperity of mankind  
by augmenting human resource  
capital through quality education  
and training*

### **THEY MADE HISTORY BY THEIR INDOMITABLE SPIRIT**

The history of BMS institutions dates back to the year 1946. Late Sri B. M. Sreenivasaiah, a philanthropist and visionary, realized the importance of technical education in the country. BMS College of Engineering, which he started in the year 1946 has the distinction of being the first private engineering college in the country. Sri B. M. Sreenivasaiah was conferred with the title 'Dharmaprakasha Rajakaryaprasakta' by the Maharaja of Mysore for his yeoman's service in the education sector. The inheritors of his legacy continue to cherish and uphold his vision and ideals.

After the demise of Sri B. M. Sreenivasaiah, his illustrious son Sri B. S. Narayan, a dynamic and enterprising personality, developed BMS College of Engineering into one of the finest engineering colleges. He is responsible for the creation of BMS Educational Trust (BMSET) under which he established other institutions of higher education including BMS College of Law, BMS College for Women and BMS Evening College of Engineering. He was instrumental in initiating several collaborative programs, such as cross cultural programs with M/s. Melton Foundation & training foreign students under International Co-operation Division (ICD). After the demise of Sri B. S. Narayan, the affairs of the BMS institutions was being effectively managed by The Council of Trustees appointed by Dr. Ragini Narayan wife of Late Sri B. S. Narayan and the Donor Trustee & Member Secretary of BMS Educational Trust.





## BMS INSTITUTE OF TECHNOLOGY AND MANAGEMENT YELAHANKA, BENGALURU – 560064

### Vision

To emerge as one of the finest technical institutions of higher learning to develop engineering professionals who are technically competent, ethical and environment friendly for betterment of the society.

### Mission

Accomplish stimulating learning environment through high quality academic instruction, innovation and industry-institute interface.

### Courses Offered

#### UNDERGRADUATE PROGRAMMES

1. B.E. in Electronics and Communication Engineering
2. B.E. in Computer Science and Engineering
3. B.E. in Information Science and Engineering
4. B.E. in Mechanical Engineering
5. B.E. in Electrical and Electronics Engineering
6. B.E. in Electronics and Telecommunication Engineering
7. B.E. in Civil Engineering
8. B.E. in Artificial Intelligence and Machine Learning

#### POSTGRADUATE PROGRAMMES

1. Masters of Computer Applications (MCA)
2. M.Tech in Machine Design
3. M.Tech in Computer Science and Engineering.

#### RESEARCH PROGRAMMES

1. M.Sc. (Engg.) By Research
2. Doctor of Philosophy (Ph. D)

# BMS Educational Trust, Bangalore

## Council of Trustees



**Dr. B S Ragini Narayan**  
Donor Trustee & Member Secretary  
Chairperson, BMSET  
Educationist



**Dr. P Dayananda Pai**  
Trustee, BMSET  
Chairman, Century Group,  
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Trustee, BMSET  
Former Additional Chief Secretary, Govt. of Karnataka,  
Chairman, Board of Governors, BMSIT&M



**Sri. Aviram Sharma**  
Trustee, BMSET



# BMSIT&M Board of Governors



## Chairman

**Sri. M. MADAN GOPAL**, IAS (Retd.)  
Trustee, BMSET  
Former Additional Chief Secretary,  
Govt. of Karnataka,  
Chairman, Board of Governors, BMSIT&M



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Bengaluru



## Member

**Dr. B. S. RAGINI NARAYAN**  
Donor Trustee & Member Secretary,  
Chairperson, BMSET  
Educationist



## Member, (AICTE Nominee)

**Prof. A. SRIDHARAN**  
Professor of Civil Engineering (Retd.),  
Indian Institute of Science,  
Bengaluru



## Member

**Dr. P. DAYANANDA PAI**  
Trustee, BMSET  
Chairman, Century Group,  
Chairman, Board of Governors,  
BMSCE



## Member

**Sri. G. S. MAHAGAONKAR**  
Former DGM,  
BHEL, Bengaluru



## Member

**Sri. AVIRAM SHARMA**  
Trustee, BMSET



## Member, (Govt. Nominee)

**Sri. H. U. TALAWAR**  
Director of Technical Education,  
Govt. of Karnataka



## Member

**Sri. GOWTAMA M.V.**  
Chairman & Managing Director,  
Bharat Electronics Ltd.,  
Bengaluru



## Member, (AICTE Nominee)

**Sri. N. RAMESH**  
Asst. Director & Regional Officer,  
All India Council for Technical  
Education, Bengaluru



## Member Secretary

**Dr. MOHAN BABU G.N.**  
Principal, BMSIT&M



## Member, (VTU Nominee)

**Sri. VEERSHETTY MANGE**  
Executive Council Member, VTU

## Message from Trustee

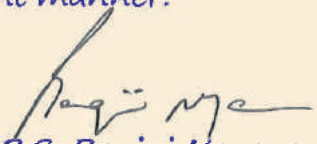


I am enchanted to note that BMSIT&M is bringing out its 17<sup>th</sup> edition of the annual college magazine, Manthana-2020. This magazine is a platform for both the students and faculty to stretch their thoughts and ideas in today's growing world.

The magazine divulges that the students of this college are extremely talented, innovative, motivated and intelligent as they have excelled well in academics, cultural and various sports activities. I can perceive a bright future for all my students of BMSIT&M.

Our motto is to deliver quality education and to enable them to be globally competent. In this regard, the BMS Educational Trust will deliver the best of its infrastructure and resources to help the students to be globally recognised.

I wish all the best to my students, staff and magazine editors from the bottom of my heart for bringing out this magazine in a very professional & elegant manner.

  
Dr. B.S. Ragini Narayan  
Donor Trustee & Member Secretary  
Chairperson, BMSET  
Educationist



## Message from the Trustee



*I am very glad to communicate that, Manthana-2020 is mythically a creative documentary of our students to showcase their talents. This magazine depicts the achievements of the students with blended colours in cultural, academic, sports and literary activities of the college during the academic year 2019-20.*

*I wish the students to succeed in life by putting sincere efforts in their area of interest. Further, I am poised to see that they will live up to the expectations of their parents and institution in near future. In addition, I congratulate the editorial committee for their efforts in bringing out the magazine Manthana-2020 with flying colours.*

*With best wishes,*

**Dr. P. Dayananda Pai**  
Trustee, BMSET  
Chairman, Century Group,  
Chairman, Board of Governors,  
BMSCE

## Message from the Trustee



It gives me immense pleasure to pen a few words as prologue to our in-house magazine 'MANTHANA-2020' in releasing its 17th issue. It is exclusively meant for churning out the latent talent of the students and staff in the area of academics, sports and other co-curricular activities. The institution being one of the premier didactic organization has earned many laurels and recognitions in the field of technical education.

The magazine topographics institutional activities, painting, sketches and many articles based on student's and staff perception. In addition, it represents a good blend of experience, knowledge and expertise of the students in their respective zone of exertion. I applaud the entire team of Manthana for bringing out diverse glimpse of sunlit in every edition which manifests the growing footsteps of the institute.

A handwritten signature in blue ink, appearing to be 'M. Madan Gopal'.

Shri M. Madan Gopal, IAS (Retd.)  
Trustee, BMSET,  
Chairman, Board of Governors, BMSIT&M.



## Message from the Trustee



*It is undeniably a great yearning to know that BMSIT&M is releasing its latest issue of college magazine, MANTHANA-2020. The acme of magazine is to provide an outstanding blended mixture of achievements in the area of academic, sports and literary activities of the students during the academic year, 2019-20.*

*A dedicated team of faculty and researchers at BMSIT are progressing towards the development of the nation by providing qualitative and innovative ways of teaching methodology by using various ICT techniques. In addition, students are made globally competent by embedding them with latest technologies, ideation and innovative thoughts which are in demand in today's growing world.*

*I applaud the editorial committee for integrating the perception, thoughts, creativity and the arty landscape of the students in the form of a publication which substantiates the vision of the college.*

*With best wishes,*

*Aviram Sharma*

**Sri Aviram Sharma**

Trustee, BMSET

## Message from the Trustee



BMSIT&M brings out high quality niche work with admirable result every time. This time the college has brought out the institutional Magazine Manthana-2020 with a high degree of creativity. The publication reflects the true spirit of BMSIT&M family - students, staff and faculty with diversified and distinguished articles showcasing exemplary work of the institution.

The Contribution of Faculty & Students with respect to the Growth of the Nation is immense.

Congratulate the Manthana team for their wonderful work.

With best wishes,

A handwritten signature in black ink, appearing to read 'Muralikrishna K Mysore'.

**Muralikrishna K Mysore**

Director, Administration (BMSET)



## Message from the Principal



*It is a pleasure to note that our institute is coming up with the next edition of college magazine, Manthana-2020. We at BMSIT&M appreciate the fact that Education is not just academics. It encompasses all that is needed to bring out perfection in a human being in all his/her endeavors. Education is expected to facilitate a person's skills and talents to evolve to their full potential. The new National Education Policy 2020 also emphasizes that students should be encouraged to pursue their passion to complement multi disciplinary education acquired.*

*We, at the institute always encourage students to develop their literary and artistic skills along with other necessary skills. Manthana-2020, provides an exuberant platform for all students and staff to present their talents. Thus, I am sure that the magazine has all that one would be interested to read about the institute, its progress, talents and skills of staff and students.*

*I would like to thank all the contributors of contents to Manthana- 2020, and congratulate those whose articles have found a place in its limited space. The sincere effort of the team of staff and students responsible for bringing out this piece of marvel certainly deserves a special appreciation. They have done justice to the assignment even with the prevailing Covid-19 pandemic. Hope you will enjoy reading through it.*

*Dr. Mohan Babu G.N.  
Principal*





**EDITORIAL BOARD**



# Editorial Board of Manthana 2020



**Dr. C.S. Mala,**  
Professor and Dean-Student Welfare,  
BMSIT&M



**Dr. Anjan Krishnamurthy**  
Editor, Manthana 2020  
Assoc. Prof & PG Coordinator, Dept. of CSE



**Dr. Nandini R.**  
Co-editor, Manthana 2020  
Asst. Prof, Dept. of ME.



**Dr. Bharathi M.A.**  
Head, AI&ML



**Dr. Aruna Kumari B.N.**  
CSE



**Prof. S. Nithya Poornima**  
ME



**Prof. Shilpa G.**  
EEE



**Prof. Shivarudraiah B.**  
ECE



**Prof. Shanthi D.L.**  
ISE



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CIVIL



**Prof. M. Sridevi**  
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Physics



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Library



**Mr. M.B. Patil**  
Physical Education & Sports



## From Editorial Desk

We are delighted to bring out the 17<sup>th</sup> Edition of the techno-cultural annual institutional magazine – “**Manthana 2020**”. It has been continuous effort to bring out niche articles and showcase the work of our students and faculty fraternity amidst the great pandemic and crisis. The magazine is blend of technical articles, literary and art. Many of the articles in this edition are interesting and are eye-opener. We thank all the authors who have liberally contributed their articles to this edition of the magazine and making it a grand success.

We would like thank the untiring efforts and contributions of the student coordinators, faculty coordinators and HoDs for their seamless cooperation and support to bring out this colourful magazine.

We would like to thank our management, Principal and Dean – Student welfare for their continuous motivation and support.

We hope this issue will be pleasant experience to one and all.

**Dr. Anjan Krishnamurthy**  
Editor, Manthana 2020

**Dr. Nandini R.**  
Co-Editor, Manthana 2020



# CONTENTS

	Page No.
1. Vision, Mission of BMSIT&M and Courses Offered	- 1
2. Trustees of BMS Educational trust	- 2
3. Board of governors of BMS Institute of Technology and Management	- 3
4. Trustees and Principal Messages	- 4
5. Editorial Board MANTHANA - 2020	- 11
6. Departments Profile	- 15
• Artificial Intelligence and Machine Learning	- 16
• Chemistry	- 24
• Civil Engineering	- 26
• Computer Science and Engineering	- 31
• Electrical and Electronics Engineering	- 34
• Electronics and Communication Engineering	- 38
• Electronics and Telecommunication Engineering	- 41
• Information science and Engineering	- 46
• Master of Computer Application	- 49
• Mathematics	- 52
• Mechanical Engineering	- 57
• Physics	- 61
7. Sections and Institutional Clubs / Cells/ Units profiles:	- 65
• Placement and training	- 66
• Library information center	- 69
• Physical education and sports	- 72
• Innovation center	- 79
• National service scheme Unit	- 83
• National cadet corps	- 87
• Civil Defence	- 89
• Intellectual Property (IP) Cell	- 92
• IEEE Student chapter	- 94
• Public relations and media cell	- 97
• Gender Champion Cell	- 98
8. Faculty and Student Articles	- 101
9. Alumni Corner	- 131
10. Photography and Sketches	- 141





# Department Profiles

# Department of ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

## Vision

To develop professionals equipped to build sustainable and intelligent solutions that effectively interact with the natural intelligence towards creating a digitally empowered environment for future generations, safe guarding social ethics.

## Mission:

- To enable students with the spirit and power of interdisciplinary acumen by integrating a world of knowledge into a world of intelligent systems and subsystems.
- Boost academic outcome through place-based education and collaborations with established research labs and industries.
- Encourage entrepreneurship efforts among students and develop them into great leaders.

## From HoD's Desk



**DR. Bharathi Malakreddy A.**

Welcome to the Department of Artificial Intelligence and Machine Learning at BMSIT&M, Bengaluru. The Department is the realization of our Management' vision of offering an undergraduate program in the stream which is the need of the hour to address the fast-growing industrial demands to embrace the technology of Artificial Intelligence and Methods of Machine Learning. Under the visionary leadership of our beloved Principal, Dr. Mohan Babu G N, we started our exciting journey in the year of 2019, with a sanctioned student strength of 60. We, in our Department, offer a large number of optional courses for providing a wide spectrum of options to the students to pursue their interests. The primary focus of our curriculum is to impart technical know-how to students, promote their problem-solving skills and innovation of new technologies introducing new developments.

Our department maintains active research groups for carrying out collaborative and interdisciplinary research. We have state of the art research facilities to support our academic programs and research. At present, the department faculty are guiding six Ph.D. scholars from industries and academia. It is heartening to find that our students look forward to contributing to solving the technological challenges of society with active participation, perseverance, and hard work. Skill & knowledge relevant to real-world problems is inseminated to produce dynamic, socially conscious and sensitive human beings.

On behalf of the Department of AI&ML, I congratulate and appreciate the expediency of editorials board and contributors of this magazine. Best wishes!



**DEPT. NAME:** ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

**DEPT. ESTABLISHED YEAR:** A New Beginning! Our Department was formally inaugurated on 02-Aug-2019, in the esteemed presence of our beloved Chairman Sri. M. Madan Gopal, IAS (Retd.) and our visionary leader, Principal Dr. Mohan Babu G N and several other distinguished dignitaries. The event drafted the script for a new chapter in the history of our college to offer an undergraduate program in Artificial Intelligence and Machine Learning, a much sought-after skill set for the future.



*Inauguration by our beloved Chairman Sri. M. Madan Gopal, retired IAS, our visionary leader Principal Dr. Mohan Babu G N, Shri Aviram Sharma, Trustee, BMSET and several other distinguished dignitaries.*

**No. OF STUDENTS (UG+PG):** UG-57

**No. OF DOCTORAL DEGREE HOLDERS:** 04

**FACULTY COUNT:** 04

**FUNDING:** Research grant of INR 20.00 Lakhs from Vision Group of Science and Technology (VGST) for the project titled “**Establishment of Centre for Design and Research of Healthcare Applications using Artificial Intelligence**”.

**Principal Investigator:** Dr. Bharathi Malakreddy A.

**No. OF RESEARCH SCHOLARS:**

- DR. Bharathi Malakreddy - 07 (Research scholars from industry and academia.)

**COLLABORATIVE WORKS AND MENTORSHIP:**

- 1) Dr. Bharathi M.A. – 04 Projects NITK Suratkal (Completed)
- 2) Dr. Bharathi & Dr. Santhi Natarajan - 02 Projects NITK Surathkal in Progress

**No. OF FDP / WORKSHOP / SEMINAR / EXPERT TALK / STTP / CONDUCTED IN THE YEAR 2019:**

**Expert Talk: 04**

- 1) Dr. Dinesh Kumar, Professor, IIM Bangalore (Member, Dept. DAB) addressed our students on scope of Machine Learning and Data science. Students were interested to understand the applications and scope of the topics.



- 2) Dr. Shivakumar, Professor University of Malaya, Malaysia gave a talk on Computer Vision and its Applications. He also discussed on research challenges and interacted with students on Natural Language Processing.





3) Mr. Manjunath Anand, CTO CleanSlate, Canada addressed students on internship and career opportunities at Canada. He also motivated students to take up higher studies and research work. He also expressed about collaborative work with students of AI&ML



**Seminar:** Seminar on Awareness, Precautionary and Prevention of Novel Corona Pandemic to the students of Dept. of AI&ML by Faculty Members of Dept of AI&ML.



*Covid 19 Awareness Programme*

**No. OF PUBLICATIONS :**

Total Publications: 17 (May 2019 – May 2020)

**No. OF PATENTS:**

2 Granted, 1 PCT, 1 Filed

**No. OF NDA SIGNED: 05**

2 NDAs signed for research activities

1. Signed with HCG, for research collaborations in the field of genomics and radiomics
2. Signed with Aleka Technologies, for research collaborations in Autonomous Vehicular Technology.

**CONSULTANCY PROJECTS: 06**

Following consultancy works have been taken up and successfully conducted.

1. Siemens Technologies (Dr. Vishwa Kiran S.)
2. Western Digital (Dr. Vishwa Kiran S.)
3. Larsen and Toubro (Dr. Santhi Natarajan)
4. Indian Oil Corporation (Dr. Bharathi Malakreddy A., Dr. Santhi Natarajan)
5. Aprameya Technologies (Dr. Vishwa Kiran S.)
6. Volvo (Dr. Vishwa Kiran S.)

**INDUSTRY INTERACTIONS:**

**Dr. Santhi Natarajan & Dr. Bharathi Malakreddy A.**

- Technical expert and recruitment board member, SimPragma Technologies Ltd, Bangalore

**FACULTY CONTRIBUTION LIST:**

**DR. Bharathi Malakreddy A.**

**Publications -09**

- Authored a Book Chapter on Comprehensive Review on Automatic Diagnosis of Diabetic Maculopathy in Retinal Fundus Images-Advances in Signal Processing and Intelligent Recognition Systems, Vol 968 –Springer Publications, Singapore (Scopus Indexed).
- “A Novel Method for Automatic Identification of Fovea Location and it's Centre in Color Retinal Fundus Images”, International Journal of Medical Engineering and Informatics, Inderscience Publishers (Scopus Indexed).
- “Laplacian Matrix-based Spectral Graph Clustering for High Dimensional Data International Conference on Data Engineering and Communication Systems (ICDECS 2019) held during December 19-20,2019 at RNSIT, Bangalore.
- “Recent Advancement of Auto-Scaling in LTE M2M Communications International Conference on Data Engineering and Communication Systems (ICDECS 2019) held during December 19-20,2019 at RNSIT, Bangalore.
- Pralhad P Teggi, Santhi Natarajan, Bharathi Malakreddy A, “Intelligent FORecasting Model for Climate Variations (InFORM): An Urban Climate



Case Study” INDIACom-2020, IEEE CONF-2020 7th International Conference on “Computing for Sustainable Global Development”, 12th-14th March 2020.

- “Laplacian Matrix-based Spectral Graph Clustering for High Dimensional Data International Journal of Innovative Technology and Exploring Engineering (IJITEE), ISSN: 2278-3075, Volume-9, Issue-2S, December 2019 (Scopus Indexed)- Revised Paper.
- “Recent Advancement of Auto-Scaling in LTE M2M Communications International Journal of Innovative Technology and Exploring Engineering (IJITEE), ISSN: 2278-3075, Volume-9, Issue-2S, December 2019 (Scopus Indexed) Revised Paper.
- Divya Shree S., Bharathi Malakreddy A., Kavya Uralakatte P., Bina Rajan, and Narayan K., "DGTD modeling of Mie scattering phenomenon of gold nano particles for biosensing applications," Proc. SPIE 11362, Clinical Biophotonics, 113620B (1 April 2020)doi:<https://doi.org/10.1117/12.2555036>(Scopus Indexed).
- Rajesh I.S., Bharati M.A., Bharathi M.R. Comprehensive Review on Automatic Diagnosis of Diabetic Maculopathy in Retinal Fundus Images Communications in Computer and Information Science Series (Springer-CCIS), Year-2019.

#### Achievements

- Doctoral Committee member for research scholars at Reva University.
- Doctoral Committee member for research scholar at PDA college of engineering.
- Expert Talk on Industry 4.0 and Internet of Things for Oil and Gas Refineries at Indian Oil Corporation, Chennai



*Panel Discussion on Challenges in Oil and Gas Industry in adopting AI, an Indian Oil Corporation Perspective (Panel Members L to R: Dr. Santhi Natarajan Associate Professor BMSIT & M, Aroop Sinha, Executive Director South Zone IOC, Director Training and Development IOC, Dr. Bharathi Malakreddy A., Professor and HoD, Dept. of AI & ML, BMSIT & M)*



**Presentation by Dr. Bharathi Malakreddy A. at Indian Oil Corporation, Chennai**

- Best Innovator Project Award by ICT Academy, New Delhi, and Karnataka State Industries
- Awarded for Best Research Project by National Level South Zone Universities conducted by UGC, Govt. of India
- Awarded for Best project ( M.Tech) by VTU.
- Awarded for Best Project (B.Tech) by VTU.
- Reviewed technical papers for INDIACOM 2020
- Reviewed technical papers for IEEE CONNECT 2020
- Chaired session at International Conference on Data Engineering and Communication Systems (ICDECS 2019) held during December 19-20,2019 at RNSIT, Bangalore.
- Expert Member, Board of Studies(BoS) for CSE Dept, PDA College of Engineering, Kalburgi.
- Resource Person in Open Course for Session on IoT by AI & ML Dept.
- Board of Examination (BOE) Member for ISE Dept. MSRIT, Bengaluru

#### Online Courses :

- Completed 09 Courses
- Bronze Medal for completing network security and cyber security course of Microsoft by Alison.

#### Patent Filed:

Application number **201941030099** has been allotted for the invention titled "**A SYSTEM AND A METHOD FOR AUTOMATED COUNTING OF LIVE FISHES WITH INTERNET OF THINGS AND CLOUD**".

#### Dr. Santhi Natarajan, Associate Professor Publications -09

- Santhi Natarajan, Krishna Kumar N, Debnath Pal, and S. K. Nandy, owards Accelerated Genome Informatics on Parallel HPC Platforms: The ReneGENE-GI Perspective pringer Journal for Signal Processing Systems (DOI: 10.1007/s11265-019-01452-x)



- Pralhad P. Teggi, Santhi Natarajan, Bharathi Malakreddy A., “Intelligent FORecasting Model for Climate Variations (InFORM): An Urban Climate Case Study” INDIACom-2020;IEEE Conf2020 7th International Conference on “Computing for Sustainable Global Development” 12th-14th March 2020
- Santhi Natarajan, S. P. Prashanth Kumar Reddy, “AI-VIDHAAN: An AI Empowered Precision Nutrition Platform” Euro Food Summit, May 20-21, 2020, London, United Kingdom.
- Anand Ravishankar, Dr. Santhi Natarajan and Dr. Bharathi Malakreddy A., Sylvian-Silva (SFORCE): An Ensembled Boost Approach Towards Machine Learning, Accepted for presentation at IEEE CONECCT 2020, July 2020.

#### Patents:

- HARDWARE ACCELERATOR FOR ALIGNMENT OF SHORT READS IN SEQUENCING PLATFORMS (PCT Number: PCT/IB2016/050839)
- MAPPING OF SHORT READS IN SEQUENCING PLATFORMS (PCT Number: PCT/IB2016/050840, GOVT OF INDIA GRANT NO: 305057)
- DATA STREAMING IN HARDWARE ACCELERATOR FOR ALIGNMENT OF SHORT READS (PCT Number: PCT/IB2016/050841, GOVT OF INDIA GRANT NO: 325895)

#### Achievements

- Expert Talk on Artificial Intelligence, Machine Learning and BlockChain for Oil and Gas Refineries at Indian Oil Corporation, Chennai.
- Expert Talk on Autonomous Vehicular Technology at Larsen and Toubro, Mumbai, India.



**Presentation by DR. Santhi Natarajan, at Indian Oil Corporation, Chennai**



**Delegates (Dr. T. V. Prabhakar IIT Kanpur, Dr. Santhi Natarajan, Associate Professor, BMSIT & M, Ajay Pathak, Vice President, Harman Connected Services, Samsung), at Larsen and Toubro, Mumbai.**



**Session Held by Dr. Santhi Natarajan, at Larsen and Toubro, Mumbai**

- Expert Talk in Faculty Development Programme conducted by the Department of Mathematics, BMSIT & M, Bangalore
- Expert Talk in Open Course conducted by Department of Electronics and Communication, BMSIT & M, Bangalore
- Attended one day workshop in IoT in Agriculture: Karnataka Focus, in Indian Institute of Science, Bangalore
- Reviewer for IEEE CONECCT
- Reviewer for the Elsevier journal: “Informatics in Medicine Unlocked



### **NDA and Collaborative work**

- Initiated research projects in the department and active member of the Radiomics Research Group, active participation in signing NDA with a leading medical service provider.

### **Dr. Anupama H.S., Associate Professor**

#### **Publications-03**

- Published a paper on “Smart Farming: IoT Based Water Managing System” has been published in an International Journal of Innovative Technology and Exploring Engineering. ISSN: 2278-3075, Volume-9 Issue-4, February 2020 (Scopus Indexed)
- Presented a paper on “HMM classifier for object Recognition system using Brain Computer Interface” in 8th International Conference FICTA 2020 held at NITK Suratkal on 4th Jan 2020. (Scopus Indexed).
- Published a Book Chapter on Machine Learning and Artificial Intelligence: Rural Development Analysis Using Satellite Image Processing n IGI Global (Scopus Indexed).

### **Achievements**



- Attended 3 days workshop on Fundamentals of Python in AI and ML, organized by IBM India Pvt Ltd. in collaboration with NASSCOM from Jan 22nd to Jan 24th 2020 in Bangalore.
- Completed NPTEL online course on “Discrete Mathematical Structures” on 6th December 2019.
- Delivered an expert talk on “Discrete Mathematics and its Applications: on 16th Sept 2019 for 3rd semester students at RRIT, Bengaluru.
- Reviewed technical papers for International conference on Computational Systems and Information Technology for Sustainable Solutions (CSITSS-2019), R V College of Engineering, Bengaluru, India, December 20-21, 2019.
- Reviewer for Journal of Education.

### **Dr. Vishwa Kiran S - 01**

#### **Publications :**

Satish Kumar T., Vishwa Kiran, Preran Devaiah, “Health Adviser: Social Question and Answer System using Datamining” International Journal of Recent Technology and Engineering (IJRTE) ISSN: 2277-3878, Volume-8 Issue-2, July 2019. Retrieval Number: B2802078219/19EIESP  
DOI: 10.35940/ijrte.B2802.078219

#### **Achievements:**

- Handled a corporate training assignment for Siemens Technology and Services Ltd for 19 working days during July and August 2019 on various technologies like C++, WinDBG, COM, Operating System, Data Structure.
- Resource person for Internship on IoT at BMSCE
- Resource person for C++ Programming
- Resource person for IoT Workshop at University Visvesvaraya College of Engineering –ov 2019
- Delivered a keynote talk about "Skill required for IoT Domain" at Cambridge Institute of Technology on 16th Dec 2019 - July/August 2019
- Conducted training at Western Digital (JAPAN) - Oct 2019



- Delivered a talk on 11th January 2020 on a topic "Massive Parallel Super Computing Using OpenCL Framework on the Heterogeneous Computing Platforms" as part of two weeks workshop sponsored by AICTE at Don Bosco Institute of Technology





- Delivered a talk on “ARM” technology at VTU Muddenahalli as a part of 5 day FDP on "Microcontroller and Embedded System." Date: 20 Jan 2020



**Online Courses completed:**

- Dr. Vishwa Kiran S., Assistant Professor, Department of AIML, Completed online course entitled “Programming for Everybody” (Getting Started with Python) at Coursera on 20th April 2020, Course offered by University of Michigan
- Mr. Vishwa Kiran S., Assistant Professor, Department of AIML, Completed online course entitled “Python Data Structures” at Coursera on 21 st April 2020, Course offered by University of Michigan.
- Mr. Vishwa Kiran S., Assistant Professor, Department of AIML, participated in the AICTE Training and Learning Academy (ATAL) online Faculty Development Program (FDP) on Internet of Things from 25th to 29th April 2020, organized by IIIT Nagpur.

**STUDENT ACHIEVEMENTS**

- Master Arun Joseph(II Sem ) has been selected for 2020 Melton Fellowship Program.



**Internships - 10**

- Gowtham S. ( II Sem ) - Sirena Labs.
- Sadanand Venkatraman - purpos.ai, worked on a machine learning model related to football services.
- Shreeya Guthikonda - marketing strategies and robotic fundamentals.

**Volunteering**

- Adithi (II Sem) - has volunteer for an NGO

**Poster Presentation**

- Sri Lakshmi Priya presented a poster at the one day National Conference on “Emerging trends, innovations and applications in science and technology”.

**Startup Initiatives**

- Ananya Malagi is part of start-up, ROUTE 7, as core team member.

**Co-curricular Activities**

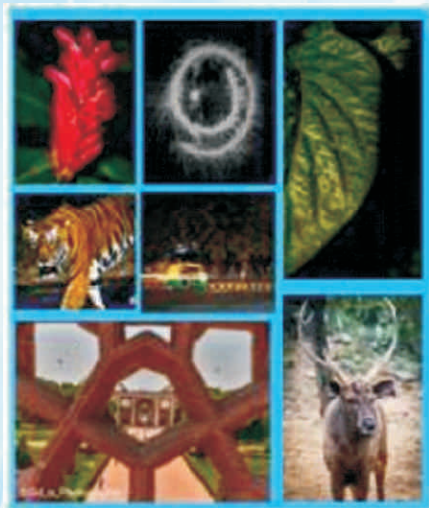
- Ananya Malagi was awarded the Ilaya Natya Kalamani title for her proficiency in Bharathnatyam
- Ananya has contributed towards designing the department logo and the department magazine template.



*Ananya Malagi's design portfolio and Natya Kalanjali Award*



- Sidharth Arora has taken up photography as his passion and has been doing commendable work with a few opportunities on his way for sports photography.



*Photographs from Sidharth Arora*

**Online courses:**  
157 courses enrolled

## CLUB ACTIVITIES / PROFESSIONAL SOCIETY ACTIVITY

### Anveshna 3.0: Competition held under MHRD/IIC Innovation Initiative

- 7 student projects, from four technical clubs of the department, have been selected for the third round of competitions in Anveshna 3.0.

Student Name	Project Name
Shreyas Sreenivas	Zephyr's Tears
Arun Joseph	TARS
Satyam Singh	The AMPBRELLA
Hrishik	New generation of solar cells
D Sri Lakshmi Priya	Menstrual waste disposal and Recycling
Shravya Shetty	Nature Momager: Combo (photon triggered drip irrigation with sowing bot asst)
Lahari Balel	Alcohol sensor with ignition lock system
Madhumitha	Vocalizer for the deaf and mute

# Department of CHEMISTRY

## Vision of the Department:

To aspire, achieve and sustain for excellence in academics

## Mission of the Department:

To nurture young minds and to bring awareness and flair for Chemistry by personal attention and good guidance.

## Objectives of Engineering Chemistry:

1. To create interest in chemistry & research.
2. To maintain in a high percentage of results.
3. To give sound knowledge and base in subject and in personality development.
4. To inspire students to probe into the secrets of the physical world.

## Department Profile:

The department of chemistry was started in the year 2002 with 3 branches and in the next year it was 5 branches. The R&D Lab for chemistry has been started recently. The department has dedicated and qualified faculties. The engineering chemistry laboratory is well equipped to conduct the university exams. Performance is consistent and the pass percentage in theory is 97% and in practical 99%.

## From HoD's Desk



**Dr. Ramakrishnappa T.,** Professor and Head

The Department of Chemistry is headed by Dr. Ramakrishnappa T. The department is established with dedicated faculty members. Presently there are 6 faculty members, 4 are having their doctoral degree and 2 others are perusing. The technical staff members are experienced and dedicated. Presently the department comprises of Advanced Materials Research Centre under **Visvesvaraya Technological University, Belgaum**. Few of the research scholars are registered and working in various disciplines of Sciences such as Nano materials, Smart materials, Raman spectroscopy, solar energy and etc., the department is continuously striving to achieve the above said Vision, Mission and programme Educational Objectives of the department.

Department of chemistry has all adequate infrastructure facilities to train the students and to

carry out experiments. Coaching materials like manual, CD's, viva questions, instructions, set of question papers are available for the students. Department has adequate number of sophisticated digital electronic gadgets for various analysis. It extends library facility to students.

Department of Chemistry – R&D Center has adequate infrastructure facilities to do research. We have named the Research Center as “Center for Advanced Material Research” where we have started DST-SERB funded project jointly with Physics department. Chemicals, Electronic Balance, Sonicator, Heater with magnetic stirrer, Muffle Furnace, Hot-Air Oven, UV Photo degradation setup are available for sample synthesis. Raman Spectrometer & FT-IR Spectrometer will be available shortly for sample characterization.



## Achievements of the Department:

### Staff Achievements:

1. Dr. Ramakrishnappa. T has received DST Research Project worth Rs. 95 Lakhs for the year 2019-2022.
2. Dr. Jyoti Roy Choudhuri has received DST-SERB Research Project worth Rs. 18.3 Lakhs for the year 2019-2022.
3. Dr. Jyothi C Abbar has received DST-SERB Research Project worth Rs. 18.3 Lakhs for the year 2019-2022.
4. Dr. Jyoti Roy Choudhuri has received DST-CRG Research Project worth Rs. 32.824 Lakhs for the year 2020-2023 as Co-Investigator.
5. Dr. C. Kavitha has received DST-SERB Research Project worth Rs. 40 Lakhs in the year 2014- 2017.
6. Dr. Bincy Rose Vergis received PhD degree on 8<sup>th</sup> Feb, 2020
7. One staff members are pursuing their research activities.
8. Setting the infrastructure for the Research lab.
9. 5 Ph.D students under Dr. Ramakrishnappa. T is doing PhD through VTU guideship.

### Seminar Workshops Attended/Conducted by the Faculty Members:

- All the faculty members in the department jointly conducted and attended National Conference on “Emerging Trends in Nano Applications-NCETN-2015 conducted by Department of Physics, Chemistry & ECE, BMSIT&M, Bangalore.
- All the faculty members in the department conducted open course “Nanomaterials for Energy Efficient process for Sustainable Environment” conducted by Department of Chemistry BMSIT&M, Bangalore 22-26<sup>th</sup> Oct, 2019.
- All the faculty members in the department conducted FDP “Strategic Advancement in Multifunctional materials - SAMM-2020” conducted by Department of Chemistry BMSIT&M, Bangalore.



# Department of CIVIL ENGINEERING

## **Vision:**

To be an Exemplary Centre, disseminating quality education and developing technically competent civil engineers with professional integrity for the betterment of society

## **Mission:**

1. To impart technical proficiency through state of art infrastructure and committed faculty
2. To provide practical exposure through research, industry- interaction and motivate entrepreneurship to cater societal needs.
3. To inculcate leadership skills & professional ethics through curricular and co-curricular activities.

## **Program Educational Objectives:**

1. Practice engineering to design, build, maintain and improve Civil Engineering based systems in the context of Environmental, Economic and Societal requirements.

2. Pursue continuing education to meet professional needs
3. Engage in lifelong learning towards professional growth.

## **Program Specific Outcomes**

PSO-1: Design and analysis of civil engineering built environment with sustainable approach.

PSO-2: Develop solutions by analysing field problems in the areas of Highway, survey, water supply.

Established in 2013 and being the youngest department at BMS Institute of Technology and Management, the Department of Civil Engineering is headed by Dr. Rajesh Gopinath. The department offers programs at an Undergraduate level with an AICTE approved intake of 60 and houses excellent laboratories, classrooms, and computing facilities for teaching and research.

## **From HoD's desk**



**Dr. Rajesh Gopinath**, Associate Professor & Incharge HoD.

As HoD, I believe in strength of a department always lies in its human resources and infrastructure. Both of these have played an immense role in our department's development and growth. As a string team needs a motivational leader, similarly an inspiring leader also needs enigmatic team players for success to emerge The Department of Civil Engineering at BMSIT&M

aims at imparting highest level of education inside and outside the classrooms. Our well-equipped and advanced laboratories facilitate experimental learning and various other departmental activities motivate the young minds to learn and evolve.

Celebration of Engineer's Day on the eve of Sir M Visvesvaraya's Birthday,



Techtransform, club activities, technical talks, Extensive Survey Camp, Internship Programs all initiate capacity building in students. Industrial visits and collaborative learning sessions aid the lateral thinking in students. Department is vibrant and actively involved in research and consultancy. The students assisted by faculties have published around 25 technical papers at various conferences competing with the post graduate students.

**Dept. Name:** Civil Engineering

**Dept. Established year:** 2013

**No. of (UG+PG) students :** 3

**Faculty Count:** 10

**No. of Research Scholars:** -

**No. of FDP/Workshop/Seminar/ Expert talk / STTP/ conducted in the year 2019 (May 2018- till now)**

**Detail the count separately:**

Open course – 4

Expert talk- 20

**No. of publications:** 19

**No. of OBE activities:** 3

**Faculty achievement:**

- Dr Rajesh Gopinath has participated as a resource person in the 10th edition of "Kaiga Bird Meet", from 11th January 2020 to 12th January 2020, organised by Kaiga Nuclear power corporation limited at Kaiga.
- Mr Manishh S Dharek, Faculty, Department of Civil Engineering, , received a Best Paper Award for the research paper titled "Stress strain characteristics of reinforced hollow concrete block masonry melded with mesh reinforcement "at International Conference on Sustainable innovations in Civil and Mechanical Engineering ICSICME 2020, organised at SKN Singhad college of Engineering, Pandharpur, Maharastra on 4th Jan 2020.

- **Mr Manish S Dharek, Assistant Professor, Department of Civil Engineering** has undergone industry internship at buildAhome, Bengaluru, from 27<sup>th</sup> December 2019 to 7<sup>th</sup> January 2020.
- **Mrs Archana K, Assistant Professor, Department of Civil Engineering** has undergone industry internship atVyshali Group, Bengaluru, from 2<sup>nd</sup> Jan 2020 to 13<sup>th</sup>Jan 2020.
- Dr Rajesh Gopinath (Assoc. Prof.& HoD, Dept of Civil Engg) was felicitated with "Young Environmentalist Award", for his contribution towards "Sensitization Efforts towards Society at Large on Ecological and Environmental Conservation; & or Guiding and Creation of Eco-Clubs across States in India". The honour was bestowed jointly by the Environmental NGOs DERO (Deccan Environmental Research Organisation, Bijapur) and SESD (Society for Environmental and Sustainable Development, New Delhi); on 28th September 2019, at Vijayapura, Karnataka.
- Mr. Vinod B R, Asst. Professor, Department of Civil Engineering, BMSIT&M received the Kempegowda Award or Nadaprabhu Kempegowda Award from Bruhat Bengaluru MahanagaraPalik *BMP*, Govt ofarnataka.
- Mr Manish S Dharek, Faculty, Dept. of Civil Engineering, BMSIT&M delivered a technical talk on "**Smart Dynamic Concrete-Mix design and its applications**" for PG students of M.Tech, Dept of Civil Engineering, Center of Postgraduate studies, Regional Center-VTU-Kalaburagi Campus on Oct 1,2019.

**Student achievement:**

- Vikas C, Darshan J, Praveen Kumar D S and Vinod B R has presented a project titled **Plastic tiles with fire proofing** and won first prize (along with a cash prize of Rs: 10,000/-) in "**Jnana-Vijnana-Tantrajnana Mela -2020**" which was held on 19<sup>th</sup> and 20<sup>th</sup> February 2020 at Sri Kshetra Adichunchanagiri Maha samsthana Math, Nagamangala Taluk, Mandya district.
- Sixth Sem Students (Mr Muralidhar and Mr Akarsh) have won the Best Poster



Presentation Award for their Research titled **"Impact of rampant urbanization on lakes of bengaluru: a time-line aerial analysis"**, at International Conference on "Sustainable Development in Energy and Environment", on -20th, July 2019; organised by Department of Bio-Technology, Kamaraj College of Engg. and Tech., Tamil Nadu.

- Chandana N Swamy, ABHISHEK C HIREMATH and VIKAC C students of Department of Civil Engineering, BMSIT&M participated in the NCC CATC (Combined Annual Training Camp) and Chandana has been awarded the BEST CADET in girls from the Unit 39 KAR BN NCC which was held from 2nd August to 11th August at NCC Academy, Vidyanagar, Jalahobli, Hosahalli, Bengaluru.

**Club/Professional/Society activity:**

- The 2<sup>nd</sup> Semester Civil Students were taken for a field visit to the Dasarahalli lake on 3<sup>rd</sup> May 2019. Mrs Prasanna G & Mr Ravikiran accompanied the students. The trip was greatly appreciated by them.
- Dr. Manmohan Kalgai, Technical Advisor, Ultratech Cement Ltd gave a technical talk on 27<sup>th</sup> April 2019, the title of the talk was "Civil Engineering - A World of Challenges and Opportunities."



- As part of outreach activity, the students of 6<sup>th</sup> semester (2017 batch) donated sports accessories to government higher

primary school, melkote on 24<sup>th</sup> Jan 2020. The facilities faculties present at the programme also interacted with the school students discussing the role of sports and importance of education.



- As a part of the Outreach activity, 6th sem Students & Staff of Dept of Civil Engineering have carried out Plastic Cleanup Drive at the Temple township of Melkukote while carrying out the Extensive Survey Camp, from 19-24<sup>th</sup> Jan 2020.



- The AICTE activity was carried out in Addivishwanathapura village, Rajanakunte Grampanchayat, Bangalore rural district on 5<sup>th</sup> Feb 2020.
- An industrial visit was arranged by the Department of civil engineering for 1<sup>st</sup> semester at "Sir M Vishveshvariah water harvesting theme park" Feb 17<sup>th</sup>



- On 25th November 2019, 1st Semester Students of Dept. of Civil Engineering, BMSIT&M; were engaged in distribution of 500 books (6 books per head) to the students of Kannada Government High School, Jamaga, Haliyal - Uttara Kannada district. AICTE activity "Traffic awareness program" was organised for 3<sup>rd</sup> semester 2018-19 batch Civil Engineering students on 24<sup>th</sup> Nov 2019 (for one day). 65 Nos. of students from 3<sup>rd</sup>sem and 1 student from 1<sup>st</sup>sem attended the program.
- AICTE activity "Traffic awareness



program" was organised for 3<sup>rd</sup> semester 2018-19 batch Civil Engineering students on 24<sup>th</sup> Nov 2019 (for one day). 65 Nos. of students from 3<sup>rd</sup>sem and 1 student from 1<sup>st</sup>sem attended the program.



**NCC camp**

### Semester Toppers

**ADIKESHAVA REDDY**  
1BY19CV002  
9.10 (CGPA)  
I SEM



**RITHIKA RAJ**  
1BY18CV036  
80.7%  
II SEM



**SNEHA V P**  
1BY18CV043  
88%  
III SEM



**RUPALI NIRANJAN**  
1BY17CV047  
90.11%  
IV SEM



**ANUSHA. PRABHU**  
1BY17CV011  
88.9%  
V SEM







**VIJEYTHA S**  
1BY16CV064  
85 %  
VI SEM



**SHEETHAL H M**  
1BY15CV049  
88.86%  
VIII SEM



**RAHUL ABHISHEK**  
1BY16CV064  
86.12%  
VII SEM



# Department of COMPUTER SCIENCE AND ENGINEERING

**Vision:** To develop technical professionals acquainted with recent trends and technologies of computer science to serve as valuable resource for the nation/society.

**Mission:** Facilitating and exposing the students to various learning opportunities through dedicated academic teaching, guidance and monitoring.

**PEOs:**

**PEO1:** Lead a successful career by designing, analyzing and solving various problems in the field of Computer Science & Engineering.

**PEO2:** Pursue higher studies for enduring edification.

**PEO3:** Exhibit professional and team building attitude along with effective communication.

**PEO4:** Identify and provide solutions for sustainable environmental development.

**PSOs:**

**PSO1:** Analyze the problem and identify computing requirements appropriate to its solution.

**PSO2:** Apply design and development principles in the construction of software systems of varying complexity.

From HoD' desk



Dr. Anil G.N.

I am extremely happy to share with you about the progress, Department of Computer Science & Engineering has made during 2019. The Department has been one of the most vibrant among all, in terms of students, faculty, facility, placements, internships and incubation centre. The department is recognized as a Research Centre by VTU and 16 scholars have enrolled for PhD. The department is supported by 28 qualified and experienced faculty members with 10 doctoral degree holders in different domains. Our department has a team of highly skilled, motivated, proficient faculty and technical staff members who are striving hard continuously to enhance the quality of education.

**Dept. Name:** Computer Science and Engineering

**Dept. Established Year:** 2002 – 2003

**No. of Students (UG+PG):** UG: 803 + PG: 21

**No. of Doctoral Degree Holders:** 10

**Faculty Count:** 28

**No. of Research Scholars:** 16

**No. of FDP / Workshop / Seminar / Expert Talk / STTP / Conducted in the Year 2019 ( May 2019- Till Now) Detail the Count Separately:**

1. Dept. CSE organized an expert talk on the topic “Robotic Process Automation – Digital workforce” for 6th Sem students on 11 Feb 2020 by Mr. Pradeep M, Director-Information Technology, Netenzaa Innovations Pvt. Ltd.





- Dept. CSE organized an expert talk on the topic “Machine Learning for Sports Analysis” for 4th Sem students on 7<sup>th</sup> March 2020.



**No. of publications:** 35

**No. of OBE activities:** Department offered 5 open value added courses to bridge the curriculum gap.

**Faculty Achievement List:**

- Dr. Hemamalani B H acquired Ph. D. from VTU in Feb 2020 for the thesis entitled “Predicting the performance of Engineering students in Indian Scenario using Machine Learning Techniques”.
- Prof. Vishaka Yadav acquired the MSc Engg by Research from VTU in Feb 2020 for the thesis entitled "Efficacy of Computer Vision Technique to identify and extrapolate the tuberculosis bacilli"
- Dr. Arunakumari B N acquired Ph. D. in Jan 2020 for the thesis entitled “An Ameliorated Methodology to Transform Dexterous Requirements into Automatic Software”.

**Books published:**

Dr. Anjan Krishnamurthy published book on Big Data Security and Hadoop: Principles and programming, Amazon Publishing, Kindle Edition, 2020.

**Student Achievements:**

Semester Toppers



**ROHAN JOY A**  
1BY19CS122  
1<sup>st</sup> Semester  
SGPA: 9.60

**SMRUTHI N S**  
1BY19CS152  
1<sup>st</sup> Semester  
SGPA: 9.60



**SNEHALAKSHMI M**  
1BY19CS153  
1<sup>st</sup> Semester  
SGPA: 9.55



**UJWALA B**  
1BY19CS172  
1<sup>st</sup> Semester  
SGPA: 9.45



**RANJITH KISHORE**  
1BY18CS121  
3<sup>rd</sup> Semester  
SGPA: 9.13



**VISHAL JAIN**  
1BY18CS219  
3<sup>rd</sup> Semester  
SGPA: 9.04







**VISHNU SASTRY H K**  
1BY18CS190  
3<sup>rd</sup> Semester  
SGPA: 9.04



**NANMA S**  
1BY18CS098  
3<sup>rd</sup> Semester  
SGPA: 9.04



**K PAVANI**  
1BY17CS073  
6<sup>th</sup> Semester  
SGPA: 9.15



**PIYALI PAL**  
1BY16CS058  
7<sup>th</sup> Semester  
SGPA: 9.25

**Club Activities/ Professional Society activity**

1. Gist of the Event- An Industry Institute Interaction was organized for the UG and PG students to Bharat Electronics Ltd. BEL had organized sessions on Leadership quality, Quality improvement and Environment. Event co-ordinator: Prof. Vidya R.



2. Department CSE has extended their support for Eco Club activity plastic clean and awareness program as a member of OIKOS on 24<sup>th</sup> – 25<sup>th</sup> November 2019 at Dandeli. Event Co-ordinator: Prof. Chethana.





# Department of ELECTRICAL AND ELECTRONICS ENGINEERING

## VISION

To emerge as one of the finest Electrical & Electronics Engineering Departments facilitating the development of competent professionals, contributing to the betterment of society.

## MISSION

Create a motivating environment for learning Electrical Sciences through teaching, research, effective use of state of the art facilities and outreach activities.

## PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

Graduates of the program will

PEO1: Have successful professional careers in Electrical Sciences, and IT enabled areas and be able to pursue higher education.

PEO2: Demonstrate ability to work in multi disciplinary teams and engage in lifelong learning.

PEO3: Exhibit concern for environment and sustainable development.

## PROGRAM SPECIFIC OUTCOMES (PSOs)

Graduates of the program will be able to

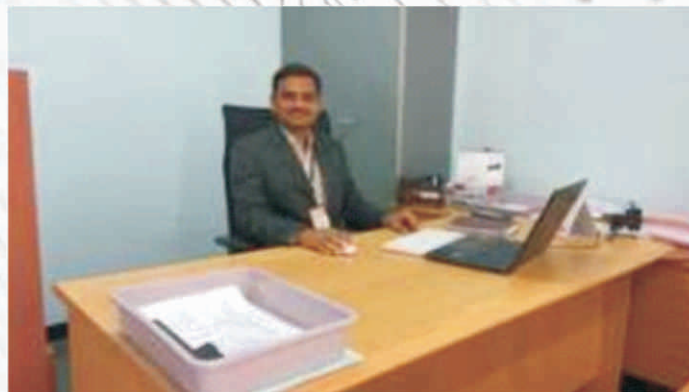
PSO1: Analyze and design electrical power systems.

PSO2: Analyze and design electrical machines.

PSO3: Analyze and design power electronic controllers for industrial drives.

PSO4: Analyze and design analog and digital electronic systems.

## From HoD's Desk



**Dr. Narapareddy Ramarao, Asso. Prof. & HoD.**

The Department of Electrical & Electronics Engineering was started in the year 2003-04 with an approved intake of 60 students. The department has a team of well qualified, experienced and dedicated faculty who also have undergone professional training from leading organizations in "Teaching-Learning Methodologies". The IEEE Student Chapter was started with overwhelming response from the student community and faculty. All the laboratories that were set up initially are constantly upgraded keeping in view both University requirements and Research activity in the department.

The students are encouraged to work on both in-house projects and also with leading Research Organizations in Electrical Sciences. Many students

and also faculty members have published papers in National & International Journals. The placement through the campus placement is excellent and many students have secured admission in prestigious Universities abroad. In the recent past, the students graduating from the department are placed in reputed Information Technology consulting companies and core Electrical Engineering companies. The Department is a VTU approved research centre. The Programme is reaccredited by NBA for three years 2019-2022.

The pedagogy of the department is shifting towards Outcome Based Education. As part of this a Department Advisory Board has been set up to take valuable suggestions and views on the activities happening in the department. The advisory board



consists of representations from all the stake holders viz. alumni, student, parent, industry, academic headed by HoD. The members of our Department Advisory Board are Dr. Rajnikanth B S, Professor, HVE Lab, IISc Bangalore, Dr. Ravindra Mohare, Deputy Manager, CPRI Bangalore, Sri Arvind Najundaiah, Project Lead, Dover India Pvt. Ltd, Sri T Prabhu, Power Grid Corporation of India Ltd., Sri Mithun Muddaan, CTO and Co-Founder, PaperWiff, IIM-B, Mr. Siddharth KG, Student, 6th Semester.

**Dept. Name:** ELECTRICAL AND ELECTRONICS ENGINEERING

**Dept. Established Year:** 2003

**No. of Students (UG+PG):** 260

**No. of Doctoral Degree Holders:** 05

**Faculty Count:** 15

**No. of Research Scholars:** 11

**No. of FDP / Workshop / Seminar / Expert Talk / STTP Conducted in the Year 2019 ( May 2019- Till Now)**

**Detail the Count Separately:**

FDP/Workshop: 01

Seminar/ Expert Talk: 04

STTP/ Open Course: 02

**No. of publications:** 11

**No. of OBE activities:**

Open Day: 02

Industrial Visits: 03

**Faculty Achievement List:**

1. Mrs. Suma Umesh, Assistant Professor, Department of EEE is involved in the collaborative research with IISc to execute the project titled "Development of New method to detect potent greenhouse gases" through INUP funded by MHRD, GoI.
2. Dr. Madhu Palati, Assistant Professor, Department of EEE was the reviewer for 4th IEEE International conference on Electrical, Electronics, Communication, computer Technologies and Optimisation Techniques (ICEECCOT - 2019) organised by GSSS Institute of Engineering & Technology for Women, Mysuru on 13th-14th December 2019.

#### **Student Achievements:**

1. Gautama Bharadwaj, Harikrishnan U, Navedya Ojha and Venu Bhargav of 8th sem, Dept. of EEE, BMSIT&M presented their work on fuel cells during IISc open day on 29th February 2020 at Combustion, Gasification and Propulsion Laboratory (CGPL). They showcased their simulation of the operation of a fuel cell through a physical model. They also showcased their simulation tool available on their website [www.fuelcellperusal.com](http://www.fuelcellperusal.com).





- Umar Aftab, fourth semester student secured a third place in Taekwondo at VTU Inter Zonal Level competition
- Dheeraj Reddy and Pranav K of fourth semester were team members of the Basketball team which won runners up in VTU North Zone and BMSCE tournament

4. Semester Toppers:

**Toppers for Even Semester 2018-19**



8<sup>th</sup> Semester

**RAKSHA BOWADE**

1BY15EE045

SGPA: 9.05

4<sup>th</sup> Semester

**MAHIMA CHOUDHARY**

1BY17EE061

SGPA: 9.07



2<sup>nd</sup> Semester

**NIRMALA ROY**

1BY18EE037

SGPA: 9.7



**Toppers for Odd Semester 2019-20**



8<sup>th</sup> Semester

**LATHA N**

1BY15EE029

SGPA: 9.05

7<sup>th</sup> Semester

**ABHIJITH KUMAR**

1BY16EE002

SGPA: 9.71



8<sup>th</sup> Semester

**MOHAMMED JALIL REZAAE**

1BY15EE066

SGPA: 9.05

5<sup>th</sup> Semester

**DEOL P A**

1BY17EE015

SGPA: 8.88



6<sup>th</sup> Semester

**ABHIJITH KUMAR**

1BY16EE002

SGPA: 9.27

3<sup>rd</sup> Semester

**NIRMALA ROY**

1BY18EE037

SGPA: 9.17







1<sup>st</sup> Semester

**RAKESH R S**  
1BY19EE043  
SGPA: 9.25

**Club Activities/ Professional Society activity: NIL**

**FDP/ Workshop: 01**

1. A Five day Workshop on “Industrial Automation-PLCs and SCADA” from 16 th July to 20th July, 2019 was organised by the department. The key note speaker Dr. N. S. Dinesh, covered the importance of Industrial automation in Agricultural sector, Medical, wild life and Arts fields.



**Seminar/ Expert Talk: 04**

1. The department organized an expert talk on the topic “career building and higher studies” for 5th Semester students on 12th November, 2019. The speaker Ms. Gayatri, Software Developer, Siemens Technology and Services Pvt. Ltd., covered the topic on career building and higher studies.
2. The department organized an expert talk on the topic “Entrepreneurship” for 5th & 7th Semester students on 14th November, 2019. The session was delivered by CEO of dWise Solutions and Services Pvt. Ltd., Mr. Riyad Rasheed.
3. An expert talk was organised for the 6th Semester EEE students on 20th February, 2020. The invited speaker was Mr Srinivas S, Managing Director, Kanthi Power Solutions, Bengaluru. The speaker gave a very useful practical insight in to the Automation of Industry/ Home, IoT etc.
4. An expert talk was organised for the 8th Semester EEE students on 07th March, 2020. The invited speaker was Mr. Lokesh T S, Deputy Manager,

Schneider Electric, Bengaluru. The speaker gave a practical insight into the Home Automation and Protection.



**STTP/ Open Course: 02**

1. Mrs. Suma Umesh organized a 5 days open course on “IoT and Embedded Systems” from 22nd to 26th October, 2019. This value-added course on IoT and Embedded Systems was organized to expose the students to understand the basics of IoT and role of embedded systems in building IoT based product.
2. Mr. Vikram Chekuri, Dr. Madhu Palati and Mr. Prashanth N A organized a 5 Days open Course on “Applications of MATLAB SIMULINK in Electrical Systems” from 22nd to 26th October, 2019. The course was planned to give an insight in to the theory and applications of MATLAB SIMULINK through programming and simulation.





# Department of ELECTRONICS AND COMMUNICATION ENGINEERING

## Vision:

Be a pioneer in providing quality education in Electronics, Communication and allied engineering fields to serve as valuable resource for industry and society.

## Mission:

1. Impart sound theoretical concepts and practical skills through innovative pedagogy.
2. Promote interdisciplinary research.
3. Inculcate professional ethics.

## Program Educational Objectives of the Department:

Our Graduates will be able to

PEO-1 Work as Professionals in the area of

Electronics, Communication, and Allied Engineering fields.

PEO-2 Pursue Higher studies and involve in Interdisciplinary research work.

PEO-3 Exhibit Ethics, Professional skills and Leadership qualities in their profession.

## Program Specific Outcomes (PSOs)

PSO - 1 Exhibit competency in embedded system and VLSI design.

PSO - 2 Capability to comprehend the technological advancements in radio frequency communication and digital signal processing.

## From HoD's Desk



**Dr. Ambika R.,** Professor & Head, Department of ECE, BMSIT&M

The Department of Electronics and Communication Engineering (ECE) was established in the year 2002-03, affiliated to Visvesvaraya Technological University (VTU), Belagavi and approved by All India Council for Technical Education (AICTE). The UG programme is provisionally accredited by the National Board of Accreditation (NBA), New Delhi till 2022. The Department offers full-time UG programme in Electronics & Communication Engineering and has a research center recognized by VTU, Belagavi.

The Department has qualified and experienced faculty members with expertise in VLSI and embedded systems, digital communication, signal processing, computer networks, Nano electronics, etc. To bridge the gap between industry and

academic institutes the Department is calling for industry experts for expert talks, workshops, partial deliveries, etc. The Department also gives the opportunity for faculty to undergo industry internship to keep them updated with the latest changes in the industry.

Department is offering open courses in latest technology. Students are actively participating in co-curricular and extra-curricular activities and publishing papers in international conferences and journals.

I am happy to share that Ms. Spandana S secured sixth rank and Ms. Y. Madhavi G Shenoy secured seventh rank in 2019 VTU examinations. Department research scholar Dr. Anil Kumar D has completed his PhD in November 2019.



**Dept. Name:** Electronics and Communication Engineering

**Dept. Established year:** 2002

**No. of students (UG):** 685

**No. of Doctoral Degree Holders:** 11

**Faculty Count:** 29

**No. of Research Scholars:** 14

**No. of FDP/Workshop/Seminar/ Expert talk / STTP/ conducted in the year 2019**

**(May 2018- till now)**

**Detail the count separately:**

FDP: 01, Workshop: 02, Seminar: 07, Expert talk: 04, STTP: Nil.

- One day Hands-on training on Solar Study Lamp Assembly in association with IIT BombayX was conducted on 2-10- 2019 for first year students were in students have trained to assemble a study lamp which is rechargeable through a solar panel.



- Department of ECE, BMSIT&M organized a 5 days FDP on “Engineering Statistics and Linear Algebra” from 31<sup>st</sup> December 2019 to 4<sup>th</sup> January 2020. 22 participants from various colleges have undergone the FDP.



**No. of publications:** 16

**No. of OBE activities:** 18

**Faculty achievement:**

1. Dr. Anil Kumar D, Assistant Professor, ECE Department awarded with Ph.D degree during VTU 19<sup>th</sup> annual convocation held on 8<sup>th</sup> February 2020.
2. Dr. Surekha Gondkar, Associate Professor, ECE Department awarded with Ph.D degree during VTU 19<sup>th</sup> annual convocation held on 8<sup>th</sup> February 2020.
3. Dr. Dankan Gowda V, Assistant Professor, ECE Department awarded with Ph.D degree during VTU 19<sup>th</sup> annual convocation held on 8<sup>th</sup> February 2020.
4. Dr. Ambika R chaired a session for National conference on Resent Treads in science, engineering and Management, held at Dr. Ambedkar Institute of Technology on 08/06/2019.

**Student Achievements:**

**Club Activities/ Professional Society activity:**

- Enthusia-2019 was organized on 11<sup>th</sup> November 2019 in association with the department club Eleccsim. Students from ECE and other departments have participated in various technical events organized during the event.



**University Rank holders 2019-20**



6<sup>th</sup> Rank

**SPANDANA S**

1BY15EC087

CGPA of 9.27





7<sup>th</sup> Rank

**Y MADHAVI G SHENOY**  
1BY15EC098  
CGPA of 9.26

### Toppers for Odd Semester 2019-20



7<sup>th</sup> Semester

**ADHYA RAO**  
1BY16EC005  
SGPA: 9.13

### Toppers for Even Semester 2018-19



8<sup>th</sup> Semester

**SUSHMA A**  
1BY15EC087  
SGPA: 8.9

5<sup>th</sup> Semester

**ANUSHKA TRIPATHI**  
1BY17EC024  
SGPA: 9.69



6<sup>th</sup> Semester

**ADITYA N RAO**  
1BY16EC006  
SGPA: 9.12

3<sup>rd</sup> Semester

**VISHESH K**  
1BY18EC182  
SGPA: 9.17



4<sup>th</sup> Semester

**SAYONI JAIN**  
1BY17 EC156  
SGPA: 9.54

1<sup>st</sup> Semester

**SRIRAKSHA N**  
1BY19EC157  
SGPA: 9.6



2<sup>nd</sup> Semester

**AKSHATHA S**  
1BY18EC013  
SGPA: 9.6

Spandana S (1BY15EC087), Student of 8th semester ECE department has been awarded as the best outgoing student of the year 2018-19 by Cognizant Technology solutions, Bangalore.





## Department of ELECTRONICS AND TELECOMMUNICATION ENGINEERING

### VISION OF THE DEPARTMENT

Emerge as a premier department developing high quality Electronics and Telecommunication Engineering professionals with ethics and eco friendliness for the betterment of the society.

### MISSION OF THE DEPARTMENT

Impart quality education in Electronics and Telecommunication Engineering by facilitating:

- Conducive learning environment and research activities
- Good communication skills, leadership qualities and ethics
- Strong Industry-Institute interaction

### PROGRAMME EDUCATIONAL OBJECTIVES (PEOs)

- Excel as Professionals in Electronic and Telecommunication, Electronics and IT related fields.
- Engage in life-long learning.
- Maintain ethical norms, exhibit good communication skills and leadership qualities.

### PROGRAM SPECIFIC OUTCOMES (PSOs):

- Analyze and Design Communication Systems
- Analyze and implement signal processing applications.
- Design and implement embedded systems

### From HoD's Desk



**Dr. Seema Singh**, Professor & Head, Department of ETE, BMSIT&M

Department of Telecommunication Engineering was established in the year 2003, with an AICTE approved intake of 60. The nomenclature changed to Electronics and Telecommunication Engineering in the year 2019. The department is currently headed by Dr. Seema Singh. The department imparts knowledge in various fields like Electronics, Communication, Signal processing, VLSI & Embedded systems. The department has well qualified, experienced and dedicated staff with 2 faculty members holding Doctoral degrees and 9 faculty members pursuing their Ph.D. Well equipped, sophisticated laboratories with skilled technical staff are the strength of the department which helps the students in strengthening their theoretical knowledge by hands-on practical sessions. On one side the improved publications and research activity

are in full swing and on the other, the latest Teaching Learning methods are adopted by the staff to improve the department standards. The signing of MOU's with 4 industries to join projects and consultancy indicates our fair degree of expertise. The department takes pride in establishing the Innovation Lab in collaboration with TEXAS INSTRUMENTS in 2019. Our students are enhancing their learning skills by adopting Project Based Learning which is very heartening. Our interactions with Alumni in India and abroad has heightened our understanding of the needs of the industry. Class rooms have an academic ambience. Placement through the campus is excellent. Most of our students are placed in good companies. Our students are facilitated with high end, beyond curriculum tools like HFSS, MATLABCWL, VIVADO etc.



### Highlights of the Department:

- Permanent Affiliation by the University
- NBA Accreditation for a period of 6 years from 2016 to 2022
- 20 University ranks from its inception
- Active Research centre since 2016

**No. of Students ( UG+PG):** 211

**No. of Doctoral Degree Holders:** 02

**Faculty Count:** 11+1 (Visiting faculty)

**No. of Research Scholars:** 04

**No. of FDP / Workshop / Seminar / Expert Talk / STTP Conducted in the Year 2019:**

Workshop: 01

Expert talk: 04

### No. of publications:

International Conference: 03

International Journal: 09

National conference : 00

### No. of OBE activities:

Open Day: 02

Industrial Visits: 03

**No. of OBE activities:** 12

### Department activities at a glance:

Sl. No.	Description	No.
1	Workshop under IETE Student Chapter	1
2	Expert/ Alumni Talks organized	4
3	Open Short Term Courses	2
4	Industrial visit	3
5	Department Tekruthi fest	1
6	Open day (PBL)	1

### Faculty Achievement List:

- Dr. Seema Singh, HoD (professor), ETE, Mrs Thejaswini S , Asst Professor , ETE, Mrs Surekha R Gondkar, Associate professor ECE took part in MoU's signed with M/S Edgate Technolgies Pvt. Limited and BMSIT & M on Texas Instrumentation Innovation Centre
- Dr Seema Singh, HoD - Professor, ETE has extended their support as Resource person for "Opportunities for the students in Drone sector", from 10th November, 2019 at The Institution of Engineers, Bangalore.
- Dr Seema Singh, Professor and HoD, Dept of ETE and Chief Coordinator of Innovation centre

attended IIC mentoring session on 5th August, 2019 organized by MHRD Innovation cell at Amritha School of Engineering, Bangalore.

- Dr. Raju Hajare is a reviewer for Journal of The Institution of Engineers (India): Series B by Springer and for Journal of Electronics (Scopus indexed).
- Dr.Raju Hajare, Associate professor, Dept of ETE, participated as member of Panel of Judges for evaluating Electronics projects exhibited at Southern India Science Fair-2020(held during 28-1-2020 to 1-2-2020) organized by Visveswaraya Museum at Satyabhama University Chennai.
- Prof. Raghunandan G H is a reviewer for "SPRINGER's EURASIP journal on wireless communication and networking" since July 2018.
- Prof. Thejaswini S, Asst Prof, Dept. of ETE received fund of 200\$ -Rs. 14,500/- worth components from DST-TEXAS : IICDC 2019 for the project "Bionic Arm"
- Mrs. Thejaswini S., was invited as a resource person to train Government PU lecturers as a part of TALP INDUCTION-1 on 23rd October 2019.
- Prof. Siddiq Iqbal delivered a talk on what after 10th? at IBM English High School, Bangarpet on 7th August 2019 for 10th std students
- Prof. Banuprakash R and Mr Siddiq Iqbal, has extended their support for AICTE student extension activity on 16th November 2019 at IBM school, Bangarpet.
- Prof. Raghunandan G H, Prof. Prathibha.N , Asst professors, Dept of ETE has involved in Consultancy work in developing website for Infinite Learning Solutions.
- Prof Raghunandan.G.H, has authored a Text Book on "Microcontroller and Embedded Systems", "Analog and Digital Electronics" & "Fundamentals of Logic Design" published by Cengage Learning.
- Prof. Raghunandan awarded as Best professor for Electronics and Communication engineering by Karnataka educational awards -2019.

### Student achievements:

- Manjunath U, Prasunn ,Nishit Rathi and Prasanna Kumar final year students selected as one among **30 finalists out of 3000** groups as participation in **KPIT Sparkle 2020 for the project titled "Bone Conduction Helmet"** project was , under the guidance of Mrs Thejaswini S.
- Shashank Srinivas, Aditya V Kulkarni, Prajwal P S and Sudhanva Rao P.N. final year students



project entitled “Smart Learning system for Deaf and Dumb using Hearing Aid and Mobile APP” funded by KSCST guided by Mrs. Saritha I. G. Asst. professor, Dept of ETE

- Two batches of final year Students projects titled “IOT Based Healthcare assistance through think speak” and “Designing and development of IOT based Smart ratio dispensing system” received VTU grants in the month of Sep 2019.
- Chethana C, Lekhya, Sindhura, Madhushree M, Mahima Rajendra awarded Best paper for the paper titled “**A miniaturized dual band microstrip antenna for Worldwide interoperability microwave access and C band radio navigation**”, at ICAIT – 2019, 25-27 July 2019, AIT, Chikmagalur.

**FDP/Workshop/ Seminar/ Expert talk / STTP conducted:**

- Dept of ETE organized an Expert talk by Rakshith K R (Alumni), Matlab Developer, KPIT, Bangalore, on 31st August 2019 titled “Introduction to Computing languages and Environments” for II year students and “Career guidance” for Final Year students.
- Dept of ETE organized an Entrepreneurship Talk on “Creating and developing successful start-up with zero investment” on 25<sup>th</sup> February by Vijay V Rao, Entrepreneur, All India Engineers Association was conducted by TEA association for 4<sup>th</sup> and 6<sup>th</sup> semester students.
- Dept of ETE organized the expert talk on “Role of a project manager” by Mr. Kevin Mathews on 2<sup>nd</sup> March 2020, at 09:30 AM in ETE CR 405
- Department of ETE have organized Five days Workshop on “Advanced Embedded Systems & IOT Using Texas Instrumentation Board” in collaboration of Texas Innovation Center: Texas University Program, Edgate Pvt. Technologies and IETE from 27th to 31st January 2020.



*PBL /Open day activity*



*Expert talk by Mr. Rakshith K R*



*Expert talk by Mr. Vijay V Rao*



*Dept Fest Tekruthi 4*



*Industrial visit to Vignesh vidyuth control Ltd*





Open course



Raghunandan G H Best teacher award



MOU with M/S EdGate Technologies Pvt. Limited



Drone workshop in Institution of engineers

Rank Holders in the Department of ETE

**MADHURI B JAIN**  
1BY15TE027  
5<sup>th</sup> Rank



**ANANYA A G**  
1BY15TE007  
6<sup>th</sup> Rank



**VARSHA L V**  
1BY15TE055  
8<sup>th</sup> Rank



**P DEEKSHITA**  
1BY15TE029  
9<sup>th</sup> Rank



**SHUBHA V JOIS**  
1BY15TE046  
10<sup>th</sup> Rank





## Semester Topper's list



**NEHA R**  
1BY16TE029  
SGPA - 9.25  
Grade - S



**PRAJWAL P**  
1BY18TE043  
SGPA - 9.0  
Grade - A



**CHAITRA D S**  
1BY17TE009  
SGPA - 9.1  
Grade - S



**KEERTHANA R**  
1BY19ET027  
SGPA - 9.4  
Grade - A



**MADHURA**  
1BY17TE019  
SGPA - 9.1  
Grade - S



## Department of INFORMATION SCIENCE AND ENGINEERING

### VISION

Emerge as center of learning in the field of information science & engineering with technical competency to serve the society.

### MISSION

To provide excellent learning environment through balanced curriculum, best teaching methods, innovation, mentoring and industry institute interaction.

### PEO

PEO-1: Successful professional career in Information Science and Technology.

PEO-2: Pursue higher studies & research for advancement of knowledge in IT industry.

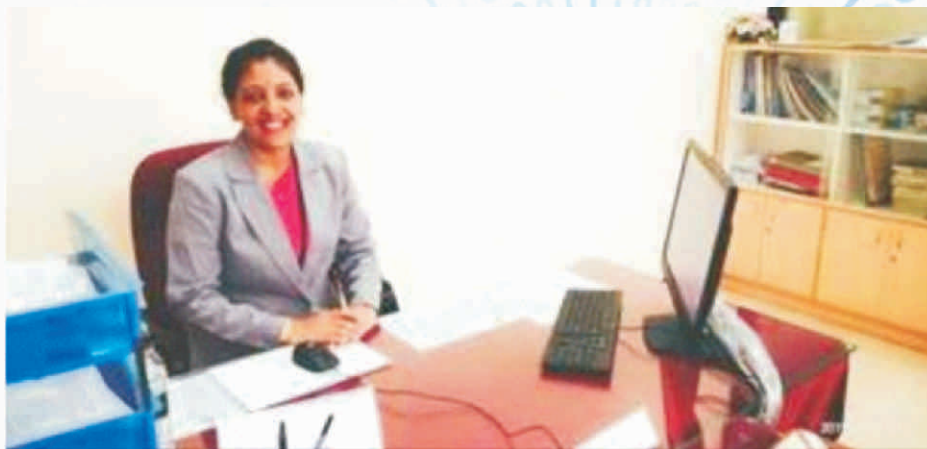
PEO-3: Exhibit professionalism and team work with social concern

### PSO

PSO-1: Apply the knowledge of information technology to develop software solutions.

PSO-1: Design and develop hardware systems, manage and monitor resources in the product life cycle.

### From HoD's Desk



**Dr. Usha B.A.,** Associate Prof. & Head

The Department of Information Science and Engineering started in the Year 2010 with an approved intake of 60 and enhanced to 120 from the academic year 2018-19. Currently intake of ISE Department is 180 from the academic year 2019-20. ISE Program is accredited by NBA and it is valid upto 30th June, 2021. The department has been imparting quality education through Outcome based education to the students with the intension of making them intellectually, ethically and academically strong to meet the challenges in the field of Information Technology. The department has 15 qualified and professionally dedicated faculty members. The department has five Doctorates and 09 are pursuing doctoral degree. The faculty members are actively involved in Teaching, Research and Outreach activities and published nearly 195 research articles in various National, International Conferences and Journals.

**Dept. Name:** Information Science and Engineering

**Dept. Established Year:** 2010

**No. of Students (UG):** 500

**No. of Doctoral Degree Holders:** 05

**Faculty Count:** 13

**No. of Research Scholars:** 08

**No. of FDP / Workshop / Seminar / Expert Talk / STTP Conducted in the Year 2018 ( May 2018- till now):** 11

**No. of publications:** 20

**No. of OBE activities:** 40

**Faculty Achievement List:** 14

**Student achievements:** 22

**Club Activities/ Professional Society activity:** 04





Dr. Usha B A, Assoc. Professors & HoD, Department of ISE was judge for Under Atal Mentor of Change, Project exhibition at Siddaganga School, Tumkur on 10th January 2020

Dr. Usha B A, Assoc. Professors & HoD, Department of ISE was expert talk on the topic “ Cyber Security Awareness “ at Siddaganga School, Tumkur on 10<sup>th</sup> January 2020 .



*Explaining about the cyber security awareness*

Department of Information Science and Engineering conducted a FDP on “ Data Analytics - Practical



Dr. Usha B A, Assoc. Professor & Head, Dept of ISE conducted a training program on “ AI in Cyber Security ” at L&T campus, Powai, Mumbai on 29<sup>th</sup> January 2020



*Inaugural function of FDP*

Prof. Gireesh Babu C N, Dept. of ISE and Prof. Sridevi M, Dept. of MCA conducted a training program on “ Mathematics for Data Science ” at L&T campus, Powai, Mumbai on 2nd & 3rd January 2020 under CoE “ Data Science - BMSIT&M ”.



*key note speaker*

Mrs. Gireesh Babu C N, Asst. Professor, Department of ISE has extended their support and conducted a corporate training program on “ Mathematics for Data Science ” at L&T campus, Madh, Mumbai from 24th to 26th February 2020 under CoE “ Data Science - BMSIT&M ”.



*Group photo of EDP*







Mr. Gireesh Babu C N delivered a talk on "Mathematics for Data Science" at L&T campus



Industrial visit to Cognizant

**Toppers For Even Semester**



2<sup>nd</sup> Semester

**Prashanth R**  
1BY18ISo89  
CGPA 9.45



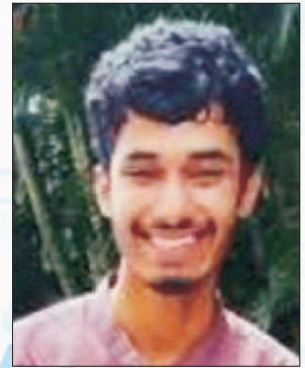
4<sup>th</sup> Semester

**Ayush Gupta**  
1BY17ISo15  
CGPA 9



6<sup>th</sup> Semester

**Trivikram Mudunuri**  
1BY16ISo57  
CGPA 8.77



8<sup>th</sup> Semester

**Anupchandra Rao M**  
1BY15ISo09  
CGPA 9.4

**Toppers for Odd Semester**



1<sup>st</sup> Semester

**K. Varsha**  
1BY19ISo76  
CGPA 9.65



3<sup>rd</sup> Semester

**B E Abhijith**  
1BY18ISo35  
CGPA 9.75



5<sup>th</sup> Semester

**Sandhya V**  
1BY17ISo48  
CGPA 8.69



7<sup>th</sup> Semester

**Vinutha S N**  
1BY16ISo60  
CGPA 8.95



# Department of MCA

## DEPARTMENT VISION

To develop quality professionals in Computer Applications who can provide sustainable solutions to the societal and industrial needs

## DEPARTMENT MISSION

Facilitate effective learning environment through quality education, state-of-the-art facilities, and orientation towards research and entrepreneurial skills

## Program Educational Objectives (PEOs)

- PEO 1 - Develop innovative IT applications to meet industrial and societal needs.
- PEO 2 - Adapt themselves to the changing IT requirements through lifelong learning.
- PEO 3 - Exhibit leadership skills and advance in their chosen career.

## From HoD's Desk



**Dr. Aparna K., HoD, MCA**

The Department of MCA was established in the year 2003 with an approved intake of 60 students with an objective of imparting quality education to students. The MCA programme is provisionally accredited by National Board of Accreditation. The Department has 12 qualified and dedicated teaching staff and 02 technical staff members who put in their best possible efforts to ensure that the students gain the knowledge along with other life-skills, which helps them to face the world confidently and with high self-esteem. Disciplined environment, conducive to Teaching-Learning, with rigorous academic monitoring is maintained. There are many best practices that are followed in the Department including Project Based Learning, Partial Delivery of courses, Value Added Courses etc. to facilitate a better Teaching- Learning environment. We also have a framework in place to take online classes and assessment of the students that would showcase our preparedness to overcome unprecedented crisis like COVID-19 and provide uninterrupted learning experience for the students.

**Dept. Name:** MCA

**Dept. Established Year:** 2002-03

**No. of Students (PG):** 167 (As per sanctioned intake 60)

**No. of Doctoral Degree Holders:** 04

**Faculty Count:** 12

**No. of Research Scholars:** 08

**No. of publications/presentations:** 06

**No. of OBE activities:** 25

### Department activities at a glance:

Workshop under CSI Student Chapter: 02

Expert/ Alumni Talks organized: 03

Partial Delivery of Course: 02 Courses

Invited Talks delivered by Faculty Members: 07

Corporate Training conducted by Faculty Members: 02

Open Short Term Courses: 02

Online courses completed by Faculty Members: 12

Alumni Interaction: 04

**FDP / Workshop / Seminar / Expert talk / STTP conducted:**

- i. Department of MCA organized 15-hrs hands-on training session (3 hrs every Saturday starting from 31<sup>st</sup> Aug to 27<sup>th</sup> September 2019) on Selenium Testing for the III Sem MCA students as part of Value Added Course. This was organized in association with M/s. Digital Web Academy, Bengaluru.
- ii. An expert talk was organized by the Department of MCA on 17<sup>th</sup> August 2019. Mr. Ajeet Kumar Yadav, Senior Technical Lead from Wipro, addressed the students on “Software Project Management and Integration Tools”.
- iii. Dept. of MCA organized an expert talk by Mr. Chandrakanth V, Design Engineer, Apsis Solutions, Bengaluru on the topic “Internet of Things – Hands on” for students of MCA on 2<sup>nd</sup> November, 2019.
- iv. Department of MCA organized an expert talk on the topic “Campus to Corporate” for I & II Semester students on 7<sup>th</sup> December, 2019. This was done by Mr. Sridhar Murthy, Director & Founder, M/s. Dlithe, Bengaluru.



**Participants of the “Campus to Corporate” talk**



**Selenium testing training with hands-on**

**Faculty Achievement List**

- i. Dr. P Ganesh, Associate Professor, Department of MCA was awarded the Ph.D. Degree in the 19<sup>th</sup> VTU Convocation held on 8<sup>th</sup> February, 2020 at VTU, Belagavi.
- ii. Dr. Arunkumar B R, Professor, Dept. of MCA and Chairman, BOS - MCA conducted BOS meeting on 18<sup>th</sup> December, 2019 at VTU RO, Nagarabhavi, Bengaluru with an agenda to revise VTU MCA 2018 syllabus.
- iii. Dr. Arunkumar B R, Professor, Dept. of MCA, was appointed as the member of editorial board by HBRP Publication Pvt. Ltd.
- iv. Ms. M. Sridevi, Asst. Professor, Dept. of MCA was appointed as the member of BoE, Dept. of MCA, VTU, Belagavi.
- v. Mr. Shivakumara T, Asst. Professor, Dept. of MCA received appreciation from Ramaiah Indic Speciality Ayurveda Restoration Hospital (RISA) for organizing an Ayurveda Medical Camp on 27<sup>th</sup> September, 2019 at the BMSITM campus.
- vi. Dr. Aparna K, Associate Professor & HoD, Department of MCA, was invited as a session chair at the Multi-Disciplinary International Conference on Trends in Global Research in Information Technology and their Impacts on Environment organized by Sri Jagadguru Renukacharya College of Science, Arts and Commerce, Bengaluru, on 4<sup>th</sup> August 2019.
- vii. Dr. Aparna K, Assoc. Prof & HoD, MCA, was invited as a Session Chair for the National Conference on Emerging Trends in Engineering Technology and Applied Research – 2019 held at MS Engineering College on 17<sup>th</sup> May, 2019. She also worked as a member of the review board of the same.
- viii. Dr. Arunkumar B.R., Professor, Dept. of MCA is appointed as a reviewer for Elsevier International Journal of Engineering Science and Technology
- ix. Dr. Arunkumar B.R., Professor, Dept. of MCA was appointed as a member of the Editorial Board by the Global Research and Development (GRD) Journals.
- x. Dr. Arunkumar B.R., Professor, Dept. of MCA was appointed as the BoE, Dept. of MCA, SIT, Tumkur.
- xi. Dr. Arunkumar B.R., Professor, Dept. of MCA worked as an active member of NCETAR- '19 Review Board for paper presentation session during the National Conference on Emerging Trends in Engineering Technology and Applied Research – 2019 organized by the M.S. Engineering College, Bengaluru on 17<sup>th</sup> May, 2019.



xii. Dr. Arunkumar B.R., Professor, Dept. of MCA has been appointed as TPC member to review research papers from RNSIT, Bengaluru, for the 2nd International Conference on Research in Business Management and Information Technology (ICRBIT-'19) scheduled to held on 25th and 26th of April, 2019.

**Even Semester - Toppers**

**Sahdev Kumar Gupta**  
II Sem  
1BY18MCA24



**Student Achievements**

**Odd Semester – Toppers**

**Chaithra S**  
I Sem  
1BY19MCA12



**Lavanya**  
IV Sem  
1BY17MCA11



**Sahdev Kumar Gupta**  
III Sem  
1BY18MCA24



**Kruthika C**  
VI Sem  
1BY16MCA21



**Umme Hani**  
III Sem  
1BY19MCA73



**K Mahesh**  
V Sem  
1BY17MCA10



**Club Activities/ Professional Society activity**

The department of MCA organized the “Sparkling Eyes” program – “The Lion King” movie screening in 3-D for the children of Vidya Gokula Charitable Trust, Singa nayakanahalli, Bengaluru, as the evening show on 9th August, 2019 in INOX, Garuda Central, Yelahanka, Bengaluru. The students of the Dept. of MCA sponsored the tickets for the kids & staff of the above said organization and watched them roar with happiness along with the Lion King.



*Students of MCA department with the children from NGO*



# Department of MATHEMATICS

## VISION

To empower students to excel in engineering and research by imparting equitable mathematics education of the highest quality.

## MISSION

- To impart quality education in mathematics through innovative methods, thus laying a strong foundation for the study of engineering subjects.
- To enhance the students critical thinking, computational and problem solving skills.

## From HoD's Desk



**Dr. Chethan A. S.,** Professor & Head, Department of Mathematics, BMSIT&M

The Department of Mathematics was established in the year 2002. Beginning with a modest strength of two faculty members in the first year, the department now comprises of 10 well qualified, experienced and dedicated faculty members of whom eight are doctorate degree holders and two are pursuing their Ph. D programme. The Department conducts courses in Engineering Mathematics and Additional Mathematics for I and II year BE students, Applied Mathematics for M.Tech. (Machine Design) and Mathematical Foundation of Computer Science for M.Tech. (CSE) students. Students requiring extra help in Mathematics are identified and special classes are conducted for them to enable them to perform well. As a result of the sincere effort of the team the Department has been consistently obtaining excellent results in the VTU examinations. The Department is a recognized VTU research centre for pursuing Ph.D. in Mathematics with five scholars having registered for their Ph. D programme. The faculty members of the Department are actively involved in various research

activities such as guiding research scholars, publishing research papers, executing funded projects, arranging and attending conferences, FDP and workshops.

**Dept. Name:** MATHEMATICS

**Dept. Established Year:** 2002

**No. of Doctoral Degree Holders:** 08

**Faculty Count:** 10

**No. of Research Scholars:** 05

**No. of FDP/Workshop/ Seminar/ Expert talk / STTP conducted in the year 2019 (May 2019- till now)**

**Detail the count separately:**

FDP: 01, Expert talk: 04

1. Five days FDP on Applied Mathematics in Engineering from 29<sup>th</sup> July to 2<sup>nd</sup> August, 2019





2. Dr. Renuka Prasad B, RVCE delivered an expert talk on “ Experimental learning using free software and open hardware for smart applications”.
3. Mrs Chetana Srinivas delivered a talk on Factors contributing to Professional success and balancing usage of mobile phones on 17th September, 2019 to I - EEE & I –CIVIL students
4. Dr. Gowrishankar delivered an expert talk on “Application of linear & logistic regression in machine learning field” 29<sup>th</sup> August, 2019, to I ISE D&E, I ECE – C students.
5. Mrs Chetana Srinivas delivered an expert talk on “Technology Management (Mobile Usage)” on 31st May, 2019 to II sem ISE-E students.

#### No. of publications: 07

1. Kallur V Vijayakumar, A S Hariprasad, Curved domain discretization with boundary defined by polar equations Journal of Physics: Conference Series 1473 (2020) 012010, IOP Publishing, doi:10.1088/1742-6596/1473/1/012010.
2. Rema V and K. Sikdar- Time series modeling and forecasting of patient arrivals: A research at an Emergency Department of a Hospital in Bengaluru, International Journal of Engineering and Advanced Technology (IJEAT), 2019, ISSN 2249-8958 (Online)(Accepted).
3. K. Sikdar- Modelling and analysis of a discrete-time GIX/Geom/1/K queue with N threshold policy, International Journal of Mathematics in Operational Research, 2019, ISSN- 1757-5869 (Online), 1757-5850 (Print)(Accepted). DOI: 10.1504/IJMOR.2020.10024979
4. M. S. Mahadeva Naika and S. Shivaprasada Nayaka, Congruences modulo large powers of  $3^{\ell}$  for  $3^{\ell}$ - regular cubic bipartition, Proceedings of the Jangjeon Mathematical Society, (Accepted) 2019.
5. M. S. Mahadeva Naika and S. Shivaprasada Nayaka, Arithmetic properties of  $2$ -color over

partition pairs, Tbilisi Mathematical Journal, 13(2), 67-85, 2020.

6. S. Shivaprasada Nayaka and M. S. Mahadeva Naika, Infinite families of congruences for  $3^{\ell}$ -colored overpartitions, kragujevac journal of mathematics, (Accepted) 2020.
7. Veena, Annamma Abraham, Jojoy Joseph Idicula & Chethan A.S. : Effect of temperature-dependent heat source on flow and heat transfer in Maxwell dielectric liquids over horizontal stretching sheets, ICECCOT-2019

#### No. of OBE activities: 06

#### Faculty Achievement List:

- Dr. Annamma Abraham reviewed an article for Global Research and Development Journals (GRD Journals) during February 2020.
- Dr. Annamma Abraham published a book chapter “Flow of Ferrofluid over an Inclined Stretching Sheet in the Presence of a Magnetic Dipole”, Transactions on Engineering Technologies, Springer Nature Singapore Pte Ltd., 2019, chapter 4, pp 41 -57, ISBN 978-981-32-9530-8, ISBN 978-981-32-9531-5 (e-Book)
- Dr. Annamma Abraham was an advisory committee and panelist for the National level Conference on “Revolution in Commerce, Management & Technology” held on 13<sup>th</sup> March, 2020 at Bishop Cotton Academy of Professional Management, Yelahanka, Bangalore.
- Mrs. Sreelakshmi T K completed her pre Ph.D. Comprehensive viva on 29<sup>th</sup> February, 2019.
- Mr. Kallur V Vijayakumar awarded doctoral degree for his thesis entitled “Application of polynomial splines and finite element techniques for numerical integration in 2D Euclidian space”
- Mr. Kallur V. Vijayakumar delivered an expert talk on "Differential Equations and its applications " at Raja Rajeswari College of Engineering on 27<sup>th</sup> November, 2019.
- Dr. Pushpa B V delivered an expert talk on Numerical Solution of Partial Differential Equations at Dr. N.G.P. Arts and Science College, Coimbatore, Tamil Nadu on 13<sup>th</sup> September 2019.



### STUDENT ACHIEVEMENTS:

Students who Scored 100% Results in Mathematics in the Even Sem of 2017-18 & Odd Sem of 2018-19 VTU Examinations

Subject & Subject code :

**Transform Calculus, Fourier Series & Numerical Techniques 18MAT31**



**AKANKSHA**  
1BY18IS012  
ISE/A



**JAI KEERTHI U**  
1BY19CS056  
CSE/A



**KALYANI**  
1BY19CS061  
CSE/A



**ANANTH D**  
1BY18IS024  
ISE/A



**NAVAYUG SRIRAM**  
1BY19CS092  
CSE/A



**K NARMADA**  
1BY18ECo80  
ECE/B



**SNEHALAKSHMI**  
1BY19CS153  
CSE/C

Subject & Subject code :  
**Calculus & Linear Algebra 18MAT11**



**GEHNA JAIN**  
1BY19CS047  
CSE/A



**PRATIKANSH SRIVASTAVA**  
1BY19IS120  
ISE/F

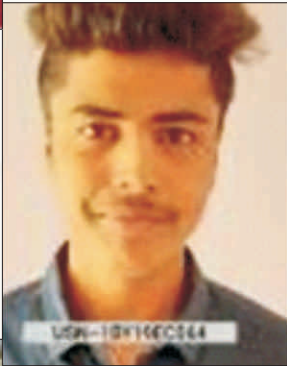




**SUHAS A R**  
1BY19EC159  
ECE/H



**SAKSHI AGARWAL**  
1BY18CS135  
CSE-B



**JARUGU GANADEEP**  
1BY19EC064  
ECE/I



**VINOD KUMAR**  
1BY18CS189  
CSE-B



**MADHUMITHA**  
AI&ML/N  
1BY19AI028



**SANJANA J**  
1BY18CS139  
CSE-C



**VIKRAM BORANA P**  
1BY18CS188  
CSE-C

Subject & Subject code :  
**Advanced Calculus & Numerical Methods & 18MAT21**



**ALLEN BENNY**  
1BY18CS010  
CSE-A



**VISHAL JAIN**  
1BY18CS219  
CSE-C



**BHANU KIRAN**  
1BY18CS128  
CSE-B



**TARUN PACHAURI**  
1BY18ME060  
MECH

Subject & Subject code :  
Engineering Mathematics IV & 17MAT41



**ANAND**  
1BY18IS023  
ISE-A



**AKASH P GALAGALI**  
1BY17EC009  
ECE A

**ANANTH D**  
1BY18IS024  
ISE-A



**CHAVALI MANI DEEPIKA**  
1BY17EC036  
ECE A



**NIBHA VENKAPPA RAI**  
1BY18IS072  
ISE-A

**SAYONI JAIN**  
1BY17EC156  
ECE/C



**NIRISHA. B**  
1BY18IS075  
ISE-B



**AAKASH SHANKAR**  
1BY17CS003  
CSE/A



**SUGANDHA SINHA**  
1BY18IS119  
ISE-B

**PRATHYUSH SARKAR**  
1BY17CS123  
CSE/B



**NIRMALA ROY**  
1BY18EE037  
EEE



**RUPALI NIRANJAN**  
1BY17CV047  
CIVIL



# Department of MECHANICAL ENGINEERING

## VISION OF THE DEPARTMENT

To develop technically competent Mechanical Engineering professionals for the benefit of the society.

## MISSION OF THE DEPARTMENT

- Impart quality education in Mechanical Engineering and allied areas by state-of-the-art infrastructure and dedicated faculty.
- Provide conducive environment for both students and faculty to pursue higher education & research and to work ethically for the benefit of society.

## Program Educational Objectives (PEOs)

Graduates of the program will:

- PEO-1: Be successful professionals in the field of Mechanical Engineering and allied areas

- PEO-2: Exhibit skills to work effectively and ethically and related domains of engineering as part of a team
- PEO-3: Excel in higher studies and research to adapt in a world of constantly developing technology

## Program Specific Objectives (PSOs)

- PSO-1: Design, Analyse and fabricate the mechanisms.
- PSO-2: Analyse the fluid and thermal aspects of different mechanical systems and components.
- PSO-3: Develop materials and components through different manufacturing methods with managerial skill/

## From HoD's Desk



**Dr. K. M. Sathish Kumar**, HOD, Mechanical Engineering

The Department of Mechanical Engineering was established in the year 2002-03. The Department offers full-time UG programme in Mechanical Engineering with an annual intake of 60 students. The programme is affiliated to Visvesvaraya Technological University (VTU), Belagavi and approved by All India Council for Technical Education (AICTE). The UG programme is provisionally accredited by the National Board of Accreditation (NBA), New Delhi and also Permanently Affiliated to Visvesvaraya Technological University (VTU), Belagavi. The Post-Graduation in Machine Design was started during the academic year 2014-15 with an approved intake of 18 students. The Department is recognised as a Research Center by Visvesvaraya Technological University (VTU), Belagavi where the number of research scholars registered stands at 21.

Currently, the Department is headed by Dr. K. M. Sathish Kumar.

The Department's strength lies in having a good number of experienced and well qualified faculty. Department has 22 well qualified and dedicated faculty members with 10 faculty holding Doctoral Degree and 12 faculty pursuing their doctoral degree. Faculty members along with their regular academic activities also have published technical papers in quality International and National Journals and attended various International & National conferences. Faculty members have won awards, are the reviewers for International Journals, Members of LIC, BoS, BoE, DRDO Recruitment Committee. All the faculty members of the department also undergo industry internships. Also, faculty members have



authored Text Books to help the student community. The Department is supported by 10 well trained Technical staff. The Department of Mechanical Engineering has state-of-the-art laboratories. These laboratories not only satisfy the curriculum requirements of the students very lucidly, but also provide additional facilities to enhance the practical knowledge. Department has excellent computing facilities and resources in terms of both hardware and software.

The Department has adopted the practice of Outcome Based Education (OBE). The Department has constituted a Department Advisory Board (DAB), an elite group comprises members from Academia, Industry and Research organisations. DAB has been set up to take valuable suggestions and views on the activities happening in the department. The members of Department Advisory Board are Dr R. Thirumaleswara Naik (IISc), Dr. C. M. Manjunatha (NAL, Bengaluru), Mr. Vivek (Free Field Technologies, Bengaluru), Mr. Harish K (Bharat Earth Movers Limited BEML, Bengaluru), Mr. Nishanth M. S (Pyrox I City, Bengaluru), Dr. H.K. Govindaraju (Vice Principal) and Dr. K. M. Sathish Kumar (HoD and Convener).

The Department has Memorandum of Understanding (MoU) with Industries, Research and Academic Institutes. Department of Mechanical Engineering has established a State-of-the-art Centre of Excellence in collaboration with M/s. Toyota Kirloskar Motor Pvt. Ltd., Bengaluru. This spacious Centre consists of automobile chassis, engine and transmission systems capable of demonstrating the functioning of the various parts. The Centre has several other equipment's totalling a value of over Rs.50 lakhs. Department has signed MoU with Industrial Technologies Bengaluru, to establish "Centre of Excellence in Industrial Automation". The objective of the centre is to train the students in the field of Automation Technologies, Hydraulics and Pneumatics, PLC, Sensors and Industrial IoT.

Department in a quest to build Holistic development among the students, various programmes were organised. Innovative teaching methods are followed to impart quality education to the students. The Department organizes Skill based workshops and Faculty Development Programs periodically. These activities will greatly benefit the faculty members to comprehend the essence of

teaching and can teach very effectively and proficiently. The Department hosts and supports several activities like Project Based Learning (PBL), Interdisciplinary projects, Societal relevance projects, Skill Based Workshops, Student Internships, Industrial Visits, Partial Delivery of the curriculum by Industry experts, Poster presentations to name a few. All these activities will greatly enhance the learning ability of the students. The students of the Mechanical Engineering Department have participated as Finalists in Smart India Hackathon, have won awards in National Level events conducted by premier institutions. The student projects received awards from KSCST Bengaluru and VTU Belagavi. Some of the projects were also funded by the Institute based on their innovative ideas. Students have participated and also won awards in Indian Karting Race, a National level event. Also, students were involved in building a Range Extended Electric Vehicle which is a Hybrid Vehicle and many interdisciplinary projects are also being carried out.

**Dept. Name:** Mechanical Engineering

**Dept. Established Year:** 2002-03

**No. of Students (UG+PG):** 275

**No. of Doctoral Degree Holders:** 08

**Faculty Count:** 22

**No. of Research Scholars:** 21

**No. of FDP / Workshop / Seminar / Expert Talk / STTP Conducted in the Year 2019 ( May 2019- till now)**

**Detail the count separately:**

FDP/workshop: 5

Expert Talk: 3

STTP: 2

**No. of publications:** 09

**No. of OBE activities:** 18

**Faculty Achievement List:**

Dr. Sangmesh B has been awarded as SHIKSHANA SEVA RATNA Prashasti. On 21th September 2019

Mr. Keerthi Kumar N, Assistant Professor, Department of Mechanical Engineering was awarded as best Professor for Mechanical Engineering from Karnataka Educational Awards-



2019 organized by Youth Efforts for Society (YES) Trust, Bangalore. The Award function was held on 26th Oct 2019 at Bharitiya Vidya Bhavan, Bangalore.

**Dr. Sangmesh B** had been to S J C Institute of Technology for the Faculty Convention of ISTE as the Chief Guest on 4 Feb 2020. Also as a part of Student Convention, He also had been to KS Institute of Technology, Bangalore as the Chief Guest on 22 Feb 2020.

**Student achievements:**

“Team Motorheads”, a student team of Department of Mechanical Engineering participated and won “**Future Award for Team**” in the “Indian Karting Race IKR 2020” held at Bhopal from 21 – 25, January 2020. The same team has won awards in the previous editions of IKR 2018 and IKR 2019.



**Team Motorheads in Indian Karting Race IKR 2020**

Kaushik Balasundar, Aby J Kottoor, Akash S Nambiar, Abhishek S.A., Shwetha D and Edwin Easo Mathew Participated in the Grand Finale held from 8<sup>th</sup> to 12<sup>th</sup> July 2019 held at SRM University, Chennai in **WORLD'S LARGEST HACKATHON** in terms of Number of over 2,50,000 participants from across India



**HACKATHON Competition**

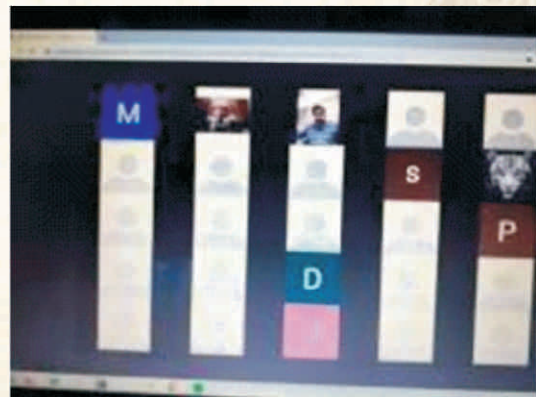
**Club Activities/ Professional Society activity:**

The team of Kaushik Balasunder, Aby, Akash. S and Shwetha. S under the mentor ship of Mrs S.Nithya poornima is selected for the National Finals of the e-Yantra Ideas Competition (eYIC 2019-20)



The Aeroclub organised an online club activity on 3.4.2020 with Mr.Leo Peter Charles,MD,Jane Aerospace Pvt Ltd, Bengaluru delivering a talk on Flight dynamics, Aeromodelling and flight simulation . There were 74 students and were benefitted with the knowledge of flight dynamics and aeromodelling. The program was coordinated by Madhu M.C on Zoom.us online platform.

Dr K.M Sathish Kumar and ,HOD,ME and Principal, Dr.Mohan Babu GN were present during the online activity



**Drone Activity**



## Semester Toppers



**Sri Harsha**  
SGPA 9.2  
1BY18ME043  
I Rank



**Y.P. Pavan**  
SGPA-8.69  
1BY17ME064  
V Rank



**Alap Mundayoor**  
SGPA 9.42  
1BY18ME008  
II Rank



**Arun. D**  
CGPA- 9.7  
1BY16ME010  
VI Rank



**Darshan Srinath**  
SGPA 9.25  
1BY18ME015  
III Rank



**Arun. D**  
CGPA- 9.5  
1BY16ME010  
VII Rank



**Nilesh Shrivastav**  
SGPA 9.25  
1BY17ME034  
IV Rank



**Ashish**  
85%  
1BY14ME038  
VIII Rank



## Department of PHYSICS

Department of Physics was established in the year 2002. The Department has well experienced and qualified teaching and technical staffs. Presently, the department consists of five doctorate holders and other faculty members have registered for Ph. D. at VTU, Belagavi. The Department has been recognized by VTU as a Research Centre since 2014-15.

### Department Vision

To impart sound fundamentals and concepts in Physics this helps students to nurture scientific temperament and creativity in the field of engineering.

### Department Mission

- To provide sound knowledge in applied Physics through innovative techniques and scientific methodology.

- To motivate students to pursue scientific analysis and develop problem solving ability in the field of engineering.

The department caters to the needs of all the branches as it is a basic science department. The Engineering Physics Lab is well furnished with latest equipments and all necessary amenities. A lab for the purpose of research will be set up shortly to enable faculty members to pursue experimental research in the field of crystal growth, nanotechnology and nonlinear optics. The Department of Physics also has adequate infrastructure facilities to train the students and to carry out experiments. Results of the department have been consistently good and consistent results.



**Dr. Dhananjay, HoD, Dept. of Physics**

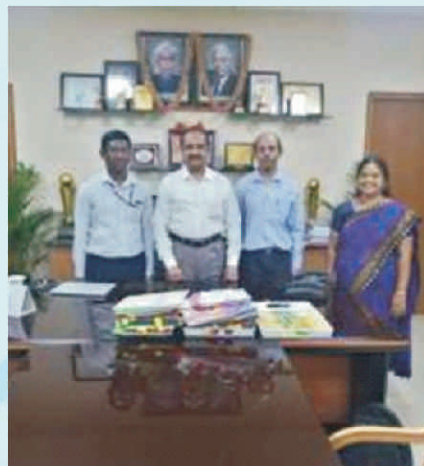
### Faculty Achievement: Funded Projects

Faculty Name	Department	Period- year	Amount (Rs)	Funding Agency	Status of the project
Dr. C. Kavitha	Physics	2018-2019	5,00,000	VGST	completed
Dr. Daruka Prasad	Physics	2018-2019	5,00,000	VGST	ongoing
Dr. Dhananjay	Physics	2015-2018	21,70,000	DST-SERB	completed
Dr. C. Kavitha	Chemistry	2014-2017	31,97,667	DST-SERB	Completed
Dr. Dhananjay	Physics	2014-2016	4,00,000	VGST	Completed

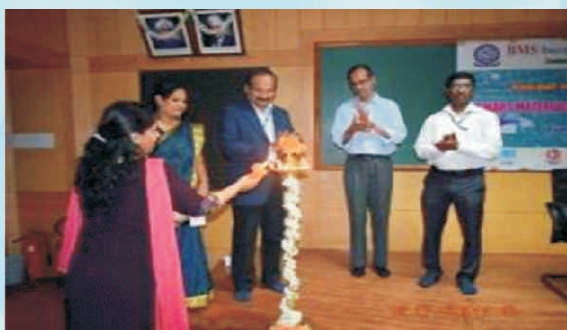
### International/national Recognition:

1. Mr. Venkatesh R, technical staff of BMSIT&M awarded the Ph.D. degree from Bharathiyar University under the guidance of Dr. Dhananjaya N on 20.02.2020.
2. Dr. C. Kavitha invited as organizing committee member and editorial member for the journal of international conference on material science exhibition and engineering will be conducted at Seol, South Korea. June 2020.
3. Dr. C. Kavitha continuously Reviewing American Chemical Society (ACS) and Royal Society Chemistry (RSC) Publications with impact factors more than 7.5. till date 2020
4. Dr. Daruka Prasad B session the chair at international conference on "Advances in materials, ceramics and Engineering Sciences" held at Dayanand Sagar College of Engineering, Bangalore on 18<sup>th</sup> January 2020.
5. Ashwini K R participated and presented a paper titled "Near ultraviolet light excitation of  $\text{SrAl}_2\text{O}_4:\text{Dy}^{3+}$  for white LED Applications", at international conference on "Advances in materials, ceramics and Engineering Sciences" held at Dayanand Sagar College of Engineering, Bangalore on 18<sup>th</sup> January 2020.
6. Dr. C. Kavitha have been invited to attend NMR workshop at IISc, Bangalore, Dec, 2019.
7. Dr. C. Kavitha have been invited for Key Note lecture from Oxford University United Kingdom (2019).
8. Dr. Daruka Prasad Selected as a Department Advisory Committee (DAC) Member for Ph.D. Program at Department of Physics, Manipal University, Mahe from October 2018.
9. Dr. Daruka Prasad Received Best Research Paper of the year 2017 award from Carbon Science and Technology, Applied Science Innovations Pvt., Ltd., Pune on Jan 2018
5. Dr. Daruka Prasad selected as a potential reviewer for revieweing the project proposals submitted for funding at National Science Center, Poland (2016-till date).
12. Dr. Dhananjaya N has received Summer Research Fellowship twice in the year 2014-15 and 2017- 18 from Indian Academy of Science.
13. Dr. C. Kavitha's Research article of published in Spectrachimica Acta-2015 has been selected in TOP 20 List at Bio Medical Library in USA.
  - Dr. N.D.N. Prasad (Retired) was given best faculty award for the 2014-15 by M/s. Cognizant Technology. Research Article Publications
  - Our department faculty members are actively

involved in research and have published number of publications in the peer reviewed international / national journals and conferences with high impact factor. Since last academic year there are 15 number of publications published in the international journals with minimum impact factor of 2 and above. Invited talks and Co- curricular activities 6 numbers of co-curricular activities and two motivational talks were organized by the staffs of department of physics in the academic year 2019-20. Department of physics conducted a 5 days Open course on Novel Materials and their emerging technologies on July 2019. Dr. N. Dhananjaya, Dr. C. Kavitha, Dr. B. Daruka Prasad and Dr. B.R. Basavaraju delivered talks during value added open course for all semester engineering students. Dr. Dhananjaya, Dr. C. Kavitha, Dr. Daruka Prasad attended science day Nano Jatha program at CeNS, Bangalore and Bangalore India Nano 2020 international conference organized by Govt of Karnataka. The glimpses are given below.

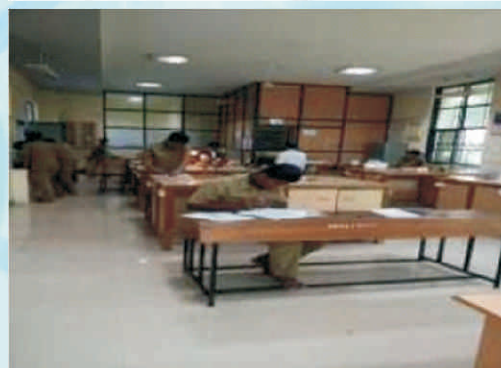
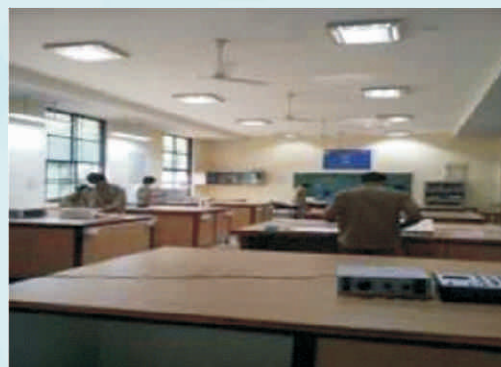






All staff members have been attending regularly the workshops and conferences to adequately update their knowledge in research, teaching methodologies and personality development programs.

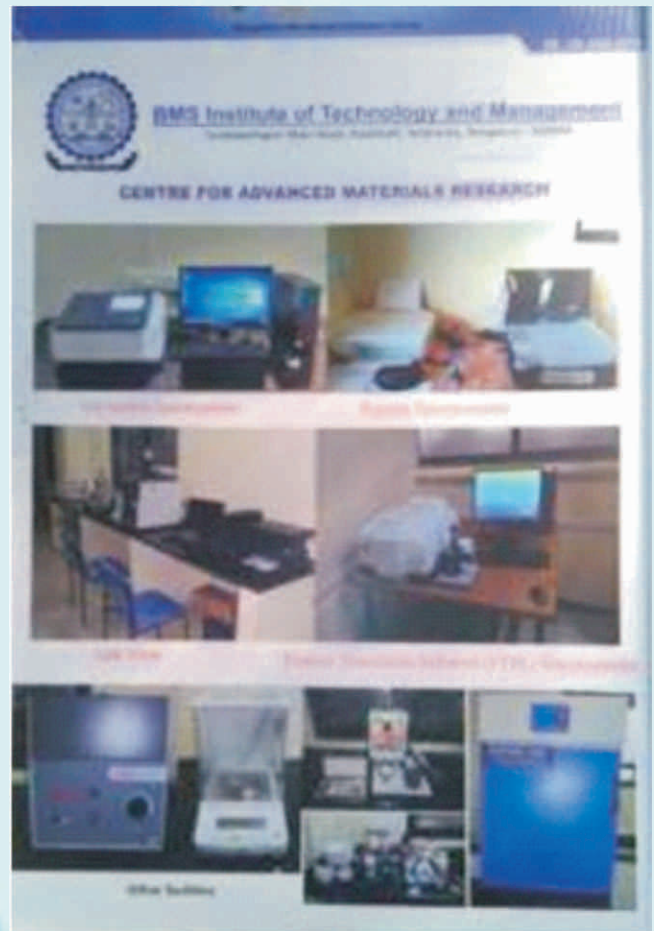
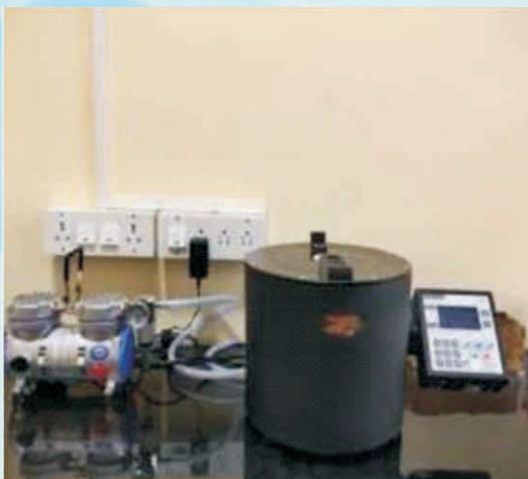
Finally, the department is doing active research in the emerging fields like nanotechnology and photonics through publications and by encouraging faculty to register for their Ph.D. program. National conference/workshop, faculty development program shall be organized to motivate students and faculty.



### Research Lab

Department of Physics – R&D Center has adequate infrastructure facilities to do research. We have named the Research Center as “Center for Advanced Material Research” where we have DST-SERB& VGST funded project.





**List of Equipment:**

1. Upgraded Micro video Raman Spectrometer
2. FT-IR Spectrophotometer
3. UV-Visible spectrometer
4. Solar simulator
5. Thin film coater
6. Chemicals,
7. Electronic Balance
8. Sonicator
9. Heater with magnetic stirrer
10. Muffle Furnace,
11. Hot-Air Oven
12. UV Photo degradation unit
13. Centrifuge machine
14. Pelletizer
15. Temperature controlle



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**SECTIONS AND INSTITUTIONAL  
CLUBS / CELLS / UNITS  
PROFILES**

# PLACEMENT AND TRAINING CELL

## Vision:

Foster Sustained Excellence in Training and Placement

**Mission:** Train the Students to make them Industry Ready and Enhance Employability of the Students to Serve Various Sectors of Engineering.

## From Placement Officer's desk

Placement Cell at BMSIT&M was established in the year 2004, to initiate industry institute interaction activities with an initial aim to provide placement opportunities to the first batch of students. Though we had a humble beginning, with the support from BMS Educational Trust and strong alumni, we could achieve considerable breakthrough in providing ample opportunities to our students over the years. Today, our alumni are present in about 200+ organizations across the globe. We at placement cell are regularly discovering ways to make our students more and more employable by providing internships, inviting startups for recruitment, alumni interactions on industry standards/expectations etc.

The Placement and Training cell is ably supported by Prof. Ambika Subhash, Prof. Raghunandan GH and Ms. Ashwini S, in addition to the core team of staff and student placement coordinators.

## Highlights 2020 Batch! (\*Placements Still in progress)

- 78 companies visited for recruitment as on date
- 485 Placement offers so far
- Highest CTC offers by: SAP LABS – 20.60 LPA, Amazon - Rs.19.00 LPA, ENDURANCE INTL GROUP – 14.00 LPA, including International Offer for Civil students by Sobha-Dubai – AED 5000.
- Highest number of offers made by COGNIZANT, PRICEWATERHOUSE COOPERS, WIPRO, CAPGEMINI, TCS etc.
- Top recruiters like CERNER, INFORMATICA, AMAZON, ENDURANCE, SIEMENS, COGNIZANT, CAPGEMINI, ROBERT BOSCH, NOKIA, ATKINS regularly visit campus.
- 23 New recruiters like NINJACART, NTT Ltd., HEXAWARE, SONICWALL, SPIRENT, EVERTZ, HPE, GLOBAL LOGIC etc. visited BMSIT&M for 2020 batch.

2016 Batch		2017 Batch		2018 Batch		2019 Batch		2020	
No. of Offers	No. of Companies Visited	No. of Offers	No. of Companies Visited	No. of Offers	No. of Companies Visited	No. of Offers	No. of Companies Visited	No. of Offers	No. of Companies Visited
406	75	360	79	390	98	441	97	485	78
*Placements still in progress for 2020 Batch									

## PLACEMENT & TRAINING ACTIVITIES

### STUDENTS' TRAINING:

Semester wise placement training on Aptitude and soft Skills imparted to all students right from their 4<sup>th</sup> semester itself to enhance their learning and employability. The students are also being given branch specific, customized training to strengthen their skills. Employability assessment tests being conducted by AON CoCubes for the 3<sup>rd</sup> and 4<sup>th</sup> year students to assess the readiness of the students and make them more industry ready.

### INTERNSHIPS

The **UG** and **MCA** batch of **2020**, were offered Internships by top companies such as, Endurance, Amazon, Epicor, Cognizant, Wipro, Siemens, Informatica, Fidelity, Checkpoint etc.

The **M.Tech** students of **2020** batch were provided a year-long internship opportunity by Robert Bosch, Fidelity, Nokia, Spirent etc.

### INDUSTRY ENGAGEMENTS

**INFORMATICA EARLY TALENT SHOWCASE:** As part of the Intern talent showcase event, Ms. Ambika



Subhash, TPO, was invited to Informatica campus to witness the showcasing and demonstration of projects that the students have worked on, on 11<sup>th</sup> April'19. The event was a highly interactive one and fruitful, as it had the leadership team of Informatica giving information about the latest technology the company was working on.

**ENDURANCE ENSIGHT:** Endurance International, a Tire 1 recruiter at BMSIT&M, conducted, ENsight - An Endurance India Insight sharing platform, on 15<sup>th</sup> April '19. The program is specially designed for emerging bright minds across Indian campuses. Mr. Karthik Radhakrishnan, Software Engineer, used this platform to educate students on Algorithms and its uses in the current industry.

**INFOSYS INFYTQ:** The Infosys TPO meet was attended by the TPO, BMSIT&M on 21<sup>st</sup> May'19. The event was aimed at understanding the InfyTQ app launched by Infosys. The app allows the students to register and undergo an Infosys certification program free of cost. Based on performance during the certification exam, the students will be given direct pre-placement offers, allowing them to skip the regular process. The pre-final year students will be undergoing this certification during July/Aug 2019.

**MEDIA.NET INDUSTRY-ACADEMIA MEET:** Media.net, a Tire 1 recruiter at BMSIT&M held a TPO meet on 24<sup>th</sup> May'19 at their Office, which was attended by Ms. Ambika Subhash. The recruitment team stressed on the importance of students understanding and being thorough with their fundamentals while preparing for the Media.net hiring process.

**TRUECHIP TRUECONNECT 2019:** TrueChip, a core company for the circuit branches conducted a TrueConnect 2019 conference, where semiconductor professionals shared some of the finest developments which are being done today in the core industry. Some of the guest speakers at the event were Mr. Anurag Gupta, Sr. Director ASIC, Western Digital, Mr. Sundeep Gupta, Sr. Director-Engineering, SiFive and Mr. Ajay Nawandhar, Sr. Director-Engineering, Qualcomm, who all shared their thoughts on industry advancements. Apart from these talks, there were also two panel discussions along with paper presentations on various applications in the VLSI industry. The conference was attended by Prof. Saneesh C, Assoc. Prof, Dept. of ECE and Prof. Ambika Subhash, Dy. TPO on 14<sup>th</sup> November 2019.

**CPAGEMINI BLOCKCHAIN WORKSHOP:** Capgemini, a Day 1 recruiter at BMSIT&M, conducted a half day workshop on Blockchain on 18<sup>th</sup> November 2019. The program was specially designed for emerging bright minds across Indian campuses and was attended by the 3<sup>rd</sup> year IT and MCA students. Mr. Hari Yadav, Lead, Blockchain, used this platform to educate students on Blockchain technology.

**COGNIZANT POST-OFFER SESSION:** A team from Cognizant visited BMSIT&M on 13<sup>th</sup> November 2019 to interact with the 2020 Batch students placed in Cognizant. The session was an informative one where the students were informed about Cognizant Internships and on how to go about their joining process and how their dates of joining the company depended on their participation in the Cognizant Early Engagement program.

**INFOSYS VISIT:** The Infosys TPO meet was attended by Prof. Raghunandan and Prof. Ambika Subhash, BMSIT&M on 28<sup>th</sup> January 2020. The event was aimed at understanding the InfyTQ app launched by Infosys. The app allows the students to register and undergo an Infosys certification program free of cost. Based on performance during the certification exam, the students will be given direct pre-placement offers, allowing them to skip the regular process. The pre-final year students will be undergoing this certification during March/April 2020.

**EMPLOYERS' MEET 2020:** The 6<sup>th</sup> Edition of the Employers' Meet, with the theme "Industry Ready Engineers in the Digital Era" was held at BMSIT&M on 7<sup>th</sup> March 2020 for the pre-final year students. Industry leaders representing **Accenture, Google, NNT Data and Sonicwall** were invited to campus to have a panel discussion and interaction with the students on the current Industry trends and how to gear up towards their upcoming placement season.





**MOCK INTERVIEWS BY ALUMNI:** Mock interviews are being conducted from 19<sup>th</sup> April 2020, for the pre-final year students of the 2021 graduating batch by senior Alumni placed in senior positions in various companies across the globe, to help students understand their strengths and weaknesses in their technical and softskills. These mock interviews will help students prepare better for their Interview process during their placement season tentatively scheduled from 1<sup>st</sup> August 2020 onwards.



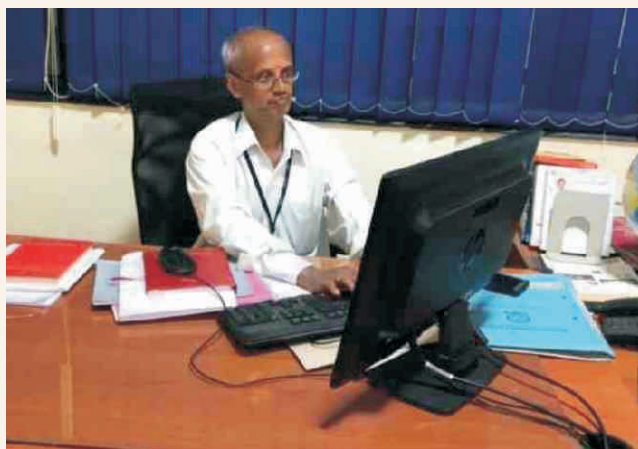
# Department of LIBRARY & INFORMATION CENTRE

## Vision

To emerge as one of the best state-of-the-art information centers, catering to the curricular and non-curricular informational needs of the stakeholders and to become one's lifelong learning center

## Mission

To build rich collection in the field of technical and allied subjects irrespective of its format, promoting its usage to the maximum extent possible and providing unparalleled library services to users.



Mr. Gopalakrishna, Librarian

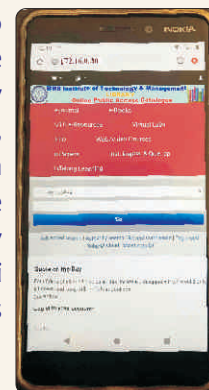
BMSIT&M Library was started in the year 2002-03, with a modest collection of 1500 books, in a small classroom. From day one, library activities were computerized with all items barcoded. Immediately after 6 months, the library was moved to a spacious drawing hall where both Reading Room and Stack Area were housed and the collection rose to 3000 books by 2004. Reference Section was separated from Stack Area and moved to second floor drawing hall in the North Wing of Academic Block, by the end of 2005. In the year 2009 the library moved to B. S. Narayan Memorial Block, a still more spacious building measuring 1492 sq. mt.

The library has 11 dedicated personnel which include 9 persons with Master's Degree in Library and Information Science, 1 with Bachelor Degree in Library & Information Science and 1 peon.

The library is always eager to adapt newer Information and Communication Technologies (ICT). In the year 2010, the library started using Way2SMS to communicate important information like overdues, new arrivals, arrival of reserved items etc., to its patrons.

Now the library has migrated from Libsoft version to internationally renowned, feature rich,

Web 2.0 technologies, a web based Open Source Software KOHA 19.05 version. Library OPAC, Institutional Repositories, and Digital Library (intranet) can be accessed 24 / 7 from anywhere in the campus and also with any device that supports Wi-Fi connectivity under the IP address <http://172.16.0.40>



Now the users will get emails on each issue, return, arrival of reserved items, advance/overdue notices

The library has a comprehensive collection of books in engineering and allied subjects catering to the needs of faculties, research scholars, staff and students.

The library has a total collection of 55,639 books in various disciplines.

The collection is organized using DDC 22/e. We subscribe to 97 print journals, 7 e- journal packages, and 08 e-book packages. The library is fully automated using KOHA: integrated library management software.





**Circulation section**



**Reference Section**



**Reading Room**

The Stack room is housed in the ground floor and reference section in the first floor. The library has more than 247 seating capacity. The ground floor is occupied with a circulation counter, stack room, reprographic section, processing section, server room and Librarian's chamber.

A Digital Library cum Language laboratory has been established with 32 systems and a dedicated IBM server along with 15TB storage space. It helps browse/download articles from the subscribed & open source e-journals/e-books; access NPTEL educational videos/web courses.



**Stack Area**



**Digital cum Language Laboratory**

**Reference section**

The first floor is occupied with technical journals/ magazines; projects/discussion rooms, personal books reading room, language laboratory, digital library and internet browsing center.

Dspace, the institutional & learning materials repository, can be accessed anonymously from anywhere under the URL:

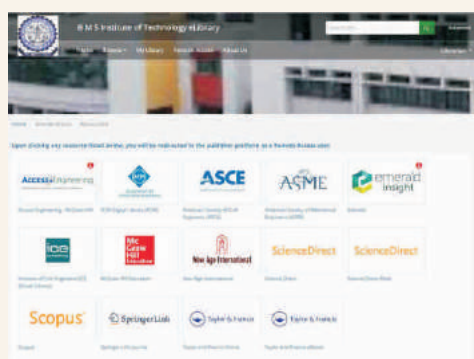
<http://dspace.bmsit.ac.in/xmlui>



Indian Research Information Network System (IRINS) : IRINS is a web-based Research Information Management (RIM) service developed by the Information and Library Network (INFLIBNET) Centre in collaboration with the Central University of Punjab.

**The library has institutional membership of**

- National Digital Library (NDL)
- British Council Library, Bangalore.
- DELNET is being used for Inter Library Loan service.
- The Library is a member of VTU Consortium for e-Resources and has access to the following e-Resources.



**Subscribed Online Resources Details**

<b>e-Journals</b>	<b>Nos.</b>
IEEE & IEL online	193
Taylor & Francis	555
Springer	690
Elsevier	304
Emerald	120
Inst. of civil engineers	31
K-Nimbus (Remote Access Service)	5700
<b>e-books</b>	<b>Nos.</b>
Cambridge University Press (Perpetual access)	94
Pearson Engg.	66
McGraw-Hill	505
New Age Intl.	220
Taylor & Francis	4950
Packt	5002
Elsevier	436
K-Nimbus (Remote Access Service)	10000
Other (Calibre )	3218

Moreover students and faculties can access the e-Resources of VTU Consortium remotely through Knimbus platform.

# Department of PHYSICAL EDUCATION AND SPORTS

## Vision

“To develop highly talented sports performers along with 'Professional Education' aiming at great innovations in the field of Physical Education & Sports”

## Mission

“To create awareness of fitness through 'Physical Education & Sports Activities' with the spirit of healthy competition to stimulate a long-lasting attitude towards discipline, sportsmanship, hard work, integrity, creativity, leadership and social responsibility within the safe & positive environment.”

## From HoD' desk



**Mallikarjun B. Patil**, Director of Sports.

Physical Education is a universal subject where everyone needs the knowledge of physical exercise for fitness. Fitness is a basic requirement without any age factor, for which we need to encourage everyone to involve in physical/sports activities. It is easy to say, “Sound body had sound mind”, Health is wealth” but it is equally important to motivate everyone to involve in physical activities for a healthy society. A person having overall development of personality means one must be sound by physically, mentally and socially. The Sports field gives fitness with pleasure, creates awareness of health and increases immunity power. It teaches us skills, discipline, dedication, team spirit, aggressiveness, control on temperament, leadership quality etc. Hence the students & staff are encouraged to take part in sports activities like VTU inter collegiate tournaments and tournaments organized by reputed colleges and organizations to promote the sports persons of our college. The sports department is well equipped with state of art Gym and excellent facilities for sports and games in the college premises.

## SPORTS FACILITIES

**OUTDOOR FACILITIES:** Basketball, Cricket Nets, Tennis, Volleyball, Throw ball, Ball badminton, Kho-Kho, Kabaddi, Hand ball, Hockey, Football, Softball & Athletics. Etc.







**INDOOR FACILITIES:** Carom, Chess, Table Tennis, Shuttle badminton, Boxing, Yoga & Weightlifting Etc.



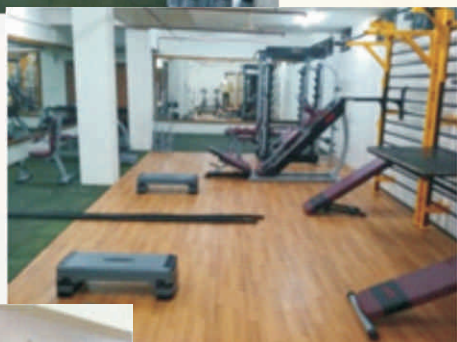
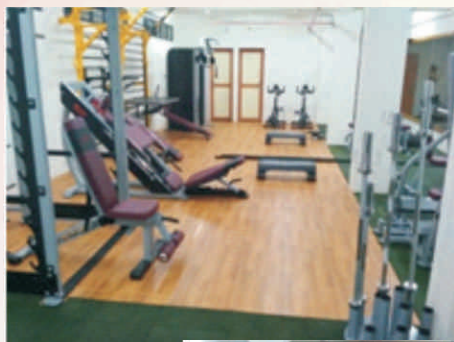
**GYM AT COLLEGE PREMISES :** Mirrors on side walls includes 10 station Multi gym, Smith machine ,Olympic weight lifting sets, Olympic bench & Squat stands, Wall bars, Dumbbells & Barbells with Racks , Flat benches, Three level Abdominal boards, Hyper extension bench, Stepper, Twister, Medicine balls, Skipping ropes, Dip stands, Exercise mats, Boxing punching bags, TRX Belt, Fitness bands etc. Only adds to the experience of working out at college Gym.



*Students performing work out in the college Gym and also utilizing at Indoor & Outdoor facilities.*



**Gym at Hostel premises:** L shape Mirrors on side walls, Floor Mats, Elite Olympic Multi Adjustable Bench, 3D Smith Machine, Elite Hack Squat Leg Press, Swedish Ladder, Elite Cable Cross over, Spin bikes, Shoulder Press, Flat Bench, Multipurpose Bench, T Bar, Olympic Rods, Plates, Dumbbells with 3 Racks for each, Kettle Bells, Battle Rope, Medicine ball, Gym Ball, Exercise mats, Foam Roller, Skipping rope etc... Only adds to the experience of working out.



*Gym facility in Hostel premises and Students performing work out in the Hostel Gym*

## SPORTS ACHIEVEMENTS FOR THE YEAR 2019-20

### Team Achievements:

- Cricket (M) team secured **2<sup>nd</sup> place in VTU Bengaluru North Zone Inter Collegiate Cricket (M) Tournament** was held at SJCIT, Chikkaballapur **2019-20**



*Cricket (M) team at the Tournament venue, with Runners up Trophy*

- Badminton (M) team secured **2<sup>nd</sup> place in VTU Bengaluru North Zone Inter Collegiate Badminton (M) Tournament** was held at NMIT Bengaluru on 24<sup>th</sup> & 25<sup>th</sup> August 2019



*Badminton (M) team at the Tournament venue*

- Basketball (M) team secured **2<sup>nd</sup> place in VTU Bengaluru North Zone Inter Collegiate Basketball (M) Tournament** was held at NMIT Bengaluru on 16<sup>th</sup> & 17<sup>th</sup> Sept. 2019



*Basketball (M) team at the Tournament venue, with Runners up Trophy*

- Table Tennis (M) team secured **2<sup>nd</sup> place in VTU Bengaluru North Zone Inter Collegiate Table Tennis (M) Tournament** was held at NMIT Bengaluru on 24<sup>th</sup> & 25<sup>th</sup> August 2019





Table Tennis (M) team at the Tournament venue, with Runners up Trophy

- Basketball (M) & Chess (W) teams secured 2<sup>nd</sup> place in BMS 'KREEDOTSAV' the Inter Collegiate Tournaments were held at BMSCE Campus Bengaluru on 1<sup>st</sup> to 4<sup>th</sup> Oct. 2019



Basketball (M) team at the Tournament venue, with Runners up Trophy

**Individual Achievement:**

- Shooting (M) team player **Mr. Sudarshan Potdar** 5<sup>th</sup> Sem/TCE,
  - Has secured **Bronze Medal in State Level 10M Rifle (NR) Shooting Championship (Individual)\*** Held at SAI Shooting Range **Bengaluru from 26<sup>th</sup> July to 4<sup>th</sup> Aug. 2019.**
  - Has secured **378 score in -177 Peep Sight Air Rifle (NR) Championship for 10 Mts Junior Men** was held at Muttom Thodupuzha Idukki **Kerala from 23<sup>rd</sup> to 30<sup>th</sup> August 2019** and qualified for Junior Nationals.



Mr. Sudarshan Potdar at the venue of events

- Netball (M) team player **Mr. Shamanth Kumar Shetty, of 3<sup>rd</sup> Sem, ISE** had Represented Karnataka state team in the 13<sup>th</sup> South Zone Senior National Netball (M) Championship was held at Vijayawada Andhra Pradesh from 13<sup>th</sup> to 15<sup>th</sup> Sept. 2019 and the said team secured **Bronze medal.**



Mr. Shamanth Kumar Shetty

- Judo (M) Team Player **Mr. Manohar DJ of 7<sup>th</sup> Sem/TCE,** secured **Silver Medal** in below – 81 kg weight category. in **VTU Single Zone Judo Competition** was held at SJCIT Chikkaballapur on 6<sup>th</sup> to 7<sup>th</sup> September 2019



Mr. Manohar DJ

- Taekwondo (M) Team Player **Mr. Gaurav Sethia, of 3<sup>rd</sup> Sem/ CSE,** secured **Silver Medal** in Under – 78kg weight category in VTU Single Zone Taekwondo competition was held at GAT, Bengaluru on 17<sup>th</sup> & 18<sup>th</sup> October 2019.



Mr. Gaurav Sethia,



Taekwondo (M) Team Player **Mr. Umar Afthab** 3<sup>rd</sup> Sem/ EEE, secured **Bronze Medal** in Under – 58kg weight category in VTU Single Zone Taekwondo competition was held at GAT, Bengaluru on 17<sup>th</sup> & 18<sup>th</sup> October 2019.



**Mr. Umar Afthab**

- Shooting (M) team player **Mr. Sudarshan Potdar** 5<sup>th</sup> Sem/ TCE, Has participated in **10M Rifle Junior 63<sup>rd</sup> National Shooting Championship Competitions (NSCC)** in Small Bore Rifle & Pistol Events held at **Bhopal M.P. from 17.12.2019 to 04.01.2020.**



**Mr. Sudarshan Potdar**

**Events Organized:**

- We have conducted 10K & 5K run for staff and students of our college as part of the 'Fit India Movement' activity at our college premise on 31<sup>st</sup> Oct. 2019 which was also the day of 'Run for Unity'.



**Principal and Vice Principal along with participants**

- We have conducted Yogasana and Pranayama Classes for staff and students of our college as part of the Fit India Movement activity at our college premise in the Month of December 2019 and also we had 108 Suryanamaskara program on the day of Rathasapthami. The event was initiated by Sri Ramaswamy Naik S. yoga teacher/ Garden Supervisor BMSIT&M.



**Yogasana classes at Sports Dept. Indoor hall**





- Celebration of Republic day on 26<sup>th</sup> January 2020, on the same day the Yogasana demo by Mr Ramswamy Naik S and also, we have distributed the prizes to staff in the same occasion.



**Surya Namaskara on the day of Rathasapthami on 1<sup>st</sup> February 2020**

• We have conducted Staff Sports on 26<sup>th</sup> & 27<sup>th</sup> of July 2019 at our college premises.



**Flag hoist**



**Yoga demo**







*Prize distribution for the staff sports*

Equipment procured:

**Movable Basketball Pole**



*Inauguration of Movable Basketball Pole at Amphitheater on 23<sup>rd</sup> September 2019*





# INNOVATION CENTRE

## Vision

To inspire and motivate faculty members and students of all disciplines of engineering, sciences and management within the organization to inculcate innovative thinking through systematic approach.

## Mission

To Influence the rate and direction of ideas without compromising the quality of the outcome to benefit the organization/ community/society by fulfilling the societal needs.



**Dr. Seema Singh**

Innovation Centre at BMSIT&M was formed in December 2015. It promotes innovation by encouraging students to take up innovative, interdisciplinary technical projects. It provides technical support during the phase of ideation and prototyping. It funds the promising prototypes, giving the required support for multidisciplinary projects/research. The exposure for an innovative environment and support is given to the students, right at the time of entry to the institution through orientation sessions.

Since November 2018, Institutional Innovation Council (IIC) has been constituted under the Ministry of HRD's Innovation Cell. Under this, innovation, intellectual property cell (IP Cell), incubation cell, entrepreneurship and development cell (ED Cell) are knit together to hand hold students with 'Make in India' bent of mind.

Innovation cell supports all the activities proposed by IIC (Smart India Hackathon, PoCs etc.) alongwith self driven activities with vigour and scaling new heights with help of enthusiastic students, faculty and management.

## Summary of Activities

### Anveshana - Innovative Idea Contest

An innovative idea contest viz., Anveshana is being conducted every year to enable students to showcase their innovative ideas. The third edition of the event was launched in the month of October 2019. As many as 49 innovative were submitted by the students. After evaluating the ideas in two different phases, the pre-final round was held at on 07-Mar-2020. About 9 professors from various departments evaluated the proof of concept, about 40 teams presented their idea. Dr. Seema Singh, Ms. Shama H. M, Mrs. Tejaswini and Mrs. Mamatha were in-charge of Anveshana-3.0. Dr. Manjunath, Dean ER, also guided us to make this event successful.



### Orientation Programmes

As part of the induction programme, Innovation Centre conducted orientation program for the first-year students during August 2019. A test on Innovation Quotient and brainstorm activities were also conducted. Mr. Chethan, student of 2<sup>nd</sup> year, Dept. of ECE shared his experience on being a young entrepreneur.



### Brainstorm sessions

Weekly Brainstorm Sessions on Fridays are conducted at the Innovation Centre. Students are given an open platform to discuss any problem in the society and innovative solutions to it. Also, meetings with faculty, student coordinators on every Friday is conducted to discuss how to improve the innovative quotient in the campus.

### Smart India Hackathon 2020

As many as 22 ideas were presented by a team of 15 for “Smart India Hackathon 2019” competition. Intra-college hackathon was organised for 2 days. Software and hardware hackathon were conducted on 18-01-20 & 01-02-20 respectively. Mr. Mithun Muddan, Director-Paperwiff, Dr. Bharathi Malakareddy were judges of software hackathon. Mr. Kaushik Mandal, Chief Strategist, Tata Elxsi and Dr. G. S. Jayadeva were judges of Software Hackathon. 8 group of students made to national level hackathon.



### External events/competitions

Students are encouraged to take part in the external competitions. Since December 2015, students have

participated in more than 80 competitions held at both State and National levels so far. Students have participated in project exhibitions held within and outside the state.



Students have been taken for several workshops, seminars. One such event is MHRD- IIC's POC event, held on 05-08-2019. The entire event was focused on breakthrough innovations across multiple areas.

Innovation Centre motivated students to take part in some of the programmes organized by Karnataka Science and Technology Academy (KSTA). Students won prizes in the competitions such as Quiz, Project Exhibition etc.

About 50 students participated in “Nano for the Young” workshop organized by KSTePS in December 2019.

Google Hashcode coding competition is a prestigious competition organised by Google globally to appraise and recruit students. BMSIT&M was declared a hub by Google. Participants were students from BMSIT&M and students from nearby engineering colleges. Hashcode 2020 had 3 hubs in Bangalore and BMSIT&M was one among those. We hosted a total of 13 teams and 40 participants.



### Talk on Innovation & Entrepreneurship on Innovation Day

Mr. M. Ajith, Deputy Controller of Patents and Designs, Patent Office, Govt. Of India, Chennai. delivered a Talk on "Patentability of Invention" on 29-Nov-2019. More than 200 students, 15 faculties attended this session.



## Technical Support/Mentoring



Students are given additional support, mentoring in connection with interdisciplinary projects. On this regard, Serial Entrepreneur- Mr. Pramod was invited to college to discuss the ideas and ongoing projects of budding entrepreneurs at BMSIT&M, presided by Chairman Mr. Madan Gopal and Principal Dr. Mohan Babu G.N.

**An Interactive session** with Dr.Raman Gujral, Head EDII. Had an insight of how to enrich the innovativeness of students by conducting few activities in the college.



Advising students of various departments and connecting them to the mentors is one of the key activities of Innovation Centre.

An Information desk at technical and non-technical events at college is arranged by Innovation centre to bring it to students notice about Innovation Centre and the services.

## Funding and Industry Interaction

Innovation Centre, BMSIT&M supports students' working on Innovative projects by providing financial assistance to such projects and funds to develop the prototype. Contacting the industry experts to check more avenues of the ideas presented by our students during Anveshana 2.0, ongoing innovative projects work by other students.

## Institution Innovation Council

An Institution Innovation Council (IIC) was established in the month of November 2018 under the Innovation Cell of Ministry of HRD. The IIC is active since November 2018. Innovation Centre organised about 20 activities under MHRD, IIC yearly calendar of events such as live webcasts of three talks under the series called "India Leadership Talk", Hackathon coding competition, Workshops on Innovation, start-up policy, Internship at Innovation centre, IIC national Innovation Contest, Proof of concept event, field exposure, Presentation by entrepreneurs, workshop on problem solving, project exhibition and so on.

## Institution Innovation External Council members

Sr. No.	Name	Organization	Member
1	Mr. C.S. Prakash	Pushpak Industries	Expert from nearby Industry/ Industry association/ Ecosystem Enablers
2	Mr. Shashank R. N.	Ekzen Robotics	Start-up/ Alumni Entrepreneur
3	Dr. Ananthapadmanabha Achar	Justice K.S Hegde Institute of Management, Nitte	Incubation Centre
4	Kishore Jagirdhar	InfopacelIndia	Bank/Investor
5	Dr. Keshav Munegowda	DELL EMC	Expert from nearby Industry
6	Senthil Kumar	Intepat IP Services Pvt. Ltd.	Patent expert
7	Mrs. Padmaja S	SIDBI	Bank/Investor

### Institution Innovation Internal Council members

Position	Name	Designation
President	Dr. Mohan Babu G N	Principal
Vice President	Dr. H. K Govindaraju	Vice Principal
Convener	Dr. Manjunath T.N	Dean-External Relations
Innovation Activity Coordinator	Dr. Seema Singh	Professor & Chief Coordinator, Innovation Centre
Member	Ms. Shama H. M.	Software Engineer & Coordinator, Innovation Centre
Startup Activity Coordinator	Dr. Sangmesh B	Assistant Professor & Incubation Manager
IPR Activity Coordinator	Mr. Praveen Kumar T N	Associate Professor & Chief Coordinator, Intellectual Property(IP) Cell
ARIIA Coordinator	Ms. Bharathi R	Associate Professor & Chief Coordinator, Entrepreneurship Centre
Member	Dr. Santosh Kumar	Assistant Professor
Member	Dr. S K Pushpa	Professor
Member	Mrs. Archana K	Assistant Professor
Member	Mr. Jagadish P	Assistant Professor
Member	Dr. Santhi Natarajan	Associate Professor
Member	Mrs. Mamatha K R	Assistant Professor
Member	Ms. Thejaswini S	Assistant Professor
Member	Ms. M. Sridevi	Assistant Professor
Member	Mr. Nagaraj D Chonali	Assistant Professor
Social Media Coordinator	Mr. Venkatesh A	Assistant Professor
NIRF Coordinator	Dr. Ganesh P	Associate Professor
Internship Activity Coordinator	Ms. Ambika Subash	Assistant Professor
ARIIA Coordinator	Mrs. Suma Umesh	Assistant Professor



# NATIONAL SERVICE SCHEME (NSS) UNIT

## Preamble:

The National Service Scheme (NSS) is an Indian government-sponsored public service program conducted by the Department of Youth Affairs and Sports of the Government of India. Popularly known as NSS, the scheme was launched in Gandhiji's Centenary year, 1969. Aimed at developing student's personality through community service, NSS is a voluntary association of young people in Colleges, Universities and at +2 level working for a campus-community linkage. Today, NSS has more than 3.2 million student volunteers on its roll spread over 298 Universities and 42 (+2) Senior Secondary Councils and Directorate of Vocational Education all over the country.

In BMSITM, the National Service Scheme (NSS) Unit was established in **1st September 2004**. Since its inception various social activities are successfully

carried out under its banner. In the current academic year, 100 students registered which included 40 girls from all branches of our Institute.

**Objectives:** The programme aims to inculcate social welfare in students, and to provide service to society without bias. NSS volunteers work to ensure that everyone who is needy gets help to enhance their standard of living and lead a life of dignity. In doing so, volunteers learn from people in villages how to lead a good life despite a scarcity of resources. It also provides help in natural and man-made disasters by providing food, clothing and first aid to the disaster victims.

**Organization:** Programme Officer -> Faculty Coordinator/s -> Student Coordinator/s -> Student Co-Coordinator/s-> Volunteers (Boy's and Girl's).

## NSS Annual Report for the Manthana 2019-2020 Magazine

Sl. No.	Programme Organized	Place	Date	Vol. No.	Details of work done	Beneficiaries
1.	International Yoga Day	BMSITM, Bangalore	21 <sup>st</sup> July 2019	50	Created awareness of Yoga in day to day life and Performed some of the yoga Asana's to maintain good health	50 volunteers
2.	Voluntary Blood Donation Camp	BMSITM, Bangalore	29 <sup>th</sup> August 2019	550	In association with Lions Blood Bank 317A, we have organized VBD Camp we were able to create the awareness on 28 <sup>th</sup> August 2019 and on 29 <sup>th</sup> August 2019 good response from both students volunteers, donors and staff. 502 samples of blood pockets collected. The collected blood distributed to the Kidwai Children Cancer Hospital, Bangalore.	Kidwai - children Cancer Patients – 502 units of blood samples donated It saves approximately the life of 1500 people.



Sl. No.	Programme Organized	Place	Date	Vol. No.	Details of work done	Beneficiaries
3.	Cauvery Calling	BMSITM, Bangalore	30 <sup>th</sup> August 2019	30	To support rally for rivers and tree plantation from Sadguru, we conducted the standing event and created awareness of the above said.	50 public
4.	Kidwai Cancer Hospital Visit	Kidwai Cancer Hospital, Bangalore	30 <sup>th</sup> August 2019	10	Along with 10 volunteers, blood samples collected in the previous day events formally handed to the cancer patients and distributed the fruits, biscuits and bread	Above 100 patients benefited from this event
5.	Ayurveda Medical Camp (under the initiative of FIT India)	BMSITM, Bangalore	27 <sup>th</sup> September 2019	165	During this event, all staff and students underwent the health checkup such as weight, BP, Sugar, Cholesterol, Consultation and Eye Testing.	165 staff is benefited from this event
6.	Swatch Bharath – Plastic Free City	New town Yelahanka, Banagalore	2 <sup>nd</sup> October	50	In association with Anarghya Foundation, plastic free city awareness walkathon organized	public
7.	Children Day Celebration at Orphanage & Child Adoption Centre	Ashanakunte, Bangalore	14 <sup>th</sup> November 2019	55	We have collected the donation of Cloths, Bags, Pens, Books, pencils, lunch box, and slates from volunteer donors and visited the orphanage. There our student volunteers celebrated children's day along with orphan children by serving food and given entertainment to the orphans. Collected items are donated	25 orphans & Paraspara Organization



## Sample Event Photos



1. International Yoga Day – Performing Yoga by Students and Faculties



5. Ayurveda Medical Checkup Camp – Faculty undergoing health checkup



2. Voluntary Blood Donation event – Student Donors proudly donating blood



6. Swachh Bharath Event – Plastic Free City Walkathon-volunteers and faculties participated



3. Cauvery Calling – Volunteers participated in Standing Even



7. Children's Day Celebrated by donating to Orphanage children-volunteers participated



4. Kidwai Cancer Hospital Visit – Volunteers, Lion Club Members and Staff handed over blood samples collected during event



8. Voluntary Blood Donation event – Principal distributing donor certificates

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NSS Programme Officer –Honor received from Sri S. Suresh Kumar, Honorable Primary and Secondary Education Minister, Government of Karnataka for the Service recognition of volunteers during voluntary blood donation camp -2019



Ayurveda Medical Checkup Camp under FIT India Banner – Vice Principal, volunteers and Doctors group photo

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# NATIONAL CADET CORPS (NCC) UNIT

To teach military training and recruit more Indian officers for the British army university corps was set up by Britishers during First World War 1917. NCC was used as the **second line of defence** and NCC in India was established and raised before Independence, mainly with an aim of grooming both the boys and girls, nurture them and direct their energy towards nation building by making them responsible citizens.

**Motto: Unity and Discipline**

## NCC ACTIVITIES FOR THE YEAR 2019-20

- 1) C-Certificate & B certificate Theory and Practical Exams on 22<sup>nd</sup> & 23<sup>rd</sup> of February 2020 held at Ramaiah commerce & arts college, Bangalore



- 2) Republic Day Parade on 26<sup>th</sup> January 2020



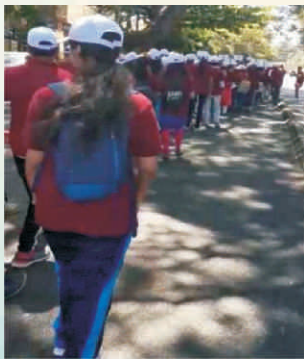
- 3) Organised the motivational talk on joining the Armed forces by Rear Admiral G.Srinivasan on 8<sup>th</sup> November 2019







4) Rally on Plastic Usage And Recycle in collaboration with Anargha foundation



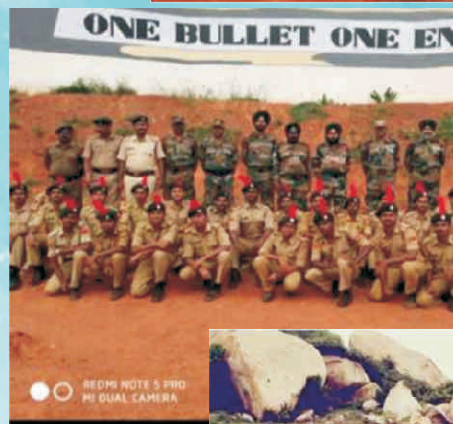
5) Independence Day Parade on 15<sup>th</sup> August 2019



6) One Student One Tree



7) 24 cadets have attended the Combined Annual Training Camp (CATC) for 10 days, at NCC Academy Hosahalli, Bengaluru





# CIVIL DEFENCE (CD) INSTITUTION DIVISIONAL UNIT

## *BMSIT&M students in forefront of Social Service*

As the number of positive covid-19 cases increase every day, the society is in need of voluntary helping hands to assist in controlling the situation.

The students of BMS INSTITUTE OF TECHNOLOGY & MANAGEMENT have joined their hands to provide such assistance for the well-being of the affected and those in need.

The student Volunteers, as Corona Warriors have dedicated their time and energy in the service of the society have worked in an initiative by Akshaya Patra in packaging essential grocery boxes for the poor, underprivileged and to those hugely affected by the virus across Karnataka, and also by monitoring social dis-

tancing, spreading awareness through posters in shops and lifts, collection and donation of food to daily wage workers in construction sites, and by donating sanitizers.

Under the guidance of the Associate NCC Officer, Lt. Rani Mysore Srinivas, NCC cadets and Civil Defence Wardens of BMSIT&M have undergone online COVID-19 training organized by Integrated Government Online Training, and have geared up themselves to get into action when summoned at the hour of emer-

gency. And have assisted in the BBMP WAR ROOM to reach out and have a daily check on positively tested patients who are under home isolation through the phone and to guide them and to help during emergencies as well as to lessen the mental devastation of patients during their recovery phase. The student volunteers have reached out to over 500 home isolated patients and are still continuing. We are grateful to our Principal, Dr. Mohan Babu G N for giving us this noble opportunity and constantly guiding and motivating us in our endeavours.

The students of BMS INSTITUTE OF TECHNOLOGY AND MANAGEMENT have been doing tremendous service to the society as responsible citizens of the country during this phase of pandemic.

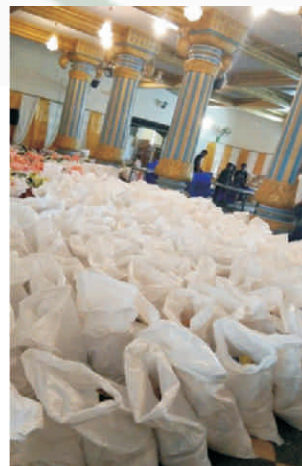


### Activities during Covid-19

1) Chandana N Swamy bearing the USN 1BY17CV016 studying in 3<sup>rd</sup> year B.E, Department of Civil Engineering in BMSIT&M worked as a Community Volunteer to fight against COVID-19 Pandemic as a CORONA WARRIOR during the month of April – May 2020.

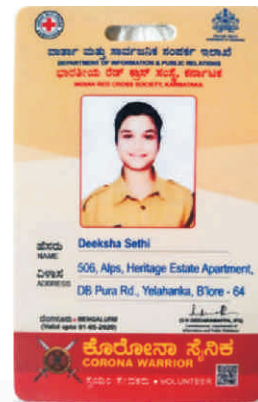
#### **- Volunteered in the event from the Civil Defence Corps of BMSIT.**

The event was sponsored by the *INFOSYS FOUNDATION*, which was an Initiative of the *ISKCON's AKSHAYA PATRA FOUNDATION*. In association with the Government of Karnataka, Government of India, Karnataka State Police The main objective of the event was to provide *ESSENTIAL GROCERY BOX* to the poor, underprivileged, those hugely affected by the virus across Karnataka.



**The ESSENTIAL GROCERY BOX mainly contained:**

Rice, Pulses, Refined Sunflower oil, Rasam powder, Sambar powder, Turmeric powder, Chili powder, Pickle, Sugar, Salt, Wheat flour, Potato, Mangalore Cucumber, Ginger, Garlic, Onions... across Karnataka.



**ID CARD**



**CERTIFICATE**

**Volunteer work carried out as a Corona Warrior:**

- Monitored approximate social distancing in Heritage Shoppe (Supermarket), Yelahanka. The duty involved making boxes at 2m distance throughout the shop and spreading awareness through posters in the shops and lifts.



2) **Deeksha Sethi** bearing the USN 1BY18EC044 studying in 2<sup>nd</sup> year B.E, Department of Electronics and Communication Engineering in BMSIT&M worked as a Community Volunteer to fight against COVID-19 Pandemic as a **CORONA WARRIOR** during the month of April – May 2020.

- Volunteered as a **Civil Defence warden** in association with the **Indian Red Cross Society and Government of Karnataka**. Below are her identity card and certificate as a volunteer.





- Worked for mental health for the DIPR website



Posters and work done

Posters made for DIPR website

- Collection and donation of hygienic food packet to the daily wagers at construction sites in Yelahanka and slum areas in Attur layout.
- Documentation work (compiling/consolidating of volunteer data)
- Donation of 5 dozens Lifebuoy sanitizers to Yelahanka New Town Police Station.

# INTELLECTUAL PROPERTY (IP) Cell

## The objectives of the IP Cell

- To create awareness on IPR among the faculty and students.
- To encourage and support staff, students at all levels to develop patentable technologies.
- Transform innovations and ideas into intellectual assets.
- To promote and nurture invention & creativity.
- To stimulate the generation of intellectual property.
- Filing for Patents, Registration for copy rights & Industrial Design.

## TEAM

### Chief Co-ordinator, IP Cell

Prof. Praveen Kumar T N, Associate Professor, Dept. of ME

### Departmental Coordinator

Dr. Bharathi Malakreddy A., Professor and HoD, Dept. of AI&ML

Prof. Madhu M.C., Department of ME

Prof. Jaganth, Department of E&C

Prof. Shilpa G., Department of E&EE

Prof. Sowmya Shree M.S. Department of ETE

Prof. Vinod, Department of Civil Engg.

Prof. Kallur V. Vijayakumar, Department of Mathematics

Dr. Daruka Prasad B., Department of Physics

Dr. Jyothi Roy Choudhuri, Department of Chemistry

Prof. Swetha M.S., Department of IS&E

Dr. Sunanda Dixit, Department of CS&E

Prof. Muthyala Sridevi, MCA

### Members:

Prof. Thejaswini B.J., Dept. of ME

Prof. Prathibha, Dept. of ETE

Dr. Madhu Palati, Dept. of E&EE

## 1) PATENT FILED DETAILS OF OUR STAFF AND STUDENTS

Title of the invention: **An Automated Waste Segregation System Using Artificial Neural Network**

Applicant: **BMS Institute of Technology & Management**

Application number: **201841025096**

Provisional filing date: **05-07-2018**

Complete Specification Filing date: **18-06-2019**

Date of Published in patent office online journal:

**03-01-2020**

### Inventors:

Dr. Seema Singh, Professor & Head, Dept. of Electronica and Telecommunication Engineering (ETE)

Mrs. Mamatha K.R., Assistant Professor, Dept. of Electronics and Communication (EC&E)

Anusha N., Kritika Raj D., Shalini Ragothaman, Susmi Zacharia, students of E&C Dept.

## 2) PATENT APPLICATION FILED

Title of the invention: **A System and a Method for Automated Counting of Live Fishes with Internet of Things and Cloud**

Applicant: **BMS Institute of Technology & Management**

Patent Application number: **201941030099**

Provisional Filing date: **25-07-2019**,

Date of complete specification: **23-07-2020**

### Inventors

Dr. Bharathi Malakreddy A., Professor & HoD, Dept. of Artificial Intelligence and Machine Learning (AI&ML)

Praveen Kumar T.N., Associate Professor, Dept. of Mechanical Engineering (ME)

Harinatha H.N., Technical Staff, Dept. of AI&ML

AMAN KUMAR, Student, MTech., CS&E

## 3) Title of the invention: AN ALERT SYSTEM FOR RAILWAY TRACK BREAKAGE

Date of Provisional Specification Filing: **04-11-2019**

Date of complete specification: **23-07-2020**

Applicant: **BMS Institute of Technology & Management**

### Inventors

Ms. Ashwini N., Assistant Professor, Department of IS&E

Dr. Manjunath T.N., Professor, Department of IS&E, & Dean, External Relations, BMSIT&M

Brinda P., Nikitha P., Ramachandra V.G.S., Harish S., Student of IS&E Dept.

Date of Complete specification filing: **08-09-2020**

## 4) Title of the invention: Bone conduction based full face helmet

Applicant: **Mrs Thejaswini S and Team**

Application number: **202041007423**

Provisional filing date: **21-02-2020**



**Inventors:**

Mrs Thejaswini S., Dept. of Electronics and Telecommunication Engineering (ETE) & Prasunn, Manjunath U, Nishit Rathi, Prasanna Kumar students of ETE Dept.

5) Title of the invention: **A Design and A Method for Automatic Pet Watering and Food Feeding Using IOT**

Applicant: **Dr. Mahesh G. and team**

Application number: **201941051992**

Provisional filing date: **16-12-2019**

**Inventors:**

Dr. Mahesh G., Associate Professor, Dept. of CS&E, BMSIT&M and Team

6) Title of the invention: **Novel Approach For Class Recording & Blackboard Cleaning System And Methods Thereof**

Applicant: **Mr. Vinod B. R., Mrs. Shobha R. and team**

Application number: **202041041304**

Provisional filing date: **23-09-2020**

**Inventors:**

Mr. Vinod B.R., Mrs. Shobha R., Assistant Professor, Dept. of Civil Engineering, BMSIT&M and Team



# IEEE STUDENT BRANCH

IEEE Student branch BMSIT was revived in August, 2018. There were 10 events conducted 2020, which were received with a lot of appreciation and participation making them a huge success. The

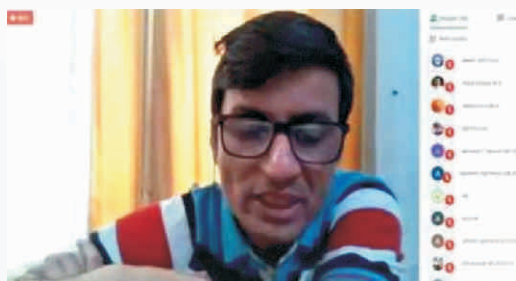
student branch currently has 49 members and has planned 25 events in 2020 The EXECOM member of the IEEE Student branch, BMSIT&M are given below –

SI. NO.	Portfolios	Name
1.	Student Branch Counsellor	Dr. Anjan Krishnamurthy, Dept. of CSE
2.	Student Branch Chair	Mr. Pranav Raikote, Dept. of CSE
3.	Student Branch Coordinators	Dr. Anjan Krishnamurthy, Dept. of CSE & Dr. Sanjay Lakshminarayan, Dept. of EEE
4.	Student Branch Vice Chair	Mr. Gaurav Sethia, Dept. of CSE
5.	Secretary	Ms. Likitha Madhav M.R, Dept. of ECE
6.	Joint Secretary	Ms. Harshitha V Pawar, Dept of CSE
7.	Treasurer & Finance Committee	Mr. Khuswinder Singh, Dept. of CSE
8.	Webmaster	Ms. Sai Sparsha ,Dept of CSE & Mr. Srinidhi, Dept. of ECE
9.	IEEE Computer Society Chair	Ms. Swati Sandhya, Dept. of CSE
10.	IEEE Computer Society	Dr. Sunanda Dixit, Dept. of CSE
11.	IEEEPower and Energy Society Chair	Ms. Shubham Raheja, Dept. of EEE
12.	IEEEPower and Energy Society Advisor	Dr. Sanjay Lakshminarayan, Dept. of EEE

The report of few of the events conducted are given below:

## 1-AI Robotics and Automation Technology :

The AI, Robotics and Autonomous Technology Webinar were hosted by Prof. William Lee on 10/04/2020 with a motive to give deeper insights about present-day technological advancements on the same. Prof Lee is an experienced Research Engineer who has worked for companies like Panasonic and HP. On the Research translational front, he is the Strategic Innovation Associate Director of Advanced Robotics Centre (ARC) at the National University of Singapore (NUS). Mr. Lee is also the co-founder of Almatix Pte Ltd, an NUS Enterprise-enabled Start-up, into space for high-density pedestrian pathway with autonomous devices. The Webinar was an interactive session and at the end of the session, a few queries posed by the participants were clarified. Nearly 70 participants from all over the globe attended the webinar and reaped its benefits.



**2 - How to bag your dream Software job?** –Geeks for Geeks is a well-known site for all the tech enthusiasts as it is one of the best sites to clarify doubts and learn many computational concepts. Mr. Sandeep Jain, the founder of the page was the speaker of the day. It



was scheduled on 26<sup>th</sup> April 2020. He turned the webinar into an interactive and interesting session by sharing great insights about questions like when to get into a job, what kind of skills to be adapted for getting a successful job, and many more of such important points. Students were motivated and inspired by his thoughts and ideas. The session lasted for 1.5hrs. Most parts of the session were utilized to answer student's questions. The session ended with a rapid-fire to which the speaker answered brilliantly.



### 3 - Git For Beginners :

Git is the latest trend for all smart memory storage purposes which is widely used by students and many leading companies. IEEE CS Chapter BMSIT&M hosted a webinar on Git for beginners on 14/04/2020 to create awareness about Git and the commands used in it. Mr. Anand Jagadeesh, Software Engineer at DELL EMC and Secretary of IEEE CS Bangalore Chapter was the speaker invited for the webinar. He explained Git with utmost clarity and students were able to follow up each and every part of it. The session was interactive and students asked their queries which were answered by the speaker. In the end, there was a rapid-fire round where the speaker was asked with a few questions to which he gave some interesting and inspiring answers. There was positive feedback received by all the participants.

### 4 - IEEE Membership Drive Webinar:

The Webinar was conducted on 26/03/2020 to give deeper insights into the benefits of the IEEE Student Membership. It was hosted by Likitha Madhav M.R, Secretary, IEEE SB BMSIT&M. Gaurav Sethia, Vice Chair, IEEE SB, BMSIT&M enlightened the crowd about the opportunities and benefits the IEEE offers to the engineering community. Swati Sandhya, Chair,

IEEE Computer Society, BMSIT&M and Shubham Raheja, Chair, IEEE PES, BMSIT&M threw light over their respective chapters. Dr. Anjan Krishnamurthy, Branch Counsellor, IEEE SB, BMSIT&M, along with the EXECOM members motivated the audience to be a part of the IEEE organization and reap the benefits offered.



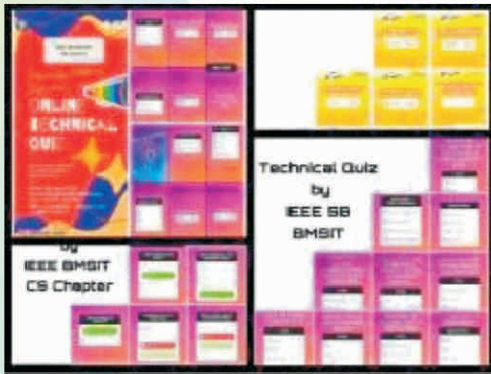
### 5 - Webinar on AI Application in Electric Power Industry and Career Opportunities:

The Webinar on **AI Application in Electrical Power Industry and Career Opportunities** was hosted by **Mr. Shishir Shekhar** on 28/04/2020, with a motive to give deeper insights about present-day technological advancements in the field of Power and Energy. He holds a Master's Degree in Business Management from Harvard University, USA, and a Master's Degree in Electrical Power Engineering from North-eastern University, USA. With over a decade of engineering and management experience in the Power & Energy industry, he currently manages the worldwide Utilities & Energy business segment at MathWorks Inc. In this Webinar, we discussed how Smart machines and AI are changing the way of working in Power and Energy Industries We also discussed how corona outbreak is going to affect Power and Energy Industries.

### 6 - Online Technical Quiz:

The Online Technical Quiz was conducted with the motive to help participants to enhance their technical knowledge. IEEE BMSIT SB organized the quiz on IEEE BMSIT Instagram Page moderated by Roobini G, Vice Chair, IEEE BMSIT CS Chapter. Many engineering enthusiasts took part in the quiz and enjoyed learning. All the participants mentioned they would like to participate in many such events in the future. Six Technical Quiz have been conducted. Around 70-80 participants participate enthusiastically.





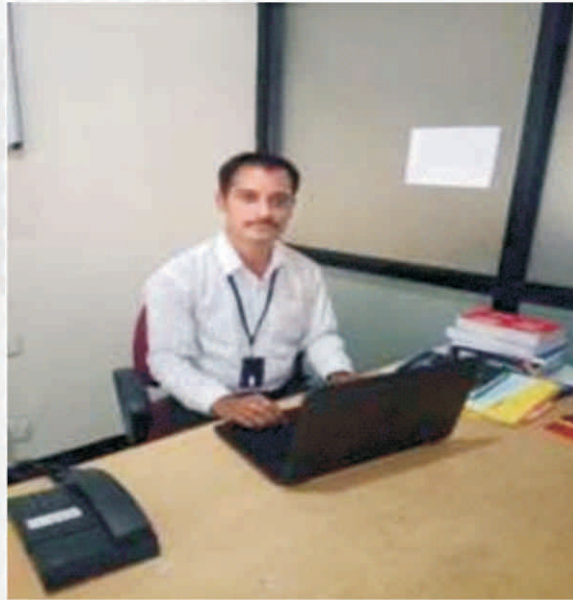
### 7- Webinar on Scholarships offered by IEEE CS:

The agenda of the event was to bring awareness about various scholarships offered under the IEEE Computer Society. The speaker for the event was Sai Sparsha, Secretary IEEE CS BMSIT&M and Webmaster, IEEE SB BMSIT&M. She is volunteering as Scholarship Outreach Ambassador of IEEE Compute edition-8 representing the IEEE Bangalore Section. She is proudly representing our student branch by volunteering in SAC for IEEE Bangalore Section and IEEE Computer Society Bangalore Chapter. She is the content lead for IEEE TEMS India and Content writer for IEEE CS Job fair. The webinar was made lively and interactive and all the queries were clarified at the end. The participants enjoyed the webinar and were contented as they mentioned it met their expectations. The event lasted for 1hr 15 mins. The webinar was hosted jointly by Likitha Madhav M.R, Secretary IEEE BMSIT&M and Roobini, Vice Chair, IEEE CS BMSIT&M.





# PUBLIC RELATIONS & MEDIA CELL



## **Cell Members:**

- 1) Prof. Venkatesh A, Public Relations Officer
- 2) Prof. Reshma CR, Faculty Member
- 3) Mr. Arjun UK, Student Member, MCA Dept.
- 4) Mr. Pramod Gowda, Student Member, ISE Dept.
- 5) Ms. Chandana, Student Member, Civil Dept.

## **About the Cell:**

Public Relations & Media Cell was established in 2019 February, with an intent to serve BMS Institute of Technology & Management by communicating & collaborating with our stakeholders and the outside world. The cell has maintained a good rapport with the media and other stakeholders and continuously striving towards the betterment of our Institution.

Our cell works towards giving wide publicity to the events and achievements of BMS Institute of Technology & Management. Public Relations & Media Cell represents the Institution in various Digital/Social media platforms such as: Facebook, LinkedIn, Instagram, Youtube etc..

## **Vision:**

To help BMSITM to reach greater heights by effectively communicating and sharing our success stories with all the stakeholders and the outside world.

## **Mission:**

To publish BMSITM articles in good, reputed Media channels, attract talented students and, teachers to guide students to solve the problems of Industry and society at large.

## **Responsibilities:**

- To give wide publicity to the events of our Institute in both Social and Print media.
- To publish Student and Faculty articles in media.
- To make all media related arrangements that are conducted by BMSIT&M.
- To encourage young Students to take tasks like: article writing & publishing, digital marketing etc..
- To promote all the courses of our Institution.

# GENDER CHAMPION CELL

## Activity conducted from their cell from August 2019 to till date

1. Gender champion cell has organized an "Awareness Talk on Gender equity" on 23rd August 2019 between 2.00 pm to 3.00 pm. The resource person was Dr. C S Mala, Professor, Dept. of ECE. Many students from different branches attended this event. She has discussed about Manusmriti and equal functionality of men and women. She conducted some activity sheets to students to check the thinking of the students on gender equality. The talk was very informative which motivated to think in the direction to promote gender equity.



Participants for the talk



Dr. C S Mala delivering a talk

2. **Poster Presentation Activity:** Gender Champion cell organized "poster presentation activity for first year students of ETE and EEE on 17<sup>th</sup> February 2020 from 9.30 am to 1.00pm. They were asked to prepare posters on the theme "To promote Gender Equity or Empowering Women". Students were divided into group. Each group consisting of 3- 4 students. They were asked to prepare posters

choosing a theme on the above subject. They were asked to showcase their posters at the end of the session and was evaluated BY Mrs. Thejaswini S & Mrs. Shilpa. Students expressed their views through posters. Totally 9 batches participated. The winners were honoured with certificates.







3. **Debate competition:** Gender champion cell conducted debate and activity on gender serotyping of 2<sup>nd</sup> semester students of Department of Civil Engineering and Electronics and Communication on 14<sup>th</sup> February 2020. The warm up for the session was by students expressing a statement and underlining the statement as stereotyped to boys or girls and how the same can be overcome. The debate was conducted on “Boys are better than girls at Mathematics” and students actively participated in the debate. The session was coordinated by Nodal teacher, Mrs Shimna Manoharan and Chandra Prabha









# ARTICLES



## ವೃದ್ಧಾಶ್ರಮಗಳತ್ತ ವಯೋವೃದ್ಧರು



ಪಿಷ್ಚು ಶಾಸ್ತ್ರಿ ಎಚ್. ಕೆ.  
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ತಂದೆ-ತಾಯಿ ದೇವರು ನಮಗೆ ಕೊಟ್ಟಂತಹ ವರದಾನ, ಅವರು ತೋರಿಸುವಂತಹ ಪ್ರೇಮ ಯಾರೂ ತೋರಿಸುವುದಿಲ್ಲ. ಮಕ್ಕಳ ಸಂತೋಷವೇ ಅವರ ಸಂತೋಷವಾಗಿರುತ್ತದೆ. ಮಕ್ಕಳ ಜೀವನವೇ ಅವರ ಜೀವನವನ್ನಾಗಿ ಭಾವಿಸುತ್ತಾರೆ. ಈ ರೀತಿಯಾದಂತಹ ತಂದೆ-ತಾಯಂದಿರ ಹಾಗೂ ಮಕ್ಕಳ ಬಂಧ, ಬಾಂಧವ್ಯ ಸಾಮಾನ್ಯವಾದದ್ದಲ್ಲ. ಅದು ಪ್ರೇಮಾನುರಾಗಗಳ ಅನುಬಂಧ. ಅವರ ಪ್ರೇಮದಲ್ಲಿ ಸ್ವಾರ್ಥವಿರುವುದಿಲ್ಲ. ಕಲ್ಪಿತ ಇರುವುದಿಲ್ಲ. ಅವರ ಕಷ್ಟಾರ್ಥವನ್ನು ಮಕ್ಕಳಿಗೋಸ್ಕರವಾಗಿಯೇ ಉಪಯೋಗಿಸುತ್ತಾರೆ. ಮಕ್ಕಳ ವಿದ್ಯಾಭ್ಯಾಸಕ್ಕಾಗಿ, ಅವರ ಭವಿಷ್ಯಕ್ಕಾಗಿ ಉಪಯೋಗಿಸುತ್ತಾರೆ. ನಾವು ಚೆನ್ನಾಗಿ ಓದಿ, ದೂಡ್ಡು ವ್ಯಕ್ತಿಗಳಾದರೆ ಮೊದಲಾಗಿ ಸಂತೋಷಿಸುವುದು ಅವರೇ ತಾನೆ? ಅದಕ್ಕಾಗಿಯೇ ಅಲ್ಲವೇ "ಮಾತೃದೇವೋಭವ", "ಪಿತೃದೇವೋಭವ" ಎನ್ನುವುದು. ತಂದೆ-ತಾಯಂದಿರು ನಮ್ಮ ಕಣ್ಣಿಗೆ ಕಾಣಿಸುವ ದೇವರೆಂದರೆ ತಪ್ಪಾಗಲಾರದು.

"ಜನನಿ ಜನ್ಮಭೂಮಿಶ್ಚ ಸ್ವರ್ಗಾದಪಿ ಗರಿಯಸೀ" ಎಂಬ ಸಂಸ್ಕೃತದ ಮಾತಿದೆ. ತಾಯಿ ಹಾಗೂ ತಾಯ್ನಾಡು ಸ್ವರ್ಗಕ್ಕಿಂತ ಮಿಗಿಲು ಎಂಬುದೇ ಈ ಮಾತಿನ ಅರ್ಥ. ತಾಯಿಯೇ ಮೊದಲ ಗುರು. ಆಕೆಯಿಂದ ಅಕ್ಷರ ಕಲಿತವನೇ ಧನ್ಯನು. ಆದ್ದರಿಂದ, "ಅಮ್ಮ" ಅನ್ನೋ ಪದಕ್ಕೆ ಸರಿಸಮಾನವಾದದ್ದು ಈ ಸೃಷ್ಟಿಯಲ್ಲಿ ಮತ್ತೊಂದಿಲ್ಲ. ತಾಯಿಯಾದವಳು ತನ್ನ ಕರುಳ ಬಳ್ಳಿಯನ್ನು ಹೊತ್ತು, ಹೆತ್ತು, ಹಾಲುಣಿಸಿ, ಅಂಗೆಕಾಲಿಡಿಸಿ, ಕೈತುತ್ತಣಿಸಿ, ಓದಿಸಿ, ಸಲಹೆ ಆತ್ಮಂತ ಪ್ರೇಮದಿಂದ ಸಾಕುತ್ತಾಳೆ. ಪ್ರಸವ ಸಮಯದಲ್ಲಿ ಪಟ್ಟ ಬಾಧೆ, ವೇದನೆ, ಎಲ್ಲವನ್ನೂ ತನ್ನ ಮಗುವನ್ನು ನೋಡಿದಾಕ್ಷಣ ಮರೆಯುತ್ತಾಳೆ. ತನ್ನ ಮಗುವಿಗೆ ಪೆಟ್ಟಾದರೆ, ಅನಾರೋಗ್ಯ ಉಂಟಾದರೆ, ನಿದ್ರೆಯನ್ನೂ ಮರೆತು ಅತ್ಯಂತ ಜಾಗರೂಕಳಾಗಿ ನೋಡಿಕೊಳ್ಳುತ್ತಾಳೆ. ಮಕ್ಕಳನ್ನು ಶಾಲೆಗೆ ಕಳುಹಿಸಲು ಹೊತ್ತಾದದ್ದು, ಡಬ್ಬಿಗೆ ತಿಂಡಿ ಊಟ ಎಲ್ಲವನ್ನೂ ತಯಾರು ಮಾಡುತ್ತಾಳೆ. ಪುನಃ ಮಕ್ಕಳು ಶಾಲೆಯಿಂದ ಮನೆಗೆ ಹಿಂದಿರುಗಿದಾಗ ಅತ್ಯಂತ ಕಾತುರದಿಂದ ಕಾಯುತ್ತಿರುವವಳಾಗಿ ತನ್ನ ಮಕ್ಕಳ ಅಂದಿನ ಕಥೆಯನ್ನೆಲ್ಲವನ್ನೂ ಕೇಳುತ್ತಾಳೆ.

ಇನ್ನು ತಂದೆಯ ಕುರಿತು ಹೇಳಬೇಕಾದರೆ ಮಕ್ಕಳ ಭವಿಷ್ಯ ಚೆನ್ನಾಗಿರಬೇಕೆಂದು ನಿರಂತರವಾಗಿ ಕಷ್ಟಪಟ್ಟು, ಹಣ ಸಂಪಾದಿಸಿ, ಡೊನೇಶನ್, ಫೀಸ್ ಗಳನ್ನು ಕಟ್ಟಿ ಉನ್ನತವಾದ ಶಾಲಾ-ಕಾಲೇಜುಗಳಲ್ಲಿ ಮಕ್ಕಳನ್ನು ಓದಿಸುತ್ತಾನೆ. ಸದಾಕಾಲ ತನ್ನ ಕುಟುಂಬದ ಏಳಿಗೆಯ ಬಗ್ಗೆ ಯೋಚಿಸುವ ವ್ಯಕ್ತಿ ಎಂದರೆ ಅದು ತಂದೆ ಒಬ್ಬನೇ. ತನ್ನ ಮಕ್ಕಳು ಯಾವಾಗಲೂ ಒಳ್ಳೆಯ ಸ್ಥಾಯಿಯಲ್ಲಿ ಇರಬೇಕೆಂದು ಯೋಚಿಸುತ್ತಾನೆ. ಮಕ್ಕಳಿಗೋಸ್ಕರವಾಗಿ ಮುಂಚಿತವಾಗಿಯೇ ಒಳ್ಳೆಯ ಮನೆಯನ್ನು ಕಟ್ಟಿ, ತನ್ನ ಮಕ್ಕಳು ತನ್ನಂತೆ ಕಷ್ಟಪಡಲಾರದೆಂದು ಎಂದು ಆಸ್ತಿ, ಆಂತಸ್ತನ್ನು ಮಾಡುತ್ತಾನೆ. ಇಂತಹ ಅವಿನಾಭಾವ ಸಂಬಂಧ ಮಕ್ಕಳು ಹಾಗೂ ತಂದೆ-ತಾಯಿಯರದ್ದು.

ಆದರೆ!.....ನಮ್ಮ ದೇಶದಲ್ಲಿ ವೃದ್ಧಾಶ್ರಮಗಳ ಸಂಖ್ಯೆ ಹೆಚ್ಚಾಗುತ್ತಲೇ ಇದೆ. ಆಧುನಿಕತೆ, ಕುಟುಂಬ ವಿಘಟನೆ ಮತ್ತು ಪಾಶ್ಚಾತ್ಯ ಜೀವನಶೈಲಿಗಳು ಭಾರತೀಯರ ಮೈ, ಮನ, ಮನೆಗಳನ್ನು ಆಕ್ರಮಿಸಿಕೊಂಡಿರುವುದರಿಂದ ವೃದ್ಧರ ಬದುಕು ತೀರಾ ಅಶಂತ್ರವಾಗುತ್ತಿದೆ. ವಯಸ್ಸಾದವರ ಬಗ್ಗೆ ಕೀಳಾಗಿ ಮಾತನಾಡುವುದು, ಅಪಹಾಸ್ಯ ಮಾಡುವುದು, ಅವರು ನಿಷ್ಪಯೋಜಕರು ಎಂದು ಅವರನ್ನು ಆಮಾನವೀಯವಾಗಿ ನಡೆಸಿಕೊಳ್ಳುವುದು, ಅವರನ್ನು ಕೇಳುವವರಿಲ್ಲವೆಂದು ದೌರ್ಜನ್ಯ ಮಾಡುವುದು, ಬಲಹೀನತೆಗಳನ್ನು ವ್ಯಂಗ್ಯ ಮಾಡುವುದು, ಅವರನ್ನು ವೃದ್ಧಾಶ್ರಮಕ್ಕೆ ತಳ್ಳುವುದು ಇವೆಲ್ಲವೂ ದೇಶದಲ್ಲಿ ಕಂಡುಬರುತ್ತಿವೆ. ಹಾಗಾದರೆ ಹಿರಿಯ ನಾಗರಿಕರನ್ನು ಈ ರೀತಿ ನಡೆಸಿಕೊಳ್ಳುತ್ತಿರುವ ನಾವು ಎತ್ತ ಸಾಗುತ್ತಿದ್ದೇವೆ?

ವಯಸ್ಸಾದ ಮೇಲೆ ನಿಶ್ಯಕ್ತಿ, ಕಿವಿ ಮಂದ, ದೃಷ್ಟಿ ದೋಷಗಳು, ಸಂಪಾದನೆ ಇಲ್ಲವೆಂದು ನಿವೃತ್ತಿಯ ನಂತರದ ಕೊರಗು, ಆಹಾರ ಸೇರದಿರುವುದು, ನಿದ್ರೆ ಬಾರದಿರುವುದು, ಶುಗರ್, ಬಿಪಿ, ಉಸಿರಾಟದ ತೊಂದರೆ, ಹೃದಯ ಸಮಸ್ಯೆ, ಮರೆಗುಳಿತನ, ಈ ಎಲ್ಲಾ ಸಮಸ್ಯೆಗಳು ಕಾಡೋದು ಸರ್ವೇಸಾಮಾನ್ಯ. ಇಂತಹ ಸಂದರ್ಭದಲ್ಲಿ ತಾನೆ ಹಿರಿಯರಿಗೆ ನಮ್ಮ ನೆರವು ಬೇಕಾಗಿರುವುದು. ಜೀವನವೆಲ್ಲ ನಮ್ಮ ಏಳಿಗೆಗಾಗಿ ಶ್ರಮಿಸಿದ ಹಿರಿ ಜೀವಿಗಳಿಗೆ ನಾವು ಕೊಡುತ್ತಿರುವುದಾದರೂ ಏನು? ವೃದ್ಧಾಶ್ರಮದ ಭಾಗ್ಯ, ನಿರ್ಲಕ್ಷ್ಯ, ಅವಹೇಳನದ ಚುಚ್ಚುಮಾತುಗಳು. ಅವರ ಇಳಿ ವಯಸ್ಸಿನಲ್ಲಿ ಹಿರಿಯರು ನಮಗೆ ಭಾರವೇ? ಆದ್ಯಾಕೆ? ಎಲ್ಲಾ ಹಸುರೆಲೆಗಳು ಒಂದಾನೊಂದು ದಿನ ಹಣ್ಣೆಲೆಗಳಾಗುವುದಿಲ್ಲವೇ?



ಮನೆಯಲ್ಲಿ ಮೂರು-ನಾಲ್ಕು ಜನ ಮಕ್ಕಳಿದ್ದರೂ ಅಪ್ಪ, ಅಮ್ಮ, ಅಜ್ಜಿ, ತಾತನನ್ನು ಅವರ ಜೀವನದ ಸಂಧ್ಯಾಕಾಲದಲ್ಲಿ ನೋಡಿಕೊಳ್ಳುವುದಕ್ಕೆ ಬಿಟ್ಟರೂ ಸಿದ್ಧರಾಗಿಲ್ಲ. ಹಿಂದೆ, ಒಂದೇ ಸೂರಿನಲ್ಲಿ ಆಕಳು, ಕರು, ಕುರಿ, ಕೋಳಿ ಸಮೇತ ಸಮಸ್ತ ಕುಟುಂಬವರ್ಗ ಬದುಕನ್ನು ಸಾಧ್ಯ ಮಾಡಿಕೊಂಡಿತ್ತು. ಅಜ್ಜ, ಅಜ್ಜಿ, ಅಪ್ಪ, ಅಮ್ಮ, ಮಕ್ಕಳು, ಅತ್ತೆ, ಮಾವ, ಅಕ್ಕ, ಭಾವ, ತಂಗಿ, ಭಾಮೈದ, ಅಣ್ಣ, ಅತ್ತಿಗೆ, ನಾದಿಸಿ, ಅವರ ಮಕ್ಕಳು ಈ ರೀತಿಯಾಗಿ ಎಲ್ಲರೂ ಒಟ್ಟಿಗೆ ಒಂದೇ ಮನೆಯಲ್ಲಿ ಇದ್ದುಕೊಂಡು, ಒಟ್ಟಿಗೆ ಊಟ ಮಾಡಿಕೊಂಡು ಅತ್ಯಂತ ಸಂತೋಷದಿಂದ ಜೀವಿಸುತ್ತಿದ್ದರು. ಇಂತಹ ಮನೆಗಳು ನಿಜವಾಗಿಯೂ ನಂದಗೋಕುಲದಂತಿರುತ್ತಿದ್ದವು . ಆದರೆ ಆ ಕಾಲ ಈಗ ಕೆಟ್ಟು ಎಕ್ಕುಟ್ಟಿ ಹೋಗಿದೆ.

ತನ್ನ ಪಾಡಿಗೆ ತಾನು, ಯಾರೊಬ್ಬರ ತಂಟೆಗೂ ಬರದೇ, ಮೂಲೆಯಲ್ಲಿ ಕುಳಿತು ಕೆಮ್ಮುತ್ತಾ ಲಲಿತಾ ಸದಸ್ಯನಾದ ಪುಸ್ತಕವನ್ನು ಪಠಿಸುತ್ತ ಇರುವ ತಾತ, ಅಂಬೆಗಾಲಿಡುತ್ತಿರುವ ಮಗುವಿನ ಚಲನವಲನದ ಮೇಲೆ ಸದಾ ನಿಗಾ ಇಟ್ಟಿರುವ ಅಜ್ಜಿ. ಈ ದೃಶ್ಯವನ್ನು ಆನಂದದಿಂದ ಕಾಣಲು ಆಗುತ್ತಿಲ್ಲವೇ? ಹಿರಿಯರಿಗೆ ಮೂರು ಹೊತ್ತು ಅನ್ನ ಮಾಡಿ ಹಾಕುವುದಕ್ಕೆ ನಮಗೆ ಕಷ್ಟವಾಗುತ್ತಿದೆಯೇ?

ನಮ್ಮ ಸಾಮಾಜಿಕ ವ್ಯವಸ್ಥೆಗೆ ಪಲ್ಲಟವಾಗುತ್ತಿರುವುದರಿಂದ ವಯೋವೃದ್ಧರು ನಮ್ಮದಿಯಿಂದ ಬದುಕುವ ಅವಕಾಶಗಳು ಕಡಿಮೆ ಆಗಿ ಸವಾಲುಗಳು ಬೆಚ್ಚಿದಷ್ಟಾಗಿವೆ. ಇಂತಹ ಪರಿಸ್ಥಿತಿಗೆ ಕಾರಣಗಳು ಬೇಕಾದಷ್ಟಿವೆ. ಮಕ್ಕಳು ಬೆಳೆದು ದೊಡ್ಡವರಾದ ಮೇಲೆ ಹೆಚ್ಚಿನ ವಿದ್ಯಾಭ್ಯಾಸಕ್ಕಾಗಿ ವಿದೇಶಕ್ಕೆ ಹಾರುತ್ತಾರೆ. ಹಣ ಸಂಪಾದನೆಯ ನೆಪದಲ್ಲಿ ಅಲ್ಲಿಯೇ ಸೆಟಲ್ ಆಗುತ್ತಾರೆ. ತಮ್ಮ ಪೋಷಕರ ಬಗ್ಗೆ ಕಿಂಚಿತ್ತೂ ಯೋಚಿಸದೆ ಅವರನ್ನು ವೃದ್ಧಾಶ್ರಮಗಳಿಗೆ ದೂಡಿ ಅವರನ್ನೇ ಮರೆತು ಹೋಗುತ್ತಾರೆ. ಅಬ್ಬ!.. ಅಬ್ಬಬಾಬ್!.. ಇದಂಥಾ ವಿಪರ್ಯಾಸ? . . ಇನ್ನು ಪೋಷಕರು ಸತ್ತಾಗ ಫ್ಲೆಟ್ ಸಿಗಲಿಲ್ಲವೆಂದು ಬಾರದ ಇರುವ, ಅವರ ಕರ್ಮ ಮಾಡದೇ ಸ್ವಲ್ಪವಾದರೂ ಪುಣ್ಯ ಕಟ್ಟಿಕೊಳ್ಳದೇ ಇರುವ ಪಾಪಿಗಳೂ ಈ ದೇಶದಲ್ಲಿ ಇದ್ದಾರೆ. ಇಂತಹವರು ಎಂತಹ ಕಟುಕರೆಂದು ನೀವೇ ಯೋಚಿಸಿ ನೋಡಿ.

ವೃದ್ಧಾಶ್ರಮಗಳಲ್ಲಿ ಅವರನ್ನು ಎಷ್ಟೇ ಚೆನ್ನಾಗಿ ನೋಡಿಕೊಂಡರೂ ತಮ್ಮ ಸ್ವಂತ ಮನೆಯ ವಾತಾವರಣ ಅವರಿಗೆ ಅಲ್ಲಿ ದೊರಕುವುದಿಲ್ಲ. ಅಲ್ಲವೇ? ಆದುದರಿಂದ, ವಯಸ್ಸಾದವರನ್ನು ಪ್ರೀತಿಯಿಂದ ನೋಡಿಕೊಳ್ಳುವ ಕಾಳಜಿ ಇರಬೇಕು. ನಮ್ಮ ಬಾಲ್ಯ, ಹರೆಯದಲ್ಲಿ ಅವರು ನೀಡಿದ ಪ್ರೀತಿಗೆ ಪ್ರೀತಿಯನ್ನು ನೀಡುವ ಮಮಕಾರ ಬೇಕು. ಮಕ್ಕಳ ಸಾಮೀಪ್ಯ, ಪ್ರೀತಿಯ ಮಾತುಕತೆ, ಒಡನಾಟ, ಕಾಳಜಿ, ಆರೈಕೆ, ಇವೆಲ್ಲವೂ ಅವರಿಗೆ ಅಗತ್ಯ. ಹಿರಿಯರು ಆನುಭವಗಳಿಂದ ತುಂಬಿದ ಕೊಡ. ವಯಸ್ಸಾಗುತ್ತಾ ಹೋದಂತೆ ಅವರ ಶಕ್ತಿಯೂ ಪ್ರಖರವಾಗುತ್ತಾ ಹೋಗುತ್ತದೆ. ವಯಸ್ಸಾಗುತ್ತಾ ಹಿರಿಯರು ಕಿರಿಯರ ಪಾಲಿನ ಆಸ್ತಿಗಳಾಗುತ್ತಾ ಹೋಗಬೇಕು. ಅವರ ಆನುಭವ, ಆಶೀರ್ವಾದಗಳು ಅತ್ಯಮೂಲ್ಯ ಸ್ವತ್ತುಗಳಾಗುತ್ತವೆ.

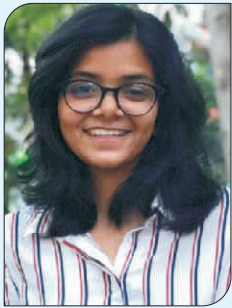
ಆದರೆ, ಅವರ ಬೆಲೆ ತಿಳಿಯದೆ, ನಾವು ಅವರನ್ನು ಕಡೆಗಣಿಸುತ್ತೇವೆ, ನಿಷ್ಪ್ರಯೋಜಕರಾಗಿ ಕಾಣುತ್ತೇವೆ, ಮನಸ್ಸನ್ನು ನೋಯಿಸಿ, ವೃದ್ಧಾಶ್ರಮಕ್ಕೆ ಸೇರಿಸಿ, ಸ್ವಾರ್ಥಿಗಳಾಗುತ್ತಿದ್ದೇವೆ. ಹೀಗೆ ಮಾನವೀಯ ಮೌಲ್ಯಗಳು ಆಧೋಗತಿಗೆ ಇಳಿಯುವುದು ಆಧುನಿಕ ಸಮಾಜದ ದುರಂತ. ಹಿರಿಯರನ್ನು ಅಭಿಮಾನಿಗಳಾಗಿ ಬಳಸಿಕೊಂಡು ಕಬ್ಬಿನ ಜಲ್ಲೆಯಂತೆ ಬಿಸಾಡುತ್ತೇವೆ. ಹಿರಿಯರು ರಸ ಮುಗಿದ ಕಬ್ಬಿನ ಜಲ್ಲೆಯಲ್ಲ. ಸದಾ ರಸ ಒಸರುವ ಜಿಲ್ಲೆಗಳು. ಅವರು ದೈಹಿಕವಾಗಿ ಅಸಮರ್ಥರಾದಾಗ ದೌರ್ಜನ್ಯ ಎಸಗುವ ಸ್ವಾರ್ಥಿಗಳು ನಾವೇ. ವೃದ್ಧಾಪ್ಯವನ್ನು ಮಾನದಂಡವಾಗಿ ಸಿಕ್ಕೊಂಡು ಆನುಭವದ ತೇಜಪುಂಬವಾಗಿರುವ ಹಿರಿಯರನ್ನು ಮೂಲೆಗುಂಪು ಮಾಡುವವರು ಸ್ವಾರ್ಥದ ಅಂಧಕಾರದಲ್ಲಿರುವವರು.

ಈ ಸೃಷ್ಟಿಯಲ್ಲಿ ಅತ್ಯಂತ ಶ್ರೇಷ್ಠವಾದಂತಹ ಆನುಬಂಧ, ಸ್ನೇಹ ಯಾವುದೆಂದರೆ, ಅದು ನಮ್ಮ ಜೀವನದ ಮೊದಲನೆಯ ಸ್ನೇಹಿತರಾದ ತಂದೆ-ತಾಯಂದಿರ ಸ್ನೇಹ. ತಾಯ್ಂದೆಯರ ಕುರಿತು, ಅವರು ತೋರುವಂತಹ ಪ್ರೇಮದ ಕುರಿತು ಬರೆಯಬೇಕಾದರೆ ಪುಟಗಳು ಸಾಲದೇ ಇರಬಹುದು. ಅದು ನಮ್ಮ ಜ್ಞಾನಕ್ಕೆ ಮೀರಿದುದು. ಆದ್ದರಿಂದ ಈ ಲೇಖನ ಓದಿದ ನಂತರವಾದರೂ ನಿಮ್ಮ ಮನೆಯಲ್ಲಿನ ಹಿರಿಯರನ್ನು ಚೆನ್ನಾಗಿ ನೋಡಿಕೊಳ್ಳುವಿರೆಂದು ಆಶಿಸುತ್ತೇನೆ.





## Gender and Artificial Intelligence



**Shruti Verma**

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Society's view of gender is at a critical point. The same is true for AI. So, how are these issues intersecting and what challenges are we facing in the realm of gender and artificial intelligence?

### AI is Overwhelmingly Female

In the US, 94.6% of secretaries and administrative assistants are women. Unsurprisingly, so is Siri. There are almost no major AI assistance projects that avoid this pitfall, and there isn't much push for improvement. While a few AI teams have focused on representation, others have presented further controversies.

These teams are turning to the development of “genderless” voices to avoid criticism, but in reality, what does it mean to have a “genderless” voice? Is it something that we cannot recognize as human, or is it a voice that belongs to the non-binary/queer community? Are we unwittingly pushing LGBTQ+ people into the second-class citizen category? We must grapple with these questions in order to develop socially responsible AI.

On the other hand, there are also visual AIs, and the problem here is not just that most are women, but also the hyper-sexualization. Unsurprisingly, the tone of this sexualization is geared towards white, heterosexual men. Fictitious AIs like ex-Machina have led to “real-world” celebrities like Lil Miquela, an Instagram celebrity/pop-star made with AI.

While she may be a manager's dream, women in this business have expressed this “woman-with-no-will” as their nightmare. This is the plot of Miley Cyrus's Black Mirror episode, where they turn her into a robot so her manager can have total control over her... Where are the male AI celebrities? When will women escape the innocent, submissive servant becomes a femme fatale narrative? AI doesn't seem to be helping.

### Bias

The problem originates from having a poor dataset, which underrepresents or misrepresents a certain group. When we train our models on this data, the model becomes biased as well. Here, we have a fill-in-the-blank model that is biased towards women because the text it was trained on contained data that reflected women this way. This problem is common not just for women, but for non-binaries and racial minorities also.

Perhaps the most popular example of bias is facial-recognition, where error-rates are higher for women's faces. It's even higher for people with darker skin-tones and Asian women. The answer to these issues seems to be to collect better data, more representative data. Furthermore, we should continue to evaluate error-rates for different demographics separately so we can improve our AI models.

However, if we eliminated this sort of biases, the question becomes: Should we use gender to inform AI decisions at all? A lot of recommender systems guess your gender (using your online behavior) and then make suggestions based on that guess. Is that okay? Does it re-enforce gendered stereotypes? Do we need to understand gender better so we can classify male/female bodies and use that to inform medicine? Can we ask the same questions about race?

We are only beginning to understand the importance of these questions of gender and artificial intelligence, and the ways that we can answer them. AI teams who are responsible tend to focus on the data collection to eliminate bias, but fall short of tackling these implications, and we must bring them further into the spotlight.

### Gendered Issues in the Workplace

The gender and artificial intelligence pay gap is not particularly bad in data science roles, but it is in data analytics roles (these are usually lower-paying jobs). Moreover, since the field is new, there is a great disparity when it comes to the psychology of the job market. Some people say that everyone in data science has imposter syndrome, but it's especially the women. Furthermore, men are likely to apply to a job where they meet 50% of the requirements or more, while women usually only apply if they meet 90% of the requirements or more.



Other common workplace issues also sip into the AI world, like harassment, and awkward, non-sensical power dynamics. While these aren't special to AI, they haunt the tech field with inequality and all its consequences.

There is also a disparity in the number of patents females file, and inappropriate maternal leave policies. If we look at the numbers, AI workplaces are still clearly extremely male-dominated.

### Conclusion

Our world is made up of biases. Even with the hardest efforts, we will still be biased human beings. It is thus important that teams building the future of our world with AI applications embrace internal diversity as much as they can, in order to create an inclusive AI and represent a right image of a multicultural society.

That's why we need not only more Women in AI, but more diversity in general. This can extend to the skin colour, religion, education, country, family, age and etc.



## DIRECT SELLING: A NEW APPROACH TO SUCCESS



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(1BY18CS046)

Direct selling, also known as Multi Level Marketing, MLM has become an extremely popular sales model across India. In direct selling, products are sold to consumers through demonstration, usually at the consumer's home or office. Direct selling can be undertaken by anyone and is largely dependent on the communication and interpersonal skill of the direct seller. The success of direct selling lies on the direct seller's ability to create a personal connect with the consumer. Direct selling provides the option of working flexible hours enabling housewives, students etc to pursue an additional career without much of a hassle. It can be said that the direct selling has been encouraging self-employment among people for years now. Global players such as Vestige, Amway, Oriflame have become homegrown companies in Direct Selling Industry. The Survey Report of the IDSA states, "The direct selling industry

in India has grown INR10,324cr in 2016-17 from INR7,472.2cr in 2013-14. This can be accounted to the growth in the number of Direct Sellers involved which has risen to around 5M in 2016-17 from 4M in 2015-16 showing a robust growth of 30.1%."

Regardless of the incremental growth in size and employment figure, industry has often been criticised for exploiting customer and disregarding business ethics. While all allegations cannot be baseless, a majority of them are believed to be mere hearsay. The general nescience towards direct selling can be attributed to the following reasons.

First, there is a common misconception amongst the public that all direct selling operations are pyramid schemes or Ponzi schemes.

The second reason could be the fact that the direct selling industry doesn't meet India's traditional norms of conducting business. The direct selling industry doesn't really follow the traditional concept of monthly salary and wages, and pays through an incentive structure depending on volumes of sales done by a direct seller.

The direct selling sector had been at the receiving end for many years, but has gradually evolved over the years. It has the potential to be a major driver in pushing growth and generating employment in the economy.



## Self Love & Healing



**Rishav Visen**  
1BY19CS118  
COMPUTER SCIENCE  
SECTION B

As we grow, love has changed our lives on a massive scale. We don't even know how to express them anymore. At times when we are alone we reminisce in past and count and cherish the moments where love affected our lives and made us what we are today. All of us had our part of breaking down on the way. Sometimes we picked our shattered pieces and tried to rejoin them resulting in utter failure. But yet here we are. Now we all learnt a bit of lesson didn't we? Learning the lesson wasn't easy. Healing through the pain and that too through yourselves? Its pretty tiring, right?! What if we had someone to help us through the pain process? But that would defeat the entire purpose of healing. It's a journey one has to take alone.

Healing is mandatory. It is the only journey that can make you realize the importance of self worth. And

remember this self worth is very important. I have no idea why some of us made ourselves to stand in positions we don't want to? Why are we doing things we hate? Why are we surrendering our souls to people who don't even know us? why are we begging for love? Why are we dying to make a place in heart of unknown? Why are we forgetting our capabilities? Why do we want people who don't want us? Why don't we think of people who really love us. That one person who came into our life and destroyed everything. Remember that person? Well let me tell you something that person didn't came on his/her own? He/she came because you allowed. Understand that thing. No one I repeat no one can just come and ruins things in your life until you allow them to. Simple as that. And remember between healing and finding your self worth don't ever go into self destruction mode. Never ever. Learn what is important and who all need your attention. Sometimes not reacting to things is always better. Learn who cares. Learn who wants you in their life. Learn where your escapes lie. Listen to your heart and then makes decisions. Listen to other's opinions but learn how to follow your intuition. learn what life made you learn. You just need time. Nothing else. Be strong. Don't give up. Find purpose again. Live for yourself. Cherish that small moments that give you happiness. Everyday be a better version of yourself you were a day before.



**YAQOOB QASIM SOFI**  
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The battle of Karbala took place between Imam Hussain Ibn Ali and his relatives and Umayyad caliph Yazid and his army. This battle which marks the death of the beloved grandson of prophet Muhammad (pbuh), is a common metaphor across Urdu literature.

The metaphor of Karbala is used to represent a symbol which bemoans all sorrow, to find an echo of his own loss of his mother, of the grief of a valley, misery of those left behind and heartache over someone's death.

Connecting Christianity with the Islamic faith, Jesus Christ (pbuh) weeping over the incident of Karbala that is to take place hundreds of years after. The son of God laments over the death of the grandson of the prophet in a battle which shall become the symbol of pain, loss and grief.

I learnt to savor poetry language through my mother who read out to me the poetry of Faiz and Begum Akhtar's ghazals. Memory, which was once only a theme read aloud as Faiz's poetry is now a reality which I constantly engage with- the memory of my mother which can't be translated. Similarly, the loss and grief in the stories of Karbala, once mere tales, now pierce through his heart.

I have had seen his mother weep for Zainab, as if her grief for her lost brother was her own. When Kashmiri elegies, given to Zainab, were sung for the my mother, we find the voice of the mother in those songs of



unbearable exile. My mother went from hospital to hospital, travelled from places to places and finally to Kashmir, just as Zainab moved across Karbala, Kufa and Damascus. Who is to say which grief was more, for what is grief if it can be measured? Zainab and the mother both were in exile, longing for home, which was a person to one and land to the other. The martyrs of Karbala were in exile too, butchered and left unburied outside their land.

The metaphor of Karbala is also seen to embody the history of a land. It remembers me the year 1992, “when for 2 years death had turned everyday in Kashmir into some family's Karbala”.

“Only Karbala could frame our grief” – for my own land which was once a “green grassy field” much like Karbala, now becomes “bloodied and looks like a field of poppies”, as did Karbala.

It is difficult to comprehend for anyone how such a night befell on the Prophet's own grandchild. And one must also then learn to negotiate with the reality of the horrid nights that continue to fall on the children of Kashmir, of Palestine, of yamen, of Syria, and of the world. Karbala once again becomes the symbol of resonating grief.

Let's moves across time, faith and religion to explore the universal phenomenon of pain. It is the potential of Karbala to reflect all possible dimensions of human suffering that I am so passionately engaged with it, that even the non-Urdu readers so easily resonate with the symbol as their own. Karbala then becomes their personal symbol of grief, loss, suffering and exile. For anyone who has ever felt loss, Karbala most fittingly resonates with him, thus fusing the personal and the political.



## The Pain of love



**Shafiq Shamal**  
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When you left me !  
Only my heart was not broken.  
Even! regularity of the world changed.  
Balance of the Earth got affected.  
When you left me !  
The sky broken down  
The sun became homeless,  
The stars lost their mother.  
When you left me !  
The Earth became silence  
The flow of rivers stopped  
The seas started crying  
When you left me !

Beauty of flowers went off  
Tulips and jasmynes faded away  
Roses lost their shine.  
When you left me !  
The Nightingales became feather less  
The parrots migrated somewhere else  
There was no sound of the birds in garden  
When you left me !  
All poets left writing romantic poems  
They all wrote sad and broken Ghazals  
When you left me!  
There was only me, The lover!  
Who still stood alive  
Who cried whole the nights  
Who made a romantic poetry house  
Who wrote poems from blood of the heart  
Who wrote all for you by tears of the eyes  
But you never felt it at least  
Yes!  
Let the world to know  
How Painful is the love?  
How it burns the heart?  
But even though!  
Still I love that pain



## MY JOURNEY AT BMSIT

**Arun .D**  
1BY17ME010

My heart is filled with great joy and pride as I recall my beautiful days spent in college.

It is now, in the final semester, that I have suddenly realised that I stand on the verge of the end of my college life.

At the time of admission we said, “So long is our college life!!”

But now I would say with great amazement, “So short is our college life!!”

To go to college every sweet morning, the routine of my college life, to attend class after class, to borrow books from library, the hustle and bustle during

semester exams, to spend time with friends, the friendly chatting with our teachers and many such memorable thoughts run through my mind at this moment.

The excitement and happiness that we get when we hold our first offer letter in hand after a successful placement drive is truly unbound.

I would definitely want to share with my juniors the greatest lesson that I had learnt in college: “Success is not permanent, Failure is not fatal, It is the courage to continue that counts.”

I wholeheartedly believe that our learning will not end in college, but will actually begin after our college life.

As it is always said, Every end has a new beginning.



## The adage(s)



**Bharathi R**  
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“**The best thing in life is free**” this famous quote was not said by any great personality or Philanthropist or scientist, it's a proverb which has great truth with lots of experience and profound thinking. The beauty of the proverb is the universality of their meaning, everyone can relate to them in some way and some level. Yet proverbs are unique to the local culture and society.

One, especially the youths, has to understand and adopt the proverbs according to the scenarios. It helps them building their life constructively & beautifully. “**A journey of thousand mile begins with a single step**” put forward the notion that, however difficult a task is, you can only complete it if you start it.

Proverbs are tutors which teaches the path of life in every stage. Its presence is conspicuous in every

successful men /women. Younger generation, future of our modern society, would immensely benefit if they become part of the “Proverbs club”. The proverbs not only educate the misled youth(s) but also teach them “**two wrongs don't make a right**”.

A proverb is a piece of advice that often people quote, something about life- “**laughter is the best medicine**”. When we are in difficult situation, laughing, can make it easier to get through the situations. Proverbs are 'sayings' that are passed from generation to generation transmit wisdom and general knowledge. “**Knowledge is power**” the more you know, the more powerful you can be in different areas of your life.

The busy schedule of life is making man to forget wisdom, truth, morals & tradition values of life. And he thinks “**the grass is always greener on other side**” Everything is either opportunity to grow or an obstacle to keep you from growing”. Sometimes the one thing we were searching for entire life was right there in front of us the whole time. Work harder to make good things to happen to us because “**God helps those who help themselves**”. Take risk in life and be bold and confident in your doings as “**Fortune favours the bold**” and bring success in our deeds. A man who fears suffering is already suffering from what he fears. We suffer more often in imagination than in reality.



Life is a wave because wave give us choices, while a straight line only has one choice, which is forwarded. We too go forward but we can go left, right, up, down and back-“**He who hesitates is lost**”.

Today man, especially young generation, with free mind loves to be with electronic gadgets and also so anxious about future that he / she doesn't enjoy the present. So To make the life cheerful, peaceful and enthusiastic, joyful, to come out of unnecessary challenges, we need to have a '**flavour of proverbs**'.



## The Use of Technology in Football



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The rapid expansion in the field of technology has given man the necessary tools to improve and implement various ideas in numerous fields. Automobile, Communication, Medicine are just some of the industries that have incorporated technology and have reaped the benefits of the same. One such field which is starting to indulge and make use of tech is Sports. Sports such as cricket, tennis, athletics, swimming, baseball, basketball and football are starting to use and come up with ideas, as to how to improve their respective sport. This article will deal with the incorporation of technology in football, the advantages and its scope.

The most common use of technology in all the sports is for analysis. From match and player analysis to financial strength of the club, analysis is one department where the use of technology is inevitable. However the sophisticated tools used now, were not available to the coaches and physios before. Thus we come across the type of technology that was prevalent back then and how it has evolved, along with the changes in the field of physiotherapy and refereeing.

The key area where technology has evolved is in training which includes the match and player analysis. Initially “scouts” were sent out to watch a particular team, or the coach himself would visit the team, his team were to play next. These techniques are still prevalent, however with the improvement and incorporation of video as feedback, many

analysts find it easy to breakdown the opposition's style of play and come up with suitable counter measures for the opponent from the comfort of their own workspace. Keeping track of the player's nutrition as well as maintaining a standard schedule for each player's fitness is easier, thereby helping the football club focus on the development of the footballer. Using the game- stats coaches can see what part of their team's game needs to be improved. Physios have also incorporated tech into their program to test and keep record of various parameters of the player, be it endurance, heart rate, distance covered, BP etc. During Sir Alex Ferguson's era as Manchester United manager, he felt it necessary to incorporate a rehabilitation facility for his players which had to be of the highest standard, with all the necessary tools required by the staff for the proper functioning. This included Scan machines, Cryogenic chambers (for fatigued or injured players), and various other tools. Manchester City, under the new ownership, back in 2008 also decided to remodel the training facilities and invested a lot in order to create a top training facility for the club. This helps in the overall recuperation of players as well as improves their morale, seeing the owners as well as the coaches put in effort to provide them with the best that they possibly can. This also attracts players and coaches from other clubs which may not have the resources to move to clubs with the “top” level facilities. Tottenham too decided to remodel their stadium (to increase capacity) as well as improve their training facilities under Mauricio Pochettino.

Furthermore the use of game footage has also improved the game massively, with coaches trying to exploit the weaknesses of various teams, we as spectators are shown various tactics that the team uses in order to win. Tactics such as “Gegen-Pressing” or Counter pressing (where the players mark the space between player and not the man) is only possible through match footage. Nowadays managers choose certain player that can not only adapt to their philosophy of playing but can cause problems for the opponent's system as well. Its

easier for coaches to target the players weaknesses via footage of their previous games, at the same time players get to work on their skills due to previous game footage. Thus the clubs now rely heavily on technology for training, recuperation and even recruitment of new players.

The recent implementation of Goal-line technology and VAR (Virtual Assistant Referee) has shown the strides the football community/organizations are taking to improve the sport of football. With the players and coaches complaining about a referee's decision to call a player offside or to disallow a goal or to not award a penalty, the use of VAR makes things much more easier for the match officials and even the players remain satisfied. The FIFA World Cup was the perfect stage to test this tech and the results were more than satisfactory. The famous Frank Lampard's disallowed goal against Germany at the World Cup in 2010, is something that can be easily

revoked thanks to implementation of Goal-line technology. These tools have been used by the referees in the past couple of years and have always ended up being the right decision.

There are debates however, that the use of these above mentioned tools by the referee slows down the pace of the game, as the referee has to pause the game to make a decision and that effects the atmosphere as well as the tide of the game. Many have their opinion on the use of technology for refereeing and there are few who believe that with ever changing times, the game has to evolve. That's why kit manufacturers such as Puma, Nike and Adidas have even modernized the kits of recent times to suit to the fast flowing football that clubs play nowadays (it has become more light and breathable), or else who wants to run with the cotton polo-shirts and shorts that were worn two- three decades ago. For 90 minutes!



## The College Life



**Tejaswini**

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According to David Daiches:

**“The lesser number of classes to be attended and the freedom of the student to come and go meant a completely new kind of academic World.”**

A College is dreamland of a student's academic career. It is a fascinating panorama of enjoyment, freedom and friendship. Sweet memories and pleasures of college life are simply amazing. The first and the last day, group of friends, unexpected holidays, functions of Curricular and extra-Curricular activities and adventures at hostels make College life the most memorable and unforgettable part of life.

**'College life' is that phase in one's life when one learns the most important lessons of life.'**

College life with more and more freedom and learning environment has a longer lasting effect on a student's life. The quality of the teachers and their

effective teaching styles really make college life exceptional. College life is completely different from school life. It gives us more exposure and also makes us more confident. Our teachers act more like friends in college, whereas in school they're like our mentors. Most importantly, college life gives us various challenges than our school life. Moreover, people always look back at the times spent in the college canteen. It was considered the hub of every student where they enjoyed eating and chatting away with their friends.

In college life, there is interaction with different people from different places and different families so that a student is able to know about different traditions and Styles. This has a good effect on personality. It also develops a spirit of unity, brotherhood and friendship. College life is basically a route towards professional education. From the professional point of view, college is the best place. It provides the best facilities and the best route to success. If a career is properly started the destination becomes quite easy. College life is a very memorable part of life and one's career.

In the end, I can say that college life is a beautiful blend of joys and memories. On the whole, every day spent in college is loaded with some colourful events such as freedom, special breaks, matches and functions. No doubt college life is an ideal part of academic life. Its charms can never fade away.

**“In life there is no retirement.**



### ಕರೋನ ಮತ್ತೆ ನವೋದ್ಯಮ

ಕರೋನ (COVID-19) ಮಹಾಮಾರಿಯೂ ಚೀನಾದ ಅಚಾತುರ್ಯದಿಂದ/ ಉದಾಸೀನದಿಂದ (?) ತನ್ನ ಕದಂಬ ಬಾಹುವನ್ನು ಚಾಚಿ ಪ್ರಪಂಚಾದ್ಯಂತ ಲಕ್ಷಾಂತರ ಜನರ ಸಾವಿಗೆ ಕಾರಣವಾಗಿದೆ. ಹಾಗೆ ನೋಡಿದರೆ ಅದೃಷ್ಟವಶಾತ್ ಇಲ್ಲಿಯವರೆಗೆ (ಮೆ 10) ಹೆಚ್ಚಿನ ಸಾವು ನಮ್ಮ ದೇಶದಲ್ಲಿ ಸಂಭವಿಸುವುದಿಲ್ಲ. ಭಾರತದಲ್ಲಿ 1918 ರಲ್ಲಿ ಬಂದ **ಸ್ಪ್ಯಾನಿಷ್ ಫ್ಲೂನಲ್ಲಿ** 18ಮಿಲಿಯನ್ ಅಂದರೆ ಸರಿಸುಮಾರು ಜನಸಂಖ್ಯೆಯ ಶೇಕಡ 6ರಷ್ಟು ಸಾವನ್ನಪ್ಪಿರುತ್ತಾರೆ. ಸ್ವಾತಂತ್ರ್ಯ ಪೂರ್ವದಲ್ಲಿ ಬಂದ ಮತ್ತೊಂದು ಮಹಾದುರಂತ '**ಬಂಗಾಳ ಬರಗಾಲ (Bengal famine)**'. 1943 ರಲ್ಲಿ ಕಾಣಿಸಿಕೊಂಡ ಈ ದುರಂತದಿಂದಾಗಿ ಸುಮಾರು ಎರಡರಿಂದ ಮೂರು ದಶಲಕ್ಷ ಜನರು ಹಸಿವಿನಿಂದ ಸಾವನ್ನಪ್ಪುತ್ತಾರೆ.

ಅದೇನೇ ಇರಲಿ ಕರೋನ ಸರ್ವವ್ಯಾಪಿ ವ್ಯಾಧಿಯು ತಂದೊಡ್ಡಿರುವ ಅಥವಾ ತಂದೊಡ್ಡಲಿರುವ ಆರ್ಥಿಕ ಸಂಕಷ್ಟ ಪ್ರಪಂಚದಲ್ಲಿನ ಯಾವುದೇ ದೇಶವೂ ಅದರಲ್ಲೂ ಭಾರತದಂತೆ ರಾಷ್ಟ್ರವು ಪುನಶ್ಚೇತನ ವಾಗಬೇಕಾದರೆ ವರ್ಷಗಳೇ ಬೇಕಾಗಬಹುದು ಎಂಬುದು ತಜ್ಞರ ಅಭಿಪ್ರಾಯ. ಒಂದು ಅಂದಾಜಿನ ಪ್ರಕಾರ ನಮ್ಮ ದೇಶದಲ್ಲಿ 47 ದಿನಗಳ ಲಾಕ್ ಡೌನ್ ನಿಂದಾಗಿ (ಮೆ 17ರವರೆಗೆ) ಆಗುವ ಆರ್ಥಿಕ ನಷ್ಟ 14 ಲಕ್ಷ ಕೋಟಿಗೂ ಹೆಚ್ಚಿರುತ್ತದೆ. ವಿಶ್ವ ಬ್ಯಾಂಕ್ ಭಾರತದ ಜಿಡಿಪಿ ದರವು ಶೇ 1.5 - 2.8 ರಷ್ಟು ಪ್ರಸ್ತುತ ಹಣಕಾಸಿನ ವರ್ಷದಲ್ಲಿರುತ್ತದೆ ಎಂದು ಹೇಳಿದೆ. ಜೊತೆಗೆ ಲಕ್ಷಾಂತರ ಜನರು ನಿರುದ್ಯೋಗಿಗಳಾಗಲಿದ್ದಾರೆಂದು ತಿಳಿಸಿದೆ. ಒಂದು ಮೂಲದ ಪ್ರಕಾರ ಸುಮಾರು ಭಾರತದ 40 ಕೋಟಿ ಜನರು ಬಡತನಕ್ಕೆ ದೂಡಿಲಿದ್ದಾರೆ ಎಂದು ಅಂದಾಜಿಸಲಾಗಿದೆ.

### ಆರ್ಥಿಕ ಪುನಶ್ಚೇತನ ಹೇಗೆ?

ಆರ್ಥಿಕ ಪುನಶ್ಚೇತನ ಆಗದೆ ಹೊರತು ನಿರುದ್ಯೋಗ ನಿವಾರಣೆಯಾಗದು. ಉದ್ಯೋಗವೂ ಸೃಷ್ಟಿಯಾದರೆ ಆರ್ಥಿಕತೆಯನ್ನು ಪುನಶ್ಚೇತನಗೊಳಿಸಬಹುದು. ಹಾಗಾದರೆ ಉದ್ಯೋಗವೂ ಸೃಷ್ಟಿಯಾಗುವುದಾದರೂ ಹೇಗೆ ? ಯಾರು ಮಾಡಬೇಕು? ನಾಗರಿಕರ/ ಸರ್ಕಾರದ ಪಾತ್ರವೇನು? ಈ ಎಲ್ಲಾ ಪ್ರಶ್ನೆಗಳು ಎಲ್ಲಾ ಕಾಲಘಟ್ಟದಲ್ಲೂ ಬಹುತೇಕ ಪ್ರಶ್ನೆಗಳಾಗಿಯೇ ಉಳಿದಿವೆ! ಕಾರಣ ನಾವು (ಹೆಚ್ಚಿನವರು) ಅದರಲ್ಲೂ ಯುವ ಸಮೂಹ ಉದ್ಯೋಗ ಬಯಸುವಂತರಾಗುತ್ತಾರೆಯೇ ಹೊರತು ಉದ್ಯೋಗ ಸೃಷ್ಟಿಕರ್ತರಾಗಿರುವುದಿಲ್ಲ!.

### ಕೃಷಿ ನವೋದ್ಯಮದಲ್ಲಿ ವಿಪುಲ ಅವಕಾಶಗಳು.

ಭಾರತ ಪ್ರಪಂಚದ ಐದನೇ ಬಹುದೊಡ್ಡ ಆರ್ಥಿಕತೆ ಹೊಂದಿರುವ ದೇಶ. ದೇಶದ ಆರ್ಥಿಕತೆಗೆ ಕೃಷಿ ಕ್ಷೇತ್ರದ ಪಾಲು ಬಹು ದೊಡ್ಡದು. ದೇಶದ ಜಿಡಿಪಿಗೆ ಶೇ 17-18 ರಷ್ಟು ಕೊಡುಗೆಯನ್ನು ನೀಡುತ್ತಿದೆ. ಅಲ್ಲದೆ ಕೃಷಿ ಕ್ಷೇತ್ರವು ಶೇ 43.21 ರಷ್ಟು ಉದ್ಯೋಗವನ್ನು ಸೃಷ್ಟಿಸಿದೆ. (ಕರೋನಾ ಮಹಾಮಾರಿಯೂ ಸೃಷ್ಟಿಸಿದ ಅವಾಂತರದಲ್ಲಿ ಈ ಕ್ಷೇತ್ರದಲ್ಲಿ ಅದೆಷ್ಟು ಮಂದಿ ನಿರುದ್ಯೋಗಿಗಳಾಗಿದ್ದಾರೆ ಇನ್ನಷ್ಟೇ ತಿಳಿಯಬೇಕಿದೆ). ಸ್ವಾತಂತ್ರ್ಯ ಬಂದು ಏಳು ದಶಕಗಳಾದರೂ ಕೃಷಿ ಉತ್ಪನ್ನಗಳಿಗೆ ಸರಿಯಾದ ಮಾರುಕಟ್ಟೆ ದೊರಕುತ್ತಿರುವುದು ವಿಪರ್ಯಾಸ. '**ಲಾಕ್ ಡೌನ್ ಭಾರತದಲ್ಲಿ**' ಕೃಷಿಕರ ಸಮಸ್ಯೆಯಂತೂ ಹೇಳತೀರದು! ಹೆಚ್ಚು ಹೆಚ್ಚು ನವೋದ್ಯಮಗಳು ಕೃಷಿ ಕ್ಷೇತ್ರದಲ್ಲಿ (ಸಾವಯವ ಕೃಷಿ, ಸಮಗ್ರ ಕೃಷಿ, ಕೃಷಿ ಉಪ ಉತ್ಪನ್ನಗಳು, ಬೀಜ ಉತ್ಪಾದನೆ, ಹೈನುಗಾರಿಕೆ, ತೋಟಗಾರಿಕೆ, ಅರಣ್ಯ ಕೃಷಿ ಇತ್ಯಾದಿ) ಆಶಾಕಿರಣ ವಾಗಬಹುದು. ನ್ಯಾಸ್ಕಾಂ ಪ್ರಕಾರ ದೇಶದಲ್ಲಿ 450ಕ್ಕೂ ಹೆಚ್ಚು ಕೃಷಿಗೆ ಸಂಬಂಧಿಸಿದ ನವೋದ್ಯಮಗಳು ಪ್ರಾರಂಭವಾಗಿದೆ. ಇದು ದೇಶದ ಒಟ್ಟಾರೆ ನವೋದ್ಯಮಗಳಲ್ಲಿ ಶೇ 5ರಷ್ಟು ಮಾತ್ರ! ಈ ವಿಪುಲ ಅವಕಾಶವನ್ನು ನಾವು ಸದಾವಕಾಶವಾಗಿ ಬಳಸಿಕೊಂಡರೆ ಹೆಚ್ಚು ಉದ್ಯೋಗಗಳ ಸೃಷ್ಟಿಯ ಜೊತೆಗೆ ರೈತರ ವರಮಾನವನ್ನು ಹೆಚ್ಚಿಸಬಹುದು ಅಲ್ಲದೆ ಬಹುದಿನಗಳ ಬೇಡಿಕೆಯಾದ ಕೈಗಾರಿಕಾ ಸ್ಥಾನಮಾನವನ್ನು ಕೃಷಿ ಕ್ಷೇತ್ರಕ್ಕೆ ಕಲ್ಪಿಸಬಹುದು. ಭಾರತದ ಉತ್ಪನ್ನಗಳು ಚೀನಾದ ಉತ್ಪನ್ನಗಳನ್ನು ಬದಲಿಸಿದರೆ ಸರಿ ಸುಮಾರು 15 ಲಕ್ಷ ಕೋಟಿಗೂ ಹೆಚ್ಚು ಹಣವನ್ನು ಉಳಿತಾಯ ಮಾಡಬಹುದು! ಭಾರತ ಸರ್ಕಾರದ **ಮೇಕ್ ಇನ್ ಇಂಡಿಯಾ** ಕಾರ್ಯಕ್ರಮ ಇನ್ನು ಹೆಚ್ಚಿನ ಪ್ರಮಾಣದಲ್ಲಿ ಅನುಷ್ಠಾನವಾಗಬೇಕಾಗಿದೆ. ಇದರ ಜವಾಬ್ದಾರಿ ನಮ್ಮ ಮೇಲಿದೆ.

Bharathi R  
Dept. of CSE





# HAPPINESS

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*Happiness is something,  
which you cannot buy.  
It all starts with a  
beautiful smile,  
just give it a try.  
Look within yourself,  
when times are blue.  
Happiness is something,  
that resides in you.  
It sends a tingle,  
through your bones.  
It makes you talk,  
in cheerful tones.  
Happiness begins by,  
crying out all the tears away.  
Happiness is something,  
you don't experience everyday.  
People try to steal it,  
they possibly could.  
Try hard to guard it,  
you probably should.  
Always within you,  
it's yours to keep.  
Never let the world  
take away,  
something so deep.  
It doesn't come with a cost,  
it is absolutely free.  
A smile on people's face,  
brings so much happiness to me.*

~S



## **LIFE**

Even if you run,  
or choose to walk.  
Life gets depleted,  
just like a chalk.  
Time is moving on,  
tick-tock...tick-tock.  
Life is not a joke,  
it's a human's clock.  
As years fly by,  
all the friendships die.  
You never know,  
when you'll say your last goodbye.  
Some care about their lives,  
some waste it away.  
It does really matter,  
because life will end someday.  
Life can be stormy,  
can be a roller coaster ride so wild.  
Until it blows over  
and breathes like a child.  
As you grow,  
things get tough and you don't want to try.  
As a child, you live a life and don't worry why.  
"The rich actually live poor lives"  
sounds like an irony.  
Living life with a purpose,  
makes you greater than many.  
As you grow older,  
you will start to wonder.  
"Why couldn't I enjoy life?"  
"Was it just a blunder?"  
So, love your life,  
like there is no tomorrow.  
Putting aside the negatives,  
Let your positive side glow.  
Open your arms so wide,  
to life.  
Trust me,  
life will hug you back.  
Always love your life to the fullest,  
you'll never go off-track.

~S

## MOM

Mom,  
you are everything a mother should be.  
can never express in words,  
how much you mean to me.  
We laugh, we smile,  
at times we fight.  
In the darkest of days,  
you are my guiding-light.  
A shoulder to cry on,  
many secrets to share.  
Showing love in different ways,  
you always care.  
Making you happy,  
would always be my pleasure.  
The moments we spend,  
forever I'll treasure.  
From preparing good food,  
full of warmth and love.  
You're an angel with beautiful wings,  
a blessing from above.  
Covering me with your arms,  
when there's heavy rain.  
Behaving like a cushion,  
when I'm in immense pain.  
For all the mistakes committed,  
you forgive me  
before I apologize.  
There is nothing greater in this world,  
than a mother's sacrifice.  
Every husband is blessed,  
with a beautiful wife.  
Mom,  
you're always the,  
love of my life.

~S



## Trading - The action or activity of buying and selling goods and services.



**Harshit**

USN: 1BY18ISo51

### TYPES OF TRADING

#### DAY TRADING (INTRADAY)

- It involves taking a position in the markets with a view of squaring that position before end of the day.
- A day trader typically trades several times a day looking for fractions of a point to a few points per trade, but who close out all their position by day ends.
- The goals of a day trader is to capitalize on price movement within one trading day.

losses that occurs when the stock market is closed due to news that can affect the prices of your stock. Day trading is further divided into:

**SCLAPERS:** This style of day trading involves the rapid and repeated buying and selling of a large volume of stocks within seconds or minutes. Real day trader means not holding onto your stock position beyond the current trading day, in other words not holding any position overnight. This is really the safest way to do trading because you are not exposed to the potential

**MOMENTUM TRADING:** This style of day trading involves identifying and trading stocks that are in a moving pattern during the day in an attempt to buy such stocks at bottom and sell at top.

#### ADVANTAGES:

- Zero overnight risk.
- Profit in any market direction

#### SWING TRADING

Swing trading combines the best of two works the slower pace of investing and increased potential gains of day trading .Swing trading hold stock for days or weeks playing the general upward and downward trends.

The basic strategy of swing trading is to jump into a strongly trending stocks after its period of consolidation or correction is complete.

- One then sells the stocks after 2 to 7 days for a 5-25% move. The process can be repeated over and over again. One can also play the short side by shorting stocks that fall through support levels.

Swing trading works will for part time traders especially those doing it while at work. With day trading ,the only person getting rich is the broker.

- To understand swing trading you need to understand what is up/down trends are: Up Trend : Simply put an Up trend is a series of higher highs and lower lows.

**Down Trend:** Simply put a Down trend is a series of lower highs and lower lows.

#### TREND TRADING

A trend is nothing but the general direction of the price of an asset or market in general.

- Trend trading is one of the most effective and easy to use methods for making money in the market. Trend Trading success depends on identifying and catching the trend after it has started and getting out of the trend as soon as possible after the trend reverses.
- Trend trading involves taking a position in the markets with a view of holding that position in the markets with a view of holding that position for weeks to months for larger than normal gains. Trend trading or investors generally track the long term they are not concerned with day to day market volatility.

#### TIPS FOR TRADING

- Do your research.
- Set goals.
- Know the market requirements.
- Choose strong companies.
- Always deal with registered brokers.
- Know all risk levels.
- Improve your emotional quotient.
- Be wise and do not trust easily.
- Know how to predict the future of the shares.
- Avoid investment based on price.
- Be careful when buying any shares.
- Do not be tempted by the performance of the sector.

## Sashi Vangapalli — My Journey To Achieving My Dreams



**R Deeksha**

USN: 1BY19IS126

***“I had a dream. A beautiful one, and I believed in it and I dived in.” — Sashi Vangapalli***

Having grown up in a society where everyone believed that the life of a woman is all about getting married, having kids and staying confined in the four walls, she chose to take the road less traveled. For a major part of her life, Shashi Vangapalli wasn't doing what she wanted to do. Neither did she know where her heart belonged to. Worse still, rebuffs came in abundance. She was rejected 42 times by prospective grooms and a week before her dream which she crafted with sweat and blood, the launch of her store, the building burned down to ashes. However, like they say, the universe always falls in love with a stubborn heart. And like the proverbial phoenix, she rose from the ashes.

She was not born with a silver spoon, her parents faced their share of challenges to raise her, but they ensured that she gets proper education and become financially independent. Holding a degree in IT, the fashion industry seemed totally far-fetched, but she soon realized that 9 to 5 job is not her cup of tea and she won't play it safe out of fear or pressure.

As they say if you have passion for learning, you never cease to grow. Five years back, she would have never thought that she would reach this far. She had her professional setbacks but the only thing that kept her going was her passion towards exploring the fashion industry and her undeterred spirit to make it big in the fashion world. And now there's no turning back.

I feel proud when I see the women today working hard towards achieving their dreams, exploring uncharted territories and not following the conventions but their hearts. These are the women who dare to dream and break the barriers. I am often asked how do I define beauty. For me, the real beauty is about being confident, it is about your charisma,

your character — about what you actually are. Clothing and makeup are just a part; the essence always lies within you, deep beneath the skin. With a vision to leave a positive impact in the world, I have always believed in challenging the status quo and not be defined by the standards set by the society. I am here to do my bit and will contribute my part. Being a strong advocate of women empowerment, I have always believed that if women are supported and encouraged, there are endless possibilities for them and they can define themselves the way they want. This is what I envision. It is not going to be an easy path, but this is what my dream is. This is what I am here for.

I would say hard work and persistence are keys to success. You are going to fail in life; fail so badly that you won't be able to get up right away. But, don't quit. Success doesn't happen overnight. Before you set off for anything, you should know what you love.

At a recent press meet held at Radisson Blu, Banjara Hills, Sashi Vangapalli accompanied by her dear friend Sushmita Sen, talked about her experiences at The Cannes Film Festival 2017 and announced the launch of her upcoming flagship store in Hyderabad. Expressing her joy of being the first fashion designer from Hyderabad to showcase her collection 'Reverie' at the film festival, she shared with all her moments of ecstasy at one of the most star-studded festivals of the world where she got the chance to walk the red carpet with the well-known faces of the film fraternity.

Sashi also recounted her journey when she started her label “Mugdha Art Studio” in the year 2012, and how in a very short period of time, she was able to garner admiration and commendations for her beautiful designs created with a fusion of western silhouettes and Indian embellishments. Known for her wedding couture, Sashi has crafted exclusive pieces with intricate designs under “Sashi Vangapalli — The Label” — a label that primarily focuses on creating designer clothing for the new age Indian woman. Taking inspiration from people, places and nature, she has also showcased her collection “Bidariya” at the Lakme Fashion Week Summer Resort 2017. One of the most striking outfits at Lakme was donned by Sushmita Sen, who was her show stopper for the event. Besides that, she has also designed beautiful outfits for celebrities like Sushmita Sen, Tapsee Pannu, Kajal Aggarwal, Neha Dhupia, Laxmi Rai and many more.



## LIGHT UP A FLAME



**Nagashree D S**  
USN: 1BY19IS102

Consistent hard work brings success in one's life. An accomplished person achieves it crossing any number of hurdles and by acquiring the necessary mental ability of high order. It is said that GOLD shines only after passing through fire. Thus, a person who has reached the stage of competence in his field should show the way to his young followers. This can be easily understood by the examples in our daily life.

It is only a well experienced teacher who can make the students look into the depth of things. Only an experienced driver can carve skilled workers out of his juniors. He can make them aware of the various pit-falls and how to steer clear of them.

A society evolves itself with the contribution of its members. It is thus essential for each one of us to pass our knowledge on to our younger generation. A person may be very talented, educated or accomplished. Since he owes a lot to the society from which he emerges as a person of that repute, passing knowledge on to others thus becomes his sacred duty in the interest of social development. A person who fails in his duty in this aspect has in real sense not achieved anything in life. A little knowledge gained and passed further is better than achieving excellence and keeping to one's own self.



## AHEAD



**Sneha**  
USN: 1BY18IS409

The thicket of tall and dense trees  
With snow dressed over the ice as thick as a dozen  
of Bear's fur. Well, every moment is life on the edge  
of knife.  
Can I cross this sea?  
The sea lurking full of pleasures waiting to pull me  
down to the rickets of ice and down to the ice  
stinging every last bit of me and also the delusional  
pleasures.  
But, is there any brink of light I could catch up to,  
Which could make me soar to the skies.  
Is there anything other than shimmering yet fragile  
ice? My eyes shoot up to the distance.  
The thick trees disperse the garish sunlight light  
into several little torch lights. Making it impossible  
to choose the right brim light out of the infinite.  
I watch.

Some of the mare so convincing , seem so easy I  
just want to follow them.  
But, I am not sure if I would be satisfied even If I  
reach the destination they lead me to. Then, there  
are others which I'm not sure if there's any  
destination a tall. Since the lights areas thick as a  
pine needle.  
The path too seems to be a rough one. Can I survive  
the path?  
I am not sure.  
I would be up above the stars if I reach the city.  
If I didn't ,I will be happy and satisfied that I tried .  
would love to be lost here where I'm satisfied than  
to be in the city I don't belong.  
Even if the mocking birds sing as they always do. I  
am still here, choosing a path,  
Well, we all are still here choosing the paths,  
The paths which are decent enough to a decent city  
but,  
the paths which might be rough and a death blow  
yet satisfying.  
All we want to do Is try to stamp our footprints ,  
Stamp them in the Sands of time.  
Which would remain for the eternity to come.  
Speaking the tales of our journey for ever and ever  
and ever.



## Floating Thoughts



**Aftab Ahmed**  
USN: 1BY19IS011

I never thought someone could move me like this. I have always been like the sand of the beach. Meeting different waves every other minute. But this particular wave had something in it. Something that I hadn't seen anytime before. It moved me and pulled me into the ocean. Now I am lost in this ocean of confusion. Waiting for the wave to come, Or just waiting to go back to the shores. Because honestly, even i don't know where I belong.



## Nee Illatha



**Samuel Sampath Kumar**  
USN: 1BY19IS14

Vaa uyire vaa endhan tholil nee sayandhukol Enthan uyire nee thane penne (2)

Oh penne oh penne, nee illomal ponnal penne Azaghe, en azaghe ennai thandi pogirai yen anbe (2)

Nee illatha uilagam vendame Kadhaliye yennai verukathey (2)

Dhuram sendralum enthan ninaivugalai marapaayo Sariyum thavarugalum athai nee unarvayo (2)

Oru paravai pola kundil maatikondirukiren penne Oru saavi kondu vaa ennai thurandhuvidu anbe (2)

Nee illatha uilagam vendame Kaadhaliye Yennai Verukathey (2)

Thunaigal irunthalam oru thanimai ennil unargireneThapika vazhi irrundhum athai naan marukinren Veyilum pataalum oru irrulin oliyil nadakirene Oru thunil saygirene...

Oh penne Oh penne, nee illamal ponnal penne Azaghe, en azaghe ennai thandi pogirai yen anhe (2)

Nee illatha ullagam undame Kaadhaliye yennai verukathey (2)



## The Definition of a Hero



**Navedya Ojha**  
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Many have their takes on what they define as a superhero. Some would say they should be courageous and should be able to take on any challenge head-on. Others would say they should

be charismatic and influence those around them to be better. Personally, the concept of Unsung Heroes fascinates me. Working hard in the shadows to make the world a better place and fulfilling their roles, as mundane it may be.

This article would enlist a few characters I have identified as unsung heroes. The list of heroes is both from anime and movies.

Honestly, this was a no-brainer. The doctor had always been ardent and extremely loyal to his socially inept friend and even accepted his shortcomings (Yes, I am referring to Sherlock Holmes). The character is quite resourceful and



makes prudent choices when facing adversity. He was the rock, the foundation on which Holmes stood to shine and portray his brilliant deductive skills.



**Dr. Watson**



**Itachi Uchiha**

For those who are unaware of this name, this character exists in the famous anime & manga series - Naruto. There is already a lot of love for this character online. To me, he truly defines the meaning of an unsung hero. The ability to see the bigger picture and make decisions that may not be accepted by all or the fact that some might not have the courage to make such a decision (massacring his entire clan, for the peace of the village) makes him a great character. The maturity shown by Itachi from a young age is also quite moving. His self-sacrifice attitude and the ability to make rational decisions under various circumstances is inspiring.



**Dr. Strange**

After watching Infinity War, it was quite clear to me that Dr. Steven Strange was the MVP of the movie. I think I am in the majority here when I say he was the MVP of the movie. In the film, Thanos says something along the lines of never once using the greatest weapon Strange possessed, referring to the Time Stone. However, the brilliance of that particular

scene is that Strange had foreseen the outcomes of the battle using the power of the time stone. He planned to ensure the Avengers beat Thanos post-snap. I mean the man saw himself die and was like meh. To be able to do that is quite impressive. But again, he did not mind dying multiple times in his stand-alone movie as well. You know the scene, Dormammu! I have come to bargain.



**Kisuke Urahara**

This character for those of you who do not know is from the anime & manga series called Bleach. In it, he portrays himself as a thoughtless shopkeeper but in reality, it is quite the opposite. He is quite skillful and resourceful. He is the former captain of squad 12, in the 13 Court Guard Squads (Gotei 13). He is a strong-willed character and has quite an affable personality. The plot revolves around his past, the decisions he has made, which makes him an intrinsic character in the series. Kisuke, like Itachi and Dr. Strange, tends to keep the bigger picture in mind. He has come to Ichigo's (Ichigo is the protagonist of the series) aid multiple times in the series (literally restoring Ichigo's power twice).

One does not need to have superpowers to be a Hero. The times we are in has already shown us that. We must value the contribution of doctors, nurses, policemen, and women during these testing times. We must be grateful for their efforts and the roles that they play to ensure our safety and comfort. They are the Dark Knight of our time. These heroes have similar qualities that I mentioned before in this article. The ability to face challenges head-on, to stay calm under various circumstances and to value other lives above their own. That's what makes someone a HERO.

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### ಪ್ರೇಮಿಯ ಪ್ರೇಮ ಕವಿತೆ

ಬಾರದ ನಿದ್ರೆಯಿಂದೆದ್ದು ನಾ ಬರೆದೆ ಭವದ ಭಾವಗೀತೆಯ ನನ್ನ ಭಾಮೆಗಾಗಿ....

ಊಹೆಗೂ ಮೀರಿದ ಊರ್ವಶಿಯು ನೀನು...

ಊರಿಂದ ಊರಿಗೆ ಬಂದ ಓರ್ವ ನಾನು...

ಉದಾರಿಯಾಗಿ ನೀಡುವೆಯ ನೀನ್ನೆದೆಯಲಿ ಸೂರು. ...?

ಉದಾರಿಯಾಗಿ ಸಿಗುವವರು ನೂರು...,

ಉದಾಹರಣೆಯಾಗಿ ನಿಂತವ ನ ಜೂರು ...!!

ಕಾಣದೆ ಕಡಲೊಳು ಕಂಡ ಕನಸು ನನ್ನದು.., ಕಂಡ ಕಾಲೇಜಿನ ಕನ್ಯೆಯು ನೀನು...

ಕಲಿತ ಕವಿಯು ನಾನಲ್ಲ, ಕವನ ಸಂಕಲನ ಗೊತ್ತಿಲ್ಲ, ಆದರೂ ನಿನಗಾಗಿ ನಾ ಬರೆದೆ

ಈ ಒ'ಲವಿ'ನೋಲೆಯ ನಿನ್ನ ಮುಂದೆ ಓದಲಾಗದೆ...!!

- ಹೊ ಚಂ ಕೀ

### ಮನಸಿನಾ ಮುನಿಸು

ಮನಸಿನ ಮನೆಯ ಮೂಲೆಯಲ್ಲೊಂದು ಮುನಿಸ ಕೇಳ ಓ ಮರುಳಸಿದ್ಧವೇ...

ಬದುಕೆಂಬ ಬಣವೆಯಲಿ ಕನಸೆಂಬ ಹುಲ್ಲನೇರಿದೆನು ಬಲು ಭಾರದಿಂದ,

ಹಸಿವೆಯ ಬವಣೆಯಿಂದ ಹಿರಿದಿರಿದು ಕಿತ್ತರು ಭರದಿಂದ, ನನ್ನ ಕನಸೆಂಬ ಹುಲ್ಲನು

ಬಡತನದ ಬರದಿಂದ...!!

- ಹೊ ಚಂ ಕೀ





## ARTIFICIAL INTELLIGENCE: THE FUTURE OF HUMANKIND?



**DEEPTHI PAVANIKA R**

6<sup>th</sup> Semester,  
A Section

When someone begins speaking about robots taking over the world, most would label that person as a conspiracy theorist, or a sci-fi nerd. Not many would think that such a sentiment would be voiced by a world renowned and highly reputed scientist like Dr. Stephen Hawking. Dr. Hawking explained his belief that artificial intelligence (AI) has a very real chance of surpassing human intelligence.

### What Is Artificial Intelligence?

Artificial intelligence, or AI, is the development of computer programs with similar abilities to human intelligence, such as voice recognition, speech, or decision-making. Whether you realize it or not, AI is all around us.

Artificial intelligence is software built to learn or problem solve — processes typically performed in the human brain. Digital assistants like Amazon's Alexa and Apple's Siri, along with Tesla's Autopilot, are all powered by AI. Some forms of AI can even create visual art or write songs. When AI was first created, it was nowhere near as complex as it is today. In 1956, scientists and students attended a conference at Dartmouth College where they discussed the concept. At this conference, the term “artificial intelligence” was coined. The conference led to a boom in AI development, mostly occurring

at Dartmouth.

In just the last few years, “machine learning” has come to seem like the new path forward. Algorithms, freed from human programmers, are training themselves on massive data sets and producing results that have shocked even the optimists in the field. Earlier this year, two AIs—one created by the Chinese company Alibaba and the other by Microsoft—beat a team of two-legged competitors in a Stanford reading- comprehension test. The algorithms “read” a series of Wikipedia entries on things like the rise of Genghis Khan and the Apollo space program and then answered a series of questions about them more accurately than people did. One Alibaba scientist declared the victory a “milestone”.

### Two Views of the Future

With this increase in the capabilities of AI, many leading scientists hypothesize that AI will overtake human intelligence. From there, the question arises: *What does this mean for the future of mankind?*

According to Hawking, once the human advancement of technology reaches a certain threshold, computers will have the ability to evolve and develop on their own. And if computers are in control of their own evolution, they will certainly evolve faster than humans, who are limited by natural biological evolution. They would eventually have more capabilities than even the humans that created them.

Some computer scientists believe that AI can be a good thing. Charlie Ortiz, at the software company Nuance Communication, feels that increased AI might be useful to solve current problems that human intelligence cannot. There is no reason to assume that AI will work to harm us even if it becomes more complex than human intelligence.



## A VISIT TO MY DREAMLAND



**Gloria Tauro B,**  
ECE, 6<sup>th</sup> semester,  
B section

After watching the movie Baby's Day Out that had portrayed the picturesque beauty of England I had started acting like a fish out of water. At any cost I wanted to visit this paradise once in my life time. By Gods grace my uncle got permanent citizenship of UK and was inviting my parents to stay with him during holidays. But every time we planned for a tour either any impediment would emerge or our vacations wouldn't match. At last as all four of us wanted an escapade from our humdrum activities we decided to spend two weeks in London.

Thanks to my uncle, he had arranged our tour in the last two weeks of May so that we could experience the chilly mornings, see the sun rising at around four in the morning and setting at around 9.30 in the so called bright night with occasional drizzle in between the day. We had the pleasure of savouring Indian delicacies offered by my aunt both in the morning and evening. Only in the noon we tasted bacon, sausages, ham, hotdogs, burgers (most of which had the baked meat with lightly sprinkled salt and pepper), pure fruit juices without added flavours and colours, different flavoured yoghurts, tender coconut milk and so on.

On the first day we decided to visit the fascinating Blue planet- a sea life aquarium at Manchester that transported us into the amazing underwater world. Miraculously huge ocean blue tanks with slimy, scaly, huge and gorgeous fishes made goose bumps crawl all over my skin. A breeze of cool air from inside the box hit my face and the sound of fishes gliding in the water created ripples in my stomach. My eyes sparkled with joy and my heart started beating with rapid rhythm seeing huge sharks diving with two men. They were calling me to dive in and I was super excited to do so. I looked at my mom with pleading eyes. But, seeing the ambush predator my brother started shivering in his jacket and my mom said a clear 'NO'.

The next day was our unforgettable visit to the Sand Castle Water Park. This is one of the largest water parks in the world situated in Blackpool. It has around 10 deadliest most scary amusing rides. I was the only one who enjoyed almost 8 rides. But the eighth ride became horrendous because I literally turned 360 degrees forming a circle in the forward direction which created butterflies in my tummy. But the real thrill was when it took the same rotation in the reverse direction and then slid to make a straight line; Oh my gosh! My head started reeling. My heart came to my mouth. And I screamed NO More. In every ride safety measures were excellent. A lady came and explained the whole ride in her Americanised British accent which we all understood (thanks to all English movies we watched). The best ride was the roller coaster. It went 82 feet above the ground from where I could see the whole city and the horizon of the river Valhalla. It was the best sight of my life until the drop of 80 degrees took place at a speed of 50mph with twists and turns, and swish and swash I went. When they showed my picture on the computer and asked me which pose I wanted my family laughed on my face. All pictures of mine had my eyes popping out with my mouth wide open. Therefore, I decided to leave it for them to keep it in the museum.

In the evening we travelled on a tube, 58 meters below the ground level and then sailed on the river Thames and walked on the famous bridge in the world "Tower Bridge" singing "London Bridge is falling down". The visit to madam Tussauds wax museum in London was fabulous. I was in the 7th heaven while clicking a picture with most humble achiever of the world Husain Bolt in his style. My brother was jumping with joy because he got a chance to take selfie with batman, Spiderman and especially with Mahatma Gandhi. I was not getting up from the place I sat. Not because I was tired walking solong. But ...you know who was next to me. The four handsome boys of the famous band One Direction and next to them was Marvel heroes. Thus we spent the whole day walking in and out of this historic museum. In the night we had an amazing barbecue party and all my cousin's came home with different delicacies.

Next day we had been to the superlative London eye built alongside of river Thames. You just enter and sit in that beautiful glass capsule of the giant wheel that spins very slowly just to give you an incredible view of the entire city. The whole round takes 30 minutes which is worth standing an hour in the long



queue. The stupendous experience when you reach 400 feet high and get the picturesque beauty of the whole city at one site words cannot explain.

We also got a chance to visit Lake District, Cambridge University, Big Ben, Buckingham palace, overview of London on the open top double Decker Red Bus and so on.

Fifteen days got over within the blink of eyes. On the last two days we were taken to Trafford shopping centre where we bought everything that was needed free of cost (I mean my uncle and aunt paid for everything). My whole family remains indebted to his them forever for the royal treatment offered to us. This is my most unforgettable experience in life.



## The unsung heroes



**Surabhi B Seshadri**  
8<sup>th</sup> sem ECE,  
B section

They walked towards enemies as they knew no death,  
With their heads held high and their nation in every breath;  
When we were playing the number game with our wealth,  
Without giving a thought about our protectors' health.

A mother, a wife, a daughter and a son,  
Frantically waiting for their hero to arrive,  
Before they realize their joy had just begun,  
In a life filled with agony they thrive.

When we are joyously living a life of opulence,  
They are battling with heat, cold and hunger,  
Striving hard to protect us with utmost competence,  
Well aware that the following nights are getting darker.

Let us consider remembering these martyrs,  
And come out of our world filled with delusions,  
Let us be more sensitive to the sacrifices of our brothers,  
For the blissful life of ours is just an illusion.



## 5G Mobile Wireless Technology



**Nimish Gireesh,**  
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B section

The 5G mobile cellular communications system provides a far higher level of performance than the previous generations of mobile communications systems. The new 5G technology is not just the next version of mobile communications, evolving from 1G to 2G, 3G, 4G and now 5G. Instead 5G technology is

very different. Previous systems had evolved driven more by what could be done with the latest technology. The new 5G technology has been driven by specific uses and applications.

5G has been driven by the need to provide ubiquitous connectivity for applications as diverse as automotive communications, remote control with haptic style feedback, huge video downloads, as well as the very low data rate applications like remote sensors and what is being termed the IoT, Internet of Things.

### 5G cellular systems overview

As the different generations of cellular telecommunications have evolved, each one has brought its own improvements. The same will be true

of 5G technology. First generation, 1G: These phones were analogue and were the first mobile or cellular phones to be used. Although revolutionary in their time they offered very low levels of spectrum efficiency and security. Second generation, 2G: These were based around digital technology and offered much better spectrum efficiency, security and new features such as text messages and low data rate communications. Third generation, 3G: The aim of this technology was to provide high speed data. The original technology was enhanced to allow data up to 14 Mbps and more. Fourth generation, 4G: This was an all-IP based technology capable of providing data rates up to 1 Gbps.

### Futuristic scenarios and 5G compliance

The society of 2020 will be a connected society. The IoT together with intelligent and integrated sensor systems and in-home sensor network will change the way people lead their lives. "Smart living" people will require constant and ubiquitous mobile connectivity to the network to upload their activity data and IoT control commands, thus generating a "massive reporting" uplink dataflow. Massive machine to machine communication and critical machine to machine communication will play pivotal roles in service delivery and industry operations.



## 5 tips for better relationship between Teacher & Students



**ARAVIND B N**  
ECE, 6<sup>th</sup> SEM  
A section

### 1) Because a popular Teacher:

Teacher becomes popular by treating them the way they would like to be treated. Offering positive Reinforcement, being constant smiling & listening their concerns & help to gain students trust & friendship.

2) **Get to know your students:** Work at getting to know your students as individuals. Find out their interests. As you talk to them, listen to what's on their mind. Built a friendship to give them compliments such as a "You did nice Job in class, your co- operation in class made it easier for me to teach today, thanks"

### 3) Protect the students' self-esteem:

As a teacher we are dealing with fragile beings, being criticize by a teacher, the student may react by talking back, smirking or walk out of class. So

make discipline corrections quietly & quickly. When there is misbehavior, keep your voice even, no sarcastic or any comments. Sometimes a pause or look will settle the issue, when loading class activity, more genuine exchanges.

### 4) Build Goodwill on good days:

When thinks are going well & students are quietly reading or listing attitude, we just silently accept this situation. This is the time to build a little goodwill by commenting on student's habits like and appreciate that is all working so quietly. "The bell just rang I see that everyone is in the right seat, "great, you are great class, & enjoy being your teacher.

### 5) Listen to Students:

Students like to feel that they have same "Say" or influence on what goes on in class if a teacher is open to receiving feedback, this can bring about a better level of mutual respect. Sometimes, taking time to listen to student concerns show that you care enough about them to value their ideas. When student feel their teaching is caring person, then the classroom becomes a happier place for everyone.

So maintaining good relationship between teacher and students is an all-around winning proposition, as it fosters an environment, where real learning can take place.





## SUSTAINABLE HOUSING

An Effective Measure to Overcome Climate Change



Rupali,  
Civil

Climate change is known to ALL as it is evident greatly in recent times. Climate change is not a problem of a community, country or continent, it is a global problem, it affects us all and we all have to gear up and play our part in saving our planet. Climate change is mainly due to humans and their activities.

During the last century or so the burning of fossil fuels like coal, oil and natural gases has contributed significantly to the increased level of atmospheric CO<sub>2</sub> and are continuing to do so. Clearing of land for agriculture (deforestation), industrial development, urbanization and anthropogenic activities have all contributed to the rising temperatures and increasing green house gas emissions. Higher temperatures are giving rise to increased risk of dry conditions, drought, wild fires, floods, stronger storms, more diseases and many other economical losses. The question that arises is-do we have a solution for this frightening climate change? Fortunately, the answer is YES. We have to be resilient and avert any further damages to the environment and each one of us has to contribute at individual level.

Sustainable, green or eco house is one of the possible solution which with one part can contribute in solving of this global burning issue. The notion of energy efficient or eco-friendly houses is not new. Many developed countries such as UK, Germany, Italy, Japan and France have considered sustainable housing as the key to minimize climate change. Sustainable housing mainly deals with efficient energy generation, conservation and reducing CO<sub>2</sub> emissions. Sustainability benchmarks as mentioned above can also be introduced in already built houses and it is known as 'eco-retrofitted houses'. This concept is trending currently. True sustainability is made up of many facets, from building materials to the use of renewable energy sources to design that strives for efficiency and harmony with the surrounding environment. Through increase in sustainable homes globally, the CO<sub>2</sub> emission and

thus climate change can be minimized to a greater extent.

The main parameters that are dealt in sustainable housing are construction using eco-friendly and sustainable materials, eco-friendly and energy saving interiors, efficient waste management, water harvesting, efficient power usage and sustainable lifestyle. In recent years, an increasing number of Indians have started making efforts to minimise both environmental impact and financial outlay by outfitting their homes with sustainable technology. The resulting boom in sustainable building is driving new levels of architectural innovation. Sustainable housing can provide environmental sustainability, economical sustainability and energy sustainability.

By usage of sustainable building and material technologies such as stabilised mud blocks (rammed earth), adobe structures, cob, cordwood construction, timber framing, straw bale construction, bamboo flooring, cork flooring, linoleum, rubber flooring, natural and recycled carpets etc, environmental sustainability can be achieved. By implementing suitable interior concepts such as solar thermal panels for water heating, solar photovoltaics system for generating electricity, motion sensitive or energy saving lighting systems, underfloor heating, provision of good daylight quality, proper ventilation etc contribute to energy sustainability. Environmental sustainability and energy conservation are interlinked with economical sustainability. Sustainable lifestyle is also very essential with sustainable housing. The philosophy is simple, most things that are disposable aren't good for the planet. The less you buy the better, you will also be richer not just in banks but also as a person.

Climate change is caused through increase in greenhouse gas emissions within earth's atmosphere through trapping sunlight, temperatures have risen over the past years thus being called climate change. Reducing CO<sub>2</sub> emission world wide is an important response to reduce the effects of climate change. Climate change can be minimised by increasing environmental sustainability and energy sustainability all of which can be achieved through sustainable housing. John Delancy was quoted as saying "Climate change is the environmental challenge of this generation and it is imperative that we act before it is too late". So we must act today to leave a greener and healthier environment for generations to come. Hence opting for sustainable housing is absolutely necessary. Join the green side and help in making our planet better.

## DREAMS OF INFINITY



**Shubasree**

“Dreams have the power to change the world”.

“Dreams define Destiny”.

We all dream. They say, “dream big.” Yes, we do. We follow different path to achieve it that makes us different from all others.

While we sleep, our subconscious mind continues to work on problems our conscious mind has failed to solve.

“The future belongs to those who believe in the beauty of their dreams.” We have many examples who lit their path by following their dreams.

Dmitri Mendeleev, Alfred Russel Wallace, August Kekule, Rene Descartes, Otto Loewi, Louis Agassiz, Neil Bohr, Albert Einstein and many other worked on their dreams and succeeded in their discoveries.

Here is a story of a bright boy, born in a poor family of Erode, Tamil Nadu and now known as a famous mathematician. The Hindu goddess NAMAGIRI- who appeared in his mother's dream telling her to allow him to go to Cambridge-had appeared in one of his dreams. Namagiri would appear in his dreams, showing him mathematical proofs, which write down when he awoke. He described one of his dreams as follows:

“While asleep, I had an unusual experience. There was a red screen formed by flowing blood, as it were. I was observing it. Suddenly a hand began to write on the screen. I became all attention. That hand wrote a number of elliptic integrals. They stuck to my mind. As soon as woke up, I committed them to writing. He's the one who knew infinity, who credited his 39000 formulae- Srinivasa Ramanujan.

The subconscious mind is so powerful. Provided the conscious mind absorbs plenty of data while awake, the subconscious mind can process and make sense of data while asleep. Some of the greatest scientific discoveries in history are testament to importance of sleep and dreams in the operation of our minds. Your dreams are your future inventions. You alone can achieve it. Never give up.





## महाभारत तेरवा दनि



राजेश गोपीनाथ

रथी अथरिथी महारथी, बने पार्थसारथी स्वयं भगवान्;  
कौरव पांडवों के संघर्ष में, बना कर्मभूमि कुरुक्षेत्र मैदान !  
सत्य असत्य का महायुद्ध ये, न कभी भूल सकेगा वर्तमान;  
ऐसा कभी कोई युद्ध नहीं हुआ, धर्मयुद्ध महाभारत के समान !!

चक्रव्यूह की हुई जो रचना, हुए धर्मराज युधिष्ठिरि परेशान;  
बना परन्तप कैसे भेदा जाए, भरद्वाज पुत्र का ये निर्माण !  
कौरव सेनापती के चुनौती से, टूटा पांडवों का स्वाभिमान;  
धर्म संकट की घड़ी ये, बना अभिमन्यु का इमृतहान !!

सुभद्रालाल अकेले ही आगे बढ़ा, कुचलते कौरवों का अंहकार;  
कृपाचार्य भी न रोक सके, बालवीर अभिमन्यु के प्रहार !  
गाण्डीवधर सुत के आक्रमण से, मवा कौरव सेना में हाहाकार;  
गुरुपुत्र अश्वत्थामा भी न थाम सके, अर्जुन पुत्र की ललकार !!

भेदते हुए चक्रव्यूह को, बढ़े शूरवीर अभिमन्यु के बाण !  
ना रोक सके सौभद्र को, राधेय सुर्यपुत्र कर्ण के भी तीर कमान !  
ना सह सके धावों को, गवाँ दुर्योधनपुत्र लक्ष्मण ने प्राण;  
घायल हुए द्रोणाचार्य ने भी किया, सेनानी अभिमन्यु का गुणगान !!

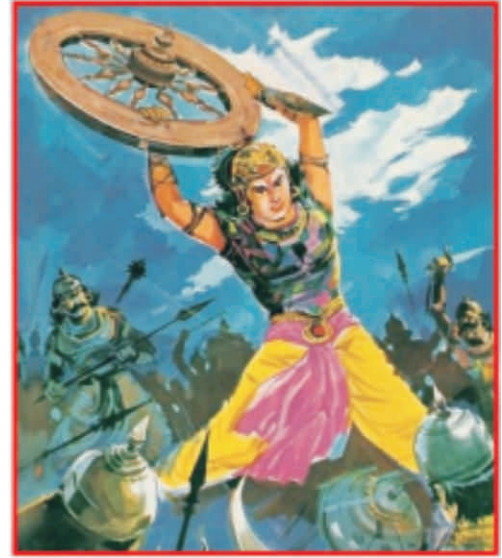
ना त्याग सके अधर्म की राह, करिया दुष्ट दुर्योधन ने ये ऐलान;  
मुझे हर हाल है सहिसन जीतना, मलिके करे सब अभिमन्यु संधान !  
अकेले क्षत्रिय का महासंग्राम ये, न कभी भूल सकेगा वर्तमान;  
ऐसा कभी कोई युद्ध नहीं हुआ, धर्मयुद्ध महाभारत के समान !!

भीष्म नयिम को तोड़के, मलिया कौरवों ने अधर्म से हाथ ;  
अकेले अभिमन्यु पे हमला साधके, कौरव श्रेष्ठ बने कार्यों के पात्र !  
फरि भी महारथी अकेला ही लड़ा, सात सात महारथियों के साथ;  
छल और कपट के नाच में, छूट गया धर्मयुद्ध से धर्म का पात्र !!

व्यूह तोड़ना तो खूब आया, नहीं वापस नकिलने का उपाय;  
नहित्था योद्धा धावों में समिट गया, देख रहे चारों पांडव असहाय !  
अठारह दनों का महायुद्ध, यह तेरहवे दनि का अन्याय;  
चक्रव्यूह में घरि अभिमन्यु, वीरगता को मलिा एक और अध्याय !!

भरतवंश के इतहास में, सोलह बरस का यह अयुष्मान;  
प्राण त्याग के भी सौंप गया, पारतोषिकि पांडवों का सम्मान !  
अल्प आयु का धनुर्धर, न अभिमन्यु सा कोई महान;  
कृष्णशपिय सा वीर न होगा, था वपिक्षी सेना का भी प्रमाण !!

गंगा पुत्र पहला प्रतियंधा, श्वेतवाहन सा वीरता का नधान;  
चक्रव्यूह का दुर्भाग्य, न कभी भूल सकेगा भूत भवषिय वर्तमान !  
धर्म अधर्म का महायुद्ध ये, सुशरमा जयदरथ का अपमान;  
ऐसा कभी कोई युद्ध नहीं हुआ, धर्मयुद्ध महाभारत के समान !!



HANUMANAIK P D  
ECE 6<sup>th</sup> SEM A section

## ಶಿಕ್ಷಕರಾಗಿ ಕಲಾಂ

“ಕಷ್ಟ ಬಣ್ಣ ಅಶುಭ ಸೂಚಕವಾಗಲರಬಹುದು, ಆದರೆ ಪ್ರತಿ ಕಷ್ಟ ಹಲಗೆ ವಿದ್ಯಾರ್ಥಿಗಳ  
ಭವಿಷ್ಯ ಬೆಳಗಬಲ್ಲದು”

ಈ ಮಾತನ್ನು ಹೇಳುತ್ತಲೇ ಬೋಧನೆ ಮೂಲಕ ಲಕ್ಷಾಂತರ ವಿದ್ಯಾರ್ಥಿಗಳು,  
ಯುವಕರನ್ನು ಕಲಾಂ ಪ್ರೇರಿಸಿದ್ದರು. ರಾಷ್ಟ್ರಪತಿಯಾಲ, ಐಜ್ಜಾನಿಯಾಲ,  
ವೈಜ್ಞಾನಿಕ ಸಲಹೆಗಾರರಾಲ ಕಾರ್ಯ ನಿರ್ವಹಿಸಿದ ಕಲಾಂರವಲಗೆ ಇಷ್ಟವಾದ ವೃತ್ತಿ  
‘ಶಿಕ್ಷಕ’ ಎಂದು ಯಾವಾಗಲೂ ಹೇಳುತ್ತಿದ್ದರು.

ಜನತೆಗೆ ಪ್ರಿಯಾಶೀಲರಾಲ ಎಂದು ಕರೆ ನೀಡುತ್ತಿದ್ದ ಕಲಾಂರವರು  
ಪ್ರಿಯಾಶೀಲರಾಲಯೇ ಜೀವನದ ಕೊನೆಯ ಕ್ಷಣ ಕಳೆದದ್ದು ಕೂಡಾ ಉಪನ್ಯಾಸ  
ಮಾಡುವಾಗಲೇ!

## \*Are You there for Yourself?\*



**Mrs. Saritha I G,**  
Assistant Professor,  
Dept of ETE, BMSIT&M

How many times have you waited for someone to reply to the message you wrote, but never received it?

How many times have you dressed up for someone, waiting to hear from them that you're beautiful?

How many times have you waited for someone's call, so that they make you feel happy?

How many times have you waited for someone to appreciate the work you're doing, so it's easier for you to continue doing it?

With the reply that never came, the compliment you didn't hear, the phone call that wasn't intended, and the appreciation that was held back – you and I, we lost our self-worth.

Since kindergarten, we began to associate our self-worth with the golden stars our teachers gave us.

By middle school, this turned into how popular people thought we were and by college, we were living on the compliments we received, and the number of people who praised us.

And till today, we think that our worth is determined by the way others perceive us. Thus, we want our boss to be happy with our work, we want our partners to constantly praise us, we want to be noticed, and we want to be appreciated.

Slowly, and gradually, this will harm us. Seeking approval and validation from others will change into a permanent, life-long struggle if we don't start believing in ourselves.

Stand in front of the mirror and look at yourself – carefully. Speak to your reflection.

Tell your reflection you are beautiful, you are strong.

Tell your reflection that you appreciate yourself, that you love yourself, that you want to make yourself happy.

Tell your reflection that you'll be there for yourself.

Because, sooner or later, you will realize that there is no one who will always be there for you, there is no one who can constantly praise you, appreciate you, and keep you happy. That is your job. And that job begins by believing that you can.



## Women

**Sowmyashree M. S.,**  
Asst prof., Dept of TE.

It's 8.30am,  
The maid has not arrived.  
The breakfast is not ready,  
And I have tiffins to fill.  
The laundry heap increases,  
The groceries need refill.  
The elder one has homework,  
The younger one's still sleeping.  
There's no egg in the fridge,  
The milk just spills over.  
I have a conference today,  
My shirt needs ironing.  
There's a workshop in the school,  
I don't know how to manage.

My mother in law is here,  
To ask medicines for backache.  
A call from the bathroom,  
“I've forgotten the towel”  
The cat mews, the birds chirp,  
The plants need watering.

The phone beeps,  
To remind me of a pleural tap.  
The receptionist calls,  
Full appointments overall.  
My shoulders aches,  
I have no one to tell.  
My eyes are heavy,  
With last night's on call.  
I don't remember the last time,  
I had been to the parlor.  
My nails are brittle,  
My hair needs a color.



My clothes have lost the sheen,  
I need a wardrobe make over.  
But before that I've to pick up,  
The toys that are scattered.  
I think it was last year,  
When I spoke to my sister.  
Can't recollect the moment,  
When I chatted with my mother.

I'm no feminist,  
I'm no atheist,  
I know not what I'm.  
More than a housekeeper,  
a mother and a doctor,  
I may be an orator,  
A painter, an artist,  
A singer, a poetess,  
A traveler, a cyclist,  
A writer, a musician,  
A craftsman, philanthropist.  
The last time I tried  
To find out my ability  
My child scored badly.  
And you know what followed exactly.  
So next time she got a gold medal,  
They praised her father's genes.

I remembered my trophies,  
Which no one had seen.  
I know not what my daughter  
Will do after growing up.  
But I'm sure these responsibilities  
Will never stop to follow her.

Marriages are made in heaven,  
Love is a fairly tale.  
I'm sure every working woman  
Has a different story to tell.  
So, whenever you look  
At a house that's tidy,  
A child who is happy,  
Intelligent and healthy,  
Remember, it's the woman behind  
Who sacrificed her sleep,  
her degrees, her passion  
her ambitions and needs.  
Give her a pat, a word of praise,  
a ear to listen, \*\_a helping hand\_\*  
It's always a woman  
who makes the house a home.  
But it's everyone's duty  
To make her feel at home.



### **CDT. DEEKSHA SETHI (REGIMENT NUMBER : KAR/18/SW/A/255143)**

As this pandemic took over the world, India faced several challenges simultaneously. Whilst the lockdown in Karnataka, the State Government opened countless opportunities for selfless social workers to contribute towards the society. “Corona Warrior”, a word you would've repeatedly heard in the news over the past few months are those considerate souls who have been relentlessly working in different areas, on and off fields, to provide you with the best services in these trying times.

We, the National Cadet Corps BMSIT company, are trained and certified “Corona Warriors”. Our service ranges from telephonic to on field duties.

As a vital part of the pilot project “Buddy Volunteers”, we provide telephonic assistance to patients. Our daily deliverables as Buddy Volunteers

is to make calls to patients, offering our best support to their mental as well as material requirements under isolation. We lend help to make arrangements in cases of immediate shifting of patient to hospital, providing ambulance services, shifting patients to COVID Care Centres when needed, arranging a telephonic doctor consultation in times of need, explaining the protocols to be followed, and lastly, to sharing a condolatory ear to alleviate their agonies. Our work has enabled us to touch numerous lives today. We enjoy tirelessly helping the patients 24/7 with efficient coordination. Our team has also been graced by recovered COVID-19 patients, who joined the team as a token of thanksgiving. A special mention goes out to Cdt. Nidhisha K, Cdt. Prerana Kulkarni, Cdt. Kalyan Jyoti Paul and Cdt. Abhishek Hiremath for having reached out to over 500 patients and still continuing.

The cadets also took up initiatives of voluntary service independently, on field. Cdt. Chandana N Swamy from the Civil Department worked in Iskcon's Akshaya Patra Foundation initiative, sponsored by the Infosys Foundation. Her team packaged essential grocery boxes which were further supplied to the needy and underprivileged in and around Karnataka. She took up this responsibility in association with the Government of Karnataka, Karnataka State Police and Government of India.

Cdt. Deeksha Sethi from the Electronics and Communication Department, worked for the collection and donation of hygienic food packets to the daily wagers at construction sites in Yelahanka and slum areas in Attur layout. I also took over documentation work, including compilation of volunteer data mentored by the Civil Defence War Room, under the Indian Red Cross Society.

Cdt Lavanya A D from the Electronics and Communication Department, volunteered as a part of The Home Quarantine team, Hebbal ward. It gave her an opportunity to converse with the people who have either tested positive or have anyone close to them who have tested positive to COVID 19. She monitored the discipline of the affected patients through telephonic services, and reported back to the BBMP.

We are grateful to our Associate NCC Officer, Lt. Rani Mysore Srinivasan for guiding and motivating us throughout. A heartfelt thank you to BMSIT&M Principal, Dr. Mohan Babu and BMSSA Director, Dr. Shaila Bantanur for enabling us with this commendable platform.

Our duties as cadets may end but our everlasting zeal to serve the country will never.

**Jai Hind.**







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## No found the stairs of escape !



**Nagashree**

1BY13EEE024  
Batch 2013-17

A kid in me wanted to get lost in the midst of nature, muddy hands, dirty legs going back to school had no found the stairs of escape.

A travel overgoing never worried about hangover, for the backpack full of memories returned back home with no found the stairs of escape.

I did mind when things go wrong, I did cry when things go worst, Going through is the only way and I no found the stairs of escape.

-Nagashree

## Life in a switch box

Bangalore is an IT hub and engineers are no less in number when compared to betting dealers during IPL, may be engineering is neither seasonal nor optional for young generation these days.

This 4 years of life, in fact adds life to years. 7 branches , 6 subjects , 5 units , 4 labs ,3 internals , 2 semesters and one degree 'ENGINEERING'.

Engineering is not only a Qualification, it's an Emotion.

As everyone dreamt in the early stage of life, I too aspired to pursue my bachelor's in technology and so did I in 2013. Joining one of the most reputed college in Bangalore situated in a zero traffic zone was my first achievement.

New was quiet a new word for a fresher like me , huge corridors , dense greenery, open house canteen , literate library. Ah! Goosebumps is too less to express my excitement of my perseverance in such a holistic environment.

1 hour lectures ; concepts to be remembered , standard derivation for 20 marks won all our hearts to score that magic number called 35. Professor mantra was to learn inorder to earn those 3 alphabets "FCD", ocean of opportunities to explore and learn new things yet we tried winning the race with a stream of success scanners concentrating more on scores.

Race I call it to be..! race to get marks, race to be first and race to be ahead in time... everything went on as planned in the calendar of life ...new lessons other than the syllabus hit hard, straight on face teaching lot in phase , slowly crawling from the past now I can walk in the present to run and chase my goals in future. An Engineer is a designer of better life and also should acts as an engine in others life.

In these initial days of 20's lots been happening is what everyone tell, but to happen is what my life is teaching me ..! Achievements, success, name, fame, power and much more looks attractive, but to get attracted to the best to that extent of worse and not letting it go is what my life is teaching me..!

It always gives me an alarm for my negligence, wake's me up and makes me realize what to be done and thus fulfil goals for me. It always made me meet right people at the right time when I actually needed those life lessons to be byhearted in my mind, few made me so hard that I am so rigid and conscious of not repeating those mistakes again. so now that I can pass my life exams with FCD..!

Yet,

I always want to remain as that average student of my life ..! Trying on every trail, thinking as though it's the final one and watching Life, getting electrified...!!





## Significance of PCI DSS Certification Compliance.



**Jyothi C**  
Information Security Engineer  
Company: Catchpoint

The Payment Card Industry Data Security Standard (PCI DSS) is a set of safety standards formed in 2004 with the help of Visa, Discover, MasterCard, Financial Services, JCB International and American Express. Governed by using the Payment Card Industry Security Standards Council (PCI SSC), the compliance scheme targets to secure credit and debit card transactions against data leakage and fraud. The PCI DSS applies to ANY organization, no matter size or wide variety of transactions, that accepts, transmits or stores any cardholder data.

### What is defined as 'cardholder data'?

Cardholder data is nothing but full Primary Account Number (PAN) or the full PAN along with any of the following elements:

- Cardholder name
- Expiration date
- Service code

Sensitive Authentication Data, which must also be protected, includes full magnetic stripe data, CAV2, CVC2, CVV2, CID, PINs, PIN blocks

### What is a payment gateway?

Payment gateways connect a merchant to the bank or processor this is appearing as the front-side connection to the card brands. They are known as gateways because they take many inputs from quite a few different applications and route the ones inputs to the proper bank or processor. Gateways communicate with the bank or processor using dial-up connections, web-based connections or privately held leased lines.

### What constitutes a payment application?

A payment software is whatever that stores, processes, or transmits card information electronically. This manner that something from a Point of Sale system (e.G., Verifone swipe terminals, ALOHA terminals, etc.) in Hotels to a Website e-trade

shopping cart (e.G., CreLoaded, osCommerce, etc) are all categorised as payment applications. Therefore any piece of software that has been designed to touch credit card data is taken into consideration a payment application.

### What is the definition of 'merchant'?

For the functions of the PCI DSS, a merchant is defined as any entity that accepts payment cards bearing the logos of any of the 5 contributors of PCI SSC (American Express, Discover, JCB, MasterCard or Visa) as payment for items and/or services. Note that a merchant that accepts payment cards as payment for goods and/or services can also be a service company, if the services sold bring about storing, processing, or transmitting cardholder data on behalf of other merchants or service providers. For example, an ISP is a merchant that accepts payment cards for month-to-month billing, but also is a provider company if it hosts merchants as customers. Source: PCI SSC

### Consequences of being non-compliance is paying penalties.

The payment brands may, at their discretion, fine \$5,000 to \$100,000 per month for PCI compliance violations. The banks will maximum likely pass this fine along until it eventually hits the service provider. Furthermore, the bank will also most possibly either terminate your relationship or increase transaction fees. Penalties aren't brazenly mentioned nor widely publicized, but they may be catastrophic to a small business. It is essential to be familiar with your merchant account agreement, which have to outline your exposure.

### PCI DSS certification

PCI certification ensures the security of card data at your business through a set of requirements established by the PCI SSC. These include a number of commonly known best practices, such as: Installation of firewalls Encryption of data transmissions Use of anti-virus software In addition, businesses must restrict access to cardholder data and monitor access to network resources.

### PCI compliance levels

Level 1: Applies to merchants processing more than 6 million real-world credit or debit card transactions annually. Conducted by an authorized PCI auditor, they must undergo an internal audit once in a year. In addition, once in a 3 months they must submit to a PCI scan by an Approved Scanning Vendor (ASV).

Level 2: Applies to merchants processing between 1-6 million real-world credit or debit card transactions annually. They're required to complete an assessment once a year using a Self-Assessment Questionnaire (SAQ). Additionally, a quarterly PCI scan may be required.

Level 3: Applies to merchants processing 20,000 million e-commerce transactions annually. They must complete a yearly assessment using the relevant SAQ. A quarterly PCI scan may also be required.

Level 4: Applies to merchants processing fewer than 20,000 e-commerce transactions annually, or those that process up to 1 million real-world transactions. A yearly assessment using the relevant SAQ must be completed and a quarterly PCI scan may be required.

#### PCI DSS requirements

1. A firewall configuration need to be installed and maintained
2. System passwords need to be original (not vendor-supplied)
3. Stored cardholder information must be protected
4. Transmissions of cardholder information across public networks ought to be encrypted
5. Anti-virus software must be used and regularly updated
6. Secure systems and applications have to be developed and maintained
7. Cardholder information need to be constrained to a business need-to-recognise basis
8. Every individual with computer access ought to be assigned a unique ID

9. Physical access to cardholder information ought to be limited
10. Access to cardholder information and network resources should be tracked and monitored
11. Security structures and processes ought to be frequently tested
12. A policy dealing with information security should be maintained

#### Summary:

Payment Card Industry Data Security Standard (PCI DSS) compliance is adherence to the set of rules and procedures developed to defend credit, debit transactions and prevent the misuse of cardholders' private information. PCI DSS compliance is required by all card brands. Based on number of transactions compliance level is finalized and requirements are validated.

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### APJ Abdul Kalam Inspirational Quotes



**VYDEHI M R**

**Designation:** Senior Analyst

**Company:** Accenture,  
Bangalore

APJ Abdul Kalam (Avul Pakir Jainulabdeen Abdul Kalam) was the 11th President of India. Popularly known as the 'Missile Man' of India, he is the source

of inspiration for millions of Indians. His life philosophy and teachings are not only admired by the older generation, but especially reminisced by younger generation.

Below are few of his inspirational quotes on life, dreams, success, failure and motivation.

1. You have to dream before the dream comes true
2. The bird is powered by its own life and by its motivation
3. One best book is equal to a hundred good friends, but one good friend is equal to a library
4. We should not give up and we should not allow the problem to defeat us



5. All of us do not have equal talent. But, all of us have an equal opportunity to develop our talents
6. Thinking is the capital, an enterprise is a way, and hard work is the solution
7. Dream, Dream, Dream, Dream. Transform into thoughts and thoughts result in action
8. Confidence and hard work is the best medicine to kill the disease called failure. It will make you a successful person
9. I am not a handsome guy, but I can give my hand-to-some one who needs help. Beauty is in the heart not in the face
10. You cannot change your future, but you can change your habits and surely your habits will change your future
11. LIFE and TIME are the world's best Teachers. Life teaches us to make good use of TIME and TIME

12. Knowledge with action converts adversity into prosperity
13. Success is when your signature turns into your autograph
14. Man needs difficulties because to enjoy the success
15. Excellence is a continuous process and not an accident
16. Your Best Teacher is your last mistake
17. Every pain gives a lesson and every lesson changes a person
18. If you want to shine like a sun, first burn like a sun
19. To succeed in your mission, you must have single-minded devotion to your goal
20. Failure will never overtake me if my definition to succeed is strong enough



## AN EFFECTIVE FRAMEWORK OF SMART CITIES

**Sachin Govind V.**

As India is urbanizing at an unprecedented rate, so much that estimates suggests nearly 600 million of Indians will be living in cities by 2030, up from 290 million as reported in the 2001 census.

A McKinsey Global Institute study estimated that cities would generate 70% of the new jobs created by 2030, produce more than 70% of the Indian gross domestic product and drive a fourfold increase in per capita income across the country.



However, from economic reforms to demographic dividend in the form of a young population, India has many areas of focus. There is also some ground work to be done in order for India to reach beyond its 'developing country' tag and emerge as developed country.

### Challenges with the Indian Urbanization Scenario:

1. **Growing Population:** The rapid increase in human population over the past 3 centuries due to birth and death rates because of medical advancements has raised concerns that the planet earth may not be able to sustain its inhabitants. The effects of growing population and the depletion of natural resources are interrelated. With so many people, we have very few resources. As natural resources are becoming scarcer in an overpopulated society; 'Demand is sovereign' it causes crisis of goods to rise in an attempt to balance the demand and supply chain.

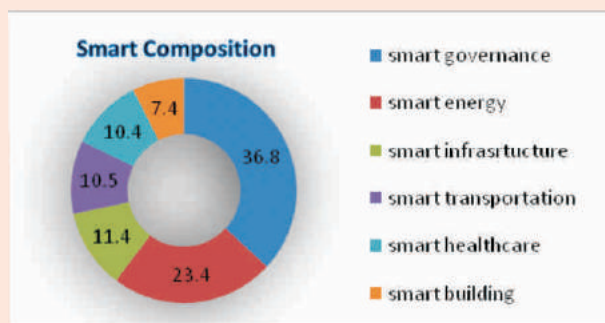
If the local economy doesn't have the ability to expand and include the ever-growing work force then the result will be widespread unemployment.

2. **Ageing population:** Not only the population is growing, it's ageing too. And people are continued to have better quality of life. Elderly care is neglected in this contemporary epoch, as the family members are busy in leaving no stone unturned for their family welfare. But the elders are not being taken care of.

3. **Develop and manage infrastructure:** When the cities grow we will have to develop more infrastructure and services for the citizens. Also we should make sure that these services work efficiently.

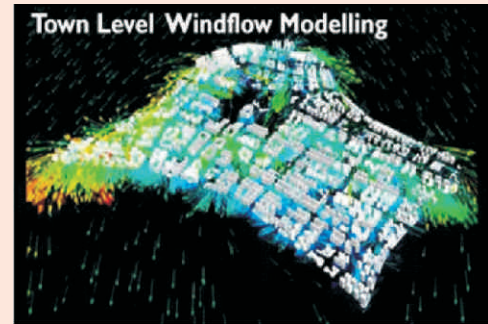
4. **Climate change:** Many of us understand that the climate change is happening and its happening very rapidly. Already we are experiencing the deadly effects of climate change in the form of rising storms, increase in sea levels, wildfires, and extreme weather conditions of all kinds. The safe level of CO<sub>2</sub> in the atmosphere is 350 ppm, but it has passed 400 ppm already. Passing 400 ppm is an ominous sign of what might come next – and it sends a lucid signal that the world must act ahead of the climate talks in Paris.

So there are many such challenges to be dealt with, hence economic feasibility plays a main role and without doing so we cannot see the return of investment and better cities of tomorrow. Furthermore, these are the issues that we are facing up today and we need to come up with a smarter solution. The solution is building smart cities by implementing smart laws, with an integration of smart design and technologies. Such that having higher quality of life than the cities of the past. This encompasses the things like Eco city, Green City, Sustainable city because all these are inherently smart. So something that I would like to state is: **“This is not a science fiction, this is happening today”**.

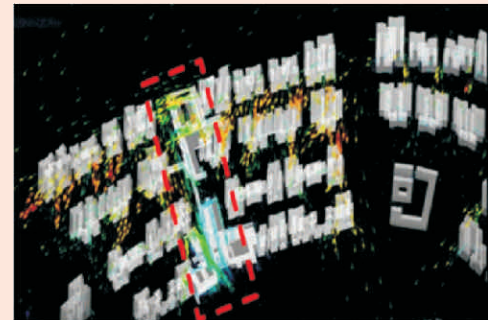


- The highest composition is by smart governance. Transparency should be maintained in the bureaucracy and fight against corruption.
- States and ULBs will play a key supportive role in the development of Smart Cities.
- Understanding the concepts of retrofitting, redevelopment and Greenfield development by the policy makers

### Framework & Design of Smart Cities:



- The smart cities are modelled and subjected to Wind flow analysis to study the wind flow patterns based on flow directions. The buildings are oriented in such a manner that most of the areas have proper wind flow and care is taken to place the different amenities based on this wind flow modelling.

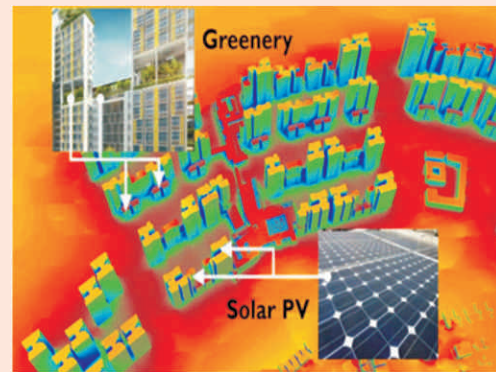


- The above model shows that the wind flow directions with orange and red colour are having more wind, but the wind flow direction with blue arrow marks representing very less wind flow. Hence care is taken to make more flow of air in such regions. The architect and the planner decides to put parks, outdoor plazas, hospitals, child care centres and playgrounds.

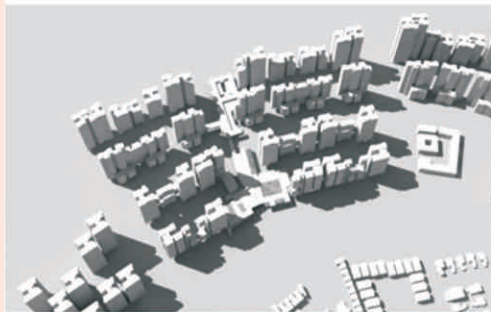


- Parks and playgrounds are placed in such regions which have better wind flow, so that the children can be out whole the day.





### SHADOW ANALYSIS



- Furthermore, the shadow analysis is done to the cities so that it helps the planner to decide where to have Solar photovoltaic panels and green spaces.

- The solar PVs are installed to the regions where there is a lot of sunshine and where there is a moderate sunshine, the roof gardens are placed.

### References:

- [1] SMART CITIES MISSION, Government of India, [smartcities.gov.in/](http://smartcities.gov.in/)
- [2] Improving Performance with Integrated Smart Buildings, [www.usa.siemens.com/intelligent.../smart-building-white-paper](http://www.usa.siemens.com/intelligent.../smart-building-white-paper)
- [3] Report on wind flow modeling TEDx Singapore.
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## C & D WASTE REDUCTION BY THE ADOPTION OF BIM

by Sachin Govind V.



BIM is not only a technology innovation, but also a significant shift in the overall AEC processes. Improvement of productivity and reduction of project duration and cost by using BIM have been

demonstrated in many projects. The BIM uses selected in this article are quantity take-off, phase planning (or 4D simulation), design reviews, clash detection (or 3D coordination), site utilization planning, and digital fabrication. The selected BIM uses can also reduce various types of waste that can also be removed by lean construction. C&D wastes are generated due to improper design, poor procurement and planning, inefficient material handling, residues of raw materials, and unexpected changes in design, construction, and demolition phases. The potential of BIM technology is much higher for supporting integrated building design and construction processes to eliminate the major causes of C&D waste generation and manage the waste. C&D waste could be reduced through design reviews, clash detection, quantity take-off, phase planning, site utilization, and digital prefabrication. In addition, C&D waste could be reused and recycled by managing a process based on quantity take-off, phase planning, and site utilization planning. The minimized and disposed wastes could be monitored by BIM-based waste management planning and execution. Integration between BIM and lean

construction can create the synergy effects on C&D waste reduction on site by eliminating waste from processes.

Since the BIM-based approaches and lean construction focus on the process changes that involve different types of project participants, close collaboration among them is required for C&D waste

management. However, this article does not provide expected or actual benefits associated with C&D waste minimization and management using the proposed BIM-based approaches. In the future, these approaches can be attempted in pilot BIM projects to evaluate the actual effectiveness of BIM for minimizing and managing C&D waste in AEC projects.

## Drones & BIM

by Sachin Govind V.

Drone technology, also known as unmanned aerial vehicles (UAVs), is used for different reasons in the construction industry. As a tool that improves communication, safety, and marketing, the use of drones in construction can offer many advantages; capturing real-time images from the field.



As it has been the case with a growing number of industries over the past couple of years, those in the construction sector have been quick to embrace the potential of drones. So, it's no surprise to see an increasing number of companies employing unmanned aircraft to support their BIM methodology.

Proving themselves to be an asset for this type of data-driven approach, drones can undertake the following tasks to aid the BIM workflow:

- Site inspections and land surveying before construction begins
- Point cloud scanning to aid Building Information Modelling
- Aerial photography at different stages of construction for marketing campaigns
- Monitoring site activity to ensure an accurate, issue free workflow

- Conducting structural inspections to ensure safety procedures are in place.

Before construction begins, as architects and planners are making their initial designs, land survey information is crucial. Drones offer a precise, rapid solution to gathering a comprehensive overview of the site, identifying challenges before they become issues further into the project.



They also have an advantage over traditional point cloud methods which can sometimes overlook uneven topography due to obstructions. This isn't an issue with an aerial perspective which makes for more consistency and data density for use in the creation of the initial BIM showing how the structure will look after construction.

Once it's time to start building the structure it's imperative to make sure that each stage is properly documented and photographed. This is obviously limited when you're only using feet-on-the-ground team members to capture images which won't make for the most thorough of reports. The addition of drones to this process gives construction companies the ability to capture a selection of high-quality aerial imagery and video footage to support their documentation.

Also, the addition of light detecting sensors mounted to a drone can offer real-time point cloud data for the



accurate creation and updating of BIM Models which can be fed into BIM authoring tools such as Inventor, AutoCAD and Revit. With this centralised trove of information, project engineers and external stakeholders can pull up any data they need as and when they require it.



The usefulness of drones doesn't come to an end once the project has been completed as there are plenty of checks and evaluations to take place to ensure that it's structurally sound. This can take the form of aerial photography to make sure that everything has been put together properly as well as offering the potential of thermal imagery surveys to ascertain the energy efficiency through identification of hot and cold regions.



Throughout the entire process, drones can also keep people who are off-site up to date with progress via live streams enabling inspections by trained engineers to be carried out from remote locations, in some cases even allowing them control of the camera while an on-site pilot manoeuvres the drone.

#### References:

- [1] 'Utilizing drone technology in construction' by Dennis Ayemba
- [2] 'Improving BIM workflow with Drones' by John Patterson

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## Intelligent Buildings and Building Automation Systems

by Sachin Govind V.

This Curated article focuses on the topic that is especially relevant for architects and project managers, as in the opening issue on light and building automation system.

Initially, the hype around the smart homes was huge. People took the concept to mean science fiction for the home – at dumping prices: talking houses, self-shopping refrigerators, and the living-room wall as a combined video telephone and TV screen. This hype has now subsided but more and more mass capable applications are finding their way into building plans. Providers of such solutions want to introduce more control and comfort into the home and Office - for example, luminaries, blinds and access controls that are able to control with a single finger-swipe while on the move; sensors that detect when and how many people are in an office and which regulate the lighting

and temperature accordingly and intelligently control heating, air conditioning and lighting systems that help to reduce costs and thus also protect the environment.

A building in which an app can be used to control the lights, lower the blinds and regulate the heating is not a smart building. A residential or commercial building can be called "intelligent" only if it uses automated processes designed to maximize user convenience. The rules according to which the automated processes operate are created by people. Three areas of application dominate the networked building: energy efficiency, data security and anti-burglary protection and convenience. In order that the installed products automatically do what the user has specified in different areas, it is necessary to have a user software that sends data by means of common transmission channel, a so-called bus system.

One reason why building automation is still a marginal phenomenon in residential construction is

the core who is willing to use and pay for all the functions. It makes little sense to invest in functions that will be used by only a few residents. It is better if the user can choose the functions and pay only for those needed. An architect plays as the part of a mediator here. He has to integrate his ideas of network living in construction concepts and make them plausible to the client.

### Daylight for windowless rooms



There are several light control systems that brings natural daylight into building interiors. This means that even rooms without windows can dispense with artificial light during the day. In addition, the system enables the glare-free use of Sunlight behind glass facades. The light control system consists of three components: a foil that is inserted into the insulating glazing to direct the light into a light shaft, reflective foil in the light shaft transports the light deep inside

the building, and finally lighting fixtures through which the daylight reaches the respective rooms. These luminaries are also equipped with LED lights that supply the rooms with light the natural Daylight is no longer sufficient.

### Alexa! OPEN THE WINDOW

Mechatronic window elements can be operated simply and conveniently via voice guidance. The system platform can be network with the Alexa Cloud Service. Aluminium Windows can be closed automatically by voice command using the cloud - based Alexa language assistant. This is achieved by networking with the products like Schuco building skin control systems.



User defined settings such as the automatic closing of Windows in the rain, time control window ventilation, and closing in the absence of occupants can be individually configured and regulated via sensors. The sensor portfolio includes window and rain detectors, temperature sensors for indoor and outdoor use, presence detectors and VOC room air quality sensors.





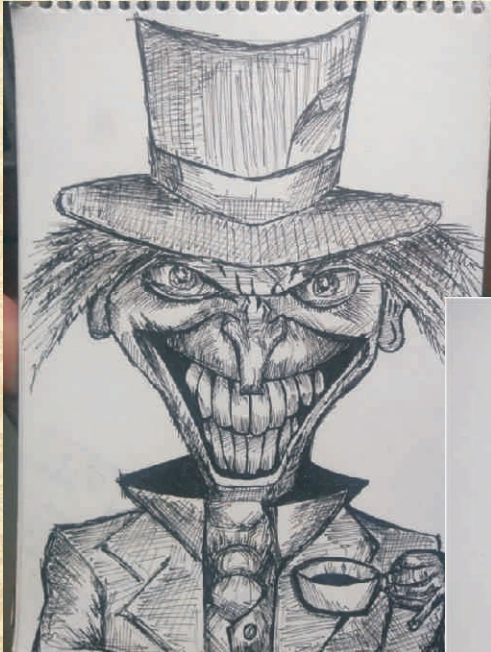


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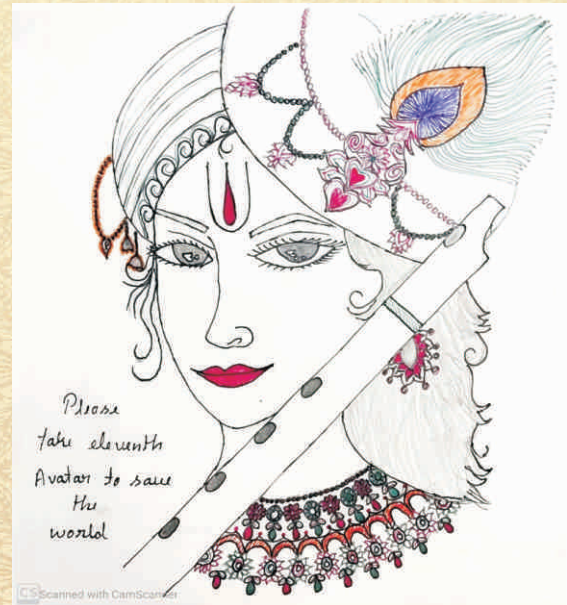




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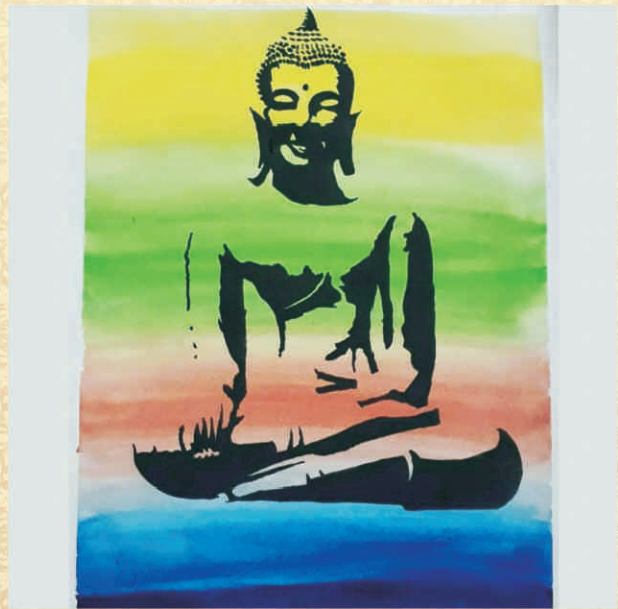
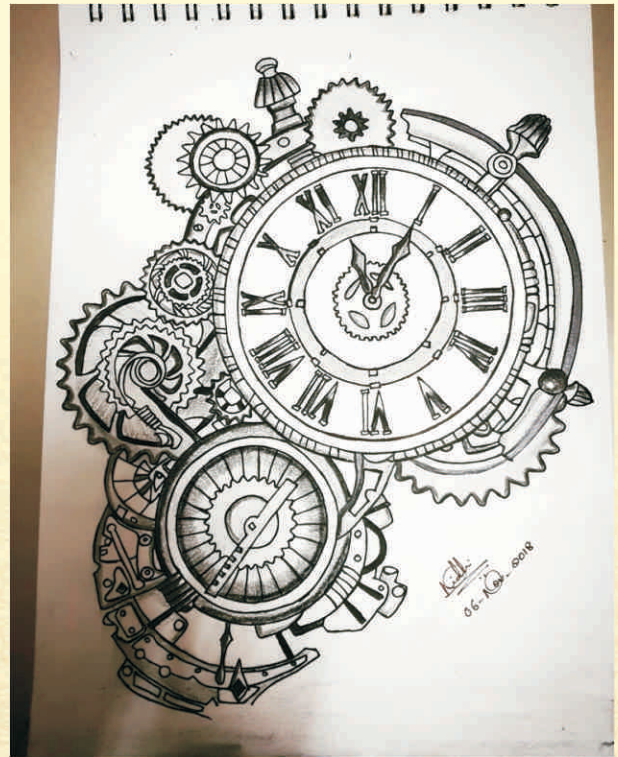




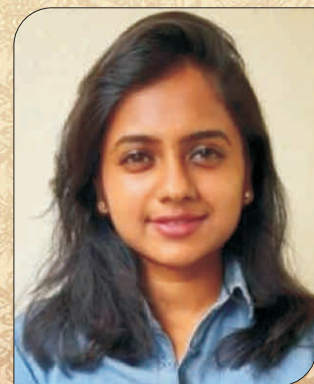
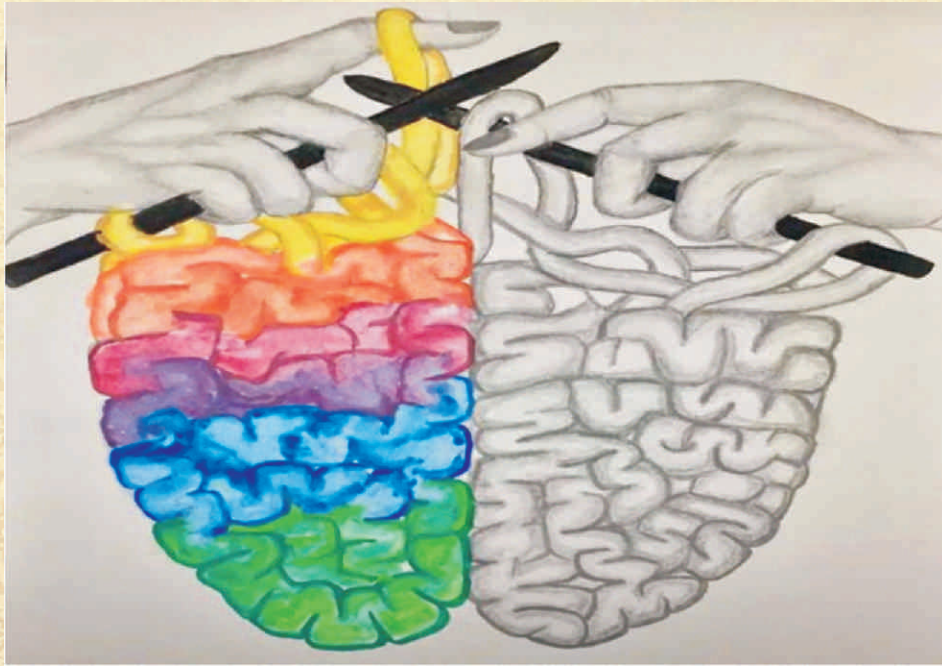


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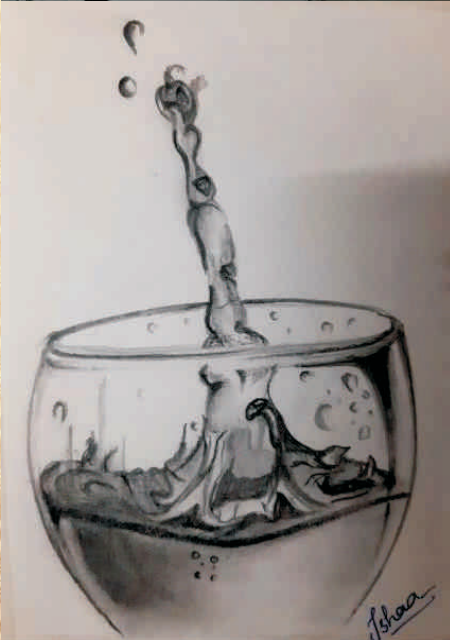


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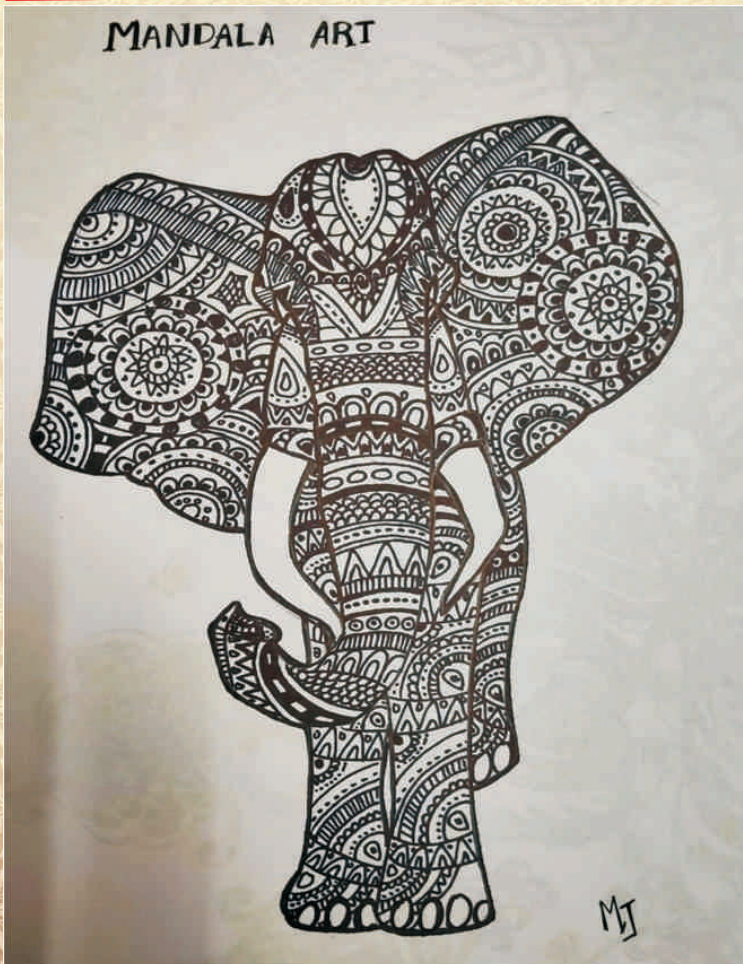


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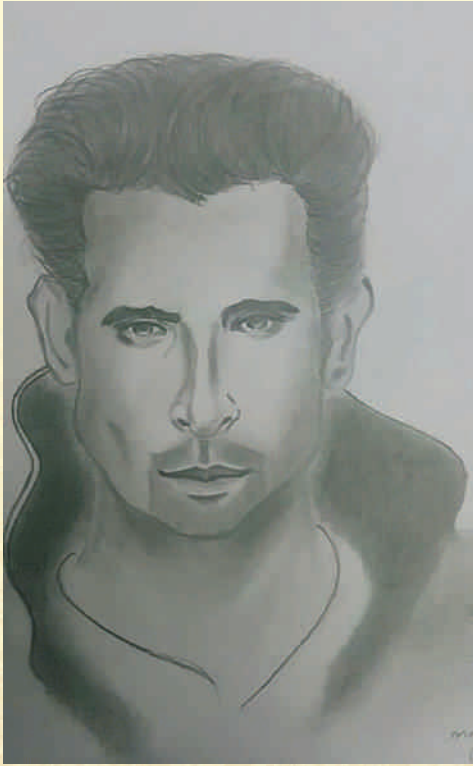
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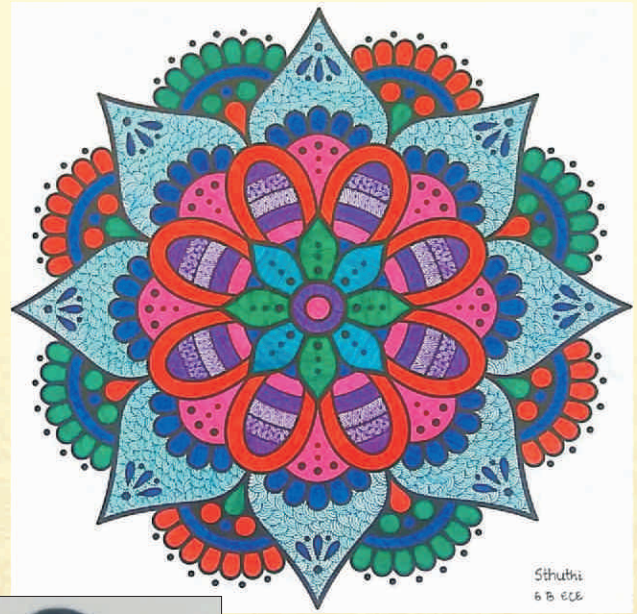


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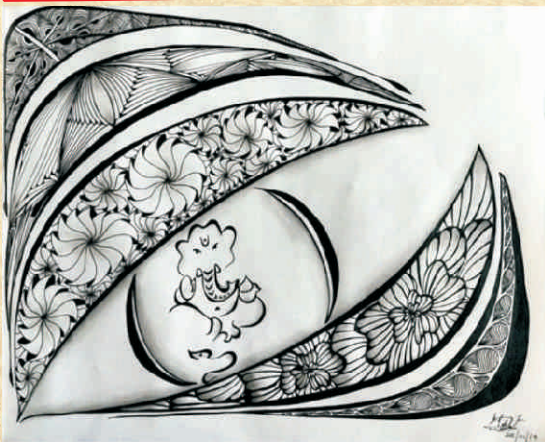
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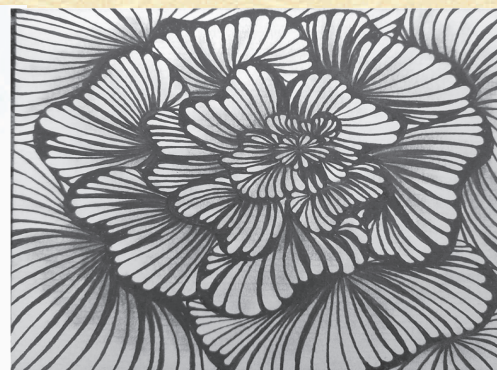
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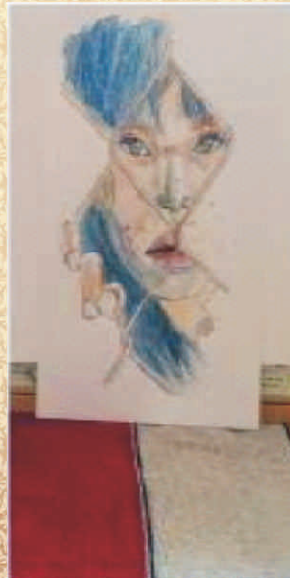
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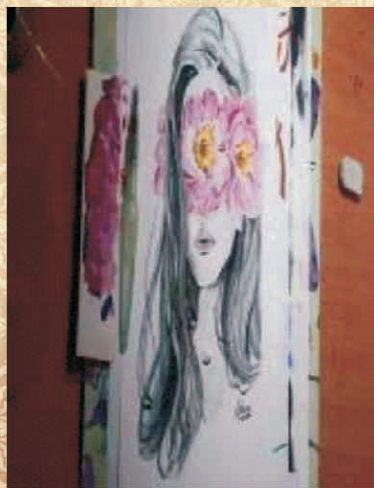
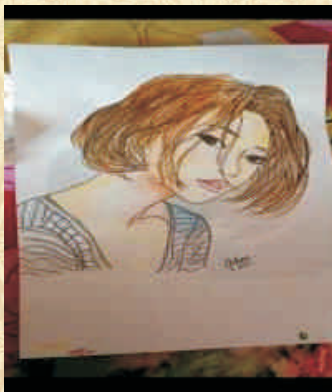
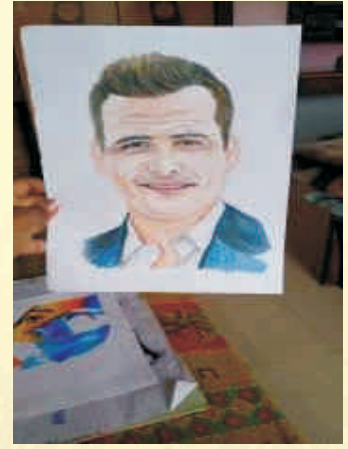
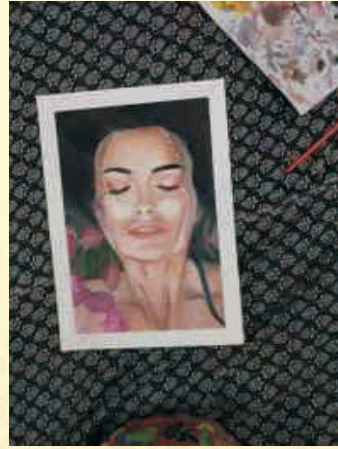




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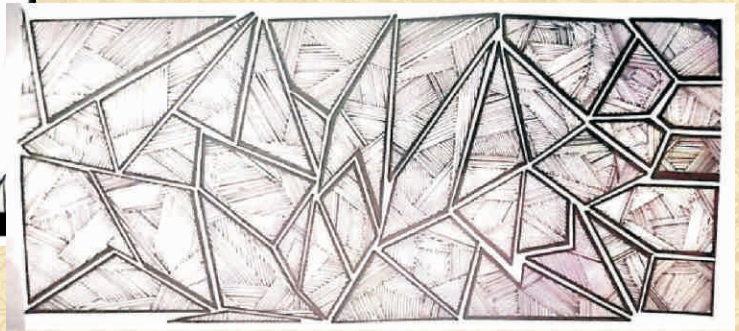




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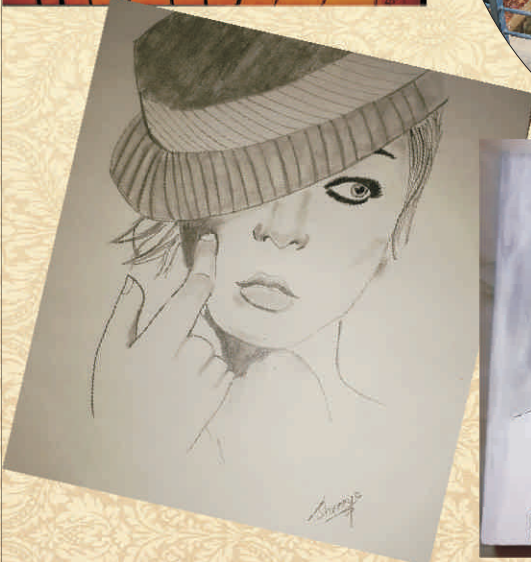


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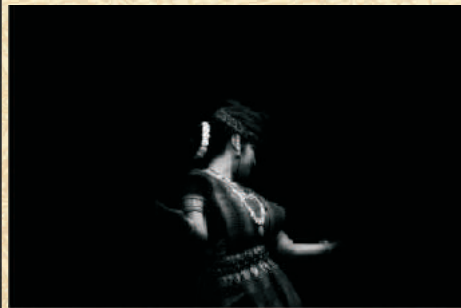
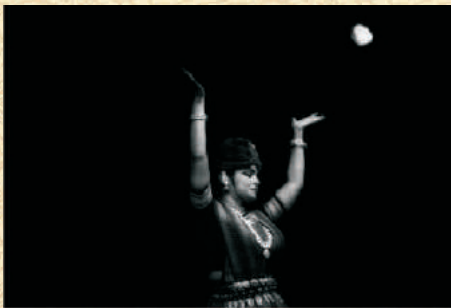
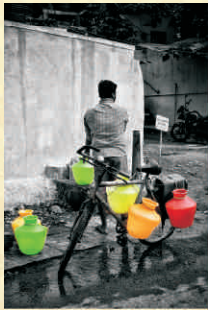


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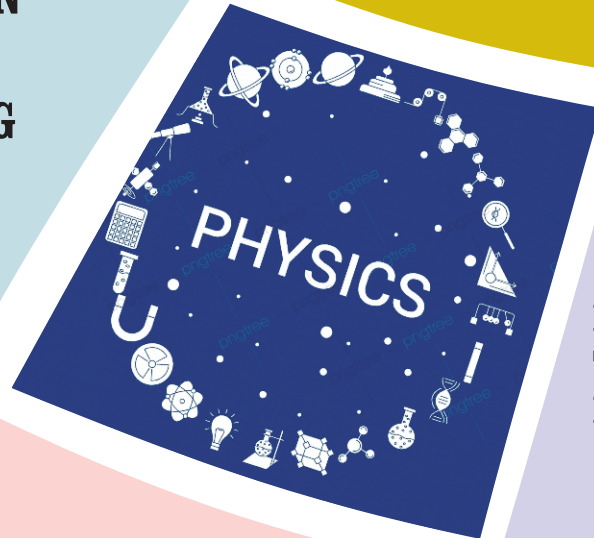






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