



# Allura '21

## SAHRDAYA



EDUCATION IS DEDICATION

COLLEGE OF ENGINEERING & TECHNOLOGY  
KODAKARA - THRISSUR - KERALA - 680 684

2020-21

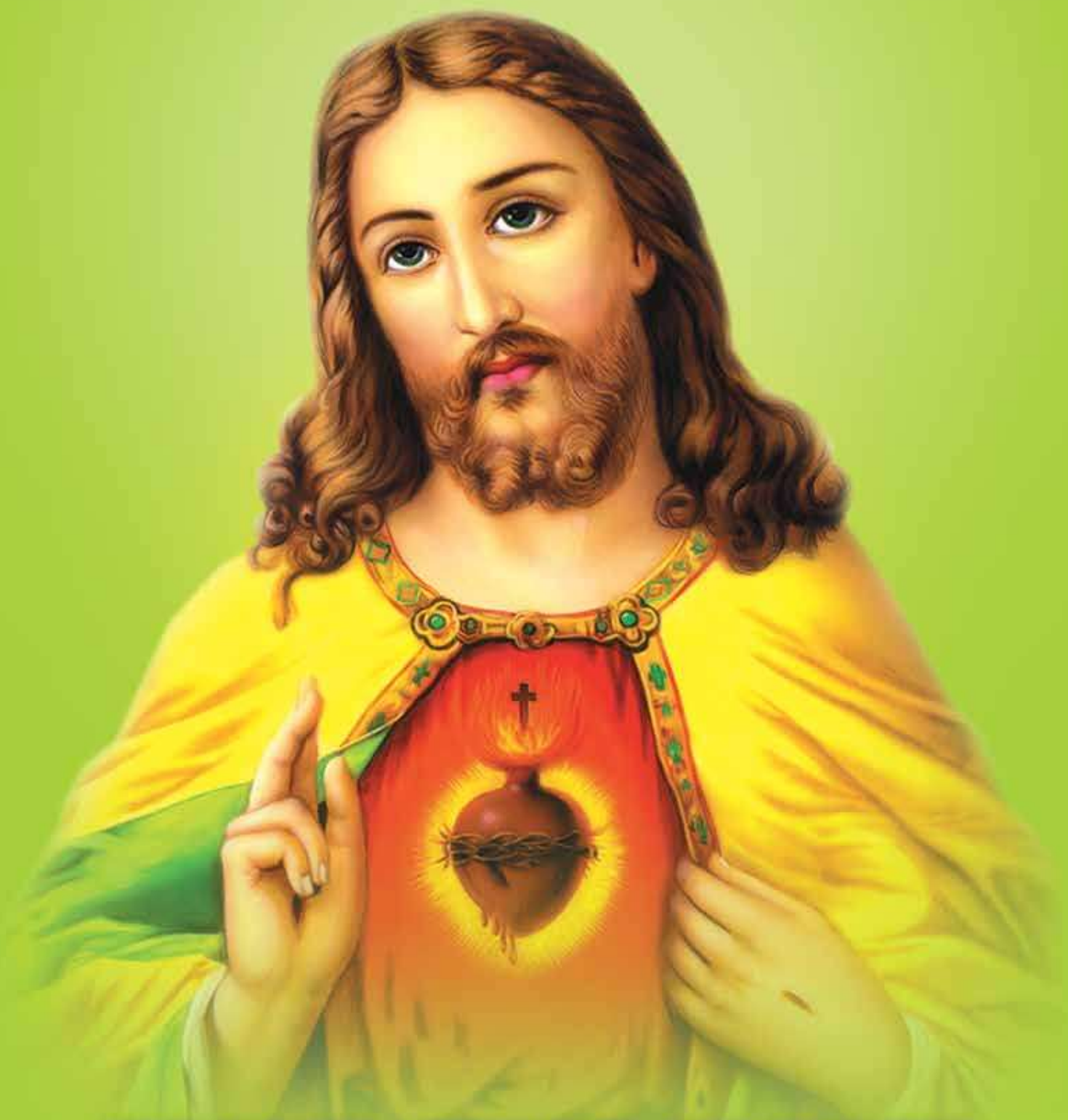
*In loving memory of*



**Mr. Balan A**  
**Sr. Office Superintendent**



**HEAVENLY PATRON**



**SACRED HEART OF JESUS**



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**PRINCIPAL**

DR. NIXON KURUVILA



# OUR TEAM

## STAFF



**DR. P. PRAVEENA**  
(BT)



**DR. SUKHILA KRISHNAN**  
(ASH)



**MS. REMYA P M**  
(CE)



**MS. ARATHY**  
(BME)



**DR. VIJIKALA**  
(EEE)



**MR. SANTHOSHKUMAR.**  
M. S (EC)



**MS. MEGHA. K K**  
(CSE)

## STUDENTS



**POOJA JAYAKUMAR**  
S4 CE



**ABIN BABU**  
S6 EEE



**ANGELROSE N S**  
S4 BT



**MANUKRISHNA BAIJU**  
THEMATH S6 CS B



**BLESSY MARY JOSEPH**  
S2 BT



**AKSHARA M M**  
S6 ECE



**AISWARYA SHAJAN**  
S6 BM



# EDITORIAL *Message*



Greetings to all our readers!

Our lives may have changed in an unexpected manner since the last year. We never anticipated that the so-called “21-day lockdown” would actually go on for months or even years turning out to be longest that we ever sat down with just ourselves and our families. But this pandemic season helped us see the world through fresh lens. All of us, without a doubt, have gone through a phase where we explored the artists, ratatouille chefs, photographers, bloggers or vloggers and a lot more within us. With immense pleasure and enthusiasm, we present to you Allura’ 21, a medium for our Sahrdayan prodigies to scribble their thoughts and ideas. Glimpses of these magazine pages will give us an idea of just what this period meant to each one of us. We assure our readers that in here you will find some great works made with hints of creativity, self-expression, and of course inspiration stemmed from boredom. Our words of gratitude go out to the College management staff members and students who helped in breathing in life into this magazine despite the pandemic limitations faced. Last but never the least, we simply thank everyone for holding up one another throughout. As they say, “Team work makes the dream work”! Wishing you all a joyful reading experience!

**Editorial Team**







## *Message from the* **CHAIRMAN**

*Sahrdaya has always paved way for the integral development of its students and staff. Striving for excellence has always been our focus and I am delighted to see yet another venture becoming fruitful. College magazine is a way to explore the creativity and imagination of an individual and it is really gratifying to see that this year's magazine is ready for release. Hearty congratulations to this year's magazine committee and all those who have contributed towards the college magazine Allura' 21. I wish and pray that you continue to excel in every aspect of your life. May you all be blessed with success, imbibe moral and cultural values, be endowed with fine qualities of heart and mind and emerge as promising leaders of tomorrow.*

*+ Pauly Kannookadan*

*Chairman*  
**Bishop Mar Pauly Kannookadan**



# EXECUTIVE DIRECTOR *Message*

*Greetings to all !!*

*The strength of any organization is its own members. Sahrdaya always has posted its strength through different channels. Yet another channel is coming to the limelight by our college magazine. Creating something new out of nothing needs great passion and patience. By bringing that something new is really valued. Here I take this opportunity to thank and congratulate all those who have contributed productively to achieve this task of bringing forth the college magazine Allura' 21. Gratitude is the memory of the heart. Let us be grateful to one and all.*

*Fr. George Pareman  
Executive Director*



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# PRINCIPAL'S REPORT FOR THE YEAR 2020-21

## 1.0 Introduction:

We are happy to state that 15 batches of B.Tech & 6 batches of M.Tech students have graduated successfully from Sahrdaya. With the Blessings from Heavenly Patron “**Sacred Heart of Jesus**” and with the Guidance and support of our Chairman, Trustees, Governing Body and Academic Council Members, Faculty & Staff, Parents, Well Wishers, Staff and Students, we could continue to maintain a very good reputation among the self-financing Colleges in the state.

## 2.0 Academic Activities:

- Admission for the academic year 2020-21 started during the month of May 2020. We could get an intake of 344 students for B.Tech (BM - 63, BT - 61, CE -23, CS -126, EC - 53, EEE - 18) and 11 students for M.Tech branches (IBT - 3, CSE - 5 & ES - 3).
- 19th Academic year (2020-21) inauguration was conducted online on 17th August, 2020 through Cisco Webex platform.
- Student Induction Program 2020 for first year students started on 25th Nov, 2020 and the online classes started on 7-12-2020.
- Sahrdaya Newsletter Technobeads, Book17, is released by Executive Director Rev. Fr.George Pareman on 11th January, 2021.
- Our college got NAAC second cycle Accreditation with B++ grade and 2.91 CGPA.

**2.1-Results:** The pass percentage of B.Tech in various departments under APJ Abdul Kalam Kerala Technological University are as follows:-

### RESULT ANALYSIS – 2020-21

Batch	SEMESTER	BM	BT	CE	CS	EC	EE	OVERALL PASS %
2020	I	Not published						
2019	III	Not published						
2018	V	70.18%	62%	55%	72%	51.5%	20%	55%
2017	VII	66%	82%	69%	80%	70%	55%	72.25%
2017	VIII	100%	98%	94%	96%	88%	84%	93 %

**Sahrdaya stands 27 among 134 Engineering Colleges under KTU in terms of pass percentage of 2017-2021 batch.**

**2.2:** M.Tech results are as follows:

Batch	SEMESTER	IBT	CS	ES
2020	I	100	100	100
2019	III & IV	100	100	100

## 3.0 Placements

- Official send-off & Placement day celebrations of 2016-2020 batch were done on 14th September
- The placement department in association with Sahrdaya Engineering College Alumni Association (SECAA) organized a department wise virtual alumni interaction for the final & pre final year students on the topic “Career Insights: Going Global”.



- Placement Department with the support of Placed Students has scheduled a two day placement training for eligible students of Wipro and Quest placement drive on 13th & 14th January 2021.

Placement details for the batch 2017-2021 are as follows:-

Branch	BM	BT	CE	CS	EC	EE	Overall %
No. of Students / Eligible Students	45/48	23/31	1/18	76/78	27/27	4/9	176/211
Higher Studies	3	5	3	2	0	1	14
% of total students	100%	90%	22%	100%	100%	55%	90%

Total Percentage of students placed & pursuing higher studies	90 %
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Total number of students placed	176
Total number of students pursuing Higher Studies	14
Total number of placement offers	242
Number of companies offered placement	47
Highest Salary Package Average Salary Package Min. Salary Package	10 Lakhs per Annum 3 Lakhs per Annum 2.2 Lakhs per Annum

**4.0 Faculty and Staff:** We are proud of our Faculty and staff, their dedication and Commitment. We have 101 Faculty Members on roll and 22 technical supporting staff. We have 26 Faculty with Ph.D, out of which 8 Professors, 11 Assoc. Professor and 7 Asst. Prof and 31 Asst. Professors are pursuing Ph.D.

#### 4.1 Faculty Achievements

##### BM

- Ms. Reshma Jose presented a paper titled “Automatic Segmentation of Tumor using Super pixel Segmentation and Advanced Classification Algorithm” under the Energy Track of the International

Conference on Energy and Environment (ICEE) held at Jyothi Engineering College, Thrissur on April 9, 2021.

- Mr. Kiran Phillip Issac, Assistant Professor, was selected for PhD admission as a full time scholar in the department of Applied Mechanics at IIT Madras. The research area is Biomedical Engineering.
- Ms. Reshma Jose published a paper titled “Sustainable analysis of liver tumour detection using various segmentation techniques” in the World Review of Science, Technology and Sustainable Development (WRSTSD), Vol. 17, No. 2/3, 2021, DOI: 10.1504/WRSTSD.2021.114682.
- Ms Lakshmi M Hari published “Muscle fatigue analysis in biceps brachii surface electromyography signals using synchrosqueezed Morlet wavelet and singular value decomposition” in . *Electronics Letters (IET)*. 2021 Jan;57(1):42-4
- Ms Lakshmi M Hari published a book chapter Model-Based Simulation of Surface Electromyography Signals and Its Analysis Under Fatiguing Conditions Using Tunable Wavelets. In *Recent Advances in Computational Mechanics and Simulations* 2021 (pp. 99-108). Springer, Singapore
- The Centre for Assistive Technology & Innovation (CATI) at the National Institute of Speech & Hearing (NISH) had invited proposals for developing Augmentative and Alternative Communication (AAC) systems for children with poor communication ability. The proposal submitted by a team from Biomedical Engineering department guided by Ms. Reshma Jose with student members Antony Paul, Clinto Martin, Angel Rose Chakkiath, Rinta Raju, Jummy Jaimy and Jasmine John has been shortlisted for the next round of AAC Device Development Project.
- Dr. Remya George was selected as a member to the Board of Studies of APJ Abdul Kalam Technological University.
- Mr. Jibin Jose, Assistant Professor of Biomedical Department was the resource person for Webinar on Innovation and Product Development on May 29th jointly conducted by the Institution's Innovation Council and Association of Biomedical Engineering, SSN College of Engineering, Chennai.
- Dr. Yuvaraj was the Panel Speaker of Interactive Session in the Second Engineering, Medicine, Biology, and Healthcare Research and Innovation Colloquium., at Bangladesh University of Engineering and Technology organized by IEEE EMBS Bangladesh Chapter on Jun 9, 2021 Astana, Dhaka.
- Dr. Yuvaraj V was elevated as a Senior member in IEEE Society, USA from 17th April 2021.
- Dr. Finto Raphael and Dr. Remya George, BM jointly conducted KTU sponsored 5 days Online Faculty Development Programme on ‘Embedded Systems and IoT in Biomedical Applications’ conducted during 12-16 July 2021.
- A sixth semester design project Video Based Gait Analysing system guided by Ms. Sony N S with student members Ms. Anjana Divakaran, Ms. Minsha M Z, Ms. Greeshma Varghese, Mr. Sreerag P S has received a Best Paper Award in Biosensor Technologies session in First International Conference on Biomaterials and Biosensor Technologies held online during 12-13, March 2021 by Bannari Amman Institute of Technology, Sathyamangalam.

## BT

- Dr. Ambili Mechoor has been selected as the Curriculum committee Convener for Biotechnology Program under KTU.
- Dr. Uma Krishnakumar has been selected as a Curriculum committee member for Biotechnology Program under KTU.
- Dr. Ambili Mechoor, Prof, has been approved as a Research Supervisor under KTU with specialization in Biochemistry.
- Dr. Dhanya Gangadharan, Asso. Prof, has been approved as a Research Supervisor under KTU with specialization in Biotechnology.
- Dr. Uma Krishnakumar, Asst. Prof, has been approved as a Research Supervisor under KTU with specialization in Chemical Engineering.
- Praveena P, Asst. Professor, Dept. of BT, has been awarded the degree of Doctor of Philosophy (PhD) in Biochemistry.
- Dr. Ambili Mechoor participated as a Content Editor in the development of MOOC modules of “Basic Concepts of Immunology” produced during 2019-21 by Educational Multimedia Research Centre (EMMRC), University of Calicut, on behalf of Consortium for Educational Communication (CEC), New Delhi an Inter-University Center under UGC.
- Dr. Ambili Mechoor participated as an Editor in translating the files of the course “Language and Mind” offered by IIT Madras in Malayalam language to be offered as a NPTEL course.



- Dr.Dhanya Gangadharan,BT and Dr.Jeethu Raveendran,BM jointly conducted KTU sponsored 3 days Faculty Development Programme on 'Biosensors in Point-of-Care: Diagnostics:Strategies and Implementation' conducted during 19-21 April 2021.
- Ms.P.Praveena successfully defended her thesis titled 'Evaluation of antineoplastic and antifertility activity of unripe fruit of *Carica papaya* L' on 03 March 2021 from Research and Development Centre, Bharathiar University, Coimbatore.
- Dr.P.Praveena, BT and Dr.Silpa. P. A, EC filed an Indian patent titled "PCB based electrode biosensor using graphene nano ink" with application number 202141006380.
- Dr.P.Praveena published a book chapter titled "Carica papaya - A Comprehensive Review" in the book 'Recent Advancements and Research in Biological Sciences' with ISBN: 978-81-952529-1-6.
- Dr.P. Praveena was the coordinator of the webinar conducted on 14 June 2021 for the higher secondary school students on the topic 'Post Covid era:Role of Biotechnologists'.
- Dr.Midhila Padman was the resource person of the webinar conducted on 14 June 2021 for the higher secondary school students on the topic 'Post Covid era:Role of Biotechnologists'.
- Dr.P. Praveena and Ms.Smeera Thomas were the resource persons for the Online workshop on Technical Writing conducted jointly by the Department of Biotechnology and RDC, SahrdayaCET for the sixth semester students.
- Dr.Amitha Joy was the guest speaker on the topic "Emerging role of Bioinformatics in Biotechnology" organized by Mercy college, Palakkad held in November 2020.

#### CE

- Ms Ragi C Ravindran, Assistant Professor, has enrolled as Associate Member (AM1954477) of 'The Institution of Engineers (India)'.
- S8 Project title 'Flood Inundation Mapping using HEC-RAS and its Disaster Management Applications' guided by Ms. Reshma Antony secured the Best Oral presentation award in the International Conference on Innovations in Civil Engineering - ICICE'- 21.

#### CS

- Mr.Krishnadas J has completed his Ph.D and awarded the doctorate degree in Computer Science and Engineering during Dec, 2020.
- Dr.M.Rajeswari is Acting as a reviewer in SCI indexed journals
- 1. "Wireless Personal Communications", ISSN: 0929-6212 (Print) 1572-834X (Online).
- 2."The Journal of Supercomputing", ISSN: 0920-8542 (print version), ISSN: 1573-0484 (electronic version).
- Dr. R. Satheesh Kumar is a Regular Reviewer in -
  1. Elsevier Publications: Egyptian Informatics Journal Production and Hosting by Elsevier B.V. on behalf of the Faculty of Computers and Information, Cairo University. ISSN: 1110-8665.
  2. Springer Publications: The Journal of Super Computing, An International Journal of High-Performance Computer Design, Analysis, and Use. ISSN: 0920-8542; 1573-0484.
  3. Springer Publications: Multimedia Tools and Applications, An International Journal. ISSN: 1380-7501 (print version) ISSN: 1573-7721.
- Dr.Satheeshkumar from CSE department received a Patent Grant from Australia titled "A Smart Methodology to Track the Spread of Pandemic and Sanitizing at Regular Intervals".
- Dr. M.Rajeswari acted as an evaluator and mentor on Toycathon 2021 conducted by MHRD during 21-22 June 2021.
- Dr.R.Sunder, as a reviewer for IEEE MYSURUCON 2021-The First Edition of the Flagship International Conference Series of IEEE Mysore Sub Section in association with IEEE Bangalore Section at NAVKIS College of Engineering, Hassan on 24th & 25th October 2021.
- Dr.R.Sunder published a patent Title of the invention : PLASMA POWER GENERATION USING WASTE MATERIALS.
- Certificate of Appreciation, Willson Joseph C, for leading the GoogleCloudReady Facilitator Program in Sahrdaya College of Engineering and Technology, Kodakara.
- Dr.M.Rajeswari, Ms. Divya R, Ms. Anusree K and Mr. Shyam Krishna published a book chapter on Handbook of Deep learning in Biomedical Engineering and Health Informatics, "Review of Existing

systems in biomedical using deep learning algorithms", ISBN: 9781771889988, Taylor & Francis, Apple Academic Press, Scopus Indexed, 2021.

- Mr.Scaria Alex published a patent Titled ‘ Intelligent Irrigation Monitoring And Controlling System For Agriculture Based on Solar Energy Using Internet Of Things ‘ on 16-Jul-2021

## EC

- Ms. Jisha Jacob, Asst. Prof completed a 12-week course on “Switching Circuits and Logic Design” by NPTEL.
- Dr. Vishnu Rajan, Asso. Prof Certified TensorFlow Developer - Certified by Deeplearning.ai. He also served as a resource person for AICTE Sponsored STTP on OBE, Conducted by Department of ECE, Sahrdaya College of Engineering and Technology. He is also a Regular Reviewer in Journal of Intelligent & Fuzzy Systems, an SCI Indexed Journal, ISSN print 1064-1246 ISSN online 1875-8967.
- Ms. Shilpa P. A, Asst. Professor , Dept. of ECE, has been awarded the degree of Doctor of Philosophy (Ph D) in Electronics and Communication Engineering. (June 2021)
- Chinchu Jose, Asst. Prof completed the following courses
  - 1.Nanotechnology: A Maker’s Course an online non-credit course authorized by Duke University, North Carolina State University and The University of North Carolina at Chapel Hill and offered through Coursera.
  2. Programming for Everybody (Getting Started withPython) an online non-credit course authorized by University of Michigan and offered through Coursera
  3. AI For Everyone an online non-credit course authorized by deeplearning.ai .The research work of Ms Ambily Francis, Asst Prof. ECE department is published in a reputed Springer journal, Multimedia Tools and Applications, with an impact factor 2.31.
- Ambily Francis Published a paper titled "Early detection of Alzheimer's disease using local binary pattern and convolutional neural network." Multimedia Tools and Applications (2021): 1-16. (SCI Indexed, Impact Factor- 2.757).
- Ambily Francis Presented and Published a paper titled "Early detection of Alzheimer's disease using an ensemble of pre-trained models." In 2021 International Conference on Artificial Intelligence and Smart Systems (ICAIS), pp. 692-696. IEEE, 2021. (Scopus Indexed).
- Gnana King G.R., et.al, “Two wire Tether Interface Modem for Monitoring Underwater Pipeline Infrastructure” Solid State Technology,Volume: 63 Issue: 2s ,Publication Year: 2020, pages 3094-3099( Scopus Indexed).
- A. Z. Sajan and G. R. G. King, "Zebra Line Detection And Speed Control System Using Raspberry Pi," 2021 7th International Conference on Advanced Computing and Communication Systems (ICACCS), 2021, pp. 147-150, doi: 10.1109/ICACCS51430.2021.9441763.(IEEE Xplore)
- A. Joy, T. H. Hafsiya and G. King, "A Review on Glucose Monitoring Using Enabling Technologies of Internet of Things," 2021 7th International Conference on Advanced Computing and Communication Systems (ICACCS), 2021, pp. 270-273, doi: 10.1109/ICACCS51430.2021.9442042.(IEEE Xplore)
- S. M. Sali, N. L. Manisha, G. King and K. Vidyamol, "A Review on Object Detection Algorithms for Ship Detection," 2021 7th International Conference on Advanced Computing and Communication Systems (ICACCS), 2021, pp. 1-5, doi: 10.1109/ICACCS51430.2021.9441801 (IEEE Xplore)
- Ann Zenna Sajan & Dr. G R Gnana King, "Wireless Speed Control of Vehicles with Detection of Person & Zebra Crossing", International Journal of Recent Technology and Engineering (IJRTE), ISSN: 2277-3878, Volume-10 Issue-2, July 2021 ( Scopus Indexed).

## EEE

- Mr Sebin Davis K, HOD, EEE Department received a funding of Rs 2 lakh from KSUM to develop a semi-automatic Banana slicer idea. He is also recognised as Chartered Engineer by “THE INSTITUTION OF ENGINEERS (INDIA)” (M-1654327).
- Dr. Sivamani Chinnaswamy, Ms. Aswiga R. V, Dr. Vijikala V published a paper on “A Machine Learning Approach for Analysing Medical Data sto Detect Patients Disease and for Recommending Appropriate Drugs” Solid State Technology journal, Scopus Indexed, Volume:64 issue:2



- R V Aswiga, Dr. V. Vijikala, D Vaduganathan, Uma E S published a book chapter on “Emerging Technologies in Engineering Research” Technical Research Publications, ISBN:978-93-5419-211-1

#### ASH

- Webinar was conducted on the topic ‘Polymeric Biomaterials for tissue Engineering Application’ by Dr.Lynda Velutheril Thomas Scientist D,Sree Chitra Tirunal Institute Of Medical Science & Technology on 30th Nov, 2020.
- Mr. Joseph Jestin, Librarian has been awarded Doctorate degree in Library and Information science by Bharathidasan University. (March, 2021)

#### 4.2 Paper presentation and publication by Faculty members

<u>Sl. No</u>	<u>Dept.</u>	<u>No of Paper presentations in National / International Conferences</u>	<u>SCI / Scopus Indexed</u>	<u>Journals</u>
1	BM	2	Scopus	Ms. Reshma Jose published a paper titled “Sustainable analysis of liver tumour detection using various segmentation techniques” in the <i>World Review of Science, Technology and Sustainable Development (WRSTSD)</i> , Vol. 17, No. 2/3, 2021, DOI: 10.1504/WRSTSD.2021.114682.
				Ms. Reshma Jose presented a paper titled 'A Sustainable Facial Recognition Based Heart Rate Monitoring System for the Detection of Atrial Fibrillation in Paralyzed' under the Energy Track of the International Conference on Energy and Environment (ICEE) held at Jyothi Engineering College, Thrissur on April 9, 2021 and accepted for publication in AIP conference proceedings.
2	BT	2	Scopus	A paper titled ‘Interaction network of insulin resistance proteins with organophosphorous and chlorine pesticides ’ by Dr.Amitha Joy has been accepted by International Journal of Computational Biology and Drug Design, Scopus Indexed.
				Ms.Ranimol presented a paper titled Applications of scaffold free 3D bioprinting in Cardiovascular Medicine’ in the International Virtual conference “Recent Innovations in Science & Technology” on 19 and 20 June 2021 by Eranad Knowledge City Technical Campus ,Malappuram,Kerala in association with ISET Research & HEXAIND Technologies and Services
				Dr. Leon Ittiachen presented a paper titled ‘Evaluation of antibacterial activity of biosynthesized silver nanoparticles coated low density polyethylene films in the IEEE International Conference on Nanoelectronics, Nanophotonics,Nanomaterials,Nanobioscience and Nanotechnology organized by Mangalam College of Engineering, Ettumanoor, Kottayam, Kerala on 29-30 April 2021.

				Ms.Salini P J, presented a paper titled “Treatment of Vehicle Wash Wastewater by Fenton Process and its Recycling” in an International Conference on Green Chemistry and Engineering towards Sustainable Development – An Industrial Perspective, organized by SVNIT, Surat from 16 <sup>th</sup> to 18 <sup>th</sup> June 2021.
3	CE	1	SCI	1)Cherian, C. J., Pillai, T. M. M., Sajith, A. S., ‘Response control of shear building model for ground motions using tuned mass damper and track nonlinear energy sink – an experimental study’, Journal of Structural Engineering, Vol. 47, No. 4, October - November 2020, pp 308-318
				2)Ciby Jacob Cherian, T M Madhavan Pilla, Sajith A S, ‘Response control of shear building model for ground motions using tuned mass damper and track nonlinear energy sink – an experimental study’, Journal of Structural Engineering, Vol. 47, No. 4, October - November 2020, pp 308-318
4	CS	3	Scopus	A paper titled ‘ Spider Bird swarm algorithm with deep belief network for malicious JavaScript detection ‘ by Scaria Alex has been accepted by Computers and Security, Sci Indexed.
				A paper titled ‘ Adaptive Spider Bird Swarm Algorithm-Based Deep Recurrent Neural Network for Malicious JavaScript Detection Using Box-Cox Transformation ‘ by Scaria Alex has been accepted by International Journal of Open Source Software and Processes, Scopus Indexed.
			SCI	Rajeswari Manickam, Satheesh Kumar Rajan, Chidambaranathan Subramanian, Arnold Xavi, Golden Julie Enoch and Harold Robinson Yesudhas, “Person identification with aerial imaginary using SegNet based semantic segmentation”, Earth Science Informatics, <a href="https://doi.org/10.1007/s12145-020-00516-y">https://doi.org/10.1007/s12145-020-00516-y</a> , Sep 1,2020 – Online, Springer Publications, SCI Indexed.
				K. Vijayan, G. Ramprabu, S. Selvakumara Samy and M. Rajeswari, “Cascading Model in Underwater Wireless Sensors using Routing Policy for State Transitions”, Microprocessors and Microsystems, 79 (2020) 103298, 0141-9331, Elsevier Publications, SCI Indexed.
				Vijayalakshmi S, John A, Sunder R, Senthilkumar Mohan, Sweta Bhattacharya, Rajesh Kaluri, Guang Feng and Usman Tariq, “Multi-modal prediction of breast cancer using particle swarm optimization with non-dominating sorting”, International Journal of Distributed Sensor Networks, 2020, Vol. 16(11), DOI: 10.1177/1550147720971505 journals.sagepub.com/home/dsn, SCI Indexed.



5	EC	7	Scopus	Ambily Francis Published a paper titled "Early detection of Alzheimer's disease using local binary pattern and convolutional neural network." Multimedia Tools and Applications (2021): 1-16. (SCI Indexed, Impact Factor- 2.757).
				Ambily Francis Presented and Published a paper titled "Early detection of Alzheimer's disease using an ensemble of pre-trained models." In 2021 International Conference on Artificial Intelligence and Smart Systems (ICAIS), pp. 692-696. IEEE, 2021. (Scopus Indexed).
6	EEE	2	SCI	V. V. Shimin, Sudhakaran, V. A. Shah, and M. M. Lokhande, "Vector Control Based Regenerative Braking For Induction Motor Driven Battery Electric Vehicles," Int. J. Power Energy Syst., 2020, doi: 10.2316/j.2020.203-0122. ACTA Press (ESCI)
				P. K. A. Vijay, V. A. Shah, and V. V. Shimin, "Energy Based Equivalent Circuit Modelling Of Ultracapacitor Considering Variation of ESR with OCV," Int. J. Power Energy Syst., 2020, doi: 10.2316/j.2020.203-0139. ACTA Press (ESCI)
				Shimin. V. Veetil, V. Shah, and M. Lokhande, "Improvised E-Rickshaws for Indian Roads by Effective Battery-Ultracapacitor Hybridization," Adv. Sci. Technol. Eng. Syst. J., 2020, doi: 10.25046/aj0505141 (SCOPUS)
				V. Vijikala, D.Anto Sahaya Dhas., A Novel Decision Support System for Malignant Tumor using 3D Reconstruction and Volumetric Analysis. Jour of Adv Research in Dynamical & Control Systems, Vol. 12, No. 3, 2020. doi: 0.5373/jardcs/v12i3/20201176. (SCOPUS)
				Dr. Jayesh George Melekoodappattu, Dr.V.Vijikala, Dr.D.Anto Sahaya Dhas., Early Detection and Classification of Brest Tumor from Mammogram Images. International Journal of Psychosocial Rehabilitation ISSN:1475 – 7192, Volume 24 – Issue 3 2020. doi: 10.37200/ijpr/v24i3/pr2020771 (SCOPUS)

#### 4.3 Workshop and FDPs attended

<u>Branch</u>	<u>Faculty name</u>	<u>FDP Details</u>
BM	Dr.Finto Raphel	1. Participated in a FDP conducted by BT & BME of Sahrdaya College of Engineering and Technology on Biosensors in point of care diagnostics: strategies and implementation from 19-4-21 to 21-4-21
		2. Embedded Systems and IoT in Biomedical Applications
		3. KTU sponsored 5 days Online Faculty Development Programme on 'Embedded Systems and IoT in Biomedical Applications' conducted during 12-16 July 2021.

		4. Resource person in a talk conducted by IEI Thrissur on the topic Biomedical Engineers: Hidden Heroes behind the scene of COVID-19 Crisis
		5. Resource person for a webinar conducted by the Biomedical Department in Association with the Centre for Research and Development, and BMESI ,SCET
BM	Dr. Remya George	1. Moderator for panel discussion conducted by BME of Sahrdaya College of Engineering and Technology on Changes in medical device industry and regulation in last 5 years.
		2. Participated in a FDP conducted by BT & BME of Sahrdaya College of Engineering and Technology on Biosensors in point of care diagnostics: strategies and implementation from 19-4-21 to 21-4-21
		3. Attended an Int. Conference on Recent Innovations in Science & Technology 2021, International Virtual Conference Organized by: Eranad Knowledge City Technical Campus Manjeri, Kerala on 19th & 20th June 2021.
		4. Organized a KTU sponsored 5 days Online Faculty Development Programme on 'Embedded Systems and IoT in Biomedical Applications during 12-16 July 2021.
BM	Ms. Sony N S	1. Attended the FDP conducted by BT & BME of Sahrdaya College of Engineering and Technology on Biosensors in point of care diagnostics: strategies and implementation from 19-4-21 to 21-4-21
		2. Attended in a KTU sponsored 5 days online FDP on Embedded Systems and IoT in Biomedical Applications conducted by BM department, SCET during 12th - 16th July 2021
		3. Participated in the First International Conference on Biomaterials and Biosensor Technologies organised by Bannari Amman Institute of Technology, Sathyamangalam on 12-13 March 2021.
BM	Dr. Yuvaraj V	1. Attended AICTE Training And Learning (ATAL) Academy Online FDP on "3D Printing & Design" from 2021-1-4 to 2021-1-8 at Indian Institute of Information Technology, Design and Manufacturing, Kancheepuram.
		2. Attended an online course "Introduction to LS-PICs" on 18-20th May 2021 organized by IEEE Photonics Society of Jeppiaar Engineering College, Chennai.
		3. Attended an online training on "Analog Circuits Simulation Using SPICE Tools" on 19th May at Mangalam College of Engineering, Kottayam., Organized by IEEE Photonics Society and MSME-Technology Development Centre, Government of India.
		4. Attended AICTE Training And Learning (ATAL) Academy Online FDP on "Recent Trends and Opportunities for Research in Electronics and Computer Science Engineering" from 24th to 28th May 2021, at Goa College of Engineering, Goa.
		5. Participated in a KTU sponsored 5 days online FDP on Embedded Systems and IoT in Biomedical Applications conducted by BM department, SCET during 12th - 16th July 2021



BM	Ms. Reshma Jose	1. AICTE sponsored online ATAL FDP on "Applied Machine Learning and Data Science " hosted by Department of Computer Applications, SAINTGITS College of Engineering, Kottayam, Kerala from 18th to 22nd January 2021.
		2. KTU sponsored online three day Faculty Development Program on “Biosensors in Point of Care Diagnostics- Strategies and Implementation” hosted by Department of Biotechnology and Department of Biomedical Engineering, Sahrdaya College of Engineering and Technology, Kodakara from 19th to 21st April 2021.
		3. KTU sponsored online FDP on "Deep Learning for Signal Processing- Basics to implementation" hosted by Department of Electronics and Communication, Sahrdaya College of Engineering and Technology, Kodakara from 26th to 30th April 2021.
		4. KTU sponsored online FDP on "Precision Health Technology " hosted by Department of Biomedical Engineering, SSN College of Engineering, Chennai from 28th June to 2nd July 2021.
		5. Participated in a KTU sponsored 5 days online FDP on Embedded Systems and IoT in Biomedical Applications conducted by BM department, SCET during 12th - 16th July 2021
BM	Mr. Jibin Jose	1. Resource person for a webinar on the topic Innovation and Product Development on jointly conducted by the Institution’s Innovation Council and Association of Biomedical Engineering conducted by SSN College of Engineering, Chennai on 29-5-2021
		2. Resource person for a placement talk conducted by BME of Sahrdaya College of Engineering and Technology on 23-3-2021
		3. Participated in a KTU sponsored 5 days online FDP on Embedded Systems and IoT in Biomedical Applications conducted by BM department, SCET during 12th - 16th July 2021
BM	Ms. Kiran Philip	1. Participated in a FDP conducted by BT & BME of Sahrdaya College of Engineering and Technology on Biosensors in point of care diagnostics: strategies and implementation from 19-4-21 to 21-4-21
		2. Participated in a KTU sponsored 5 days online FDP on Embedded Systems and IoT in Biomedical Applications conducted by BM department, SCET during 12th - 16th July 2021
		3. Participated a webinar on Implementation of National Educational Policy 2020 conducted by Sahrdaya College of Engineering and Technology on 6-5-2021
		4. Participated a webinar on Patient Monitor testing: Overview and MEQA conducted by FLUKE Biomedical on 06.05.2021
		5. Participated in a FDP conducted by TKM Institute of Technology, Kollam on Recent Research Trends in Biomedical Engineering during 22.07.2021 - 27.07.2021
BM	Ms. Supriya	1. Participated in a KTU sponsored 5 days online FDP on Embedded Systems and IoT in Biomedical Applications conducted by BM department, SCET during 12th - 16th July 2021

BM	Ms. Lavina	2. Participated in a FDP conducted by BT & BME of Sahrdaya College of Engineering and Technology on Biosensors in point of care diagnostics: strategies and implementation from 19-4-21 to 21-4-21
		3. Participated in a KTU sponsored 5 days online FDP on Embedded Systems and IoT in Biomedical Applications conducted by BM department, SCET during 12th - 16th July 2021
		4. Participated in a FDP conducted by TKM Institute of Technology, Kollam on Recent Research Trends in Biomedical Engineering during 22.07.2021 - 27.07.2021
		5. Participated in a FDP conducted by EEE & ECE of Amal Jyothi College of Engineering on Biomedical Instrumentation-research challenges from 22-2-21 to 26-2-21
BM	Ms. Arathy	1. Participated in a FDP conducted by BT & BME of Sahrdaya College of Engineering and Technology on Biosensors in point of care diagnostics: strategies and implementation from 19-4-21 to 21-4-21
		2. Participated in a KTU sponsored 5 days online FDP on Embedded Systems and IoT in Biomedical Applications conducted by BM department, SCET during 12th - 16th July 2021
		3. Participated in a FDP conducted by TKM Institute of Technology, Kollam on Recent Research Trends in Biomedical Engineering during 22.07.2021 - 27.07.2021
		4. Participated in a FDP conducted by EEE & ECE of Amal Jyothi College of Engineering on Biomedical Instrumentation-research challenges from 22-2-21 to 26-2-21
BM	Ms. Lakshmi M Hari	1. Attended the One day Online FDP on “Advances in Signal Processing” organized by the Department of Communication Engineering (DCE), School of Electronics Engineering (SENSE), Vellore Institute of Technology, Vellore, Tamil Nadu in association with IEEE Signal Processing Society-Madras Chapter on 5th April 2021.
		2. Participated in a KTU sponsored 5 days online FDP on Embedded Systems and IoT in Biomedical Applications conducted by BM department, SCET during 12th - 16th July 2021.
BT	Dr. Ambili Mechoor	KTU sponsored 3 days Faculty Development Programme on ‘Biosensors in Point-of-Care: Diagnostics: Strategies and Implementation’ conducted during 19-21 April 2021.
BT	Dr. Leon Ittiachen	Resource person in the FDP ‘-Engineering Biological Research in the 21st century’ conducted by Kristu Jayanti College, Bengaluru on 04 May 2021
		KTU sponsored 3 days Faculty Development Programme on ‘Biosensors in Point-of-Care: Diagnostics: Strategies and Implementation’ conducted during 19-21 April 2021.
		Participated in ‘Effective Engineering Teaching in Practice’, a NPTEL course during Jan-Feb 2021 and received Elite certification
		Participated in ‘Introduction to Professional Scientific Communication’, a NPTEL course Jan-Feb 2021 and was among the top 2% of the certified candidates
BT	Dr. Dhanya Gangadharan	KTU sponsored 3 days Faculty Development Programme on ‘Biosensors in Point-of-Care: Diagnostics: Strategies and Implementation’ conducted during 19-21 April 2021.



BT	Dr.Amitha Joy	KTU sponsored 3 days Faculty Development Programme on 'Biosensors in Point-of-Care: Diagnostics:Strategies and Implementation conducted during 19-21 April 2021.
BT	Dr.Uma Krishnakumar	KTU sponsored 3 days Faculty Development Programme on 'Biosensors in Point-of-Care: Diagnostics:Strategies and Implementation conducted during 19-21 April 2021.
BT	Dr.P.Praveena	KTU sponsored 3 days Faculty Development Programme on 'Biosensors in Point-of-Care: Diagnostics:Strategies and Implementation conducted during 19-21 April 2021.
BT	Ms.Marria C Cyriac	KTU sponsored 3 days Faculty Development Programme on 'Biosensors in Point-of-Care: Diagnostics:Strategies and Implementation conducted during 19-21 April 2021.
BT	Ms. Smeera Thomas	KTU sponsored 3 days Faculty Development Programme on 'Biosensors in Point-of-Care: Diagnostics:Strategies and Implementation conducted during 19-21 April 2021.
BT	Ms.Ranimol G	KTU sponsored 3 days Faculty Development Programme on 'Biosensors in Point-of-Care: Diagnostics:Strategies and Implementation conducted during 19-21 April 2021.
BT	Ms.Salini. P. J	KTU sponsored 3 days Faculty Development Programme on 'Biosensors in Point-of-Care: Diagnostics:Strategies and Implementation conducted during 19-21 April 2021.
		Ms.Salini P J has participated in the online webinar on Implementation of National Education Policy 2020 on 06 <sup>th</sup> May 2021, organized by Sahridaya College of Engineering and Technology, Kodakara, Thrissur
BT	Mr.Francis John V	KTU sponsored 3 days Faculty Development Programme on 'Biosensors in Point-of-Care: Diagnostics:Strategies and Implementation conducted during 19-21 April 2021.
CE	Ms Aiswarya M S	AICTE Training And Learning (ATAL) Academy's online FDP on "Environmental Geotechnology" from 04-01-2021 to 08-01-2021 at University Institute of Engineering and Technology
		5-day online FDP on the theme "Inculcating Universal Human Values in Technical Education" organized by All India Council for Technical Education(AICTE) from 17 May, 2021 to 21 May, 2021.
CE	Reshma Antony	AICTE Training and Learning (ATAL) Academy Online FDP on Waste Technology from 2021-1-4 to 2021-1-8 at NIT Warangal.
		Virtual Conference on Disaster Risk Reduction-Civil Engineering for a Disaster Resilient Society conducted during 15-20 March 2021. , organised by NITK.
		KTU sponsored online FDP on Recent Trends in Design , Construction and Maintenance of Concrete Pavements organized by Civil Engineering Department, Mar Baselious College of Engineering and Technology from 5th to 9th July 2021.
		KTU sponsored online FDP on Outcome Based Education with Assessment and Evaluation from 26 th July to 30 th July 2021 organized by Dept. of Electronics and Communication Engineering,Sahridaya College of Engineering and Technology, Kodakara, Thrissur, Kerala.

		ATAL FDP on Green Technology and Sustainability Engineering from 2020-12-8 to 2020-12-12 at National Institute of Technology Raipur.
CS	Dr .M .Rajeswari	ATAL FDP on “Artificial Intelligence” during 04/01/21 to 08/01/21 at PSNA College of Engineering and Technology
		ATAL FDP on “Block Chain” during 18/01/21 to 22/01/21 at Excel Engineering College.
		ATAL FDP on “Internet of Things” during 01/02/2021 to 05/02/21 at Knowledge Institute of Technology
CS	Uma E S	TEQIP-II sponsored Six Days Online FDP on “Applications of Artificial Intelligence and IoT in Engineering” from 01 to 06 February, 2021 organized by College Of Engineering Perumon.
		Four Days Online FDP on “Future Trends of Data Analytics” from 15 to 18 June, 2021 organized by Lourdes Matha college of Science and Technology.
CS	Willson Joseph	5 Days Online Workshop/FDP on 'Starting Research from Scratch'.by Karunya Institute of Science and Technology.
CS	Sreetha E S	Five days AICTE Online FDP on "Internet of Things " from 04-01-2021 to 08-01-2021 at JAWAHARLAL NEHRU NATIONAL COLLEGE OF ENGINEERING.
		5 Days Online Workshop/FDP on 'Starting Research from Scratch'.by Karunya Institute of Science and Technology.
CS	Princy T D	TEQIP-II sponsored Six Days Online FDP on “Applications of Artificial Intelligence and IoT in Engineering” from 01 to 06 February, 2021 organized by College Of Engineering Perumon.
		Four Days Online FDP on “Future Trends of Data Analytics” from 15 to 18 June, 2021 organized by Lourdes Matha college of Science and Technology.
		Five days AICTE Online FDP on “Artificial Intelligence” from 2021-2-22 to 2021-2-26 organized by Model Engineering College.
		Five days AICTE Online FDP on "Data Sciences" from 2021-1-7 to 2021-1-11 at Cochin University of Science and Technology
		Five days AICTE Online FDP on "Data Sciences" from 2021-1-18 to 2021-1-22 at SAINTGITS COLLEGE OF ENGINEERING
		Five days AICTE Online Elementary FDP on “Challenges and Opportunities in VLSI for IoT Applications” from 2021-06-21 to 2021-06-25 at KL University.
CS	Scaria Alex	5 Day FDP on Blockchain from 4-1-2021 to 8-1-2021 organised by AICTE.
		8 Day FDP on Artificial Intelligence and Deep Learning from 31-Dec-2020 to 7-jan-2021 organised by kalasalingam University
		TEQIP-II sponsored 6 day FDP on Applications of Artificial Intelligence and IoT in Engineering organised by COLLEGE OF ENGINEERING PERUMON from 1-Feb-2021 to 6-Feb-2021.
		3 Day FDP on Artificial Intelligence and Machine Learning from 28-Jul-21 to 30-Jul-21 organised by Ahalia school of Engineering and Technology
CS	Linnet Tomy	TEQIP-II sponsored 6 day FDP on Applications of Artificial Intelligence and IoT in Engineering organised by COLLEGE OF ENGINEERING PERUMON from 1-Feb-2021 to 6-Feb-2021.
CS	Megha K K	ATAL FDP on “Block Chain” during 18/01/21 to 22/01/21 at Excel Engineering College.

		TEQIP-II sponsored Six Days Online FDP on “Applications of Artificial Intelligence and IoT in Engineering” from 01 to 06 February, 2021 organized by College Of Engineering Perumon
		Four Days Online FDP on “Future Trends of Data Analytics” from 15 to 18 June, 2021 organized by Lourdes Matha college of Science and Technology.
EC	Ambily Francis	1. Attended six days online Short Term Training Programme on “Emerging Trends and Research Challenges in Next Generation Wireless Networks” organized by Department of Electronics & Communication Engineering, Kongunadu College of Engineering and Technology, Trichy from 15.03.2021 to 20.03.2021.
		2. Attended 3 days Online Faculty Development Program on “Multidisciplinary Applications of MATLAB” held under the auspices of Department of Electronics and Communication Engineering, Universal Engineering College, Vallivattom, Thrissur from 22nd July 2021 to 24th July 2021 .
		3. Participated in a KTU sponsored online FDP on “Outcome Based Education with Assessment and Evaluation from” 26th July to 30th July 2021 organized by Dept. of Electronics and Communication Engineering, Sahrdaya College of Engineering and Technology, Kodakara, Thrissur, Kerala.
		4. Participated in a KTU sponsored online FDP on “Deep Learning for Signal Processing - Basics to Implementation” from 26th April to 30th April 2021 organized by Dept. of Electronics and Communication Engineering, Sahrdaya College of Engineering and Technology, Kodakara, Thrissur, Kerala.
		5. Participated & completed successfully AICTE Training And Learning (ATAL) Academy Online FDP on "Data Sciences" from 2021-1-18 to 2021-1-22 at Saintgits College of Engineering, Kerala.
		6. Attended the AICTE sponsored Six Days Short Term Training Program on “IoT and Data Science” conducted by Department of Electronics and Communication Engineering, St. Joseph’s College of Engineering and Technology from 28/12/2020 to 02/01/2021.
EC	Chinchu Jose	Participated in a KTU sponsored online FDP on “Outcome Based Education with Assessment and Evaluation from” 26th July to 30th July 2021 organized by Dept. of Electronics and Communication Engineering, Sahrdaya College of Engineering and Technology, Kodakara, Thrissur, Kerala.
		Participated in a KTU sponsored online FDP on “Deep Learning for Signal Processing - Basics to Implementation” from 26th April to 30th April 2021 organized by Dept. of Electronics and Communication Engineering, Sahrdaya College of Engineering and Technology, Kodakara, Thrissur, Kerala.
		Participated in a KTU sponsored online FDP on Research Trends in Social Network Analytics organized by SCMS School of Engg and Tech from 24/05/2021-28/05/2021.
		Participated in a KTU sponsored online FDP on Research Trends in Social Network Analytics organized by SCMS School of Engg and Tech from 24/05/2021-28/05/2021.



		Participated in a KTU sponsored online FDP on Emerging Trends and Challenges in Low power VLSI Design by MBC CET,Peermade from 19/05/2021-21/05/2021.
		Participated in a KTU sponsored online FDP on Biosensors in point of care diagnostics:Strategies and Implementation by Dept. of BME, Sahrdaya College of Engineering and Technology, Kodakara, Thrissur, Kerala from 19/04/2021-21/04/2021.
EC	Dr G R Gnana King	participated& completed successfully AICTE Training And Learning (ATAL) Academy Online FDP on "Artificial Intelligence" from 2020-12-14 to 2020-12-18 at ABES Engineering College.
		participated & completed successfully AICTE Training And Learning (ATAL) Academy Online FDP on "Artificial Intelligence" from 2021-1-4 to 2021-1-8 at Dr. Ambedkar Institute of Technology
		participated& completed successfully KTU Sponsored FDP on "Deep Learning for Signal Processing" from 26/04/2021-30/04/2021 at Sahrdaya College of Engineering and Technology.
		“Zebra Line Detection And Speed Control System Using Raspberry Pi” , International Conference on Advanced Computing & Communication Systems - ICACCS 2021 on 19th & 20th March 2021 at Sri Eshwar College of Engineering, Coimbatore, TamilNadu, India.
		“An Approach For Generalized Pedestrian Motions At Crosswalks ” , International Conference on Advanced Computing & Communication Systems - ICACCS 2021 on 19th & 20th March 2021 at Sri Eshwar College of Engineering, Coimbatore, TamilNadu, India.
		“A Review on Object Detection Algorithms for Ship Detection ” , International Conference on Advanced Computing & Communication Systems - ICACCS 2021 on 19th & 20th March 2021 at Sri Eshwar College of Engineering, Coimbatore, TamilNadu, India.
EC	Dr. Vishnu Rajan	“A Review on Glucose Monitoring Using Enabling Technologies of Internet of Things”, International Conference on Advanced Computing & Communication Systems - ICACCS 2021 on 19th & 20th March 2021 at Sri Eshwar College of Engineering, Coimbatore, TamilNadu, India.
		Participated in a KTU sponsored online FDP on “Outcome Based Education with Assessment and Evaluation from” 26th July to 30th July 2021 organized by Dept. of Electronics and Communication Engineering, Sahrdaya College of Engineering and Technology, Kodakara, Thrissur, Kerala.
		Participated in a KTU sponsored online FDP on “Deep Learning for Signal Processing - Basics to Implementation”from 26th April to 30th April 2021 organized by Dept. of Electronics and Communication Engineering, Sahrdaya College of Engineering and Technology, Kodakara, Thrissur, Kerala.
		Participated in a KTU sponsored online FDP on Research Trends in Social Network Analytics organized by SCMS School of Engg and Tech from 24/05/2021-28/05/2021.
		Participated in a KTU sponsored online FDP on Research Trends in Social Network Analytics organized by SCMS School of Engg and Tech from 24/05/2021-28/05/2021.

		Participated in a KTU sponsored online FDP on Emerging Trends and Challenges in Low power VLSI Design by MBC CET,Permade from 19/05/2021-21/05/2021.
		Participated in a KTU sponsored online FDP on Biosensors in point of care diagnostics: Strategies and Implementation by Dept. of BME, SCET from 19/04/2021-21/04/2021.

#### **4.2 Outreach Activities**

- Dr. R.Satheesh Kumar , Associate Professor, CSE got a Financial Assistance of Rs.1,60,000/-(One lakh and sixty thousand) by AICTE to conduct a e-conference during Dec 2020.
- Dr.Amitha Joy, Associate Professor, BT, conducted a webinar for the undergraduate students of Department of Biotechnology, Mercy College, Palakkad on the topic ‘The emerging role of Bioinformatics in Biotechnology’ on 30 October 2020.
- Department of Electronics and Communication Engineering conducted an online summer coaching camp on Electronics and Artificial Intelligence exclusively for higher secondary students from 17th to 22nd May 2021.
- Outreach program on Robotics and Android Development by EMAGE in association with Hardware Club was conducted on 29 and 30 March 2021 for higher secondary students.
- Department of Computer Science and Engineering conducted a Python workshop for school students on May 26,27 and 28 ,2021.

#### **4.3 Invited expert talk by faculty**

- Dr. Vishnu Rajan, Department of ECE - Resource person for - “Android App Development - An astounding rise in midst of the Covid-19 Pandemic” - St. Thomas College, Thrissur.
- Dr.M.Rajeswari, Department of CSE acted as a resource person and gave a guest lecturer on the topic "UNIX memory usage, Instrumentation and Analysis", held at Nandha Engineering College.
- Dr. R. Satheesh Kumar, Department of CSE acted as a Session Chair for “International Conference on Green Intelligent, Computing and Communication Systems - ICGICCS 2020,” held at Hindusthan College of Engineering & Technology, Coimbatore, Tamilnadu.
- Dr. M. Rajeswari, Department of CSE has acted as a Mentor on Smart India Hackathon 2020 organized by MHRD and the students Nirmal Ram, Mohamed Fasin AF of S8 CSE have got an opportunity to interact with the Prime Minister Shri Narendra Modi and discussed about their invention in the field of health care for providing virtual assistance for medical devices.

#### **5.0 Technical Associations:**

The Technical Associations in all the six departments organized a number of Programmes to promote the technical and organizational skills of the students.A number of invited talks and symposium were organized by the Technical Association. The following are some of the major Programmes organized during the report period.

#### **5.1 EBSA (BIOMEDICAL ENGINEERING DEPARTMENT)**

- The Biomedical Department conducted a career guidance talk by Mr. David Hobbs, Senior Lecturer, College of Science and Engineering, Flinders University, Australia on 13th August 2020.
- EBSA & BMESI in association with Medtronic: World’s largest Medical Device Company conducted a session on “ Indomitable warrior of the new battlefield- Ventilator, Portable Respiratory Monitor- Capnostream " on 14th September 2020.
- Two alumni- Mr. Jenson of the 2014 batch working as a software engineer at Accenture, Bangalore, and Mr. Tinto K Anto of the 2008 batch, Senior Marketing Manager, Siemens visited our college and interacted with faculty members on 18/9/2020.
- The department of Biomedical Engineering in association with the Sahrdaya Engineering College Alumni Association conducted an alumni talk by Dr. Karthik Soman (2006-2010 batch) currently working as an Associate Specialist, University of California, San Francisco on 30th September 2020.

- The Engineering Biomedical Students Association (EBSA) of Sahridaya College of Engineering and Technology organized an interactive session on "Higher Education Opportunities Abroad" by Dr. George Alapatt who is the International Higher Education Strategist, currently working as the Adjunct Professor at PSG Institute of Management on 2nd October 2020.
- Biannual newsletter of Biomedical "SILIENCE" was released.
- The students of BM Department interacted with Mr. Vishnu Mohandas, alumni, 2009-2013 Batch, currently working as Research and Development Engineer, Philips Research Campus, Netherlands on 5/11/2020.
- EBSA conducted a quiz-BIO QUIZ for Biomedical students on 20/11/2020.
- The Healthcare Engineering Team in association with Engineering Biomedical Students Association (EBSA) and Biomedical Engineering Society of India (BMESI) of Sahridaya College of Engineering and Technology conducted a Webinar for Faculty and students on-"Application of IoT in modern healthcare industry" through Google meet on 7th January.
- Department of Biomedical Engineering in association with KTU ,K-DISC and IEEE - Engineering in medicine and biology Kerala chapter has scheduled a panel discussion on changes in Medical Device Industry and Regulations in the last five years on 14th January 2021.
- Department of Biomedical Engineering & Alumni Association organized an Alumni interaction on "Software Integrator & Application Engineer at Porsche Engineering" on 8th May, 2021.
- The faculty and staff members of the Department of Biomedical Engineering are visiting the Govt. Hospitals in Thrissur including Govt. Medical College to evaluate the Biomedical facilities as a part of the duty assigned by the District Collector of Thrissur. (July, 2021)
- Healthcare Engineering conducted a free webinar to BME students and faculty on Modern Concepts in Healthcare Technologies on 8th January 2021.
- The Department of Biomedical Engineering in association with K-DISC, IEEE EMBS, Medical Devices Innovation Consortium (MDIC) and APJ Abdul Kalam Technological University conducted an online panel discussion on "Changes in Medical Device Industry and Regulations in the last five years" inculcating eminent personalities from regulatory bodies and industrial experts on 14th January 2021.
- Fluke Biomedical company conducted a hands-on training session on Electrical Safety Analyzer on 19th January 2021 to the staff of the BM and EEE Department.
- CoreEL Technologies, Bengaluru in association with Sahridaya College of Engineering conducted an Add-On Certification Course on "MATLAB Fundamentals" on 23rd March 2021.
- A placement talk for final year students was conducted by Mr. Jibin Jose, Assistant Professor of BM department on 23rd March 2021.
- An add- on talk on Computational Methods in Biomedical Engineering was conducted by Ms. Minimol, HOD and Professor, Electronics and Biomedical Department on 29th March 2021.
- A talk on placement and career was conducted on 16th April 2021 by Mr. Sujith, Managing Director & C E O, Ibis Medical Systems for final year and pre final year students.
- Online technical and HR interview was conducted for interested students for an internship at IIT, Palakkad and the five students were shortlisted.
- The Biomedical Department in Association with the Centre of Research and Development, and BMESI organised an Online Workshop on "Technical Writing" by Dr. Finto Raphael, Head of the Department on 30th April 2021 for pre-final year students.
- The Department of Biomedical Engineering in association with the Sahridaya Engineering College Alumni Association conducted an alumni talk by Ms. Ida Baby (2009-2013 batch) currently working as an Software Integrator and Application Engineer at Porsche Engineering on 8th May 2021.
- The Engineering Biomedical Students Association (EBSA) of Sahridaya College Of Engineering and Technology conducted 'Art Amour', a drawing competition on 19/5/2021.

## 5.2 BEATS (BIOTECHNOLOGY ENGINEERING)

- A 6 day International Webinar series from August 12 to August 17 was successfully completed on the topic Deciphering Biomolecules, Paradigms and challenges.
- An alumini interaction on the topic "Patenting - A students perspective "with Dr. Sreedha Pallipad who is an independent consultant in intellectual property Rights, was organized on 17-10-2020 for S3, S5 and S7 students.



- A technical talk by Ms. Remya Thilakan, who is the principle patent information specialist in NOVO Nordisk Service Centre India Private Ltd, was organized on 22-10-2020 for S3,S5,S7 biotechnology students
- On 6<sup>th</sup> Nov alumni interaction session by Ms Rimna Rasheed on the topic "Career insights" was conducted for S3,S5,S7 Biotechnology students.
- The Ph.D work of Ms Sumi Maria Babu, under the Guidance of Dr. Leon Ittiachen, was published in an Elsevier journal.
- Dr. George Thottappilly Memorial Lecture 2021 (jointly organised by Dr. George Thottappilly Memorial Trust & SCET, Kodakara) was organised on 24th April 2021. The resource person was Dr. Sreenivas Chavali, Assistant Professor, Department of Biology, IISER Tirupati. He delivered a talk on the topic: Repeat to reap it: Systems-level understanding of the role of amino acid repeats.
- Online Quiz On NCERT Biology was conducted on 8<sup>th</sup> May 2021 for +1 & +2 Students.
- Alumni Interaction & Technical talk was organised by the Dept. of Biotechnology in association with Sahrdaya Engineering College Alumni Association (SECAA) on 15th May 2021. Dr. Krishna Radhakrishnan (Alumni- 2003-2007), who is the Medical Affairs Manager Women's Oncology, Glaxosmithkline, Singapore, delivered the talk on the topic "From Biotechnology to Nanomedicine and Medicine".
- Pencil Drawing Competition was organised by the BEATS Association, SCET for the students of classes 9<sup>th</sup> – 12<sup>th</sup>. It was based on the theme 'Reduce, Reuse, Recycle'.
- A Webinar on 'POST-COVID ERA: ROLE OF BIOTECHNOLOGISTS' on 14<sup>th</sup> June 2021 for Higher Secondary students. The talk was delivered by Dr. Midhila Padman, Assistant Professor, Dept. of Biotechnology, SCET Kodakara

### 5.3 PACE (CIVIL ENGINEERING)

- Webinaron 'Scope of Civil Engineering' was conducted for third semester students (2019 batch) and plus two students from various schools on 17/8/2020. The speaker was Ms. Aarya K R, Manager, Corporate Relations, Civilianz
- Webinar on 'Career Opportunities for Civil Engineers' was conducted for 5<sup>th</sup> semester, 7<sup>th</sup> semester and outgoing batch students (2018, 2017 and 2016 batch) on 19/8/2020. The speaker was Ms. Aarya K R, Manager, Corporate Relations, Civilianz
- Alumni interaction was conducted for the third semester students (2019 batch) on 19/9/2020. The speaker was Ms. Riya Susan Andrew, Alumnus, 2013 -17 batch who just completed working M Tech in Computer Aided Structural Analysis and Design , Dept of Ship Technology, CUSAT
- Alumni interaction was conducted for the seventh semester students (2017 batch) on 25/9/2020. The speaker was Ms. Amrutha Shaji, Alumnus, 2015 -19 batch who is working as Road Engineer, Qatar Design Consortium, Qatar
- Webinar on 'Vaastu for construction' was conducted for 7<sup>th</sup> and 5<sup>th</sup> semester students (2017 and 2018 batch) on 17/10/2020. The speaker was Mr. Vishnudas, Vaastu consultant and Building designer, BRICS
- Webinar on 'An introduction to Earthquake Engineering' was conducted for 7<sup>th</sup> semester students (2017 batch) on 30/10/2020. The speaker was Dr. Reshmi Sebastian, IIT Ropar
- Alumni interaction was conducted for the all students on 06/11/2020. The speaker was Ms. Anjana K, Alumnus, 2013 -17 batch who is working as Senior Engineer, L&T Construction
- Industry interaction on 'Post Covid Era- Challenges and Opportunities' was conducted for all students on 13/11/2020. The speaker was Mr Mahesh L, Chief Technical Officer, Asset Homes
- PACE conducted a webinar on the topic 'Vaastu Shastra for construction' for S5 & S7 students on 17th Oct, 2020.
- A Sahrdaya Calendar was prepared by PACE Association highlighting important Environmental Days.
- PACE organized an expert talk on "Investigation of sustainable water use and water scarcity in India" for final year students and faculty of Civil Engineering on 4th May, 2021.
- Department of Civil Engineering IE(I) student chapter organised a Photography Contest 2021 on the theme "Nature's Secrets" on 24th May, 2021.
- A training session on 'Basics of Python' was arranged for S4 Civil Engineering students (2019-23 batch) on 3/6/2021
- Online workshop on 'Technical writing' was conducted for the sixth semester students (2018 batch) on 26/4/2021. The speakers were Mr.Ciby Jacob Cherian and Ms. Haritha C R, Assistant professor(s), Dept. of Civil Engineering. SCET

- Expert Lecture Talk (Online) on “Application of Geographical Information System (GIS) in Civil Engineering Projects” was conducted for the sixth semester and fourth semester students (2018 and 2019 batch) on 03/05/2021. The speakers were Ms. Reshmi K and Ms. Anjali M Nair (Senior Faculty, Centre for Geo Information Technology, Thrissur)
- Expert Lecture Talk (Online) on “Investigation of sustainable water use and water scarcity in India” was conducted for the eighth semester students (2017 batch) on 04/05/2021. The speaker was Dr Naveen Joseph (Post-Doctoral Fellow Idaho Water Resources Research Institute University of Idaho, USA)
- Alumni interaction was conducted for the eighth semester students (2017 batch) on 11/05/2021. The speaker was Ms Athulya Philo Joseph, Software trainee, Infosys Aluminus, Batch 2015- 2019
- ‘Talk on OBE was conducted for all students of Civil Engineering on 28/05/2021. The speakers were Ms Remya P M, Ms Sujana, Mr Akhil S Nair and Mr Ciby Jacob, Assistant professor(s), Dept. of Civil Engineering. SCET
- Training session - 'Basics of Python' was conducted for fourth semester students (2019 batch) on 03/06/2021. The speaker was Mr. C Willson Joseph, Faculty of CSE Department, Sahrdaya College of Engineering & Technology.
- Webinar on “Construction of Kannur International Airport - A Case Study” was conducted for 4th semester and 6th semester students (2018 and 2019 batch) on 04/06/2020. The speaker was Malavika S, Research Scholar, College of Engineering, Pune
- Online quiz on ‘Natural disasters’ was conducted for the plus two students on 05/06/2021 in connection with world environment day
- Webinar on’ “Exploring possibilities in Civil Engineering” was conducted for plus two on 26/06/2021. The speaker was Neeraj C R, PhD Research Scholar, Indian Institute of Technology, Palakkad, Kerala
- Webinar on “Opportunities after GATE ” was conducted for 4th semester and 6th semester students (2018 and 2019 batch) on 26/06/2020. The speaker was Er. Anith T Ajayghosh, Director, ONES

#### 5.4 ACES (COMPUTER SCIENCE & ENGINEERING DEPARTMENT)

- Conducted Webinar on Intelligent Cloud- IoT Healthcare Information Management on 28.09.2020 . Resource Person: D R .S .Balamurugan , Founder & Chairman , Albert Einstein Engineering & Research labs ( AEER labs ) , Vice chairman , Renewable Energy Society of India (RESI).
- Webinar: Conducted Webinar on Artificial Intelligence and Robotics on 12<sup>th</sup> October 2020. Resource Person: Mr. K. Sunil Kumar , Head, Dept. Of Computer Science, Sree Gokulam SNGM College.
- Conducted Webinar on Data analytics using Visualization Tools on 22.10.2020. Resource Person: Dr. Ann Baby, Assistant Professor, Rajagiri College of Social Science.
- Conducted Webinar on “Artificial Intelligence and Blockchain in industrial IoT” on 27.10.2020. Resource Person: Dr.Lakshmana Kumar,(ACM Distinguished Speaker) Assistant Professor, Hindusthan College of Engineering and Technology, Coimbatore.
- Webinar on Image Processing and Machine Learning using MATLAB on 06.11.2020. Resource persons: Mr Shashi Kumar JK and Mr Bobban Ignatius, Core EL Technologies.
- Webinar: Hacktober - FEST( Association with IEEE)Conducted a webinar about use of github on 18.10.2020.
- Aptitude & Technical Quiz: Conducted the Aptitude and Technical Quiz for S7 CSE students on 31.10.2020.
- Logo / Poster Designing Competition: Conducted Logo / Poster Designing Competition for CSE students on 13.11.2020.
- Conducted Webinar on “Talk on future technology” on 23<sup>th</sup> Nov, 2020. Resource Person is Johns T Mathai , CEO, EyeROV Technologies.
- ACES released department newsletter INCIPT 2021 Volume-1 (news and events from July 2020 to December 2020) on 19<sup>th</sup> March, 2021.
- An Add on courses in Python programming was arranged for S4 students from 26<sup>th</sup> April onwards. The program was sponsored by our alumni and the CS department coordinated it.
- ACES has arranged a webinar session on 'Industrial Expectations on Job opportunities' for third year Computer Science & Engineering students on 7<sup>th</sup> May, 2021.
- ACES along with the admission team arranged a three day workshop on Python Programming for school students from 26-28 May 2021 and the resource person was Mr. Willson Joseph, Asst. Professor, CSE Dept.

- The students of S2 CSA batch, released a Handbook on Professional Communication, compiled by them on 21st June. Our Executive Director released the handbook.
- Workshop on Machine Learning Workshop for S7 Students Conducted the Machine Learning Workshop on 05 Dec 2020. : Resource person ANNRIJA PAUL , Asst. Professor , CSE, SCET
- Conducted Online MATLAB training session for S8 CSE students on 24 March 2021
- Conducted Webinar on "Core Job Opportunities for Computer Science & Engineering Students". On 07.05.2021
- Conducted Photography Competition on topic BREAK THE CHAIN for SCET Students and Higher Secondary Students on 10th May 2021
- Conducted Aptitude Quiz Competition for all S6 Students to give idea about some placement related aptitude questions on 5 June 2021
- Conducted Placement Guidance Webinar for SCET students to give ideas on how to crack placements on 26 June 2021
- ALUMNI INTERACTION
  - Mr Nirmal Ram(2016-2020) full stack developer ,freelancer addressedthe second year students of CSE on 26th April 2021 on the topic Importance of Python Programming.
  - Mr Akhil Dev(2016-2020) addressed the second year students of BME,BTE,CE,EEE,ECE on 26th April 2021 on the topic Recent trends inPython Programming.

### 5.5 E-MAGE (ELECTRONICS & COMMUNICATION DEPARTMENT)

- EIMAGE organized a 5 day online Python boot camp & coding competition for beginners from September 3 TO 7,2020.
- Android App development and Robotic Process Automation are trending areas in the technical realm today. The Department of Electronics and Communication, Sahrdaya, conducted a webinar exclusively for plus two students.
- Department of Electronics and Communication in association with Sahrdaya Engineering College Alumni Association (SECAA) organized an alumni interaction session on 3rd of October 2020.The session was led by Mrs. Jubitha Jolly (2006-2010 Batch), Senior System Architect, Allianz Global Corporate and Specialty, Munich, Germany.
- The Department of Electronics and Communication hosted a “WEBINAR” on the topic: “Exploring Future Scope for Electronics and Communication Engineers”. The session was conducted on 17th October 2020.
- Webinar on "A paradigm shift in the metabolic imaging landscape". , 12th November 2020 by Jenu Chacko,Assistant Scientist at LOCI ( Laboratory for Optical and Computational Instrumentation)
- Dept. of Electronics & Communication jointly with Training & Placement Cell is conducting Hands-on training for all the technical staff on 27th Nov 2020 (Friday) and 01-Dec-2020 (Tuesday). The program named " Skill Upgradation Program" will benefit Lab staff to enhance their practical knowledge.
- EIMAGE in association with sahrdaya Engineering college Alumni Association (SCEAA) organised an alumni interaction session on 31<sup>st</sup> Oct, 2020 . The session is led by Mr.Sreerag Saleesh, 2015-2019 batch currently working as a system design engineer INTEL (VLSI H/W) Wipro Kochi.
- EC department organized an AICTE sponsored online STTP on “Outcome based Education with Assessment and Evaluation” on 9th Nov, 2020.
- KTU Sponsored FDP on Outcome Based Education with Assessment and Evaluation from 26 to 30 July 2021.
- Talk was organized on the topic Enhancing employability by Ms.Amala Jude,Project Coordinator,ClaySys Technologies by Ms.amala Jude,2019 passout for students of 2018-22 batch on 05/07/2021.
- Department of Electronics and Communication Engineering conducted an online summer coaching camp on Electronics and Artificial Intelligence exclusively for higher secondary students from 17th to 22nd May 2021.
- Alumni interaction was conducted by Mr.Jaino K.M,Technical Lead,Wipro,Cochin passout for students of 2017-21 batch on 12/04/2021.
- A 5 day boot camp on AI & Python Conducted by Department of ECE Supported & Sponsored by IEDC Hardware 29,30,31 March, April 6,7. 2021.
- A peer to peer workshop on “Working with LaTeX in Overleaf” by Adlee Xavier of 2018-22 batch was conducted on 03/07/2021.



- Gate Orientation and Demo class by ONES Academy,Kollam was conducted for 2019-23 batch on 02/06/2021.
- Outreach program on Robotics and Android Development by EMAGE in association with Hardware Club was conducted on 29 and 30 March 2021 for higher secondary students.
- Arduino Basic Workshop by EMAGE in association with Hardware Club was conducted for SCET students from 14/05/21-15/05/21.Total of 297 students participated.
- KTU Sponsored FDP on Deep Learning for Signal Processing was conducted by ECE department from 26-30 April 2021.
- Online Talent Hunt was organized for ECE students in the month of May,2021.

### 5.6 AESON (ELECTRICAL & ELECTRONICS ENGINEERING DEPARTMENT)

- EEE department conducted a Webinar on “Grid Monetization and Evolution of Smart Grid” on 25/09/2020 by Dr Nithin S, Assistant Professor, Amritha School of Engineering, Coimbatore
- EEE department conducted a Webinar on "Opportunities after B.Tech in Electrical Engineering" on 26 Sept 2020 by Mr Prasanth K G, Junior Engineer Indian Railway
- EEE department conducted a Webinar on “Cyber Laws for Indian Youth “ on 30 Sept 2020 by Sdv MohanRaj T P, Associative Advocate High Court of Kerala
- EEE department conducted a Webinar on “Opportunities and add on courses for EEE Dept on 09/10/2020 by Mr.Adil Nasser, Assistant Professor, College of Engineering Kidangoor .
- AESON organized an online quiz competition for plus one and plus two students on the topic +1 & +2 NCERT Physics on 5th February, 2021.
- The department organized a webinar on "Hands on Training for resume writing using Latex" on 8th May, 2021.

### 6.0 Student Achievements

#### BM

- The following students have qualified GATE 20-21- Theres Palatty, Anjo Xavier and Evelin Durom of 2017 Batch and Anna Roy of 2018 Batch.
- Anjana Divakaran, Minsha M.Z, Sreeraag P.S and Greeshma varghese of S6 BM under the guidance of Ms. Sony N.S presented a paper titled “Video Based Gait Analysing System" for the session Biosensor Technology at the First International Conference on Biomaterials and Biosensors Technology organised by Bannari Institute of Technology, Sathyamangalam, Tamil nadu on 12th March 2021 through online platform.
- Abhilash Joy, Rojin Anto Varghese, Angela Varghese and Anna Mary Sajeev of S8 BM under the guidance of Dr. Jeethu Ravindran presented a paper titled “Medicine Delivering and Parameter Monitoring Robot” at the International Conference on Advanced Computing and Communication Systems (ICACCS) organised by Sri Eshwar College of Engineering,Campus Coimbatore, Tamil Nadu in association with IEEE on 19th and 20th March 2021 through online platform.
- Soji Anna Saji, Alan Jose, Karthika A M, Abhijith D of S8 BM under the guidance of Mrs. Reshma Jose presented a paper titled 'A Sustainable Facial Recognition Based Heart Rate Monitoring System for the Detection of Atrial Fibrillation in Paralyzed' under the Energy Track of the International Conference on Energy and Environment (ICEE) held at Jyothi Engineering College, Thrissur on April 9, 2021.
- The project titled 'A Sustainable Facial Recognition Based Heart Rate Monitoring System for the Detection of Atrial Fibrillation in Paralyzed' by Soji Anna Saji, Alan Jose, Karthika A M and Abhijith D of S8 BM guided by Mrs. Reshma Jose was shortlisted for the final round of “Chhatra Vishwakarma Awards (CVA) 2020-21.
- The project group consisting of Abhilash Joy, Rojin Anto Varghese, Angela Varghese, Anna Mary Sajeev supervised by Ms. Supriya Mary Sunil published the paper titled “Medicine Delivering and Patient Parameter Monitoring Robot-MedRobo” in the International Advanced Research Journal in Science, Engineering and Technology (IARJSET) in June 2021.
- The project team consisting of Gipso P Ginny, Anusree K U, Adwaith sen, and Krishna Priya S secured third position in the National Level Project Presentation organized by Industrus Tech on 28th June 201. The title of the project is “Early Disease Detection by Nail Image Processing” and guided by Mr. Kiran Philip Issac of BM Dept.

- The project titled “Raeda- Computer Vision based Reactive Agility and Fitness Analysis System” by Govind T, Theres Palatty, Silpa M. U. and Jerin Johnson guided by Mrs. Remya George was shortlisted for the state level evaluation of YIP 2020.
- Alfin joseph, Rithika Rajith and Anitta Baby, the students of Sahrdaya Engineering college and technology, under the guidance of Dr.Remya George has participated and presented a paper titled "Advanced Walking Stick" in the international virtual conference RIST 2021 held on 19th of June, organized by Ernad Knowledge city, Technical campus, Malappuram.
- Sreerag P.S, Noil Davies and Amarnath P.S of S6 Biomedical Engineering were the winners for the National Technology Day Event conducted by IEEE Student Branch, Sahrdaya College of Engineering and Technology.
- The Alumni and Faculty Members at Department of Biomedical Engineering instituted an Award named “ Best Biomedical Evangelist Award” to recognise a final year B.Tech BME student who made voluntary contributions towards the promotion of Biomedical Engineering and the department, during his/her studies at Sahrdaya. The award consists of Rs. 5000/- as Cash Award and a Certificate of Appreciation. The prestigious Best Biomedical Evangelist Award winner for the year 2021 is Ms. Soji Anna Saji from S8 BM.
- Best Final Year Project Award- BME has been awarded for the project titled: “A Real-Time Facial Recognition Based Heart Rate Monitoring System for the Detection of Atrial Fibrillation in Paralyzed”. The team consists of Abhijith D, Alan Jose, Karthika A M and Soji Anna Saji. The project is guided by Asst. Prof. Reshma Jose, Assistant professor of BM Dept.

#### BT

- The following students have qualified GATE 20-21- Linta John, Anjali P.S, Megha Vincent and Geethika.
- Merrin John, S8 BT, has participated and presented a paper titled “NANOSPONGES; A NOVEL EMERGING DRUG DELIVERY SYSTEM” in the international virtual conference “Recent Innovations in Science & Technology” conducted on 19th & 20th June 2021, organized by Ernad Knowledge City Technical Campus, Malappuram.
- S8 BT students Alisha Babu, Megha Vincent, Anugraha and Saincy won 2 lakhs in Innovation Grant, Kerala startup mission, 2020-21 for their project titled Keythin. The project was guided by Ms.Poojadas, former faculty.
- S8 BT students Alisha Babu, Megha Vincent, Anugraha and Saincy participated in the Youth Innovation Programme 2020.
- The project titled ‘Computer aided drug discovery of snake Venom components against Coronavirus’ by Jayalakshmi, Harsha, Sana Sajid and Gopika of S8 BT guided by Dr.Amitha Joy was shortlisted for the final round of “Chhatra Vishwakarma Awards (CVA) 2020-21.
- One of our Biotech alumni, Mr. Najeeb Haneef’s start up fostered under IEDC scheme of Kerala start up mission has bagged an investment of US \$10 million, from the UAE based TCN International commerce for his project titled Algae-seaweed technique under the brand B-Lite.

#### CE

- Aiswarya K S, Anjali Krishna Sreekumar, Averin Ashmi K S, Edwin Joy K of 2017-21 batch, Civil Engineering branch, secured Best Paper Award for a paper titled “Flood Inundation Mapping Using HEC-RAS Model” in International Conference on Innovations in Civil Engineering - ICICE’ -21.
- Project title ‘Water Usage Minimization using Automated Curing Technique’ submitted by S8 project team Revathy Satheesh, Seljo Paul, Sreelakshmi P, Vismaya Sebastian, under “Chhatra Vishwakarma Awards (CVA) 2020-21 has been shortlisted in the first level of scrutiny.
- Averin Ashmi K Sand Anitta Sunil of 2017-21 batch got admission for M Tech in Structural Engineering in VIT after national level screening based on the academic performance.

#### CS

- OUTSPARKLE AWARD 2020- Maritta Stephen (2016 Batch)
- OUTSPARKLE AWARD 2021- Jobel Johny (2017 Batch)
- Awin Chris of 2017 CSA batch got GATE qualified.
- Dibin Davis of S6 CSA has won first prize in POSTERMANIA which was Conducted by ToCH institute of technology.
- Sandra Shaju (S3) had participated in a one week self - learning course on "GRAMMAR FOR EFFECTIVE COMMUNICATION" organized by the Department of English of Adhiyamaan College of Engineering from 27th July 2020 to 2nd August 2020.

- Sreelakshmi K(S3) and Sona Peter(S3) attended National conference on ADVANCES IN COMMUNICATION, SIGNAL PROCESSING AND INSTRUMENTATION 2020 sponsored by TEQIP-II on 20th and 21st August in LBS institute of technology for women, Trivandrum
- Nihal K(S3) and Niranjana Ramesh(S3) participated in a National Level Online Quiz, IEEE student branch of St Joseph's College of Engineering, OMR, Chennai on 14th August 2020.
- Nihal K(S3) and Niranjana Ramesh(S3) participated in a Quiz on R PROGRAM, CSE, IT Dept, IEEE Student Branch, NSAKCET on 20th August 2020.
- Nihal K(S3) participated in World Mosquito Day Quiz Contest, IEEE SB Panimalar Institute of Technology, Chennai on 20th August 2020.
- Angel(S5) and Milna George(S5) completed an Online Internship on COMPUTER AIDED DRUG DESIGNING from 15th July 2020 to 1st August 2020.
- Agnes Thomas T (S3) attended IEDC CCEIJK- DATE WITH AN ENTREPRENEUR on August 6th 2020.

#### EC

- Christo P B of S7 ECE developed a medical coding android application for INDUS Medical coding.
- Gregory C & Christo P B (S7 ECE) served as interns at Devaditek startup company.
- Serene Babu (S7 ECE), Salini (S7 ECE) served as an interns in industrus tech and worked on a project flipbuy.
- 23 students of ECE completed various NPTEL certifications, with 2 students having Elite silver grade, and 8 students with Elite grade.
- The best project of S8 ECE was won by Emmanuel Davis,Disan Davis,Fabius Thottapilly and Grigary C Antony for the project title Pothole detection guided by Ms.Anju Babu.
- Patent was file for the project title Photofinish implementation using multiple low cost cameras of Christo P.B,Savanth K S,Ajith Warriar and Ajay Jose guided by Dr.Vishnu Rajan on July 2021.
- Fabius S Thottapilly,Emmanuel Davis,Grigary C Antony and Ajay Jose has presented a paper titled" Unseen Abyss:Implementation of pothole detection using Machine learning: at 3rd International conference on Intelligent Computing,Information and Control systems ICICCS 2021 at CARE college of Engineering,Trichy from 2nd and 3rd July 2021.
- Sneha Satish,Shalet Joy and Shalini Vinod has presented a paper titled "Farm Assist" at ICCI 2021 at Christ college of Engineering,Thrissur from 13th to 15th July 2021.
- Henvin Joy participated in IND QUIVERS:MEGA QUIZ 2020 on 09-08-2020,10-08-2020,12-08-2020 organized by Research and PG Department of Commerce in association with Marian EK Bharat Shreshtha Bharat Club, Marian College Kuttikkanam.
- Henvin Joy participated inOnline Quiz on 12/07/2021organized Department of English, St.Mary's College Thrissur.

### 6.1 Industry Collaborated Projects

Faculty	Year	Industry	Name of the Project	Duration	Name of students involved
Dr. Finto Raphael	2019-2020	AGAPPE	Smart Phone Based Blood Parameters Monitoring System	1 Year	Simna Simon Cyril V Mathew Jinsha Girish
Dr.Yuvaraj V & Dr Jeethu Ravindran	2019-20	Agappe	Biosensors For Clinical Diagnosis Of Sodium From Human Sweat	1 Year	Amal Krishna Athul K Arsha V Kumar Jincy MV
Dr Remya George	2019-20	IBIS Medial Systems	Ovulation tracking system using salivary ferning analysis	1 year	Mariah Thomas Maampilly Edina Prakash Nithin E Haroon Imshad

- Final year project of 2016-2020 batch under the guideship of Dr. Remya George with student members Ms. Mariah Thomas Mampilly, Ms. Edina Prakash, Mr. Haroon Imshad R, and Mr. Nidhin ET is decided



to be converted as a product by IBIS Medical Equipment & Systems Pvt Ltd. Ms. Mariah Thomas Mampilly has been offered an internship opportunity at IBIS with a stipend of Rs. 10,000.

- Mr. Jibin Jose, Assistant Professor, Department of Biomedical Engineering was involved in the product development of IBIS Medical Equipment & Systems Pvt Ltd as a consultant for the product Raze COV-advanced Ultraviolet (UV-C) Disinfection System for quick, chemical-free sterilization of high infection-prone areas, vital for containing the Covid-19 spread.
- One of our Biotech Alumni, Mr.Najeeb Haneef's start up fostered under IEDC scheme of Kerala start up mission has bagged an investment of US \$10 million, from the UAE based TCN International commerce for his project titled Algae-seaweed technique under the brand B-Lite.

## 6.2 Participation In Inter Collegiate Competitions

- Anitta Jerom Of 2017-21 batch Participated In An Event "Date With An Entrepreneur" Conducted By Iedc Cceijk On 13/8/2020
- Anitta Jerom Of 2017-21 got First Prize In 4 X 100 M Relay Competition Conducted At Scet
- Anitta Sunil Of 2017-21 batch State Level Workshop For NSS Volunteers At Hi-tech Research & Training Unit, If Vellanikkara
- Anjali Krishna Of 2017-21 batch Participate In An Event Date With Entrepreneur Conducted By Iedc Cceijk With Kerala Startup Mission On 13/8/2020
- Arisa V A Of 2017-21 batch Attended A Workshop In Design Analysis Software Etabs In Christ College Of Engineering
- Averin Ashmi K S , Chrislin Francis , Christina Pathrose, Ms, Mariya John, Revathy Suresh Of 2017-21 batch Participated In The Event Date With An Entrepreneur Conducted By Iedc Cceijk With Kerala Startup Mission On 13/8/2020.
- Sreelakshmi K(S3) and Sona Peter(S3) attended National conference on Advances In Communication, Signal Processing And Instrumentation 2020 sponsored by TEQIP-II on 20th and 21st August in LBS institute of technology for women, Trivandrum
- Nihal K(S3) and Niranjana Ramesh(S3) participated in a National Level Online Quiz, IEEE student branch of St Joseph's College of Engineering, OMR, Chennai on 14th August 2020.
- Nihal K(S3) and Niranjana Ramesh(S3) participated in a Quiz on R PROGRAM, CSE, IT Dept, IEEE Student Branch, NSAKCET on 20th August 2020.
- Nihal K(S3) participated in World Mosquito Day Quiz Contest, IEEE SB Panimalar Institute of Technology, Chennai on 20th August 2020.
- *Following students presented paper in International Conference*

Sl No	Student group and guide	Title of the paper	Conference
1	Abin Jaison, Bilva T Thekkanath, Chrislin Francis, Thekkanath, Mariya John K guided by Prof. Devis P C	Water Treatment using Coir Yarn to Remove Excess Iron and other Colloidal Impurities	International Conference on Innovations in Civil Engineering - ICICE' -21
2	Alvin T A , Amal Jiji K , Amal Sunny , Amrutha T Benny guided by Mr. Akhil S Nair	Proposal for Anti-Flood Reservoir in Chalakudy	International Conference on Innovations in Civil Engineering - ICICE' -21

3	Akhil Manoj, Athul Roby, Nigel Varghese guided by Prof. Zachariya Varghese	Investigations on Concrete and Mortar with Partial Replacement of Cement using Biochar	International Conference on Innovations in Civil Engineering - ICICE' -21
4	Revathy Satheesh, Seljo Paul, Sreelakshmi P, Vismaya Sebastian guided by Ms. Aiswarya M S	Water Usage Minimization using Automated Curing Technique	International Conference on Innovations in Civil Engineering - ICICE' -21
5	Anitta Jerom, Jithin Prakash, Sariga Unni, Seethal C Jessian guided by Ms. Sujana R	Numerical investigations on Load Settlement Behaviour of Geosynthetic Encased Stone Column	International Conference on Innovations in Civil Engineering - ICICE' -21
6	Maria S Sebastian, Richard Benson, Thahzin Rasha V R guided by Ms. Remya P M	An Investigation on Geopolymer Concrete	International Conference on Innovations in Civil Engineering - ICICE' -21
7	Amrutha Mohanan T , Maria Seby, Mikhil Antony, Rosemary P A guided by Ms. Haritha C R	Comparison of Behavior of Sand and Clay with Woven and Non woven Geotextile - A Numerical Study	International Conference on Innovations in Civil Engineering - ICICE' -21
8	Aiswarya K S, Anjali Krishna Sreekumar, Averin Ashmi K S, Edwin Joy K guided by Ms. Reshma Antony	Flood Inundation Mapping Using HEC-RAS Model	International Conference on Innovations in Civil Engineering - ICICE' -21
9	Alicia Samson, Devika Venugopal, Reema Raghu, Sandra Maria S Payyappilly, guided by Ms. Reshma Antony	Storm- Water Reclamation Cistern for Households	International Conference on Innovations in Civil Engineering - ICICE' -21

Sl no	Name of the Student	Event	Date	Organised by
1	Aba Mary	The Guinness World Record Event - Most Users to take an Online Computer Programming Lesson in 24 hours	24-4-2021 to 25-4-2021	AICTE ,National Educational Alliance for Technology & GUVI
2	Afra P S	Seminar Series at Locus' 19		Club Mathematica , NIT Calicut
3	Anurose Anto	IEEE Virtual Summit on "Green Building and Liveable Cities"- IEEE PES day 2021	27-4-2021	IEEE PES S B Jain Student Chapter in collaboration with IEEE Moi University Student Branch, Kenya Section

4	Anurose Anto	National Event - "Electric and Future Mobility"	22-5-2021	Berike Innovations as a part of online National Level Tech Fest , MA College Kothamangalam
5	Anurose Anto	CADMANIA - Workshop as a part of Takshak Online National Level Technical Fest	3-1-2021	MA College Kothamangalam
6	Carol Rose	IEEE Virtual Summit on "Green Building and Liveable Cities"- IEEE PES day 2021	27-4-2021	IEEE PES S B Jain Student Chapter in collaboration with IEEE Moi University Student Branch, Kenya Section
7	Christo .P. Simon	Postermania - as a part of National Level tech Fest 'Techizer 2021'	27-5-2021 to 28-5-2021	TocH Institute of Science and Technology
8	Christo .P. Simon	Seminar Series at Locus' 19		Club Mathematica , NIT Calicut
9	Sangeetha M S	IEEE Virtual Summit on "Green Building and Liveable Cities"- IEEE PES day 2021	27-4-2021	IEEE PES S B Jain Student Chapter in collaboration with IEEE Moi University Student Branch, Kenya Section
10	Sangeetha M S	The Guinness World Record Event - Most Users to take an Online Computer Programming Lesson in 24 hours	24-4-2021 to 25-4-2021	AICTE ,National Educational Alliance for Technology & GUVI
11	Sarika Suresh	Seminar Series at Locus' 19		Club Mathematica , NIT Calicut
12	Sudhesh P S	Seminar Series at Locus' 19		Club Mathematica , NIT Calicut

Sl. No	Name	Event	Date	Organized By
1	Seedol Anto	Participated SPEAKATHON speech competition	09/12/2020-15/12/2020	The Institute of Engineers
2	Irine Duke	hack2021	29/01/2021-31/01/2021	IEEE MACE SB
3	Alan K. Joy	Architecture with Google Compute Engine	05/01/2021	Google Cloud Training
4	Saranya R.	IEDC 2021	28,29, 30/01/2021	Adi Shankara Institute of Engineering and Technology
5	Riya T. B.	Workshop on Artificial Intelligence and Machine Learning	26 & 27/02/2021	Jawaharlal Nehru Engineering College, Aurangabad
6	Karthik	Quick-Click online Quiz competition	04/04/2021	University School of



	T.S.			Management and Entrepreneurship
7	Sona V.P.	webinar on Metallurgical Failure Analysis	26/03/2021	Society of Failure Analysis Hyderabad
8	Elwin Jose	IBeTo	2020	Govt. Model Engineering College Kochi
9	Dibin Davis	Postermania	31/05/2021	TocH Institute of Science and Technology

### 6.3 NATIONAL SERVICE SCHEME:

- NSS unit of Sahrdaya organised a three day virtual camp during 24<sup>th</sup>, 25<sup>th</sup> & 26<sup>th</sup> October “UNARVU 2020” . Also the NSS unit in collaboration with IEDC Sahrdaya launched a Mask vending Machine and Automatic sanitizer dispenser on 26<sup>th</sup> October 2020.
- NSS Sahrdaya Unit conducted a webinar on the topic ‘Life & Success’ on 14<sup>th</sup> Nov, 2020. Speaker was Havinash P.H, Junior Manager (Information Management) kerala state civil supplies corporation. Former Asst.Prof, CS department & NSS program officer.
- The following NSS volunteers of Sahrdaya have been selected as master trainers during Sannadhasena orientation conducted by KTU technical cell for NSS units of all colleges in Kerala. Ms.Jasmine John for Vidya academy of science, Mr.Clinto Martin for Christ college of Engineering, Mr.Nelwin Joseph Nelson for Nehru college of Engineering and research centre and Ms.Merina S Thomas for KMEA college as master trainers for conducting training sessions.
- The NSS unit of Sahrdaya College Of Engineering and Technology conducted a series of webinars on occasion of Nagasaki Day( 9<sup>th</sup> August, 2020), International Youth Day( 12<sup>th</sup> August, 2020 ), and Independence Day (15<sup>th</sup> August, 2020)in collaboration with International Human Rights Association(IHRA).
- On 12<sup>th</sup> August, 2020, the NSS unit conducted webinar on topic "Youth Engagement for Global Action" in the afternoon session. The speaker for this programme was R J Neena.
- NSS unit conducted a campaign for planting hundred saplings as part of Gandhi Jayanthi on 2<sup>nd</sup> October 2020.The event was conducted online through Google meet platform, where each volunteer planted one sapling in their respective homes.
- NSS & Anti-Narcotics cell of Sahrdaya conducted a Virtual webinar on “Anti-Narcotics Awareness" on 15<sup>th</sup> January, 2021.
- An official flag hoisting ceremony was arranged by NSS unit of Sahrdaya on Republic day.
- NSS conducted a talk session on the topic “Social media and Literature” on 21<sup>st</sup> February, 2021 by Mr. Pauly Pallipatt (Section officer, SCET).The talk session was inaugurated by Jana mythri police and there was a small session about Nirbhayam app which is the women safety initiative by Kerala Police.
- NSS of our college in collaboration with Janamythri police, Kodakara conducted a rally at Kodakara on 1<sup>st</sup> March 2021 on awareness of road safety which started from Kodakara fly over junction to Kodakara private bus stand followed by flash mob conducted by the students.
- NSS unit in collaboration with anti-narcotics cell conducted an online webinar on “Intoxication and life” on 21<sup>st</sup> March, Mr.Raphel.M.L, Preventive officer, Excise Range Office, Irinjalakuda was the speaker.
- NSS unit conducted an online orientation class on Home Energy Audit by Mr. Sebin Davis HOD EEE department on 25<sup>th</sup> April 2021.
- NSS unit organised a webinar on "Commit to Quit" World No- Tobacco Day by Ms.Deepa Vinay (Managing Director at Unlock Business Solutions) on 31<sup>st</sup> May, 2021.
- NSS unit No.589 of Sahrdaya College of Engineering and Technology along with Inspire India and Moozhikulam Nattariv Padanakalari is conducting a 3 day workshop during June as a part of this year's Environment Day.
- NSS unit of our college conducted an online webinar on the topic "Green Technology on 11<sup>th</sup> June 2021.The speaker of the session is Mr. Prasad Somarajan ( Engineer, Greens Movement Kerala).

- NSS unit No.589 of our college conducted a webinar on the topic "Jeevitham Tanne Lahari" on 26th June 2021. The speaker of the session is RAPHEL. M L, Preventive Officer, Excise Range Office, Irinjalakuda.
- NSS unit along with Green Report channel and Moozhikulamshala Nattarivu Padanakalari conducted a 9 day webinar series from July 26 to August 3 in association with 2021 Earth Overshoot Day-July 29. Session on the day 26 July is being handled by Mr E P. Anil, Editor in chief, Green Reporter channel on the topic 'Territory of land Daily thoughts'

#### **6.4 Sports**

- We could successfully conduct fitness challenge competition ie. Plank fitness challenge, in connection with the National sports Day on 29<sup>th</sup> August 2020.

#### **7.0 News @ IEDC**

- Inauguration of Book Disinfectant developed by our students in connection with TBI of our college was arranged on 7th October 2020.
- The IEDC Sahrdaya got the BEST Inclusive IEDC award of Kerala Startupmission for promoting innovation and Entrepreneurship spirit among the women on 31st October 2020.
- An IEDC farewell Execom members were arranged on 1st October 2020.
- A codestorm mock interview was organized by coders club on 17th October 2020.
- An Inauguration of future tech club and panel discussion of future technologies with avishkar hyperloop team was organized on 17th October 2020.
- IEDC Summit Souvenir lecture by Padma shri Prof Anil K Gupta organized by IEDC Sahrdaya on 19th October 2020.
- A Memories photography contest was arranged by IEDC on 31st October 2020
- An Evening cafe for girls a coding competition was arranged by Hardware club IEDC on 27th October to 30th October.
- Ms Eveline Durom, S7 BME won the WHYHACK Hackathon conducted in connection with the women startup summit for solving AI problems in TCS on 31st October 2020.
- A Talented Sahrdayans hunting week was organized by IEDC CMO and team for finding the talented youngsters in the different areas from 14th to 30th October 2020.
- A doodle art competition was arranged by IEDC Creative club from 5th November to 10th December 2020.
- An Induction program for first Year students 2020 batch and an ideation competition was conducted on 25th November 2020.
- IEDC organized an interactive session called "START-UP TALK" with Mr. Najeeb Bin Haneef, founder of Zaara Biotech on 20th May. He is India's first Algal seaweed food designer and an alumni of Sahrdaya CET.
- Sahrdaya signed an MoU with Kerala Development and Innovation Strategic Council (KDISC) of Government of Kerala. Under this MoU, Sahrdaya and KDISC will work together in innovation development and promotional activities, especially in the area of Assistive Devices.

#### **8.0 RDC ACTIVITIES**

##### **8.1 Talk on Technical writing**

- Two sessions on Technical writing was held on April 17th, 2021 for the faculty members. The first session on 'Technical Writing in Research' was handled by Dr. Manoj Komath, Scientist, SCTIMST from 11.00 – 12.30 PM. The second session on 'Research Communication and Publication Ethics' was handled by Dr. Anil kumar, Scientist, SCTIMST from 1.30-3.00 PM.

##### **8.2 Technical writing workshop for S6 students**

- Technical writing workshop was conducted for the S6 students as per the schedule below.

Department	Date	Time	Incharge
BM	30.04.2021	01:30 PM - 03:30PM	Mr Kiran Philip Isaac, Ms Arathy
BT	29/04/2021	01:30 PM - 03:30PM	Dr Praveena, Ms. Smeera
EC	30.4.2021	01:30 PM - 03:30PM	Ms Silpa and Dr. Caren
CS	06/05/2021	01:30-03:30PM	Dr Satheesh, Dr Arun Thomas
CE	26/04/2021	1:30-3:30 PM	Mr. Ciby Jacob, Ms. Haritha
EEE	24/04/2021	1:30-3.30 PM	Dr Vijikala

### 8.3 RESEARCH

#### PhD awarded

Dr. P Praveena (BTE), Dr Jestin Joseph (Library) and Dr K Krishnadas (CSE) was awarded their doctoral degree in 2021.

#### **Faculty Research Seed Grant 2021**

Proposals were invited under the Faculty Research Seed Grant 2019 from the faculty of all departments, The following projects were selected for seed money from the Institute R&D fund.

SL. NO	TITLE OF THE RESEARCHPROPOSAL	NAME OF THEINVESTIGATORS	DEPT	Amount SanctionedRs.
1	Implementation of an optimized end to end deep learning algorithm for Parkinson's disease detection from MRI images	Ms. Ambily Francis & Dr.Caren Babu	ECE	80,000
2	Design and Development of a dual source e-rickshaw for Indian roads	Mr.Shimin V V &Dr.VijikalaV	EEE	80,000
3	Design and Development of aModule level DC optimizer withpartial powertopology	Mr. Sebin davis K &Ms.Ashna Mohan	EEE	80,000
4	An Efficient Architecture design for accelerating 3D CNNs on FPGAs for real-time applications	Ms. Vidyamol K Ms Jisha JacobMsChinchuJose	ECE	1,50,000
5	FPGA Implementation of Deep Learning Networks for Automated Cancer detection	Ms.BinetRoseDevassy &Mr.SanthoshKumar	ECE	1,50,000
6	Performance enhancement of IOT application using FOG computing technique	Ms.Anju Babu,Mr Saran K B &MrDeepakJoseph	ECE	47,500
7	Effect of GGBFS and copper slag on durability and flexural behaviour of self-compacting concrete	Mr. Akhil S Nair &Ms Aiswarya MS	CE	82,500
8	Development of a high performance concrete prepared with partial replacement with cupola furnace slag from molten scrap metal and copper slag with focus on strength and durability	Ms.Remya P M &Mr. Ciby JacobCherian	CE	88,300



9	Predicting malnutrition by measuring the quality of water through Deep learning	Mr.Scaria Alex,Uma E S andMs.Princey T D	CS	26,000
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## 8.4 PUBLICATIONS

### *Technical Transactions 2019*

Compilation of Project reports of 2019 pass out batch and faculty publications during the year 2019-20 was published by the individual departments. It was released on March 4th, 2021 by Rev Fr George Pareman, Executive Director and received by the HOD's of each department.

### *Patents Published*

Dr.M.Rajeswari	Portable low cost smart spirometer using Embedded & IOT	Indian Patent	2020	202041029484	Filed and Published
DR. R. Satheesh Kumar	A Smart Methodology to Track the Spread of Pandemic and Sanitizing at Regular Intervals	Australian Patent	2021	2020103763	Granted(27 Jan 2021)

### *Journal Publications*

1. **F Raphael, SM Sameer**, A Speed Adaptive Joint Subcarrier and Power Allocation Technique for Downlink OFDMA Video Transmission Over Doubly Selective Channels, IEEE Transactions on Vehicular Technology, vol. 69, no. 2, pp. 1879-1887, Feb. 2020
2. L. Ittiachen and Sumi Maria Babu, Evaluation of Antibacterial activity of Biosynthesized Silver nanoparticles coated Low Density Polyethylene films, Materials Today: Proceedings, <https://doi.org/10.1016/j.matpr.2021.06.131>
3. Divya R & Dr. J. Dinesh Peter, "Smart healthcare system-a brain-like computing approach for analyzing the performance of detectron2 and PoseNet models for anomalous action detection in aged people with movement impairments", Complex & Intelligent Systems, ISSN 2199-4536, DOI 10.1007/s40747-021-00319-8
4. Scaria Alex & Dr. T Dhiliphan Rajkumar , Adaptive Spider Bird Swarm Algorithm- Based Deep Recurrent Neural Network for Malicious JavaScript Detection Using Box-Cox Transformation, Published in International Journal of Open Source Software and Processes
5. Dhanya Gangadharan, Anu Jose, K. Madhavan Nampoothiri, Recapitulation of stability diversity of microbial  $\alpha$ -amylases; Amylase (2020) 4: 11–23; <https://doi.org/10.1515/amylase-2020-0002>.
6. Kumar, R.S., Saviour Devaraj, A.F., Rajeswari, M. *et al.* Exploration of sentiment analysis and legitimate artistry for opinion mining. *Multimed Tools Appl* (2021). <https://doi.org/10.1007/s11042-020-10480-w>
7. Yuvaraj Velusamy, Rajeswari Manickam, Sivamani Chinnaswamy, Golden Julie Eanoth, Harold Robinson Yesudhas, Raghvendra Kumar, Hoang Viet Long. Adaptive beam formation and channel allocation using substance near multicast protocol and CS-iEHO", Soft Computing, Springer Publications, SCI Indexed, ISSN 1432-7643, 05th Jan 2021.
8. C. Sivamani, M. Rajeswari, E. G. Julie, Y. H. Robinson, V. Shanmuganathan *et al.*, "Tyre inspection through multi-state convolutional neural networks," *Intelligent Automation & Soft Computing*, vol. 27, no.1, pp. 1–13, 2021.
9. Manickam, R., Kumar Rajan, S., Subramanian, C. *et al.* Person identification with aerial imaginary using SegNet based semantic segmentation. *Earth Sci Inform* **13**, 1293–1304 (2020). <https://doi.org/10.1007/s12145-020-00516-y>
10. K. Vijayan, G. Ramprabu, S. Selvakumara Samy, M. Rajeswari, Cascading Model in Underwater Wireless Sensors using Routing Policy for State Transitions, Microprocessors and Microsystems, Volume 79, 2020, 103298, ISSN 0141-9331, <https://doi.org/10.1016/j.micpro.2020.103298>.

11. Ambily Francis, Immanuel Alex Pandian, Early detection of Alzheimer's disease using local binary pattern and convolutional neural network. Multimedia Tools and Applications. 2021 Jul 2:1-16.

#### 8.4 Research Funding

In the current year we had set aside an amount of **Rs. 10,21,215** for research activities in various departments as follows.

Dept.	Amount (2019-2020)	Amount (2020-2021)
BM	3,00,000	3,00,000
BT	2,65,000	3,42,215
CE	25,000	50,000
CS	1,00,000	2,00,000
EC	50,000	50,000
EEE	30,000	44,000
ASH	-	35,000
Total	<b>7,70,000</b>	<b>10,21,215</b>

#### 9.0 IQAC

- NBA accreditation work is in progress.

#### 10.0 IEEE CHAPTER @ SAHRDAYA

- IEEE student branch of Sahridaya college has conducted Gracias Mama#2 on May 9th 2021.
- **IEEE Sahridaya PHOTONICSSOCIETY** has been arranged an invited talk on **27th May** on the topic 'The Scholarship Opportunities, Research and Development and Career Enhancement with IEEE and Photonics society.'
- IEEE Malabar Subsection in association with IEEE Malabar Hub brings out the 53rd webinar of the series and celebrating its First Anniversary by Dr. K. P. Mohandas, Life Senior Member, IEEE Former Professor and Dean, NIT Calicut, on the topic \*Soft Skills and Self-Publishing: An Introduction on 3rd June, 2021.
- IEEE Women in Engineering (wie) arranged a webinar "CARINE- a way of purity in association with World food safety day 2021. By Ms.Aardra Chandra Mouli. Entrepreneur, Environmental Biotechnologist, PhD scholar in UCL institute of management, UK on 7th June 2021.
- IEEE Computer society of Sahridaya student branch organized "REACTIUM" a 4 day workshop on Android development using React native during 24,25,26 & 27th June 2021.
- IEEE Sahridaya Photonics student branch has conducted a webinar on the topic "Insight on nanotechnology to photonics applications" on 29th June 2021.

#### 11.0 OTHER IMPORTANT PROGRAMMES:

- Central Library organized a training program on the effective use of e-source by EBSCO on 5th Feb, 2020 for Biotechnology B.Tech 3rd year students, PG & PhD students of BT department and faculty members.
- Inauguration of Book Disinfector developed by our college was on 7th October, 2020. Our chairman His Excellency Mar Pauly Kannookadan inaugurated the same.
- Women Grievance cell jointly with the student welfare committee of our college organised a one hour workshop session on "Value added products" on 7th Nov, 2020 by Ms.Urmila N Pai -Trainer from the Pidilite group.
- Industry Institute Interaction Cell (IIIC Sahridaya) in collaboration with placement cell arranged an interaction with Dr. Mendus Jacob, CEO, IPSR Solutions on Internship Possibilities on digital marketing and importance of industry internship for undergraduates on 10th Nov, 2020.
- We bid farewell to dear Rev Fr.Joby Menoth, Media Director on 20th January.
- Rev Fr.Chacko Kattuparambil joined Sahridaya family as the Media Director on 21st January.
- Mr.Pauly Pallipatt, section officer published the book "Ente Mukhapusthaka Chinthakal" (Feb, 2020).

- A farewell function to our Advisor Prof. K.T.Joseph (former Principal & Director of Sahrdaya) was arranged on 12th April, 2021.
- A webinar was organized by ICC of our college on May 8th on the topic 'Safety of Women in Society'.
- A ten days Crash Course is organised by Sahrdaya college for those who are preparing for "KEAM 2021".
- 10 days free online KEAM Crash course was organised by our college from 1st June, 2021.
- The SYMPHONY 2K21- The Sahrdaya Arts Festival for the academic year 2020-2021 was held on 15th June, 2021 by virtual platform.
- In connection with International Yoga Day, UHV (Universal Human Values) Cell of our college arranged a webinar for staff and students on the topic " Importance of Yoga and Meditation " by Dr. Sandhya K Ramakrishnan, Sahajayoga Ex State co-ordinator & facilitator on 21st Jun, 2021.
- NDLI Club of Sahrdaya organised an awareness programme on National Digital Library of India and NDLI Club, on 29/06/2021 in WebEx online platform. Resource persons were Dr. A T Francis, University Librarian, Kerala Agricultural University and Dr. Joseph Jestin, Librarian, Sahrdaya.
- The official online Send-Off function for the B. Tech 2017-21 batch students, ADIEU'21 was on 24th July, 2021.
- ICT Academy of Kerala (ICTAK) has recognised Sahrdaya as the premium member. The membership is valid till 2022 July, 31

## **12.0 TOWARDS SOCIAL COMMITMENT**

- As Kerala battles Covid-19 pandemic which has been wreaking havoc across all sphere, our Faculty, staff and management together offered a helping hand by collecting a sum of Rs. Ten lakhs to buy lifesaving equipments and kits to St.James hospital and needy people.
- The faculty members of Biomedical Department have been appointed as technical experts by the Thrissur District Disaster Management Authority to visit eight hospitals under its jurisdiction and give reports regarding the preparedness of the hospitals for the third wave of corona and give their recommendations to improve the overall functioning of the hospitals.
- The faculty members of Biomedical Engineering Department headed by Dr. Finto Raphael split into three groups and visited all the eight hospitals from 5th to 9th July 2021 and made a detailed study on the working and maintenance of biomedical equipment and preparation made by them to face the third wave of corona. The team visited all the departments including OTs, wards and oxygen plants and consulted medical and paramedical staff for the detailed investigation of the problems faced by the hospital and their suggestions for the same.
- The faculty members of Biomedical Engineering Department, submitted the preliminary report of hospital audit to the Thrissur District Collector.

## **13.0 Conclusion:**

I thank our Chairman, Board of Trustees, Members of and Academic Council, Faculty members, Staff and Students for their cooperation help and Support for the development of Sahrdaya.

**Dr. Nixon Kuruvila**  
**Principal**



# Inner Solitude

Sitting alone makes me gloomy  
I feel the setting of the sun  
The petals are drooping  
No new ones are blooming  
Waters are being drained out from rivers  
No new waters are filled into it.  
This silence hurts me,  
maims me and belabors me.  
This silence takes me to,  
another world of darkness.  
My senses kiss the dark shades of my life  
They go in search of brightness  
They travel through deep walls  
They travel through thorny bushes  
They travel through mailed paths  
Ultimately, they had found  
A small tint of light which  
glorified the inside me  
The light of truth, the poignant truth  
It discovered the entire me,  
brought me out of darkness  
But was for a while,  
This temporary light yokes me hard  
I want to find myself inner too everything  
and invert the real one.



Anannya Shaju  
Biotechnology, S2

# BIOINSPIRED TECHNOLOGIES

*“Biomimicry is a practice that learns from and mimics the strategies found in nature to solve human design challenges.”*

The word biomimicry was coined by Janine Benyu (1997) when she came out with her book *Biomimicry: Innovation Inspired by Nature*. Her book is a collection of stories describing the work of scientists, engineers, and inventors who were translating their fascinating observations of functional strategies found in biology into innovative technologies. Before this book came out, this inspired-by-Nature approach to invention and innovation was referred to with terms like bionics, bio-engineering, or biomimetics. Benyus recognized that these terms might feel too technical and off-putting for her readers, so she came up with the term ‘biomimicry’, which she felt was more approachable.

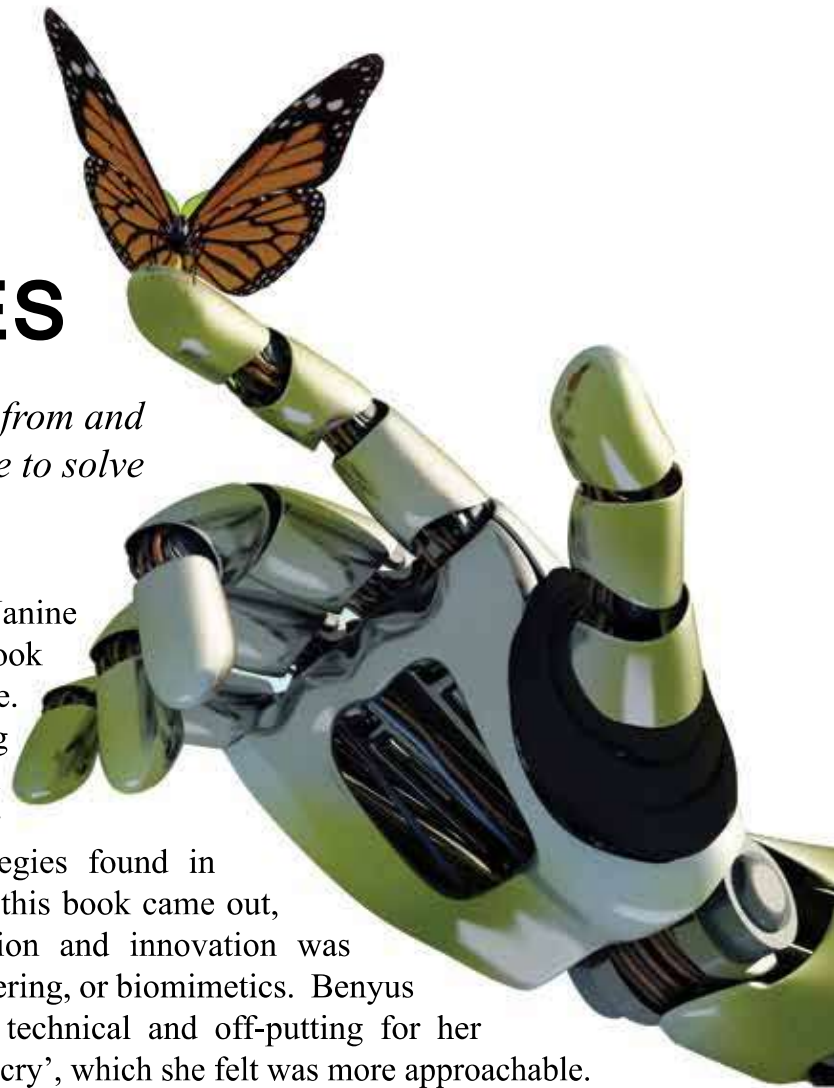
Benyus wanted to share these new ways of viewing and valuing Nature and what she saw was the great potential for biomimicry to help us achieve sustainable innovation. Biomimicry offers an empathetic, interconnected understanding of how life works and ultimately where we fit in. It is a practice that learns from and mimics the strategies used by species alive today. The goal is to create products, processes, and policies — new ways of living — that solve our greatest design challenges sustainably and in solidarity with all life on earth. We can use biomimicry to not only learn from nature’s wisdom, but also heal ourselves — and this planet — in the process.

## **“Biomimicry brings relief”**

We’re stressed. Our planet is stressed. Many are losing hope for solving the climate crisis and its many negative effects on ecosystems across the world. Biomimicry gives us hope, because we know the solutions for our greatest challenges are here, accessible, and validated by the many species still alive today. By using nature as our mentor, we get to experience the powerful healing effects it has by connecting to the natural world — while also finding empowering relief to solve these challenges together.

## **“Biomimicry helps us design generously”**

Circularity, sustainability, regenerative design — it all means that the things we humans make become a force for restoring air, water, and soil instead of degrading it. Nature uses structure to change functions and also uses passive forms of energy, whereas our inventions use brute force



like mining ancient carbon and a multitude of harmful chemicals. We can create conditions conducive to life, just like nature does.

### **“Biomimicry gets us to sustainable solutions, faster”**

Our R&D cycles are slow, and climate change won't wait – we must look to the biological blueprints that have been successful over millennia to launch groundbreaking ideas, faster. We don't need to reinvent the strategies that are already here. We just need to learn how to adapt them.

### **“Biomimicry changes our lens on the world”**

Innovators turn to biomimicry with the hope of achieving a unique product that is efficient and effective, but they often gain a deep appreciation of and connection to the natural world. Biomimicry encourages conservation for ecosystems and its inhabitants, because they hold the wisdom we need.

### **The 3 Essential Elements of Biomimicry**

When translating nature's strategies into design, the science of the practice involves three essential elements: Emulate, Ethos, and (Re)Connect. These three components are infused in every aspect of biomimicry and represent these core values at its essence.

#### **Emulate**

The scientific, research-based practice of learning from and then replicating nature's forms, processes, and ecosystems to create more regenerative designs.

#### **Ethos**

The philosophy of understanding how life works and creating designs that continuously support and create conditions conducive to life.

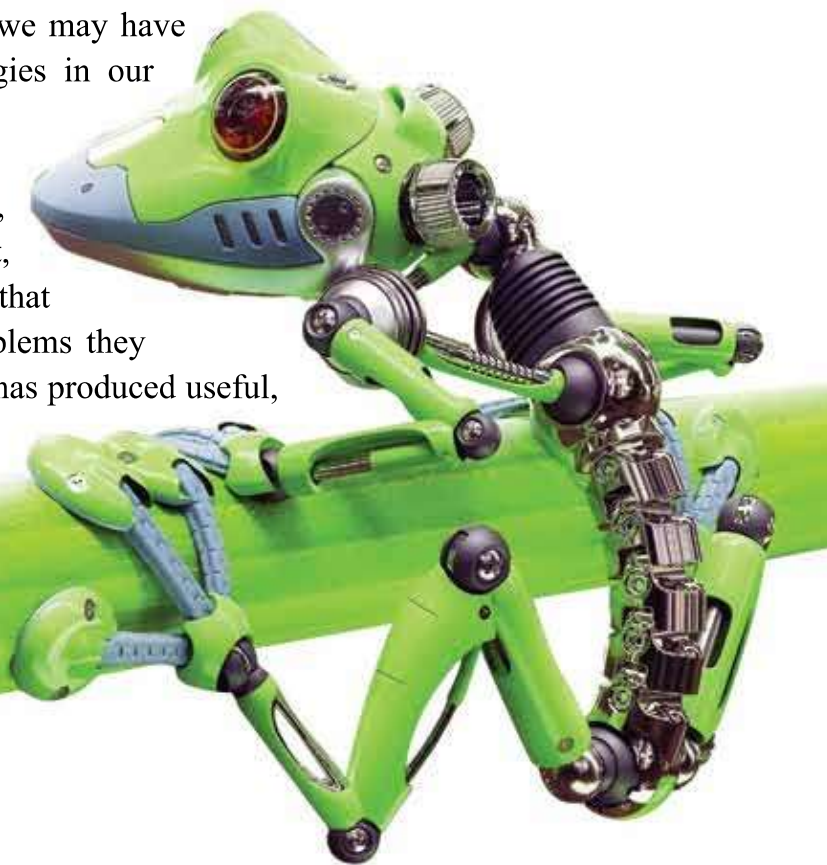
#### **(Re)Connect**

The concept that we are nature and find value in connecting to our place on Earth as part of life's interconnected systems. (Re)Connect as a practice encourages us to observe and spend time in nature to understand how lifeworks so that we may have a better ethos to emulate biological strategies in our designs.

Bioinspired methodologies take many forms, especially as each designer, engineer, scientist, and innovator attempts to derive solutions that will be most impactful for the specific problems they encounter. Each approach has its merits and has produced useful, sustainable, and disruptive innovations.



Angel Rose  
S4 BT







# Bugs

Athulya M M  
S2 CE



*Why do some things keep bugging us  
Bugging our cells, our laps, games  
and sometimes...even our lives.  
Like why do they even do so?*

*Is it because they don't know  
What's it like to be bugged?  
or do they gain some kinda pleasure?  
It always seems that we can  
never get away from them.*

*So what can we do to get rid of them?  
Debugging is a popular option.  
But isn't killing a bit cruel thing to do?  
Couldn't we just sit n talk to them?*

*Make them understand how uncomfortable  
everyone feels when they get bugged.  
But what if our peace negotiations  
becomes a waste of time?*

*Well then, maybe we should try  
resisting them or fighting them  
or perhaps threatening them...*

*But still its kinda tiresome isn't it?  
There are millions of these tiny bugs  
and its quite a difficult task  
to keep them all under our track*

*Some good people just keep on  
resisting them till their life meets an end  
hoping to wake up in a world  
where peaceful bugs live*

*Well that's not possible for now,  
So just note it in your mind  
all about buggy psychology and  
try to live far away from them.*

*Capture the bugs inside you  
Keep them locked, so that  
your loved ones don't get bugged by you.  
That's the best thing you can do.*





## IMPORTANCE OF BIOETHICS IN HEALTHCARE

Healthcare ethics deals with ethical issues in healthcare, medicine and science. Ethical codes and its application have a long history from ancient era. In the present scenario, both advancement in the medical field and the challenges are increasing at the same pace for healthcare providers to deal with ethical issues. Therefore, the undoubtedly important role of bioethics emerges here.

Bioethics in healthcare brings understanding and knowledge among healthcare professionals about medical practice. Stressing upon the ethical aspects of bioethics, medical professionals are capable of tagging along ethical codes while practicing especially while dealing with issues. As ethical tribulations are linked with issues in medical care, so by application of bioethics, the healthcare system can be improved.

Bioethics involves medical ethics and studying about equilibrium between benefits, harm and duties. It does have an influence both on patients

and health professionals. Relevance of bioethics varies from birth to end of life. Bioethics not only provides a guideline to medical professionals about clinical decision-making, advancements in medical technologies, but also plays a vital role in policy changes and legislation.

Bioethics is a blend of scientific and humanistic constituents and does not have the need for the recognition of certain long-established standards that are basic to medical ethics. Bioethics contributes to the rights and responsibilities of patients as persons. Its significance replicates in various divisions e.g. medical care, research and overall community.

### There are four key principles in bioethics:

- ♦ **Autonomy** : which is respecting a person's right to make their own decisions.
- ♦ **Beneficence** : To treat people with dignity.
- ♦ **Non-maleficence** : Do not inflict harm on people.
- ♦ **Justice** : To treat people fairly.



### The four ethical rules covers following:

- ♦ **Veracity** : telling truth, respecting autonomy and informed consent.
- ♦ **Privacy** : it's the right of a person to remain private and not to disclose information.
- ♦ **Confidentiality** : this is sharing private information on a 'need to know basis' only.
- ♦ **Fidelity** : is maintaining the duty to care for all no matter who they are or what they may have done.

### Philosophical theories in ethics include:

- ♦ **Consequentialism**, which is taking the consequences of our actions into consideration. Utilitarianism is a type of consequentialism which explains what action has the greatest utility and has a positive outcome.
- ♦ **Deontology**, it is based on our actions on a set of principles.

Communication is an art and basic tool in medical practice. For best delivery of services, ethical conflicts should be identified and resolved through effective communication between clients and healthcare providers and attendants of clients. Conflict of interests needs to be avoided by the healthcare professional as this is their ethical responsibility not to get indulged in circumstances like that. Medical professionals need to be oriented and clear about bioethics as this deals with health care issues such as latest developments in medical field, cloning, stem cell research, euthanasia, abortion, and other similar

issues. It is unfortunate that an accurate perception of such systems, methods, practices and their extensive moral consequences are deficient. And the bitter fact is that these ethical dilemmas are progressing day by day.

Establishment of ethics committees in every institute with qualified in charge in the respective subject; they include medical, non-medical, scientific and non-scientific staff. These can be done by making policies based on ethical issues we frequently come across within our healthcare system. Every organization both governmental and private sector should follow principles of ethics and identify the issues for solutions.

Keeping in view the significance of bioethics in healthcare, it is emphasized to implement and practice it. Here the responsibility of health professionals is highly significant for putting efforts to work on ethical dilemmas especially in research involving human population for justification of ethical principles involved. Health/medical organizations working on bioethical agenda can better prevent legal threats. By practicing the principles of bioethics in the field of medicine, we can make certain that the general public is getting benefits out of it. In short it is recommended to include medical ethics as a key factor.

**ANAND NARAYAN**  
S4 BT





# *I was there too. . .*

*Tie my soul and body with her  
Let me feel the pain of torn vagina.  
Give her my joy of life  
At least a day before she burst her vein.  
Held down by strong muscles,  
Robbed off dreams and happiness.  
Even with the feeling of dried blood on thighs  
Still couldn't figure out what he desired  
Out of a thirteen - year - old lass.  
' I wore short clothes, I wore a Burkha'  
And walked into the group,  
An eight - year - old, ' what about me?'  
These I scribble with deep grief  
Cuz I'm a helpless pointless joke.  
I wish I wake up to a day  
Where I don't have to check my child's dress  
For blood and semen.  
For its a world sans eyes sans heart.*

Christy  
S2 Mtech





# TILL DOWRY DO US APART

BY GAYATHRI HARIDAS, S2 BT



A very long time ago, Eurasian societies along with a 'no return policy' hung like an were wrapped in rituals and deep-rooted albatross around her neck. As decades went by, cultural practices. These so-called beliefs so did the rise in dowry and so did the violence were passed on to generations and against women, especially in modern-day

generations. In India, Sati was one among the inhumane customs where a widow would throw herself onto her husband's pyre and burn to death. Fortunately, it's banned all over India. One such practice that prevails over this generation is the controversial dowry system. It had been around the time of colonialism that it found its way, and there was even a time where such an exchange was the only legal way to get married. Marriages here

don't seem to be between two individuals but two families mostly based on mistreated by her husband Kiran Kumar and social dignity, standing, and let's not forget the his family. He would stir up arguments and riches and the banknotes too. Once the 'deal' pick fights over insufficient dowry offered by has been struck, the woman is 'sold' for a price Vismaya's family. She could never go back

India. Women here face a myriad of harsh objections, threats, and challenges on a day-to-day basis. Why? Well, that's up for question.

On 21st June 2021, Vismaya V Nair, a young woman who was an aspiring Ayurveda medicine student, was found dead in the Kollam district of Kerala.

Two words. Domestic Abuse. Merely a week into their marriage, Vismaya has

been constantly tortured and



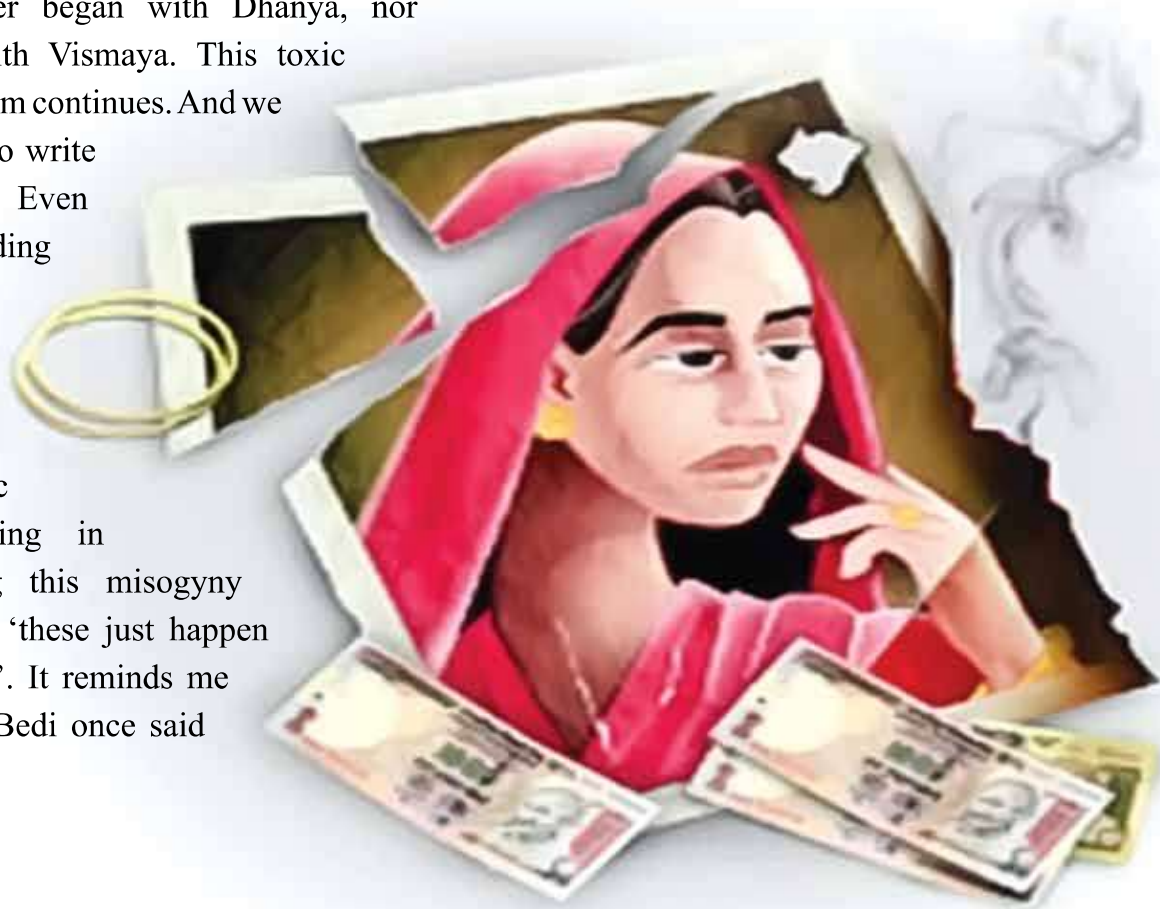
home to her family, nor can she call anyone. She continued to bear the harm, believing that this is life, and she has to deal with it. Little does she know she will never smile again.

The very next day, 19-year-old Suchitra was found dead in her in-law's house. Her husband and his family tortured her in the name of dowry. Why did she marry at a young age? Well, her 'horoscope' said if she is not married before 20, she would only get married after seven years. And yet again another question arises. Why didn't the horoscope see her tragic demise?

In another incident, Archana and Dhanya were found dead at their respective residences due to severe physical and mental abuse by the family they're married off to. The most agonizing truth is that these women received little or no help from other women in the family. It never began with Dhanya, nor does it end with Vismaya. This toxic patriarchal system continues. And we have a chance to write a new history. Even now while reading this, there is someone out there left in the shadows of domestic violence, surging in silence, calling this misogyny their 'fate' and 'these just happen in relationships'. It reminds me of what Kiran Bedi once said

'Education had made them marriageable, but not empowered'. Though the Dowry Prohibition Act came into effect in 1961, it still continues to be a recurring practice across the country.

Doesn't comprise a word we are little too familiar with? A word, especially every woman is aware of because they are the ones who have to tolerate the unfairness and the abuse. It is the facade that they live in, hiding their bruises in loose clothes and their glossy eyes struggling to hold back tears because the truth is too atrocious to reveal. A false perception of prestige, money-grubbing, egocentric, and desire to flaunt lives are few reasons that give way to social evil. We are all trying to find an oasis in a land filled with chauvinism. A peek into a paradisiacal realm of what might be if the cruel didn't exist. And why not bring that to reality?



# *Fire, Screams, Guns, and Blood!*

*All humanity hiding behind closed doors  
Inside those walls, reserved to themselves,  
Hoping to distance from the peril of the world.  
But how do they escape from themselves?*

*For the real demons live inside of them.  
Waiting to embrace the darkness they crave for,  
For it doesn't matter if you are snow or water  
Either you freeze or you drown.*

*Step outside, be brave!  
And see all sorts of thirst.  
Famished people,  
In line to perish of starvation.*

*Prone to violence,  
How can you quench the thirst?  
How will you feed the children of the world?  
How can you subdue the tantrums of the youth?*

*Step outside dear people!  
Take up the folded truth of your enormity.  
Repeated dreams about world peace,  
Understanding of love and awakening,*

*Acceptance of all races and gender!  
For we all are humans  
And we all someday breathe,  
One last time.*



Christy Joy  
S2 Mtech



# REPORT OF IEDC ACTIVITIES FOR THE YEAR 2020-21

- Our college is selected for the premium Membership of ICT Academy of Kerala of Govt of Kerala.



- 3rd to 6th September 2020 a 5 Day Online Python Boot camp for beginners was conducted by Hardware Club of Sahrdaya.
- 7th to 13th September 2020 The Selection process of IEDC student boot camp was conducted



committee member of IEDC student start up Boot camp

- Chief Executive officer-Anze Joshy (S7 BM)

- Chief Technical officer-Mr Gregory C(S7-EC)
- Chief Operating officer-Mr Roni Shaji(S5 EE)
- Chief Creative officer-Mr Christo John(S5 CS)
- Chief Financial officer-Ms Christina Pathrose(S7 BT)
- Chief Social officer-Ms Ananya Menon(S5 CE)
- Chief Marketing officer-Mr Elwin Jose(S3 CS)
- Hardware Club Staff in charge-Dr Vishnu Rajan
- Student in charge-Mr Christo P B
- Coders Club Staff in charge-Ms Divya R
- Student in charge-Mr Jobel Johnny
- Creative Club Staff in charge-
- Student in charge-Ms Anjali P S
- Coders Club Staff in charge-Dr Arun Thomas
- Student in charge-Mr Govind T
- 1st October 2020, the newly formed Execom in 2020 had conducted an IEDC farewell for the Execom team 2018-2020.
- 2nd October,2020, the Media Club headed by Anlin Babu had released a video- "Bon Adieu-Execom 18-2020"
- 14-30th October 2020, IEDC CMO - Elwin Jose held a Talent hunt week during which skills of talented students of Sahrdaya were released as videos on social media platforms.
- 17th October 2020, the Coders Club headed by Jobel Johnny held Codestorm (Mock Interview).
- 17th October 2020, the FutureTech Club headed byGovindTheldtheInaugurationoffuturetechclub and panel discussion of future technologies with Avishkar hyperloop team.
- 19th October 2020, we had conducted an IEDC Souvenir Lecture to mark the one-year anniversary of IEDC Summit.



- 27-30th October 2020, the Hardware Club headed by Christo P.B held C++ Evening Café for Girls.
- 31st October,2020, we had conducted a Memories Photography Contest.
- IEDC Sahrdaya won the” Best Inclusive IEDC Kerala “from Women Startup Summit 2020.
- Eveline Durom had successfully achieved a task on” Solving AI problem by TCS: Highlights Extractor TCS” from WhyHack Hackathon.
- 5th November-10th December,2020, the Creative Club held a Doodle Art Competition
- 7th November 2020, the, the Media Club headed by Anlin Babu had released a video- “Iedc gbm 2.2 celebration meetup”
- 11th November,2020-present, IEDC CMO - Elwin Jose held an Inspiration week
- 16th-22nd November 2020, IEDC CMO - Elwin Jose held a Global Entrepreneurship Week.
- 17th November 2020, the Media Club headed by Anlin Babu had released a video- “A year with Covid-19 Pandemic”
- 23rd November 2020, the FutureTech Club held a talk series on Future Technologies by Mr John T Mathai CEO,Co Founder of EYEROV Technologies.
- 25th November 2020, we had conducted an” Introduction to IEDC (for first years)”
- 25th November 2020, Ideation competition for 1st years was held by Sahrdaya CET. 13 teams of first years were mentored by 2-3 mentors in each team.
- 16th December 2020,a talk on Opportunities for Engineering Students in INDIAN AIR FORCE by Wing Commander SNEHA Singh.
- 13th January 2021 : INSPIRE 2021 was conducted by IEDC Sahrdaya
- 31st January 2021 : Event “MATRIX” conducted by Coders club of IEDC Sahrdaya MATRIX” was a Competitive Coding Competition conducted to help students with their coding ability. Around 70 students participated from all the four years, from various departments.
- 4th February 2021: Social media and career management was conducted by IEDC Sahrdaya
- 14th February 2021 – 20th February 2021: Valentines day photography contest was conducted by the media club.
- 10th March 2021: IEDC FOUNDATION DAY poster released on Instagram
- 16th March 2021- 22nd March 2021 : “Video Making Challenge on Water Conservation”

conducted by Media Club & Eco Club of IEDC Sahrdayao

- 21st April 2021 : Release of #stayhome video on instagram. Released short awareness video on Instagram urging people to #stay home and #staysafe
- 24th April 2021 - 25th April 2021 : “Algorithm Unlock” event by Coders Club of IEDC Sahrdaya. ALGORITHM UNLOCK” was a boot camp for competitive coding .The aim was to give an introduction into the world of coding and the vast number of opportunities that come within it. Around 150 students had registered from all the four years, from various department.
- 1st May 2021 : Release of Sahrdaya podcast trailer. Sahrdaya podcast trailer video making by Fr.Chako Kattuparambil, media directors supported by Elwin (CMO)
- 7th May 2021: Release of Sahrdaya podcast teaser. Sahrdaya podcast teaser video making by Fr. Chako Kattuparambil, media director supported by Elwin (CMO).
- 11th May 2021: Release of Sahrdaya podcast teaser 2
- 14th May 2021- 15th May 2021: “ARDUINO WORKSHOP” conducted by Hardware Club of IEDC Sahrdaya. Two hour session each day. 1st day program - introduction to Arduino and basic programming. 2nd day program – interfacing with sensors. Around 300+ registration were there for the program from various departments.
- 14th May 2021: Call for interview questions for Sahrdaya podcast.
- 20th May 2021 : START-UP TALK given by Najeeb Bin Haneef was organized by IEDC Sahrdaya
- 23rd May 2021 : Theme song of S\_Beats (Sahrdaya podcast) released.
- 29th May 2021: Mr Jibin Jose IEDC Nodal officer gives a lecture on Innovation of Product development organized by Association of Biomedical Engineering organized by SSN college of Engineering, Kalavakkam and Institution Innovation council.
- 9th June to 20th June 2021 : Mr Jibin Jose IEDC Nodal officer as the part of the Second level evaluator of YIP 2020.
- 11th June 2021 – 13th June 2021 : “Hack Inversion” event by Coders Club of IEDC Sahrdaya Hack inversion is a hackathon exclusive to students of sahrdaya engineering college participants can participate as a team of 3 or as an individual we had hosted a web platform where we can register, get the informations regarding the event, communicate, and to engage in the competition. it was a 2 day hackathon with 2 Rounds, where the teams have to build the required solutions in the first round. in the second round the selected solutions are to be presented. there was around 320+ Registrations
- 14th June 2021: “Reminiscing the Arts day celebration” episode of S\_Beats (Sahrdaya podcast) released.
- 15th June 2021: “Opening address of executive director” under Reminiscing the Arts day celebration episode of S\_Beats (Sahrdaya podcast) released
- 17th June 2021 : Sahrdaya is selected for One District One Idea scheme of Kerala Development and Innovation Strategic Council. Under this scheme, the Government aims to create an “industry cluster” under the mentorship of Sahrdaya. This is associated with financial assistance from KDISC.
- 20th June 2021: “Father’s day special episode ” of S\_Beats (Sahrdaya podcast) released
- 20th June 2021: “International yoga day special episode ” of S\_Beats (Sahrdaya podcast) released



# Captured Moments



AKHIL S NAIR, CE



Vaishnav K Suresh S4 CE



Devipriya, S2 Mtech



Vigneshdas S2 BT



Athulya Saseendran S4 CE



AKHIL S NAIR, CE



Joel K Joy S2 BME

# THE FACE

Waking up one fine summer day,  
I find myself in an unknown world  
I turn around, I look up, I search  
I find the same strange world;  
Strangers all around, looking down at me,  
some, even judging me  
    I am intimidated, I turn around again,  
    I walk here and there,  
    It didn't change anything  
    I am still stuck among the unfriendly beings  
I feel trapped;  
somewhere deep in the valleys of darkness  
I wish I could run away  
I yearn to be among people I love,  
to stay safe in the comforts of my home  
    And then, I see a Face  
    A stranger, I hardly know that face  
    but there seemed to be something else  
    was it kindness or a twinge of smile,  
    etched on that Face?  
I think it was both; for;  
it makes me want to go look for that Face  
amidst the crowd of hostile strangers  
I walk up to that Face,  
slowly but boldly  
    The face talks to me, smiling a lot;  
    I smile back and answer its questions  
    The face grabs my hand and we explore  
    the whole strange world out there  
I no longer feel scared or sad  
I am comforted by the face,  
which always stayed by my side  
guiding me, like my dad  
    I learn a lot from the face;  
    though I can't fathom its soul  
    But it seems to understand me and my soul,  
    all, in a short span of time  
All my fears are washed away;  
I feel happy and sated  
I am ready to explore any part of the world  
with the Face by my side  
    Alas! One morning it happened  
    I lost sight of the face  
    It seems to have disappeared  
    in a spur of the moment;



I search frantically for the Face  
every nook and corner;  
every crevice and alcoves;  
but the Face receded from view,  
leaving me all alone  
    I am shattered, shocked and at loss for words  
    I now see only the impending darkness  
    looming all around me  
    I feel like I have entered an unknown forest  
    with danger lurking here and there;  
    and I am all alone; this time there is no Face  
    to propel me forward.  
Recuperate, I have to  
slowly I gain my strength  
I hardly trust any Face now,  
for, they may desert me any moment  
    I am all I have got;  
    with all the broken pieces that I became  
    I feel whole all over again  
Yet, I can't help but search for the Face  
high and low  
keeping my ears to the ground  
awaiting the Face to call out my name;  
for, that Face, meant the whole world to me  
And I still believe it will return one day  
And life is worth waiting for that Face



Ms. Remya P M  
Assistant Professor,  
Department of Civil Engineering



# HUMANITY -THE ESSENCE OF OUR EXISTENCE

The greatness of humanity is not in being human,  
but in being humane. - Mahatma Gandhi

Humanity is a value that binds all human beings together. The power of human species is considerable over the non-human world. This is mainly because our intelligence has consistently invented and deployed tools and technology which means we have come to dominate the earth and our imagination has shaped religious and political meaning around which we form competing interests and social movements. Technology will not just change us where we are but also change where we can be. Humanity will be enhanced in time and space but also relocated across time and space.

Our human power will become even greater but what about our wisdom and the way we use this new power of humanity? The fundamental principle of humanity is “To prevent and alleviate human suffering wherever it may be found and to protect life and health and ensure respect for the human being. “

Currently, the principle of humanity is expressed as caring only about one species -our own. But, this is neither true nor realistic. Therefore it must keep pace with the ethical evolution of humanity (the species) and needs to expand in purpose and behaviour towards non-human life.

As a global community, let's keep space in our hearts for each other. Particularly for people dealing with both the Covid 19 pandemic and war.



Dr G R Gnana King  
Associate Professor, ECE



# Choose to be You

Those miracle moments of Life  
When your last flaw  
Becomes your newest adventure.  
When you see that mirror  
In which you saw yourself  
Is now broken.  
It is not in one piece.  
You keep the pieces together.  
It is not a single mirror.  
You see thousands of you.  
Smiling back at you.  
Where once you saw one face.  
Now you can see many faces.  
Where once you saw one smile  
Now you can see many smiles.  
And the eyes are not tear-stained now.  
On every edge there is  
A glorious rainbow.  
A victorious golden glow.  
On the edge of that radiant smile.  
The flicker of light  
Seen only in the eyes  
Of whom have been  
Through the dark.  
The light which showed them  
The way out the dungeons  
Of their own past.  
The light of Liberation.  
The ring of Liberty.  
The moment of Freedom.  
You choose to be You...



RINY ROY  
S8 CS B





# Why are Plastics an AMAZING PHENOMENON?

Alexander Parkes created the first 'man-made' plastic in 1860. It was named 'Parkesine' and would change its form when heated, and harden when cooled. It was made from cellulose, was clear, and could be moulded. But it was expensive to make, hence it was not practical to produce it. Formaldehyde was the next product to advance the technology of plastic.

In 1899, Arthur Smith received a British patent for processing a formaldehyde resin. However, it was only in 1907 that Leo Hendrik Baekeland invented the first fully synthetic resin, to become a commercially successful product named Bakelite.

In the 1930's, a Dupont chemist named Wallace Carothers invented a form of plastic called Nylon. Today there are hard plastics, soft plastics, clear ones, colorful ones, and plastics that look like leather, wood or even metal and other forms of plastic are being developed. During the twentieth century, new forms of plastics (biodegradable plastics) that are less harmful to the environment have been developed. However, they are likely to cost more and might end up giving us less attractive packaging.



Dr Sukhila Krishnan  
Assistant Professor

Department of Applied Science & Humanities

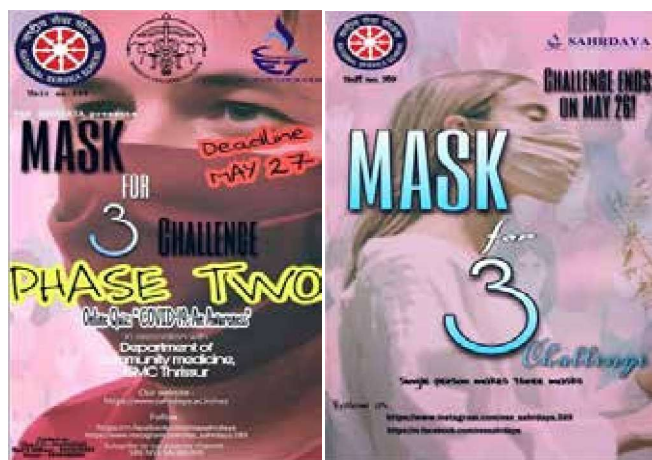




# NSS ACTIVITY REPORT 2020-21

## MASK FOR 3 CHALLENGE

The NSS unit of Sahrdaya organized an online challenge on 14th May 2020, based on the instructions obtained from KTU technical cell. The challenge was about instilling care and responsibility in our volunteers and the participants. The concept was that a single person makes three masks considering his and his close one's safety. It focused on educating the public by attaching an online quiz, in collaboration with the Department of Community Medicine of GMC Thrissur, along with the mask for 3 challenge which came out as the second phase of the challenge on 18th May 2020. The social campaign gained a lot of support from the public showing a total response of 136 people within which 86 people completed the challenge fully along with the quiz.



finished in just a single day, but it's to be practiced for the entire lifetime of each individual. The NSS volunteers are also practicing gardening in college by maintaining a vegetable garden. Everyday evening time after class is spent for the maintenance of the same.



## DISHA

The NSS unit of Sahrdaya College conducted an orientation for the newly selected volunteers for unit 589, on 14th June 2020. Sri Bramhmanayan Mahadevan sir attended the session and talked to the volunteers regarding the current situation. Mr. Ajeesh also attended the meeting. He is a soft skill trainer for NSS volunteers. The orientation was conducted online and concluded by felicitation by the program officer, Mr. Vijay C U.

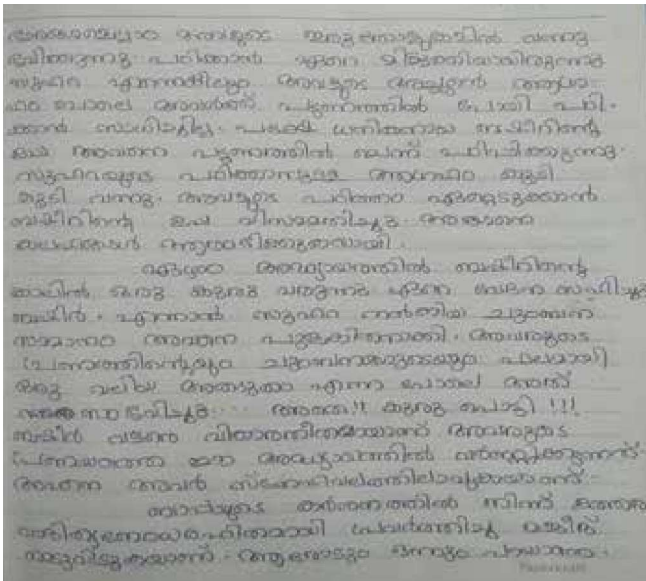
## ENVIRONMENT DAY

As a part of environment day on June 5, 2020, the NSS volunteers of Sahrdaya College Of Engineering and Technology took active participation in planting trees and showing their concern towards nature. The activities related to this started since the commencement of the lockdown period. This included planting various kinds of plants. They also took part in creating a vegetable garden in their own house. Thus the volunteers proved that the environment day is not that to be





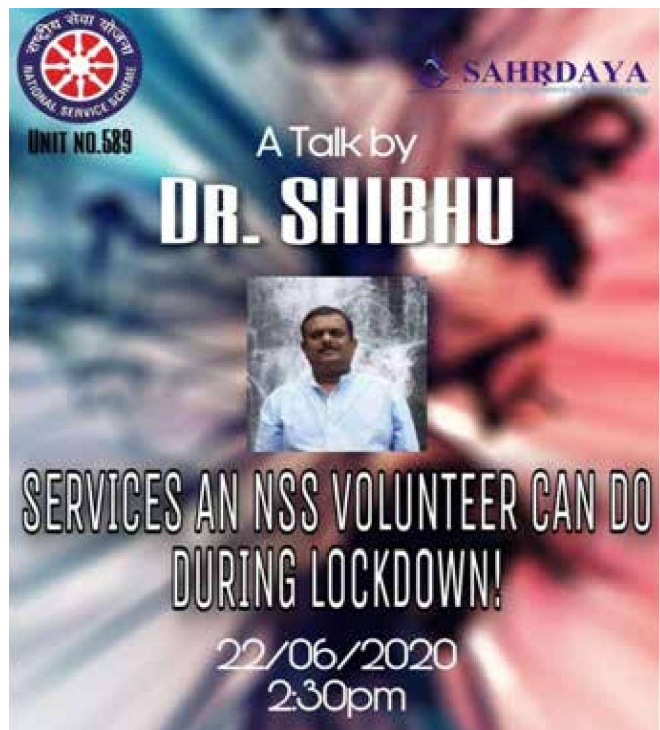
We the NSS unit of Sahrdaya organized a book reading activity to celebrate the 18th of June. Volunteers shared their review of the read book and used that day to connect more with books.



In connection with the International Yoga Day on 21st of June, the NSS unit of Sahridaya College of Engineering and Technology, had conducted an online yoga session on 20th June, 2020, for the second NSS volunteers and for the newly selected volunteers of the unit. The session was headed by the Program officer, Mr. Vijay C U. Mr. Krishnadas was also present throughout the program. The importance of yoga, its benefits, and its acceptance across the globe was discussed, along with the basic asanas, pranayamas.



The NSS unit of Sahrdaya College of Engineering and Technology conducted a orientation class for the NSS volunteers on 22nd June 2020, headed by the Program Officer, Mr. Vijay C U, and was presided by Dr. Shibu. The talk was about the various activities that an NSS volunteer can do in this time of lockdown.



NSS unit of Sahrdaya College of Engineering and Technology conducted a webinar on the topic Novel coronavirus, preventive and response



measures in the current scenario. The webinar was led by Dr. Nivil, NSS program officer and assistant professor of the department of anatomy in Vishnu Ayurveda College Shoranur. The meeting covered the basic steps that a citizen should take to increase his/her chances of prevention. The methods and suggestions given were considering the situations prevailing. The traditional methods of improving a person's immunity was also included in the discussion which ended with an interactive session with the participants.

**UNIT 589**

**SAHRDAYA**

**WEBINAR**

**NOVEL CORONA VIRUS -  
PREVENTIVE & RESPONSE MEASURES IN CURRENT SCENARIO**

**SPEAKER**

**Dr Nivil K P MD (Ay)**  
NSS Programme Officer  
Assistant Professor  
Department of Anatomy  
Vishnu Ayurveda College, Shoranur

DATE: 30.06.2020  
2.00PM - 3.00PM

**REGISTER HERE**  
[bit.ly/covidwebinarnss](https://bit.ly/covidwebinarnss)

OR SCAN HERE

## DISTRIBUTION OF ELECTRONIC GADGETS

The NSS unit of Sahrdaya College of Engineering and Technology had distributed smartphones and gadgets to students of A.U.P school, Muriyad on 8th July 2020. Dr. Nixon Kuruvila, Principal- SCET, handed over four(4) televisions and two(2) smartphones collected from NSS volunteers as a helping hand for students who were facing difficulties in attending online classes. These were received by Smt. Saritha Suresh, President of Muriyad Panchayath and Sri. M.P Subi, Headmistress of A.U.P School. Panchayath member Shantha

Mohandas, NSS program Officer Vijay C U, and NSS volunteers were present for meeting.



## AUTOMATIC HAND SANITIZER

We the NSS unit of Sahrdaya College of Engineering and Technology made six automated hand sanitizers that use the IR sensor technology to detect the presence of our hands and output the sanitizing liquid.

Our volunteers made these at their homes and it was collected later by our unit. The sanitizers were made to be distributed to our adopted panchayat.

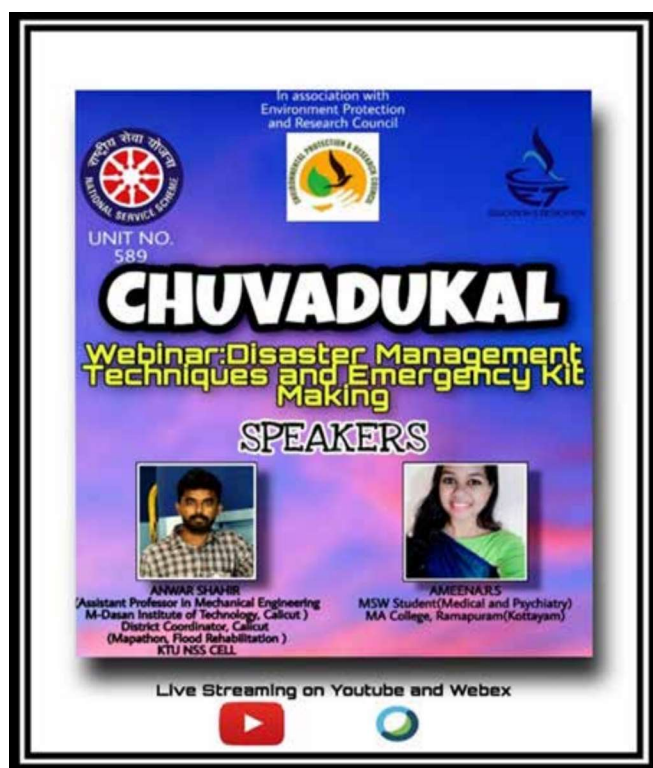


## WEBINAR: “CHUVADUKAL”

-The NSS unit 589, Sahrdaya College of Engineering and Technology, Kodakara had conducted an online webinar “Chuvadukal” in association with Environment Protection and Research Community (EPRC) on 25th July 2020.

-The main topic of the webinar was Disaster Management Techniques and Emergency flood kit.

-The webinar was also attended by the Principal, Sahrdaya College of Engg and Technology, Dr Nixon Kuruvila, Rev. Fr. George Pareman (Executive Director, SCET Kodakara) and NSS Programme Officer Vijay C U (SCET Kodakara).



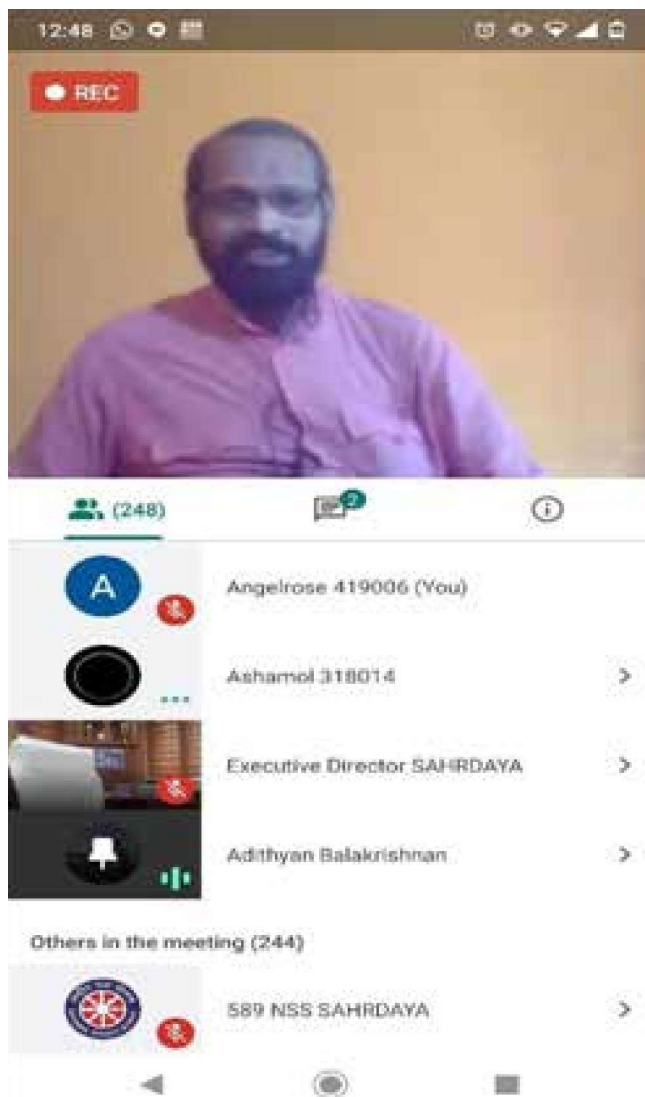
### WEBINAR Series : JWALANAM

The NSS unit of Sahrdaya College Of Engineering and Technology conducted a series of webinars on occasion of Nagasaki Day (9th August 2020), International Youth Day (12th August, 2020), and Independence Day (15th August, 2020) in collaboration with International Human Rights Association (IHRA).

## 1. NAGASAKI DAY

The series was inaugurated officially on 9th August, 2020 by Rev Fr. George Pareman, Executive

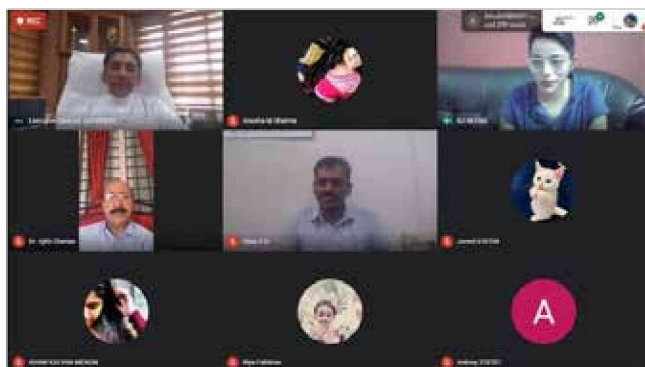
Director, SCET and session was conducted by Sri R. B. Balakrishnan Sir, Associate Professor, SNDP College, Ezhikkara. The topic was “Covid-19 and change in attitudes of Society”. The participants were active throughout the session. The main discussion was about the importance of rules and regulations that we are following in our society.



## 2. INTERNATIONAL YOUTH DAY

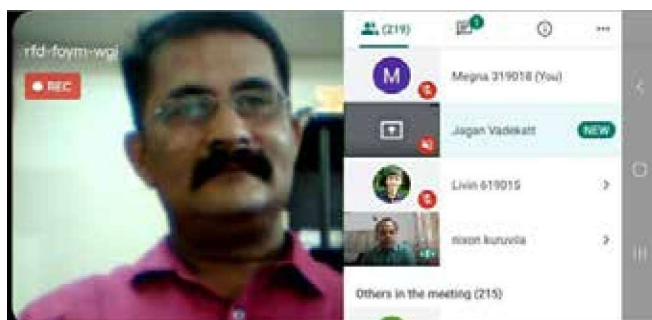
On 12th August 2020, the NSS unit conducted the second webinar on the topic “YOUTH ENGAGEMENT FOR GLOBAL ACTION” in the afternoon session. The speaker for this program was RJNEENA. She is a social worker and works with various organizations for the betterment of society. She talked about positivity and encouraged the volunteers to work for society. The Online NSS Nisarga-2020 was also released by her.





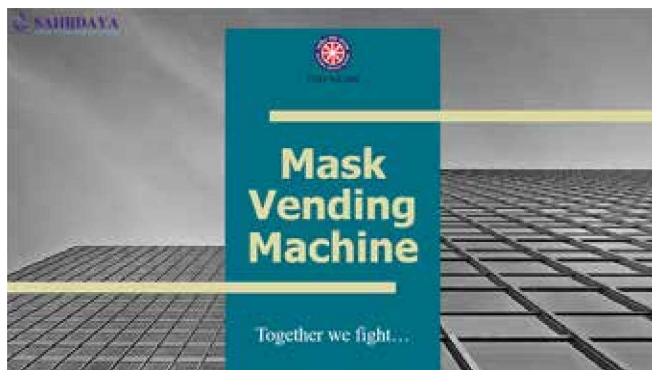
### 3. INDEPENDENCE DAY

On 15th August, Independence Day, the unit conducted the third webinar of the series on the topic “Impact of Covid-19 on National Defence. Rev. Fr. George Paramen, Ex. Director welcomed everyone to the session. The speaker for the session was Sri K. Rajagopal, Ex. Air Force Officer. Principal, SCET, Dr. Nixon Kuruvila was also present throughout the session.



### PROJECT ORIENTATION

We the NSS unit of Sahridaya have organized a project for making a mask vending machine in collaboration with the IEDC cell of Sahridaya for use in public. A meeting was organized for the project team members in order to commemorate the same under the supervision of the IEDC coordinator and NSS PO.



### 3 DAY VIRTUAL CAMP

#### Day 1

- NSS unit of Sahridaya College of Engineering and Technology had conducted a 3 day virtual camp for the volunteers from 24th to 26th October 2020. The session started with one hour of yoga at 7:00 am. The session was conducted by Vijay sir- Programme officer SCET- along with the cooperation of NSS volunteers.
- All were very active throughout, and the session ended by 8.00 am. In the forenoon session, the inaugural ceremony was arranged. The session was inaugurated by Fr. Joby Menoth-Media Director SCET, with an inaugural address, followed by an interactive class by Ajeesh Rajan sir. It was an informative and interactive session that shared more ideas regarding the NSS camp and the different qualities we should have as NSS volunteers.
- The session was coordinated by Vijay sir (Programme officer, SCET) along with the active participation of NSS volunteers. The session ended up by 11:00 am with the vote of thanks. Then by 4.00 pm, we had started our cultural program with the presence of our program officer Vijay sir. Further programs were coordinated by groups no.1, 2&3.

Each group took 20 minutes for their activities and by 5.00 pm we were concluded our culture. As usual, the program was very interesting. Then directly we entered to camp evaluation. One member from each group shared their views about today's activities and by 5.30 we concluded our 1st day.

#### Day 2

- The unit again conducted a one-hour yoga session in association with the 3 day virtual camp on 25/10/20 at 7:00 am. The session was initiated by Vijay sir (Programme officer SCET) along with the coordination of NSS volunteers.
- All were very active throughout and the session gets dispersed by 8:00 am. At 10 Am we had organized a session by Mrs. Jisha Davis- Asst. Librarian, SCET, Kodakara. It was a very good session and the madam explain the importance of reading and about the library visit.

- Madam had some network problem then our program officer Vijay sir continued the class. It was really a very good interactive section and the volunteers understood the values of reading. The session ends up by 11.00 am with the vote of thanks. We started our cultural program by 4 pm.
- The program was coordinated by groups no. 4, 5, 6 (Notice board, Ideation, Poster) in presence of program officer Vijay sir. Each group was allotted 20 minutes and by 5 we concluded our cultural events. At 5 we conducted our camp evaluation. One member from each group shared their views about today's activities and by 5.30 we concluded our 2nd-day virtual camp.

### Day 3

- The NSS unit 589, Sahrdaya College of Engineering and Technology, Kodakara had conducted a one-hour yoga session in association with the 3-day virtual camp "UNARVU 2020" on 26/10/20 at 7:30 am.
- The session was initiated by Vijay sir (Programme officer SCET) along with the coordination of NSS volunteers. All were very active throughout and the session got dispersed at 8:30 AM. At 10:00 AM we organized the inaugural ceremony of Mask Vending Machine and Automatic Hand Sanitizer Dispenser.
- This was inaugurated by Rev. Fr GEORGE PAREMAN (Exec. Director SCET, Kodakara) with the inaugural address, followed by Dr. Nixon Kuruvila (Principal, SCET), Vijay Sir (Programme officer), and Jibin Sir. This culminated with an informative session by our former volunteer secretaries: Ms. Neena T. K and Mr. Gautham T. Ajit (2017 - 2019 NSS batch), where they summarized the responsibilities of an NSS volunteer.



## SANGAMAM

We the NSS unit of Sahrdaya conducted a meet-up of all Kerala NSS volunteers in connection with NSS day together with NOVA (NSS Old Volunteers Association) on the 26th of September. The meeting has presided over by my NOVA members who shared their life-long experiences with NSS. The meeting also included the family members of all Ex and present NSS volunteers. The meeting was conducted through Google meet and also live-streamed through our official YouTube channel.



## GANDHI JAYANTHI

- NSS unit no.589 of Sahrdaya College of engineering and technology, Kodakara conducted a campaign for planting a hundred saplings as part of Gandhi Jayanthi on 2nd October 2020.
- The event was conducted online through the Google meet platform, where each volunteer planted one sapling in their respective homes. Executive Director, SCET, Rev. Fr. George Paremen, Program officer Vijay C U also attended the event.
- There was active participation from the volunteers and the meeting was conducted successfully with 100 saplings planted. The social campaign



named 'beGandhianforaday' is live on social platforms from 30th of September to 7th of October in connection with Gandhi Jayanti.



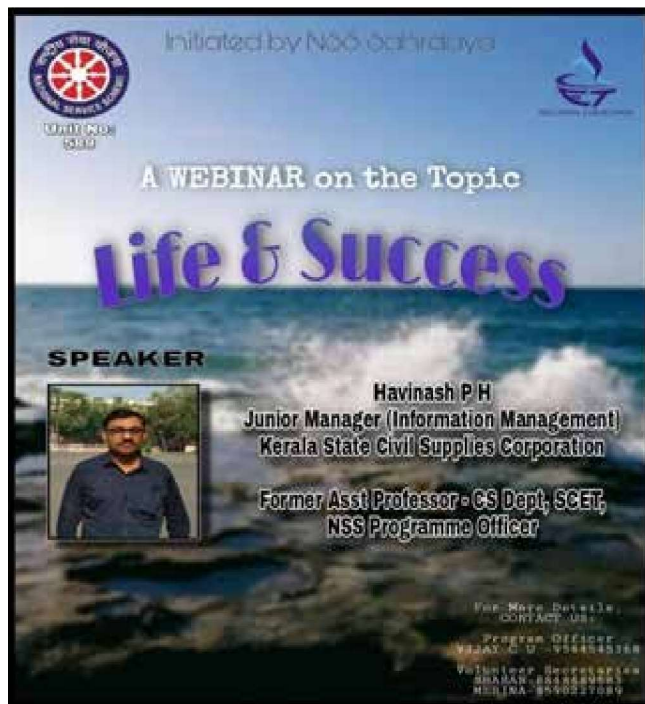
## WORLD MENTAL HEALTH DAY WEBINAR



We the NSS unit of Sahrdaya organized a webinar on the topic "Promotion of Mental Health and well-being among young adults". The session was conducted by Fr.Binny Joseph (Consultant clinical psychologist), HOD of Dept. of Psychology of Mount Carmel College of Arts and Science, Kothamangalam. The session focused on the importance of the mental health of young minds. It was an interactive session and the public and the volunteers benefitted from it.

## LIFE & SUCCESS

We the NSS unit of Sahrdaya organized a webinar on the topic Life & Success. The session was conducted by Havinash PH. The session focused on the importance of the life condition of youth during the pandemic situation. It was an interactive session and the public and the volunteers benefitted from it.



## 'ORUMA 2021'

Theme: Youth for prevention and mitigation of Covid 19.

The NSS unit of Sahrdaya college of Engineering and Technology has organized a 7 day camp 'ORUMA 2021' with the theme 'Youth for prevention and mitigation of Covid 19'. The camp was conducted in the online platform google meet



from 10 th January till 16 th January under the guidance of the program officer Mr. Vijay C U. The main project of this year is selected as Rudrasena project.



### Day 1 (10/01/2021)

The day started with the NSS manavageetham. The instruction for the volunteers about the camp was explained. Group leaders and magazine editor was selected under the guidance of Vijay sir and volunteer secretary Merina Thomas. Each groups were assigned with their daily duties.

### Day 2 (11/01/2021)

The second day of the camp started at 7:30 with the manavageetham. During the assembly Mr Akhil sir, professor Sahrdaya College addressed the volunteers. The yoga session was conducted by Vijay sir. The inaugural ceremony was started by 10 am. The camp was inaugurated by Sri PK Davis master, District panchayath president. Presidential address was given by Fr George Pareman, ex director SCET Kodakara.

Keynote address was given by Sri Ambily Soman,

Kodakara panchayath president. Dr Nixon Kuruvila and Sajith vilambil, felicitated the gathering.

Dr Sajith Vilambil, Thrissur nodal delivered a talk on voluntary blood donation. At 3 pm the skill orientation session was conducted by Ajeesh Rajan E R (English Lecturer,



Thechikottukavu Dewasom College). The cultural programs were conducted by the poster committee and the chief guest during the event was Mr Manalur Gopinadh and Bibin sir. The second day of camp was concluded with the camp evaluation.

### Day 3 (12/01/2021)

The third day of the started at 7:30 with the manavageetham. During the assembly Mr. Deepak sir, professor Sahrdaya College addressed the volunteers. The yoga session was conducted by Vijay sir. At 10 am as a part of sramadhan project the volunteers made masks and sanitiser.

At 3 pm Dr. Sajith Vilambil, District Nodal officer for Blood Transfusion Services Thrissur explained about blood donation during the

pandemic. The cultural programs were conducted by the documentation committee. The third day of camp was concluded with the camp evaluation.

#### **Day 4(13/01/2021)**

The fourth day of the started at 7:30 with the manavageetham. During the assembly Mrs. Sugana mam, professor Sahrdaya College addressed the volunteers. The yoga session was conducted by Vijay sir. At 10 am as a part of sramadhan project the volunteers cleaned their houses and neighborhood and planted a sapling. At 3pm skill development workshop was conducted by Ameena R, psychiatric social worker.

The cultural programs were conducted at 7 pm by the program committee. The chief guest was Sri Athulya Martin, former student of SCET. The fourth day of camp was concluded with the camp evaluation.

#### **Day 5 (14/01/2021)**

The fifth day of the started at 7:30 with the manavageetham. The yoga session was conducted by Vijay sir. At 10 am as a part of sramadhan project volunteers did the field survey almost 417 reports were taken. After the field survey Mr Joy Varghese addressed the volunteers.

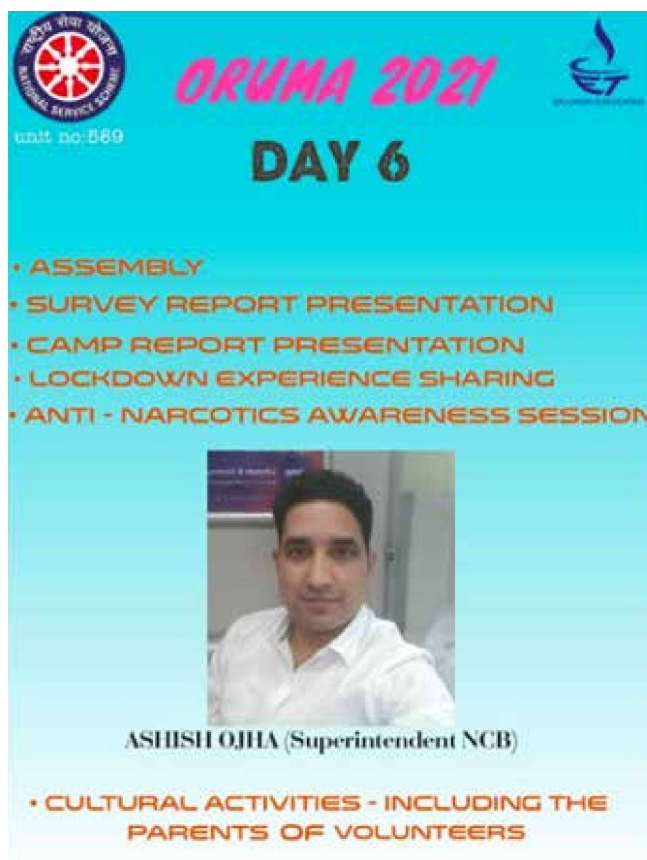
At 3pm skill development workshop was conducted by Ameena R, psychiatric social worker. The cultural programs were conducted by media committee. The fifth day of camp was concluded with the camp evaluation.



#### **Day 6 (15/01/2021)**

The sixth day of the started at 7:30 with the manavageetham. The yoga session was conducted by Vijay sir. At 10 pm volunteers read the camp report, survey report.

The cultural programs were conducted at 7 pm. The parents also accompanied the volunteers for the program. Sri Vipin Krishna sir, NSS regional coordinator addressed the volunteers. Elwin and Jisa was selected as the volunteer secretaries. The sixth day of camp was concluded with the camp evaluation.



#### **Day 7(16/01/2021)**

The seventh day of the started at 7:30 with the manavageetham. The ideation committee conducted the cultural programs. At 10 am the valedictory session started by manavageetham. Sreema M delivered the welcome speech. Presidential address was given by Fr George Pareman, ex director of SCET. Keynote address was given by Dr Ajith Cheriyan, vice principal of SCET. The chief guest was Neethi S Pillai, KTU NSS blood cell state level coordinator.



The magazine made by the volunteers were published by Sri Keerthana Anil, cine actress alumni of SCET. The gratitude journal was published by Sri Jasmine, Assi. Professor SCET and felicitated the meeting. Volunteers Elwin and Nandhgopal gave the feedback about the camp. The vote of thanks was delivered by NSS volunteer Angel Rose NS.

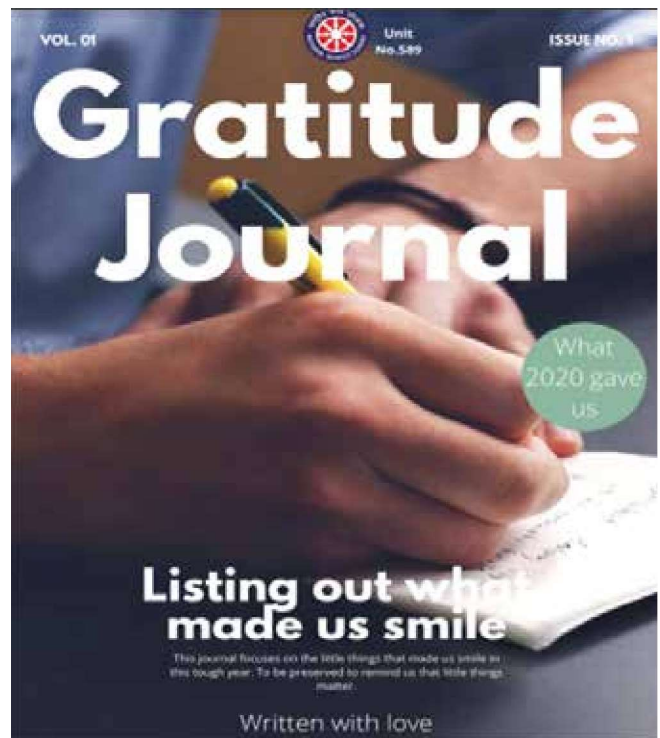
As the part of the main project Rudrasena of camp ORUMA 2021 the NSS volunteers donated 50 units of blood under the guidance of Neethi S Pillai. The program officer Vijay C U sir, Jasminemam, volunteer secretaries Sharan K S and Merina S Thomas, program coordinator Lakshmi Nair expressed their gratitude.

The 7 day camp was officially concluded.



## GRATITUDE JOURNAL

The NSS volunteers of Sahridaya formulated a journal during the year 2020 pointing out the good things that happened in their lives in the past year. It was a conglomeration of hundred articles with every volunteer being a part of it. The journal was released by Ms. Jasmine John, Assisitant PO of NSS unit no. 589.



## FOLK REMEDIES FOR BACKYARD FARMING

In connection with 72nd republic day the NSS unit 589 of Sahridaya College of Engineering and Technology had conducted flag hoisting ceremony and also a webinar on the topic "Folk remedies for backyard farming" on 26th January 2021 at 9:30 am to 11 am .Platform of the webinar was G-meet and live streaming through YouTube. The flag hoisting was at 9 am by Dr Nixon kuruvila, Principal SCET Kodakara .







## OSM (Open Street Mapping)

### MASS AWARENESS PROGRAMME

NSS unit no 589 of Sahrdaya College of Engineering and Technology had conducted an OSM (Open Street Mapping) mass awareness program on 31st January 2021 at 2.00 PM through G meet.



The program commenced with Manavageetham by NSS volunteer Anagha. Welcome speech was delivered by NSS volunteer Anna Rose. MR Melvin Varghese, district project Manager, Thrissur delivered the keynote address for the program. Ratheesh .S, OSM mass awareness program convener also attended the session. The session was handled by Joel Thomas George, Mapathon Program Regional coordinator (Thrissur, Palakkad Region). The session was coordinated by Vijay C U, NSS program officer. Active participation of all NSS volunteers were seen throughout the session. Program ended with a Q and A session. The session was informative and successfully wound up by addressing vote of thanks by Riya Fathima.

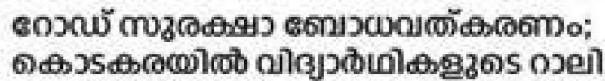
## Social media and literature

We the Volunteers of NSS Unit no: 589, Sahrdaya College of Engineering and Technology, Kodakara under the leader ship and guidance of NSS P.O Mr. Vijay CU conducted a talk session on the topic Social Media and Literature. The program commenced with Manavageetham by NSS volunteer Sharon. Welcome speech was delivered by NSS volunteer Athitra CS. Jaison.I sir (Kodakara SI of police) and Jothilakshmi mam lead a session about Nirbhayam app. And also Mr. Pauly Pallipatt lead a session about social media and literature. The session was coordinated by Vijay C U, NSS program officer. Active participation of all NSS volunteers(50 volunteers) were seen throughout the session. Program ended with a Q and A session. The session was informative and successfully wound up by addressing vote of thanks by Elwin.

## Road safety rally and flashmob

We the nss unit of sahrdaya, unit no. 589 conducted a road safety rally followed by flashmob in coordination with Kodakara Janamaitri police at Kodakara junction on 1 st March 2021. The session was inaugurated by Sri.Basil Thomas(CI,kodakara police station). Presidential address was delivered by Rev.Fr. George pareman (Executive Director SCET,Kodakara) and Felicitation was given by Dr. Nixon Kuruvilla(Principal SCET , Kodakara). The inaugural event ended up with the flag off ceremony for the Road safety rally by CI,Basil Thomas. Flash

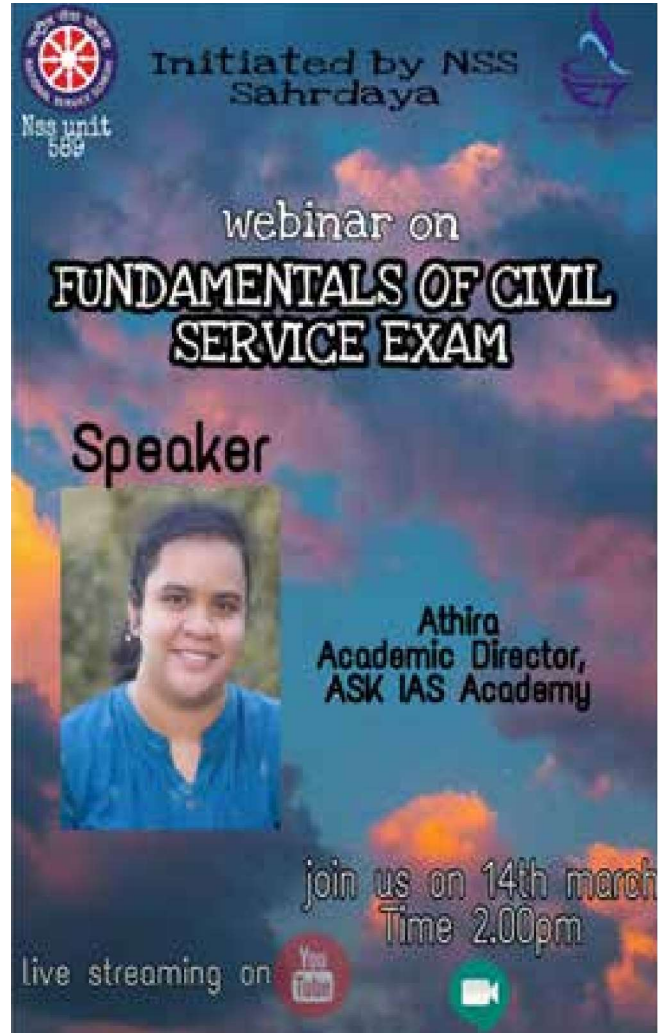
and successfully winded up by addressing vote of thanks by NSS volunteer Vishnupriya.

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Tue, 02 March 2021

<https://epaper.deepika.com/c/58750740>

The NSS unit, 589 of Sahrdaya college of Engineering and Technology had organised a webinar on topic based on fundamentals of civil service exams for civil service aspirants in collaboration with ASK IAS Academy based on trivandrum on 14 March 2021 at 2 - 3 pm through gmeet. The session commenced with Manavageetham by NSS volunteer Sona Peter. Welcome speech was delivered by NSS volunteer Gopika. The session were lead by Athira Academic Director of ASK IAS Academy. .The session was coordinated by Vijay C U, SCET NSS program officer. Active participation of all NSS volunteers were seen throughout the session. Program ended with O and A session. The session was informative



The NSS unit, 589 of Sahrdaya college of Engineering and Technology had conducted a webinar on the topic 'Intoxication and Life' in collaboration with Excise Department, Irinjalakuda on 21st March 2021 at 4:00pm. The session commenced with Manavageetham by NSS volunteer Varsha followed with welcome speech by NSS volunteer Jibin. The session was handled by Mr. Raphael M.L (Preventive Officer, Excise Range Office, Irinjalakuda). The session was too informative and created an awareness regarding the impacts of drug usage especially in youth. The session was coordinated by Vijay sir (NSS programme officer, SCET) along with the active participation of all NSS volunteers. The session conclude with vote of thanks by NSS volunteer Sreema.





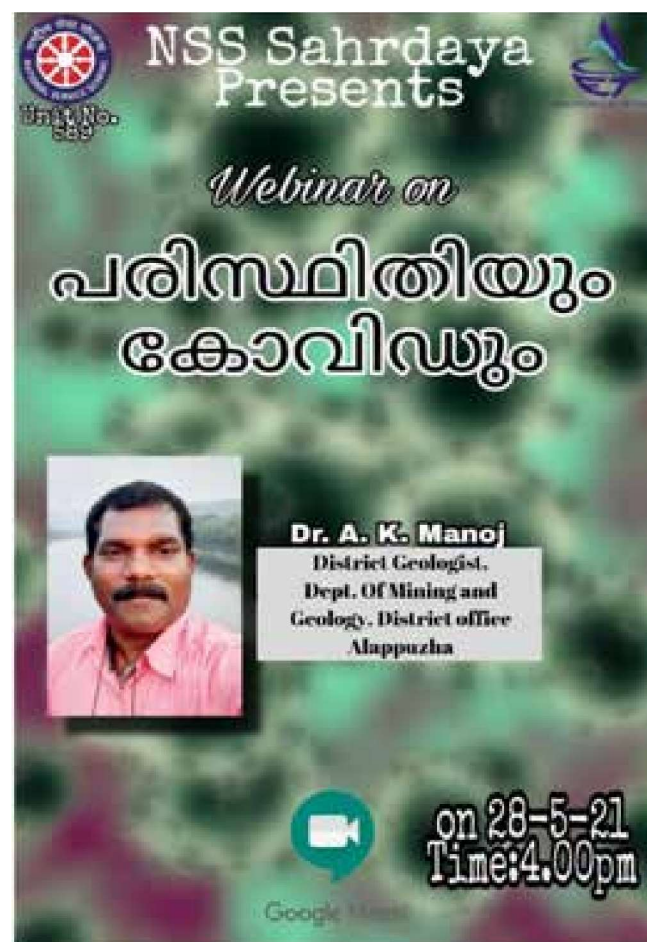
### Home energy audit

NSS unit no 589 of Sahrdaya College of Engineering and Technology had conducted an orientation class on NSS project Home Energy Audit on April 25, 2021 at 5.30 PM through G meet.



The program commenced with Maanavagheetham by NSS volunteer Athira. J.K. Welcome speech was delivered by NSS volunteer Angel. The session was coordinated by Vijay C.U, NSS program officer. The session was handled by Mr. Sebin Davis, EEE department HOD Sahrdaya college of engineering and technology. He gave us a clear view about the project. Some questions were raised by the students and were answered by the speaker. Active participation of all volunteers were seen throughout the session. The session was informative and winded up by addressing vote of thanks by NSS volunteer Angela.

### Environment and covid



TheNSSunit589ofSahrdayaCollegeofEngineering and Technology, Kodakara organised a webinar on the topic “Environment and Covid” on 28th may 2021 from 4pm-5pm through G-meet platform. The webinar commenced with manavagheetham by NSS volunteer Sona Peter and welcome address was delivered by Jomol (NSS volunteer). The session was inaugurated by Dr Ambili Mechoor(HOD Biotechnology department, SCET Kodakara). The



key speaker for the day was Dr A K Manoj (District geologist ,Dept. of Mining and Geology, District office Alappuzha).Webinar gave a clear idea about how environmental problems affects Covid-19 spreading. The session was coordinated by Vijay C U (NSS Program Officer).Vote of thanks was given by Angel George (NSS Volunteer).There was a Q and A session after the webinar. An active participation from all the participants was seen throughout the webinar.

### Post covid fungal infection



The NSS unit 589 of Sahrdaya College Of Engineering and Technology, Kodakara organized a webinar on the topic "Post Covid fungal infection" on 29th may 2021 from 7pm to 8pm through G-meet platform. The webinar commenced with manavageetham by NSS volunteer Anagha and welcome speech was delivered by Raveena (NSS volunteer). The session was inaugurated by Rev.Fr George Pareman. The key speaker of the session was Dr Sajna M V (Associate professor Department of Community Medicine Govt Medical College, Thrissur). Webinar gave a clear view about how infection raised new health concerns and also the precaution to be taken .The session was coordinated by Vijay C U (NSS Program Officer). Vote of

thanks was delivered by Arundhathi unnikrishnan (NSS volunteer) .Webinar winded up with a Q and A session. An active participation from all the participants was seen throughout the session.

### Commit to quit

The NSS unit 589 of Sahrdaya College Of Engineering and Technology, Kodakara organized a webinar on the topic "COMMIT TO QUIT" on anti tobacco day 31th may 2021 from 6.30pm to 7.30pm through G-meet platform. The webinar commenced with manavageetham by NSS volunteer sharon and welcome speech was delivered by jisa joy(NSS volunteer). The session was inaugurated by Dr joseph jeslin . The key speaker of the session was s Deepa vinay (Managing director at Unblock Buisness Solutions) .Webinar gave a clear view about how tobacco raised new health concerns and also the precaution to be taken to quit habit of using tobacco .The session was coordinated by Vijay C U (NSS Program Officer). Vote of thanks was delivered by Aswathi K B (NSS volunteer) .Webinar winded up with a Q and A session. An active participation from all the participants was seen throughout the session.



### Restore our earth

*Day 1 WEBINAR- "ECO FRIENDLY SAPLING BAGS"-01/06/2021*

The NSS unit no.589 of Sahrdaya college of Engineering and Technology had conducted a webinar on the topic 'Eco Friendly Sapling

Bags' as part of 3 Day Workshop "RESTORE OUR EARTH" in association with Inspire India, Moozhikulamshala Nattarivu Padanakalari on 1st June 2021 from 7:00 PM through G-meet platform & live streaming on YouTube. The session commenced with manavageetham ,by NSS volunteer Gopika ,followed with welcome speech by Asmiya M N (NSS volunteer).The session was inaugurated by Dr.Ajith Cherian (HOD,Applied Science and Humanities Department,SCET Kodakara) with an inagrual address.The key speaker for the day was Mr.V K Sreedharan (Secretary,Inspire India).The session was too informative and give us new ideas regarding bio-planting for proper conservation of our environment. The session was coordinated by Vijay sir (NSS programme officer, SCET, Kodakara) along with the active participation of all NSS volunteers.The event conclude with the vote of thanks by RiyaFathima(NSS volunteer).

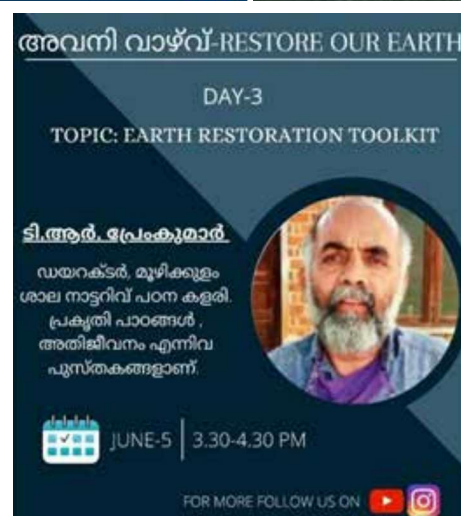
#### DAY 2 WEBINAR - "CARBON NEUTRALITY"- 03/06/2021

The NSS unit 589 of Sahrdaya College of Engineering and Technology, Kodakara conducted the day 2 webinar on the topic "Carbon Neutrality" as part of the 3 day workshop series titled "Restore our earth" on 3rd June 2021 from 7pm-8pm through G-meet platform and there was a live streaming through YouTube. The webinar commenced with manavageetham by NSS volunteer Athira Jayakumar and welcome address was delivered by V Aiswarya pramod (NSS volunteer). The session was inaugurated by Dr P Radhakrishnan (President, Inspire India). The key speaker for the day was Mr E P Anil (Green reporter).Webinar gave a clear idea about carbon neutrality on carbon dioxide output that has a net neutral impact on the environment . The session was coordinated by Vijay C U (NSS Program Officer).Vote of thanks was given by Aiswarya V K (NSS Volunteer) .The Q n A session was effectively used by all the participants to clear the doubts. An active participation from all the participants was seen throughout the webinar.

#### DAY 3 WEBINAR –"EARTH RESTORATION TOOL KIT" – 05/06/2021

The NSS unit 589 of Sahrdaya college of Engineering

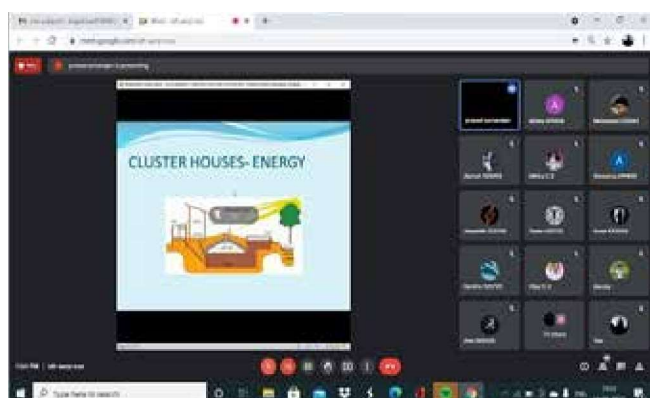
and Technology, Kodakara celebrated World Environment Day by live planting of sapling along with day 3 webinar on the topic "Earth Restoration Tool Kit" as a part of series of workshop titled "Restore our Earth" on 5th June 2021 at 3:30 pm through G-meet platform and there live streaming through YouTube. The session commenced with manavageetham by NSS Volunteer Varsha S and welcome speech delivered NSS Volunteer by Athira J K. The webinar inaugurated by Rev. FR. George Pareman ( Executive Director, SCET Kodakara). Followed by the inauguration, all the NSS volunteers planted the sapling on the eco-friendly grown bag made by them during the previous workshop of day 1. The key speaker for the day was Mr, T R Premkumar (Director of Moozhikulamshala Naattarivu Padanakalari). Webinar give clear ideas about how to restore the earth with tool kit. The Q n A session was effectively used by all the participants to clear their doubts. Vote of thanks was given by NSS volunteer Pranav Seby P. The session was coordinated by Vijay C U (NSS Program officer, SCET). Active participation from all NSS volunteers and external participants are seen throughout the session.





## Green engineering

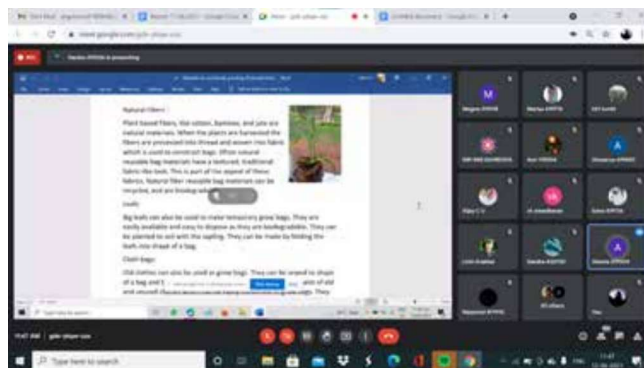
The NSS unit no.589 of Sahrdaya college of Engineering and Technology, had conducted a webinar on the topic 'Green Engineering' on 11th June, 2021 from 6:00 PM through G-meet platform. The session commenced with manavageetham, followed with welcome speech by Aloshious Baiju (NSS volunteer). The session was inaugurated by Dr. Vishnu Rajan (HOD, EC Department, SCET Kodakara). The key speaker for the day was MR. Prasad Somarajan (Managing Director, DAMAC Solutions Pvt.Ltd). The session was too informative and give us ideas regarding green engineering design, commercialization, and use of processes and products in a way that reduces pollution, promotes sustainability, and minimizes risk to human health and the environment. The session was coordinated by Vijay sir (NSS programme officer, SCET,Kodakara) along with the active participation of all NSS volunteers. The event conclude with the vote of thanks by Meghna Daison (NSS volunteer).



## Pannel discussion and report presentation

The NSS unit no.589 of Sahrdaya college of Engineering and Technology, had conducted a panel discussion and report presentation on 12th June, 2021 from 11:00 AM through G-meet platform. The session commenced with manavageetham, followed with welcome speech by Sona peter (NSS volunteer). The session was inaugurated by Dr. K V Mohammed Kunhi (Principal scientist & Programme Co ordinator Extension & Training Division, Kerala Forest research Institute, Peechi). The key speaker for the day was Mr. V K Sreedharan (Secretary, Inspire India). The project presentation started with ppt on relevance of Eco-friendly grow bag in society

by Aiswarya V K followed by report on relevance of Eco-friendly grow bag in society by Ann Mariya Joshy, Write up 1 sustainability of Eco-friendly grow bag in society by Meghna Daison, Write up 2 materials used and how it meets up Eco-friendly Requirements by Aleena Biju Arikkat, Write up 3 standardization of Eco-friendly grow bag by Gopika P P, Write up 4 Overall 3 Day Workshop Report by Anna Rose Joshy and finally project presentation by Jisa Joy. Mr. T R Premkumar (Director of moozhikulamshala nattarivvu padanakalari). The session was too informative and give us ideas regarding green engineering design, commercialization, and use of processes and products in a way that reduces pollution, promotes sustainability, and minimizes risk to human health and the environment. The session was coordinated by Vijay sir (NSS programme officer, SCET,Kodakara) along with the active participation of all NSS volunteers. The event concluded with the vote of thanks by Riyafathima (NSS volunteer).



## Vayana varthamanathil

The NSS unit 589 of Sahrdaya College Of Engineering and Technology, Kodakara on occasion of National Reading Day organized a webinar based on the topic "Vaayana Varthamaanathil" on 20th June 2021 from 10am to 11am through G-meet platform. The webinar commenced with manavageetham by NSS volunteer Gopika.p.p and welcome speech was delivered by Raveena K (NSS volunteer). The session was inaugurated by Fr Chacko Kattuparambil (Media Director, SCET Kodakara). The key speaker of the session was Mrs. K.S. Kavitha (HSST Malayalam, RMHSS Aloor). Webinar gave a clear view about the importance of reading in our daily life. The session was coordinated by Vijay C U



(NSS Program Officer). Vote of thanks was delivered by Mariya (NSS volunteer) .Webinar wined up with a Q and A session. An active participation from all the participants was seen throughout the session.



### Revive vitality

The NSS unit no.589 of Sahrdaya college of Engineering and Technology had conducted a webinar on the topic ‘REVIVE VTALITY’ on 21st June 2021 from 7:00 AM through G-meet platform . The session commenced with manavageetham by NSS volunteer Anagha ,followed with welcome speech by Jipin E P (NSS volunteer).The session was inaugurated by Suresh T K (Director, Endziel Yoga Centre Thrissur ) with an inaugural address. The key speaker for the day was Mrs T Prabha (Certified yoga instructor and nutritionist).The session was too informative and we performed yoga after realising its relevance. The session was coordinated by Vijay sir (NSS programme officer, SCET,Kodakara) along with the active participation of all NSS volunteers.The event concluded with the vote of thanks by Voytein joy (NSS volunteer).



### Jeevitham thanne lehari

The NSS unit no.589 of Sahrdaya college of Engineering and Technology had conducted a webinar on the topic ‘ജീവിതം തന്നെ ലഹരി’ in collaboration with Anti-Narcotics and Anti-Drug Cell Sahrdaya on 26th June 2021 from 4:00 Pm through G-meet platform . The session commenced with manavageetham by NSS volunteer Varsha,followed with welcome speech by Sharo William Paul (NSS volunteer).The session was inaugurated by prof.Sunny C P (HOD, CE Dept, SCET Kodakara) with an inaugural address. The key speaker for the day was Mr. RAPHAEL M L (Preventive Officer Excise Range Officer, Irinjalakuda)The session was too informative which gave us a clear picture of joyful life without drugs. The session was coordinated by Vijay sir (NSS programme officer,SCET, Kodakara) along with the active participation of all NSS volunteers.The event concluded with the vote of thanks by LIVIN A S(NSS volunteer).

## Jeevitham thanne lehari

### *DAY 1 - "TERRITORY OF LAND DAILY THOUGHTS" 26/07/2021*

The NSS unit 589 of Sahrdaya college of Engineering and Technology, Kodakara alongwith with Moozhikulam Shala Nattarivu PadanaKalari and Green Report Channel had conducted a 9 day webinar series related to "Earth Overshoot Day 2021" through G-meet platform.

The 1st day of the session was handled by Mr. E.P Anil (Editor in Chief, Green Reporter Channel) on the topic "Territory of Land Daily Thoughts". The session was too informative and give new thoughts regarding land territory that, we all belong to the land but, the land doesn't belong to us, keeping in mind that, our role is as stewards for coming generation. The webinar conclude with a Q&A session. Active participation of all volunteers were seen throughout the session.



### *DAY 2 - "CARBON NEUTRAL -MEENANGADI" -27/07/2021*

The NSS unit No 589 of Sahrdaya College of engineering and technology, Kodakara along with Green report channel and Moozhikulam shala Nattarivu padanakalari conducted a 9 day webinar in association with 2021 Earth Overshoot day - July 29.

The 2nd webinar day was held on 27th July 2021 through G-meet from 7pm -9pm. The session was on the topic " CARBON NEUTRAL-MEENANGADI". The key speaker for the day was Mr. Raju S (Assistant Director ,Thanal , Thiruvananthapuram). The speaker shared how Meenangadi panchayat acquired carbon neutrality. As the district was highly vulnerable to the adverse effects of climate change, carbon-neutral

development became essential for its people and the environment. Therefore, Meenangadi Panchayat in Wayanad was selected as a model carbon-neutral panchayat for Wayanad district and the rest of the country to follow and also discussed how to achieve carbon neutral in our society. There was an active participation from all the participants throughout the session and the webinar was winded up after a Q & A session.



### *DAY 3 - KNOWLEDGE ABOUT WORLD- 28/07/2021*

The NSS unit 589 of Sahrdaya college of Engineering and Technology, Kodakara accompanying with Moozhikulam Shala Nattarivu PadanaKalari and Green Report Channel celebrated conducted series of webinar related to "Earth Overshoot Day" through G-meet platform.

On 3rd day the session held by Dr M P Mathai ,Chairperson of Nattarivu padanakalari on the topic "Knowledge about World". Throughout session the speaker give a clear idea about how to have sustainable life. Along with that he has shared so many techniques to keep a better world for present and coming generation. And he added some methods like home gardening, water harvesting etc... to restore our earth from present scenario. Active participation from all participants are seen throughout and webinar winded up with a Q and A session.









Mr.VK Sreedharan(Course director, Nattarivu padanakalari ) .The speaker shared his knowledge about cultivation .Webinar gave a clear view about the importance of cultivation.Webinar winded up with a Q and A session. An active participation from all the participants was seen throughout the session.

#### DAY-7-BHUTAN EXPERIENCE.

Nss unit No 589 of Sahardaya College of engineering and technology, kodakara along with Green report channel and Moozhikulam shala Nattarivu padanakalari conducted a 9 day webinar in association with 2021 Earth Overshoot day - July 29.

The 7th day was held on 1 August 2021. The session was on the topic Bhutan experience. The key speaker for the day was Mr. Madhupal (Artist, Film Director, Thiruvananthapuram). The speaker shared his knowledge about Bhutan with everyone and why Bhutan is known for its natural beauty forest conservation National happiness great culture and heritage. The session was too informative. The event concluded with a Q and A session.



#### DAY 8 – CARBON NEUTRAL CONSTRUCTION PRACTICES– 02/08/2021

The NSS unit 589 of Sahrdaya college of Engineering and Technology, Kodakara accompanying with Moozhikulam Shala Nattarivu PadanaKalari and Green Report Channel celebrated conducted series of webinar related to “Earth Overshoot Day” through G-meet platform.

On 8th day the session held by Mr Prasad Somarajan (Engineer, Green Constructions, Thiruvananthapuram) on the topic “Carbon Neutral Construction ”. Throughout session the speaker give a clear idea about what is carbon neutral construction and its practices. A carbon neutral building is defined as one with significantly reduced energy consumption combined with the increased use of low carbon energy sources to meet the remaining demand.

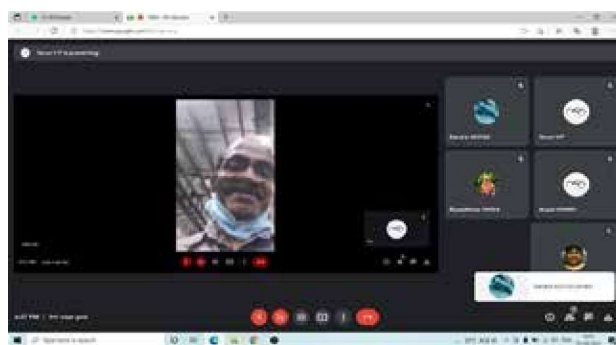
Along with that speaker has shared information about the different ways to make the constructions carbon neutral and to decrease carbon footprint during the construction of buildings. Active participation from all participants are seen throughout and webinar winded up with a Q and A session.



#### DAY 9 – ECOLOGICAL FOOTPRINT PRACTICES - 03/08/2021

The NSS unit 589 of Sahrdaya college of Engineering and Technology, Kodakara accompanying with Moozhikulam Shala Nattarivu PadanaKalari and Green Report Channel celebrated conducted series of webinar related to “Earth Overshoot Day” through G-meet platform.

On 9th day the session held by Dr Joisy Jose (Assistant Professor of zoology department of St Thomas Collage, Thrissur) on the topic “Ecological Footprint Practices”. Throughout session the speaker give a clear idea about what is ecological footprint and its practices. Ecological footprint means it is the impact of human activities measured in terms of the area of biologically productive land and water required to produce the good consumed and assimilated the waste generated . Along with that speaker has shared so many techniques to reduce the ecological footprint and the methods include reducing of waste generation, improve the recycle mechanisms, switch to renewable energy resources etc.... Active participation from all participants are seen throughout and webinar winded up with a Q and A session.



# THE FUTURE WORLD GENROBOTICS



*Robot, a machine made up of steel and circuit boards which is thought to replace human from his work life efforts made man to put his effort into creating robots and ways to improve their capabilities. In this article we are about to discuss about one of the most prominent startup ideas existing called robotics.*

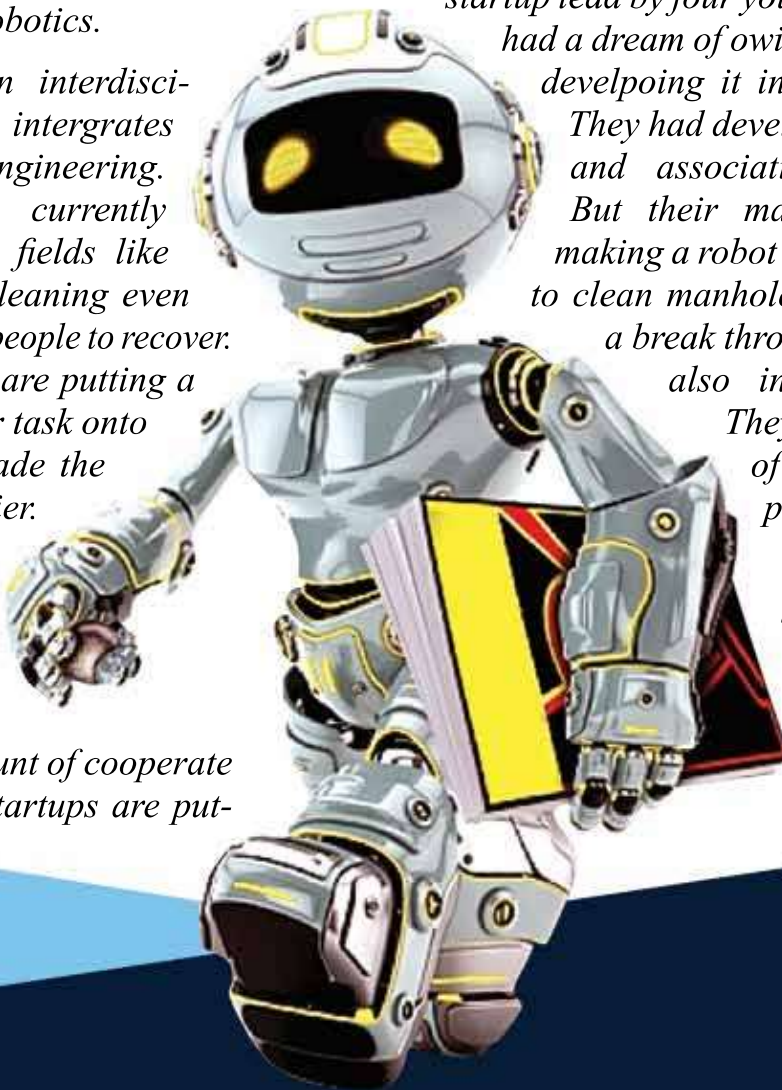
*Robotics is an interdisciplinary field that integrates computer and engineering. The robots are currently used in different fields like manufacturing, cleaning even to help depressed people to recover. Now the humans are putting a large part of their task onto them. This has made the work life easier. This made the importance of designing, creating and operating a robot. Now a large amount of cooperate companies and startups are put-*

*ting their efforts into this.*

*There are several startup companies which has put their skills into this field. Here we are to know about a startup company called GENROBOTICS which had played a major role on this field. It is a startup lead by four young engineers who had a dream of owning a company and developing it into a greater one.*

*They had developed many robots and associating technologies. But their major success was making a robot which can be used to clean manholes. This idea made a breakthrough in society and also in technical field. They have earned lots of awards for their project.*

*The founders of this company are Vimal Govind and Rashid Khan. The whole effort by them and their*





team members which helped them to gain awards for like young challenge maker award and so on.

Now let's look into their major product which is quoted by manholes into roboholes. The robot developed by them is used to descend into manholes without any difficulty and conduct cleaning process and climb back to take on next challenge. Once the people who do cleaning process are thought to be as slaves in the society had a discrimination by the upper class. Now by inducting this robot into use will help the human lives which destroys themselves for our benefits. Their robot had made a social transformation and brought an idea saying that robots can help human in the worst cases.

They have stated training sanitation workers on how to operate this machine. They have earned a lot of contracts from around the world. That shows how high their startup is. The usage of technology which helped a

group of people to rise from their current situation to a better one this is what made GENROBOTICS outstanding from others.

They have also developed sewage monitoring app which help people to monitor the situation inside the sewage and it can be used to clean the sewage holes. They have also developed a system to clean sewer wells. They have started to rehabilitate the sewage cleaning workers this have a large social impact.

I wish a lot of startups must come out with technologies which raise a community from their dark life to a wonderful and colourful life and wishing GENROBOTICS and other startups a good luck for their better future.



ANOYSIUS JOJU  
CSA,S2





# മഴയുടെ മാറ്റം

മാനം ഇരുണ്ട് പുകയുന്നൂ  
നിറയെ മഴമേഘങ്ങൾ  
ദൂർബല ഇടിമുഴക്കങ്ങൾ  
സൂര്യൻ മന്ദം മായുന്നൂ

പ്രാചീന മാനുഷ പണ്യം കണ്ട  
പ്രകൃതിക്കതാനുക്കണ്ണിൻ  
മക്കൾതൻ സത്യാഗുണത്തിന്  
പ്രതിഫലം ഭരമൃതായവൻ പെഷ്തൂ

നവീനമാനുഷ ക്രൂരത കണ്ട  
പ്രകൃതി കണ്ണുകൾ നീറുന്നൂ  
മേഘ കവിളുകൾ കറക്കുന്നൂ  
ഭൂമി ഹൃദയം പിടയുന്നൂ

തേങ്ങലടക്കാൻ കഴിയാതെ  
കൺപൊളകളിലുരുണ്ട് കുടിയി  
ജലക്കണങ്ങൾ താഴെ  
ഭൂമിയിൽ നിറയുന്നൂ

തളം കെട്ടി നിന്ന നിശ്ശബ്ദതയിൽ  
ഏങ്ങലുകൾ ഓളങ്ങാവി  
മനസ്സിൽ മറ്റൊരു മഴ  
തൊരാത്ത കണ്ണിൻമഴ



Ann Maria C. Thomas  
S2, ECE



# कामयाबी

ना जाते कौन दे गया थे मौका मुझे,  
आज फिर वो कामयाबी का रास्त मुझे नजर आया है ।  
वही भफल इन्सात बन सका ।  
जो बिखरी आशाएं भमटेकर, खुद का निमाण कर सका ।  
जिसने खुद पर किया भरोस,  
खरां शक्ति पहचान कर सका ।  
माजिल पर मही शस्ते पर ध्यान रखे तों,  
कामयाबी जखर मिलेगा ।  
कामयाबी पाने मेहनत का लिबास पहताना है ।  
वही सफल इन्सात बन सका है ।।

Reena Nair  
BT (S2)



Sreerag  
S2 CS A

# DIGITAL MONEY

“Money,” as Liza Minnelli and Joel Grey sing in the movie *Cabaret*, “makes the world go around” (Kander & Ebb, 1966). Since gold coins emerged in Turkey more than 2,500 years ago, money as a measure and store of value and a medium of exchange has been crucial for economic and social development. Commerce relies on the ability of strangers to transact over time and distance, and money allows them to do so. The forms of money have changed along with technology. Coins valued on their precious metal content were replaced by symbolic base metal and complemented by intrinsically worthless notes made of paper. As the information technology revolution progressed, and especially since credit cards were introduced in the 1960s, financial dealings have become increasingly virtual (Ferguson, 2012). A new technology, digital money, has emerged as a medium of exchange and a measure and store of value in electronic form. “Digital money” refers to any means of payment that has cash equivalence but is stored in a purely digital form. It is used in the commercial transactions of goods and services in a highly connected world where trade is increasingly globalized and where the majority of the world’s population is becoming urbanized. Digital money has been facilitated by use of technologies such as mobile phones, cloud computing, data analytics, encryption and storage, and near field communication technology. Diffusion of these technologies is likely to accelerate the virtuality of transactions, and hence their scale and scope (e.g., Brynjolfsson & McAfee, 2014; Chuen, 2015), lubricating frictions in the financial system to make “the world go around” more quickly and extensively.

A cryptocurrency (or “crypto”) is a digital currency that can be used to buy goods and services, but uses an online ledger with strong cryptography to secure online transactions. Much of the interest in these unregulated currencies is to trade for profit, with speculators at times driving prices skyward. The most popular cryptocurrency, Bitcoin, has had volatile price moves this year, reaching nearly \$65,000 in April before losing nearly half its value in May. In recent weeks, the price of bitcoin was back in the \$45,000 range.



More than 10,000 different cryptocurrencies are traded publicly, according to CoinMarketCap.com, a market research website. And cryptocurrencies continue to proliferate, raising money through initial coin offerings, or ICOs. The total value of all cryptocurrencies on Aug. 18, 2021, was more than \$1.9 trillion — down from April high of \$2.2 trillion, according to CoinMarketCap.

For those who see cryptocurrencies such as Bitcoin as the currency of the future, it should be noted that a currency needs stability so that merchants and consumers can determine what a fair price is for goods. Bitcoin and other cryptocurrencies have been anything but stable through much of their history. For example, while Bitcoin traded at close to \$20,000 in December 2017, its value then dropped to as low as about \$3,200 a year later. By December 2020, it was trading at record levels again. There's no question that they're legal in the United States, though China has essentially banned their use, and ultimately whether they're legal depends on each individual country. Also be sure to consider how to protect yourself from fraudsters who see cryptocurrencies as an opportunity to bilk investors. As always, buyer beware.

Another type of digital money is ethereum. Ethereum is an open-source public service that uses blockchain technology to facilitate smart contracts and cryptocurrency trading securely without a third party. There are two accounts available through Ethereum: externally owned accounts (controlled by private keys influenced by human users) and contract accounts. Ethereum allows developers to deploy all kinds of decentralised apps. Even though Bitcoin remains the most popular cryptocurrency, it's Ethereum's aggressive growth that has many speculating it will soon overtake Bitcoin in usage.

While there are many similarities between Ethereum and Bitcoin, there are also significant differences. Here are a few:

- Bitcoin trades in cryptocurrency, while Ethereum offers several methods of exchange, including cryptocurrency (Ethereum's is called Ether), smart contracts and the Ethereum Virtual Machine (EVM).
- They are based on different security protocols: Ethereum uses a “proof of stake” system as opposed the “proof of work” system used by Bitcoin.
- Bitcoin allows only public (permissionless or censor-proof) transactions to take place; Ethereum allows both permissioned and permissionless transactions.
- For Bitcoin, the computers (called miners) running the platform and verifying the transactions receive rewards. Basically, the first computer that solves each new block gets Bitcoins (or a fraction of one) as a reward. Ethereum does not offer block rewards and instead allows miners to take a transaction fee.

Digital payments has taken off in India as is showing little to no sign of slowing down. With the Indian government demonetizing the 500 and 1000 Rupee note and government agencies companies incentivizing adoption by lowering fees and waiving taxes, Indian consumers are embracing cashlessness wholeheartedly. Nevertheless, as demand for digital payments grow, so will concerns for security. It is ultimately up to the companies promoting digital alternatives to cash to provide adequate security for their services, as well as consumers to maintain good security habits.

# മടക്കം

തിരികെ തുഴഞ്ഞാൻ എത്തുവാനാകുമോ  
ദൂരെ മറഞ്ഞൊരൻ ബാല്യത്തിലേക്ക്  
മടക്കമതുമിനി ഉണ്ടാകുമോ  
നിർമ്മല ബാല്യത്തിൻ മടിത്തട്ടിലേക്ക്  
അമ്മൻ വാത്സല്യമാഭവാളും നുകരുവാൻ  
അമ്മിഞ്ഞ പാലിന്റെ മധുരം നുണയുവാൻ  
അച്ഛന്റെ നെഞ്ചിലെ ചുടേറ്റുറങ്ങുവാൻ  
നാട്ടിടവഴികളിലൂടെ കാടിക്കളിക്കുവാൻ



കൊരിച്ചൊരിയും പുതുമഴ നനയുവാൻ  
ചെമ്പില കുടചൂടി പാട വരമ്പിലുടോടുവാൻ  
മണ്ണു ചുട്ടു കളിപ്പിക്കുവാൻ  
അൽമരത്തണലിലായി ഇരിക്കുവാൻ  
തൊടിയിലെ പൂക്കളെ മൃദുവായി തലോടുവാൻ  
കാവിലെ കർവ്വിളക്കിൽ തിരിതെളിക്കുവാൻ  
മുത്തശ്ശി കഥകളാൽ ഉള്ളും നിറയ്ക്കുവാൻ  
എല്ലാം മറന്നൊന്നു പൊട്ടിച്ചിരിക്കുവാൻ  
ചിന്തകൾ തെല്ലുമലട്ടാനുറങ്ങുവാൻ  
ഇനിയൊരു മടക്കമതുണ്ടാകുമോ  
ബാല്യത്തിലേക്കിനിയൊരു -  
മടക്കമതുണ്ടാകുമോ?



Sangeetha  
PhD Scholar BT





## CAN INTERSTELLAR REALLY BE POSSIBLE?



## WALL - E



## THE MATRIX



# CAN INTERSTELLAR REALLY BE POSSIBLE?

*There's no doubt about it: Interstellar was one of the most mentally-stimulating blockbusters of the 2010s. You know what I'm talking if you have watched it. But if you haven't, then you should. As such, a lot of people were confused about the Interstellar plot, high-concept science, and bold ending. It's time for Interstellar explained and moreover ponder how possible this movie shot more than half a decade ago have foreseen things for centuries to come.*

## INTERSTELLAR EXPLANATION

### *Interstellar plot and summary*

*Interstellar is a 2014 movie that was directed by Christopher Nolan and written by Christopher Nolan and Jonathan Nolan. The film received four Academy Award nominations for Best Original Score, Best Production Design, Best Sound Mixing, and Best Sound Editing – and the VFX (Visual Effects) were so well regarded that they won the Oscar for Best Visual Effects.*

*Interstellar is about Earth's last chance to find a habitable planet before a lack of resources causes the human race to go extinct. The film's protagonist is Cooper (Matthew McConaughey), a former NASA pilot who is tasked with leading a mission through a wormhole to find a habitable planet in another galaxy.*

*Dr. Brand (Michael Caine) explains to Cooper that NASA previously sent another group (Lazarus) to find a habitable planet but they've gone silent.*



*There are two plans in the Interstellar plot:*

*Plan A involves Cooper transmitting quantum data back to Earth in order to develop a gravitational propulsion theory that will allow spacecrafts to carry people off Earth into the other galaxy.*

*Plan B involves Cooper's crew finding the remaining Lazarus crew and establishing a colony on another world.*

*Interstellar black hole explained*

*I think the Interstellar black hole scene is where a lot of people got lost. Up until that point, everything made a good amount of sense:*

*Wormholes allow people to travel long distances through spacetime*

*Differences in gravity and relative velocity cause time dilation*

*Planets need key life-sustaining elements to be hospitable*

*But the Interstellar black hole scene is where Nolan drove deep into theory – and there's no way to tell whether he was "right" or "wrong" because we have no idea what exists beyond the event horizon.*

*The event horizon, as it relates to Einstein's theory of relativity, is the point in a black hole where nothing can escape nor be observed.*

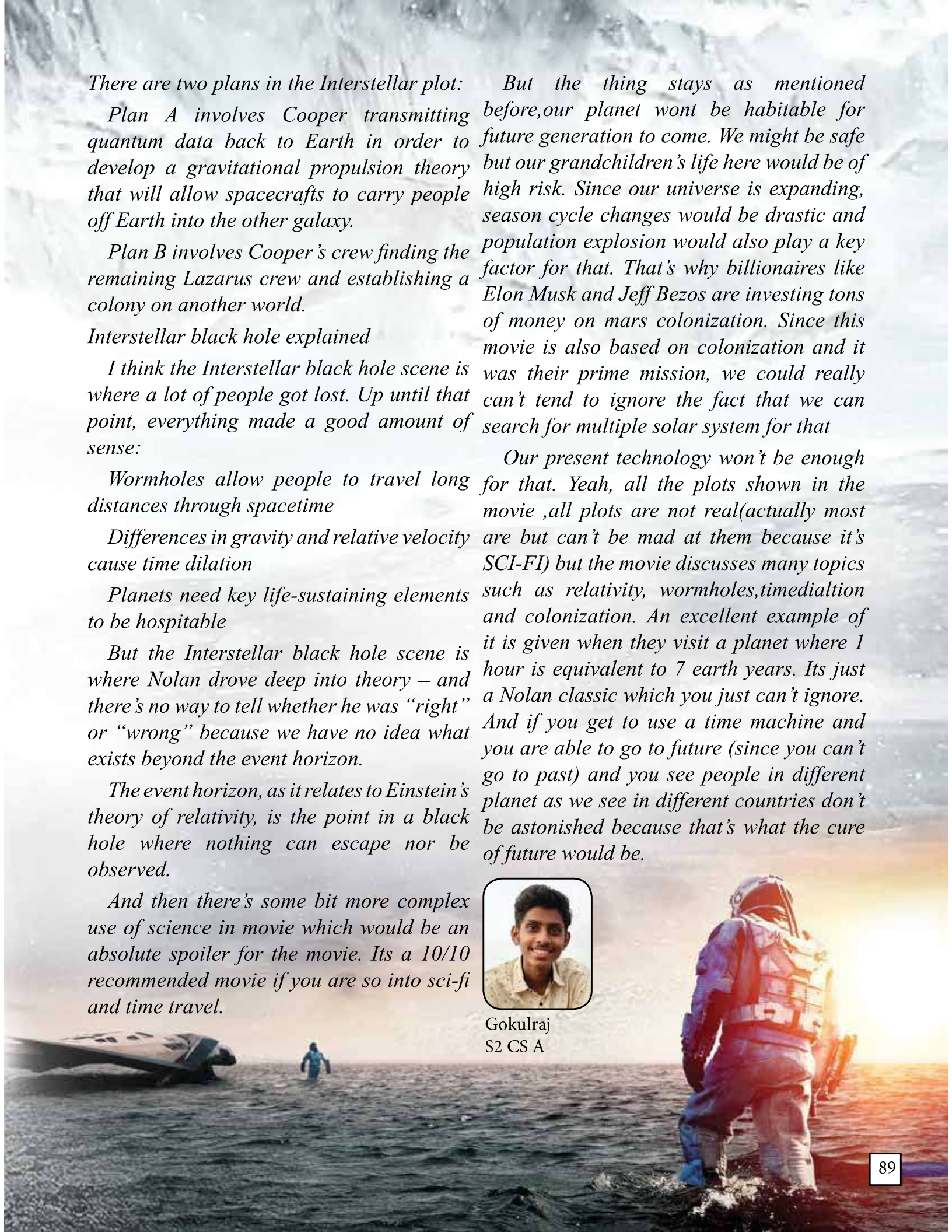
*And then there's some bit more complex use of science in movie which would be an absolute spoiler for the movie. Its a 10/10 recommended movie if you are so into sci-fi and time travel.*

*But the thing stays as mentioned before, our planet won't be habitable for future generation to come. We might be safe but our grandchildren's life here would be of high risk. Since our universe is expanding, season cycle changes would be drastic and population explosion would also play a key factor for that. That's why billionaires like Elon Musk and Jeff Bezos are investing tons of money on mars colonization. Since this movie is also based on colonization and it was their prime mission, we could really can't tend to ignore the fact that we can search for multiple solar system for that*

*Our present technology won't be enough for that. Yeah, all the plots shown in the movie, all plots are not real (actually most are but can't be mad at them because it's SCI-FI) but the movie discusses many topics such as relativity, wormholes, time dilation and colonization. An excellent example of it is given when they visit a planet where 1 hour is equivalent to 7 earth years. Its just a Nolan classic which you just can't ignore. And if you get to use a time machine and you are able to go to future (since you can't go to past) and you see people in different planet as we see in different countries don't be astonished because that's what the cure of future would be.*



Gokulraj  
S2 CS A





# MOVIE REVIEW

# WALL•E

*WALL-E (stylized with an interpunct as WALL•E) is a 2008 American computer-animated science fiction film produced by Pixar Animation Studios and released by Walt Disney Pictures. It was directed and co-written by Andrew Stanton, produced by Jim Morris, and co-written by Jim Reardon. It stars the voices of Ben Burtt, Elissa Knight, Jeff Garlin, John Ratzenberger, Kathy Najimy and Sigourney Weaver, with Fred Willard in the film's (and Pixar's) only prominent live-action role. The overall ninth feature film produced by the company, WALL-E follows a solitary robot on a future, uninhabitable, deserted Earth, left to clean up garbage. However, he is visited by a probe sent by the starship Axiom, a robot called EVE, with whom he falls in love and pursues across the galaxy.*

*WALL-E has minimal dialogue in its early sequences; many of the characters do not have voices, but instead communicate with body language and robotic sounds designed by Burtt. The film incorporates various topics including consumerism, corporatocracy, nostalgia, waste management, human environmental impact and concerns, obesity, and global catastrophic risk. It is also Pixar's first animated film with*

*segments featuring live-action characters.*

*To any other animation studio - and this is why Pixar can make a fair claim to being the greatest in cinema history - WALL•E would not make sense as a mass-market movie. It's an idea that can only come from passion and inspiration, not focus groups and marketing meetings. Here we have a robot with a vocabulary that never stretches beyond three words (and all of those are pronounced with an android lisp); a best friend who's a mute cockroach (ick!).*

*WALL•E scoots happily around the dilapidated planet to the musical stylings of Michael Crawford in the aforementioned Hello, Dolly!, crushing the detritus of humanity into little cubes. He*





does his job quietly and diligently and, once the work is done, indulges his obsession with man's trash: one man's garbage is another robot's treasure. Wall•E is a character of genius, as pure and wondrous an example of the possibilities of animation as you will ever see. He's an encapsulation of all the medium's ability to give anything personality. He has no eyebrows, mouth, language, thumbs, or any of the humanistic elements that a cartoon generally requires to mimic emotion. Yet everything this little fella feels is perfectly palpable and genuine.

On top of that, he brings a message about being nice to our planet and the evils of big corporations. He would typically belong, at best, as a secondary character, to fall over or pop a wingnut when the plot looks like getting too romantic.

When WALL•E meets EVE, a scout for faraway humanity who looks like a suppository as designed by Apple, the movie transforms.

It turns into *Annie Hall* with robots – Animatronic Hall, if you will. Schlubby, neurotic little WALL•E tries to get up the courage to speak to the more sophisticated girl, often finding his attempts to impress back-firing painfully. If it's possible for two inorganic objects created inside a

computer to have chemistry, then these two have it in

The story's departure from Earth onto the ship inhabited by the dregs of mankind is almost a shame, initially. The character work on the two robots is so strong that further embellishment seems unnecessary. It's at this point that the film has the very slightest of stumbles, with WALL•E briefly becoming lost in the mix as we're guided around the sterile realm that becomes home to the remaining humans, who are now so used to having their every need catered for that they've become giant, swollen toddlers with little stubby legs and an unwillingness to chew, helpless outside their buggy-like chairs. The suggestion is that we're not far off this and need to take responsibility for our existence (the irony that this message comes from Disney, a company whose bread-and-butter is putting children in front of screens, should not go unacknowledged).

The human characters, oddly, don't have anywhere near the humanity of the robots, and it's not until focus shifts back to the machines that the movie finds its feet again.

Irene  
S2 CS A



# THE MATRIX

*“What if our life was a simulation?, everything we experience around us is just a dream.” “How would you know the difference between the dream world and the real world if you didn’t wake from the dream?”*

*The movie, “ The Matrix” is all about this. Is life real or illusion? Twentieth century life flows on as normal. Or does it? . Late in the 21st century, man develops artificial intelligence. The Machines take control of Earth. Man fights back. In the resulting power struggle, the world is destroyed. And the Machines win.*

*After discovering they can survive using electricity generated by the human body(referred to as bioelectricity), the Machines create a simulation to fool humans into serving them. The world “seems” to still be normal, but in fact the bodies of humans are contained in chambers on large “farms”. So now humans are not born anymore, they are “grown”. And their minds are linked into a worldwide virtual reality computer program called the Matrix.*

*It’s at this point that the film opens with a selected group of men and women who have hacked their way out of the Matrix, discovering their true identity. They form a colony called Zion in the real world . A few of them re-enter the Matrix to battle the Machines which present themselves in the form of humans. Since nothing is real inside, laws of physics need not apply. Everything centers on how much your mind can disbelieve. If you think you are falling from the top of a skyscraper, you are. If your mind can transcend the illusion, you can leap tall buildings in a single bound.*

*Enter Neo(Keanu Reeves), the One whose appearance has been prophesized by the Oracle (an old woman with psychic powers). Plucked out of the Matrix by the freedom fighters, he is trained to fight. Then reintroduced into the Matrix, Neo must defeat the Machines.*

*In the climactic battle with Agent Smith, Neo’s imagination and intuition enable him to bend and break the rules which the humanoid machines are unable to do. This scene holds the key to what makes The Matrix such an enthralling adventure on so many different levels.*

*Directed by Lana Wachowski and Lilly Wachowski, “The Matrix” was released on 31st march,1999. Starring: Keanu Reeves; Laurence Fishburne; Carrie-Anne Moss; Hugo Weaving; Joe Pantoliano etc.*

*A true masterpiece of science fiction planting the idea firmly in your head that we may well be in the Matrix already.Is it prophetic?Is it nonsense?.we will never really know.But like all Sci Fic movies it makes you look at the world in a different way and the ideas stay with you forever. it is a highly recommend movie to every Sci Fic lovers, a reflection on our forthcoming future.*

Ebin  
S2 CS A





# Book Review



Book: **Attack on Titan**

Author: **Hajime Isayama**

Volumes: **34** (List of volumes)

Creator: **Hajime Isayama**

Published by: **Kodansha**

Genres: **Action fiction, Dark fantasy, Drama  
Apocalyptic and post-apocalyptic fiction**

## THE INTRODUCTION

*The manga Attack on Titans is created by Hajime Isayama. The whole reason I chose to take the manga for the book review lies in the fact that, one I cannot wait, and two it's interesting. The manga has an ongoing anime adaptation with the same name. My first contact with AOT was in the anime world and disappointing for me so it ended the 4th season (part 1) on a cliffhanger. I tried to wait for the next part to release but couldn't, and the whole book review is the result of my incapability to wait.*

## Spoiler rich summary

*The premise of the story is of a world where humans are not at the top of the food chain, but it's the Titans, resulting in humans having to live inside fortress-like wall structures. The story starts in a district named Shiganshina and the 3 characters Eren Jaegar, Armin Arlet, and Mikasa Ackermann are introduced. Portrayed as happy but ambitious children with the dream of seeing what is beyond the walls and across the oceans. Everything goes well till one fine day the walls are breached by 2 titans and humanity is forced to flee from there. Our 3 leads join a group called the survey corps (the survey corps is responsible for going out the walls, killing, and researching more about the Titans).*

*The story then introduces Levi Ackerman. Eren gets eaten by a Titan and somehow (his father's doing) he gets control of the Titan and now can turn at will. A lot of*



*iconic betrayals and fights later, we realize that more humans can transform, and interestingly so they were the members of the survey corps itself. Many iconic scenes come up Erwin's death, Armin becoming Titan, and my favorite Levi vs the Beast Titan.*

*Eren gets some flashbacks of his father telling him that the basement of their house has all the answers. They go there to find that his father Gresha Jaegar is from beyond the ocean and there is a whole world there. They are the people who are creating the titans. And a lot of backstory for the Eldinas Marlians problem. I won't go beyond this because this is the point from which the story becomes interesting.*

### **THE GOOD AND THE BAD OF THE MANGA SO THAT YOU CAN ULTIMATELY DECIDE**

#### **The bad**

*The whole plot till the summary I have given was focusing on creating hype for the ending, i.e the story is not still in its main phase and because of that the initial chapters might come across as boring and slow. (SPOILER ALERT) towards the last chapter, we find Eren turning to the darker side and treating the Marleyans the same way they treated the Eldians. This resulted in the readers starting to take Eren as an antagonist and that was fine, but towards the ending Eren is shown as a good person who sacrificed his humanity for the sake of everyone. The whole redemption of*

*Eren Jaegar was unnecessary and ruined the ending. ( The same feeling I got when I watched GOT ending)*

#### **The good**

*The best aspect of the book is that its a great ride. Starting as normal anime, portraying 3 children who have a dream and going on to portray racism, the philosophy of yin and yang, the importance of perspective, etc. The characters, dialogues, and scenes end up becoming iconic making you want more.*

### **THE PHILOSOPHY**

*The best part of this manga is that it will force you to think. The point where Eren goes on a rampage against the Marleyans makes the tit for tat ideology questionable. The whole idea of the cycle of hatred and the idea that "if revenge is called justice it will only breed more revenge"(by Pain, Naruto) is showcased. It even makes you wonder what the right way proceedings would be and if what Eren did was right or wrong.*

### **SHOULD YOU READ IT ?**

*Reading the manga or watching the anime is a choice, but the story is worth it. No matter, I was disappointed by the ending but the ride was awesome. And I would highly recommend it.*

*Rating 4.4/5.*

Sallu Ullas  
S2 CS A



#meet the TEAM

**Head**



**Abhijith R Prasad**

**Mentor**



**Fr Chacko  
Kattuparambil  
(Chackochan)**

## Campus podcast S-BEATS,

‘Sahrdaya BEATS’ is an Initiative by the Sahrdayan students. S-BEATS was conceived to beat the monotony created by the pandemic, that has already taken away one and half years of our campus life. The initiative was spearheaded by Rev. Fr. Chacko Kattuparambil, the Media Director and Mr. Abhijith R Prasad, Assistant Professor, Dept of EEE.

The idea for the college podcast was propounded by the previous IEDC CEO, Ms. Anze Joshy and her team. They felt that podcast could be an appropriate medium to connect the students of our institution with their seniors and mentors. It was intended to fill the void caused due to the off-campus classes. To keep the students entertained, while keeping them well informed of the approaching college activities, connecting all the students with new technologies, educating students

**Student coordinator**



**Anze Joshy**

**Content :**



**Ananya Menon**



**Anjali P S**

**Publicity :**



**Elwin Jose**



**Anlin Babu**



**Yadhukrishna T J**



about the ongoing trends along with weekly dose of entertainment centered around the Sahrdayans were the initial aims of our endeavor. With the blessings of the administrators and college staff, the team embarked on its maiden voyage into the podcast.

Currently we host mini segments on specific days that are observed by the Government of India / World Health Organization or United Nations. Till date we have released programs related to Yoga Day, Sports Day and Father's Day. The team is working relentlessly to create proper episodes and make this endeavor a great success. Podcasts are usually aimed at aligning like-minded people or people with similar taste and help them follow the track they choose. Here this podcast aims at aligning with the ethics of the college and expose you to the opportunities to develop communication, organizational and management skills. We look forward to more new entrepreneurs, skilled team leaders to take these opportunities to hone their skills before they face the future challenges of the world. Hoping to create a light atmosphere for skill development is our next endeavour. The Podcast is open to all the college students to participate and develop their character, strengthen their capabilities, and overcome their weaknesses. We wish more participants and ideas would surge in this initiative.

Team S-BEATS

## Technical :



Christo PB



Grigary C Antony

## Anchoring :



Blessy Mary Joseph



Anu Mejo





# Artistic Rendering



Jiya K J, S4 BT



Devipriya, S2 Mtech



Adithya Raj, S6 BM



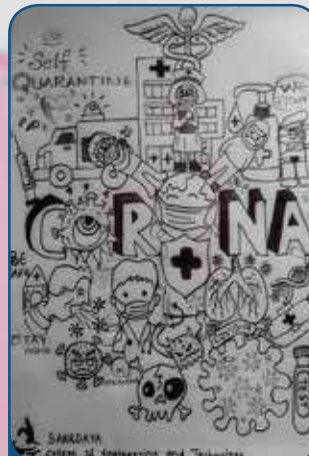
Devipriya, S2 Mtech



Aiswarya V K ,S4 CE



Adithya Raj, S6 BM



Athulya Saseendran, S4 CE



Adithya Raj, S6 BM



Leonov P H, S2 EC



Nihal S4 BT 419301



Meghana S2 BT

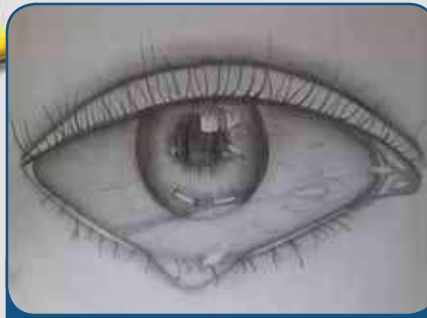


Naja, S2 BT





Maria Nalkara, S2 BT



Blessy, S2 BT



Ashwathy Krishna, S4 BT



Nancy S2 BT



Haasina Rukhiya PH, S1 BT



Devipriya, S2 Mtech



Naja, S2 BT



Maria Nalkara, S2 BT



Reena S2 BT



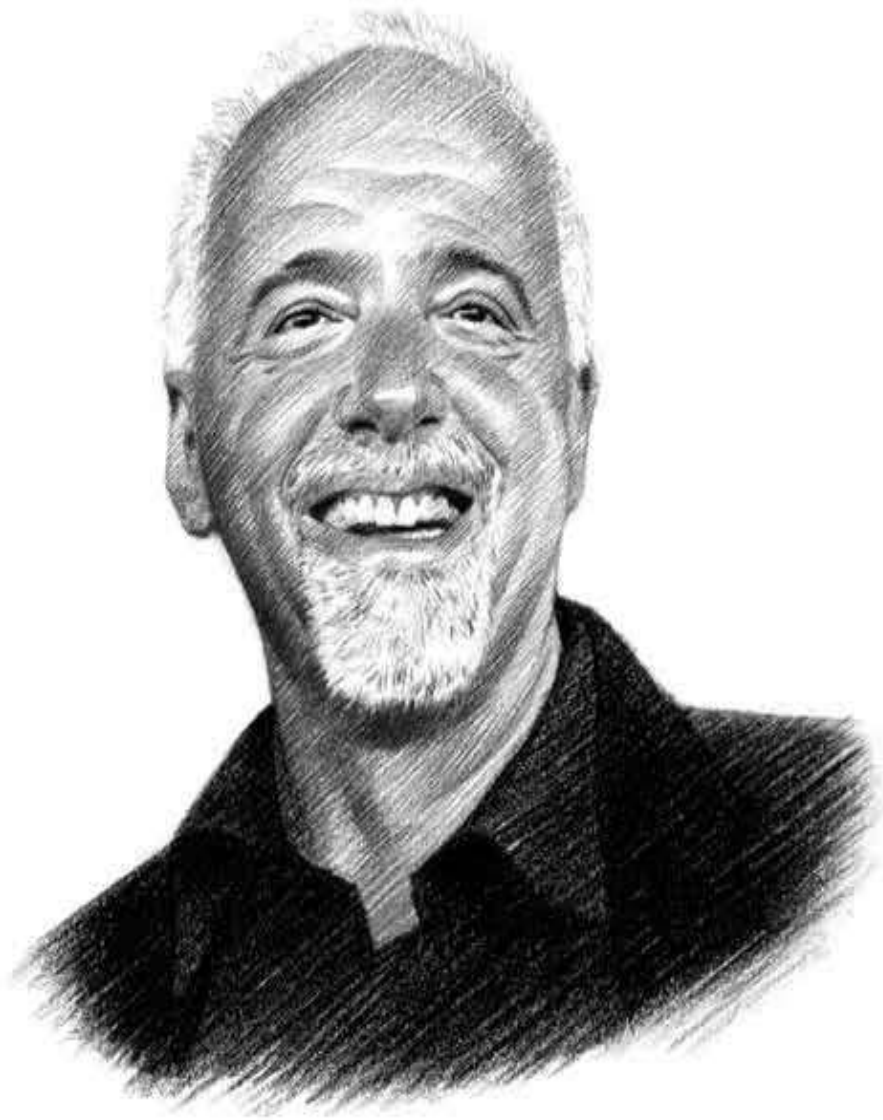
Nihal S4 BT 419301



Nancy S2 BT



Nikhila BT



One day you will  
wake up and there won't  
be any more time to do the  
things you've always  
wanted to do.

Do it now.

Paulo Coelho



## VISION

Evolve as a leading technology institute to create high caliber leaders and innovators of global standing with strong ethical values to serve the industry and society.

## MISSION

- Provide quality technical education that transforms students to be knowledgeable, skilled, innovative and entrepreneurial professionals.
- Collaborate with academia and industry around the globe, to strengthen the education and research ecosystem.
- Practice and promote high standards of professional ethics, good discipline, high integrity and social accountability with a passion for holistic excellence.



EDUCATION IS DEDICATION

# SAHRDAYA

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