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Ephemeris

ANNUAL NEWSLETTER 2019-2020

DEPARTMENT OF ELECTRONICS
MES COLLEGE MARAMPALLY

ISSUE: 2



PRINCIPAL'S MESSAGE
Dr. A. Biju

It gives me immense pleasure to know that the Department of Electronics is publishing a newsletter, *Ephemeris*.

Department of Electronics have been very enthusiastic throughout the year in conducting activities ranging from project exhibition and paper presentation of students to seminars and workshops. I am glad to know that the department have successfully conducted international webinar even in the lockdown period. Beyond the classroom, the students have been excellent in co-curricular and extracurricular activities as well. I could say that this newsletter is a reflection of the department's hard work and perseverance.

My best wishes to HOD, teachers and students for the entire endeavour.

Be safe in these Corona days.



HOD'S MESSAGE
Dr. Jasmine P.M.

With great pleasure I introduce you to the Department of Electronics newsletter *Ephemeris*, recording the achievements of the department during the academic year 2019-20. The reaccreditation of NAAC with A+ encouraged us and has conducted a great number of workshops, seminars, project presentations and other competitions. This year we have taken great effort in upgrading our state level quiz competition, Freedom Quest to a national level. The department has consistently maintained an exemplary academic record, our UG students secured I, III and IX positions and PG students secured VI, VII, VIII and IX positions in the University. We also encourage students to organize events, participate in events organized by other colleges and get involved in activities of social relevance, maintaining equipoise between the academic, co-curricular and extracurricular activities. The Department of Electronics has recorded consistent improvement in its academic, research and placement performance.

I congratulate the team of faculty members and the students for their brilliant and original efforts and express my sincere gratitude towards the support rendered by College Management Committee, Principal, Vice Principal and office staff.

MG UNIVERSITY RANK POSITIONS



Neena Paul
B.Sc. Electronics
First Position



Neethu P.A.
B.Sc. Electronics
Third Position



Hisana K.I
B.Sc. Electronics
Nineth Position



Keerthana Chandran
M.Sc. Electronics
Sixth Position



Unnimaya P.S.
M.Sc. Electronics
Seventh Position



Krishnapriya Raj
M.Sc. Electronics
Eighth Position



Aishwarya Lakshmi
M.Sc. Electronics
Nineth Position

WORKSHOPS AND SEMINARS

Orientation Programme

An Orientation Programme for the students of I year B.Sc. Electronics was organized on 26/08/2019. The resource person was Mr. Satheesh Potty, Associate Professor, Department of Electronics, Devaswom Board College, Keezhoor. In his three hour session, he made students actively involved in the session, spoke about the relevance of taking responsibility for the actions, advised students to work toward goals and to believe in their own effort and capability, and the need to set a plan and work from it.

Workshop on Proteus 8.1

A Workshop on Proteus 8.1 was conducted on 13 December 2019 for the first year MSc. Electronics students by their classmates Ms. Anju John & Ms. Anjali Varghese, who attended the Workshop on PROTEUS 8.1 (PCB layout Designing and Simulation) conducted on 12 December 2019. Ms. Neethu Ponnappan faculty of the Department was the coordinator.



IoT Based Embedded System Design

Department of Electronics arranged a Talk on IoT based Embedded System Design on 20 September 2019. Mr. Jaccs Job Pottas, Director, Terra Connect Pvt. Ltd and Pottas Devices and Systems was the resource person. He discussed different layers of IoT and IoT based Embedded System Design. The talk was beneficial for the students since it gave an overview of different project areas and job areas in this field. He also discussed real time examples of current projects undergoing at his firm and also cleared the doubts of the students on various topics.



Workshop on PCB layout Designing and Simulation

One day Workshop on PROTEUS 8.1 (PCB layout Designing and Simulation) was organized by the Department of Electronics in association with IEDC, MES College Marampally on 12/12/2019. Mr. Remesh Kumar K.R., Research Scholar, Mahatma Gandhi University was the resource person. Thirty members attended the workshop, which include faculty and students from M.A. College Ramapuram, students from Ilahia College Pezhakkappilly, students from BVoc Industrial Instrumentation and Automation and students from Department of Electronics, MES College Marampally. Smt. Rejeena K A, Assistant Professor, coordinated the work shop.



WORKSHOP

NEURAL NETWORK AND MACHINE LEARNING

Department of Electronics organized a One Day Workshop on Introduction to Neural Networks on 9 October 2019. Dr. Sabu M K, Head, Department of Computer Applications, CUSAT was the resource person. In the first session, Dr. Sabu M K gave an introduction about Machine Learning and Artificial Neural Network. In the afternoon session the students were given training on how to write the program for training a machine and concluded the session with an introduction about Convolutional Neural Network.



Workshop on Arduino

The Department of Electronics organized a Two Day Workshop on Arduino on 3 & 4 October 2019. Mr. Aravind V B, Ms. Anjali Varghese, Ms. Anju John, Ms. Amala Antony and Ms. Sreelakshmi P S, the first year PG students and Ms. Roshni Alex, faculty of the Department were the resource persons for the workshop. The first year and final year PG students were the beneficiaries.



6 WORKSHOPS AND SEMINARS



Workshop on VHDL

'Workshop on VHDL' was conducted for the S4 MSc Electronics students on 20th January 2020. Mr. Mujeeb P Y, Design Manager, Aspire Technologies, Palarivattom was the resource person. This workshop provided students with an overview of the VHDL language and its use in logic design. By the end of the workshop, they understood the basic parts of a VHDL model and how each is used and also understood the basic VHDL constructs used in both the synthesis and simulation environments.



Certificate Courses

To enrich the curriculum of students, the Department conducted two certificate courses: Household Wiring and MATLAB of 30 hours duration. Seven students of BSc Physics and eighteen students of BSc Electronics attended the certificate course on Household Wiring. Ms. Chika K Gangadharan and Neethu Ponnappan, Assistant Professors in the Department were the coordinators. Classes were handled by Thasni C J, Sirajulhugh V M and Vineesh P B of first year MSc Electronics. Twenty students of BSc Mathematics attended the MATLAB course. Smt. Shemi P M, Assistant Professor coordinated and conducted the programme.



MES College Marampally has organized its prestigious annual quiz competition Freedom Quest'19- National Level Intercollegiate Quiz Competition on 19 December 2019. The programme was organized under the auspice of the Department of Electronics and Quiz Club in connection with the Sesquicentennial birth anniversary celebrations of Mahatma Gandhi & Silver Jubilee Celebrations of MES College Marampally. The Quiz was based on the 'Life of Mahatma'. The quiz was conducted in three phases, the first two phases were written exams. Out of 120 teams registered 100 teams were qualified for the first round. 68 teams competed the Phase I and 16 teams qualified for Phase II. After Phase II, 6 teams were qualified to the final. We were privileged to have the multi-faceted and charismatic leader Dr. P.A. Fazal Ghafoor, State President of MES, as the Quiz Master. The team members in the final round represented the following

members in the final round represented the following colleges: Team A- Farook College, Farook, Team B- Bharata Mata College, Thrikkakkara, Team C- St. Thomas College, Thrissur, Team D- PSMO College, Thirurangadi, Team E- DGM MES Mampadu College, Mampadu and Team F- University of Hyderabad. After an intense competition between the teams the University of Hyderabad and the Farook College concurrently won the First Prize, each team were awarded Rs.25000/-. The team members were Mr. Zaman S. Khan & Mr. Gokul M.S., University of Hyderabad and Ms. Saheera Jebin P.P. & Mr. Muhammed Vaseem O, Farook College. The second prize of 15000/- was won by Ms. Murshida K & Ms. Najda P M, PSMO College, Thirurangadi. Dr. P A Fazal Ghafoor, State President of MES handed over the prizes to the winners. Leaders of MES State and District committees were also present in the function.

Electroquiz & Power Quiz

The Department conducted a Quiz Competition – Electro Quiz'19 on 10-12-2019. The quiz was based on general topics and current affairs. Ms. A Razeena & Ms. Anakha P B of I year MSc. Electronics and Mr. Allen Varghese and Krishnapriya of I year MA English shared the first prize. The Department organized Power Quiz in association with KSEB Officers association on 3/10/2019. The officers had given an awareness session on energy conservation. Ms. A Razeena, I MSc. Electronics won First Prize and Ms. Shefa T M, I BVoc Fashion Design won the second prize and they were qualified to the district level competition. Dr. A Biju, Principal distributed memento to the winners.



Ingenious Thoughts

The Department in association with IIC celebrated Innovation Day and organized a Poster Presentation Competition Ingenious Thoughts on 15-10-2019. Different ideas such as Automatic dual axis solar tracker, Smart water management, Augmented reality, Block chain, Fuel from Plastic, Multiple Stage Microscope etc. were presented. Mr. Abdul Rasheed K A, external expert from Speechlogix Technologies was the judge of the competition. Nimi Sasidharan and Anjaly Sujai won first prize for their presentation on 'Smart water Management'; Yadhu Krishnan M R and Jenisiya P N, won the second prize for their presentation on Multiple Stage Microscope.



GREEN CAMPUS INITIATIVES



- The Department and Energy Conservation Society jointly organized a workshop on solar lantern assembling with the support of IIT- Mumbai on 12 December 2019.
- Paper pen making by first year UG students during the tutorial hours.
- 5 projects related to green initiatives (Deforestation detection system, Agribot, Waste management in train, Automated Waste Management System and Automation in fish farming).

AUGMENTATION IN INFRASTRUCTURE FACILITIES	Item	Number	Amount (Rs.)
	Computer	15	539625
	Microprocessor kit	5	29500
	Text Books	36	24008
	Reference Books	3	20191
	Journals	3	7000
	Total		620324

PROJECT EXHIBITION



Every year, department is conducting an exhibition of the projects done by the students as a part of Science day celebrations. This year, the exhibition was conducted on 10-03-2020 in association with Institution's Innovation Council. The exhibition was inaugurated by Adv. A A Abul Hassan, Secretary and correspondent of the College Managing Committee. Twenty innovative ideas were presented in the exhibition in which five projects were based on the green campus initiatives (Deforestation detection system, Agribot, Waste management in train, Automated Waste Management System and Automation in fish farming). More than 400 students and 50 faculty watched the exhibition. Five of the projects were selected for the Intercollegiate Project Exhibition and Expo 'IDEATE 2k20' held at UC College Aluva and "Smart Intelligent Wearable Device for Women Security" by Hitha Lakshmi, Akshara K P, Pranav K of final year MSc Electronics won second prize in the competition.

INDUSTRIAL VISITS



MAKER VILLAGE VISIT

FAB LAB VISIT

On 23rd October 2019, the students of S4 MSc Electronics received an opportunity to visit KINFRA Hi Tech Park, Kalamassery in short "The Maker Village". Students visited several labs and sections which provide new entrepreneurs to work their project which will be sponsored by different project sectors. One among them is FAB LAB, which is capable of doing 3D Printing, CNC-Milling, Circuit Production, Laser Precision Milling and Vinyl Cutting. KINFRA is a great inspiration for upcoming invention.

On 28th November 2019, the students of S2 MSc Electronics of MES College Marampally received an opportunity to visit FAB Lab (Fabrication lab) at Adi Shankara College of Engineering, Mattoor, Kerala. This lab is meant for faculty as well as students to make any creative designs as project. The FAB Lab is a perfect platform for innovation and invention. The FAB lab is also equipped with various machining process like precision milling, CNC milling, Laser cutting, Vinyl cutting, etching etc.

FACULTY AS
RESOURCE
PERSONS

Dr. Jasmine P M

One day workshop on Assessment and Accreditation framework of NAAC held at KMEA College Kuzhivelippady
Date: 08-02-2020



One day workshop on Assessment and Accreditation framework of NAAC held at M E S T. O. Abdulla Memorial College, Kunnukara
Date: 15-02-2020

Sam Kollannore U

One day workshop on Assessment and Accreditation framework of NAAC held at MES T.O. Abdulla Memorial College, Kunnukara.
Date: 15-02-2020



Bhavya Menon

UGC Sponsored National Seminar under NSQF on Designing and Debugging of Electronic Circuits (NSDDEC 2020) at Seethalakshmi Ramaswamy College, Tiruchirapalli. Date: 21-01-2020



Shareena E M

Workshop on Digital Signal Processing Techniques organized by Department of Physics, Sree Sankara College Kalady
Date: 24-10-2019



Neethu Ponnappan

Workshop on Digital Signal Processing Techniques organized by Department of Physics, Sree Sankara College Kalady
Date: 24-10-2019



Journal Publications

Sam Kollannore U and Abdulla P, "Truncated Circular Microstrip Ultra wideband Antenna exhibiting Wideband Circular Polarization", Progress In Electromagnetics Research C, Vol. 99, 111-122, 2020.
Shemi P M, Jibukumar M G and Ali M A, "Nelder-Mead-based power optimization for secrecy enhancement in amplify-and-forward cooperative relay networks", International Journal of Communication Systems, Vol. 32,1-16, 2019.
T.K. Rekha, P. Abdulla, P. M. Jasmine and A R Anu, "Compact microstrip lowpass filter with high harmonics suppression using defected structures" International Journal of Electronics and Communications (AEÜ), Vol. 115, Pages 1-10, 2020.
A.R. Anu, P. Abdulla, P.M. Jasmine, and T.K. Rekha "A Varactor-Tuned Aperture Coupled Dual Band Cylindrical Dielectric Resonator Antenna for C Band Applications", Progress In Electromagnetics Research C, Vol. 94, 261-272, 2019.

conference publications

- Shemi P.M., Jibukumar M.G. and Ali M.A., "Enhancing Secrecy in Cooperative Networks via Power Optimized Source Based Jamming", 2nd IEEE Middle East and North Africa Communications Conference, ISBN: 978-1-7281-3687-5, 2019.
- P.M. Raphika, P. Abdulla, P.M. Jasmine, T.K. Rekha and Ami Iqbal, "Design of Planar Low Pass Filter with Razor-sharp Roll-off", 2nd IEEE Middle East and North Africa Communications Conference, ISBN: 978-1-7281-3687-5, 2019.
- Bhavya Kamal K. Menon, "Power land- A design of an electro city using the principles of automation", UGC Sponsored National Seminar under NSQF on Designing and Debugging of Electronic Circuits, ISBN: 978-9-3539-6890-8.
- Shareena E M and Abraham Chandy D, "A Study on various image reconstruction Algorithms used in Electrical Impedance Tomography", UGC Sponsored National Seminar under NSQF on Designing and Debugging of Electronic Circuits, ISBN: 978-9-3539-6890-8.
- Nimi Sasidharan, Anjali Sujai, Arun Varghese, Shareena E. M. and Chika K. Gangadharan, "Smart Water Management using IoT", Proceedings of UGC sponsored International Conference on Electronics and Advanced Signal Processing", ISBN 978-81-945111-2-0, pages 16- 18, 2020.
- Hitha Lakshmi, Akshara K.P., Pranav K., Neethu Ponnappan, Chika K. Gangadharan, "Smart Intelligent Wearable Device for Women Security", Proceedings of UGC sponsored International Conference on Electronics and Advanced Signal Processing, ISBN 978-81-945111-2-0, Pages- 33- 35, 2020.
- Vishnu E.S., Neethu Krishna, Lisha P.N., Roshni Alex and Chika K. Gangadharan, "A Novel method for Advanced Fish Farming using ARM Processor", Proceedings of UGC sponsored International Conference on Electronics and Advanced Signal Processing, ISBN 978-81-945111-2-0, pages -26- 28, 2020.
- Shehnaz Nazar, Jisha V J, Sreenath K G, Shareena E M & Roshni Alex, "Prosthetic Feet", Proceedings of UGC sponsored International Conference on Electronics & Advanced Signal Processing, ISBN 978-81-945111-2-0, pages 29-32, 2020
- AravindLal, AjmalaFarhath K S., Dayana Tony, Shareena E M and Roshni Alex, "IoT Based Automated Multilevel Parking System", Proceedings of UGC sponsored International Conference on Electronics and Advanced Signal Processing, ISBN 978-81-945111-2-0, pages 36- 38, 2020
- Afna Jaffer, Anaswarakrishna C P, Geershma Eldho, Chika K Gangadharan and Neethu Ponnappan, "Intelligent Border Alert and Boat Security System", Proceedings of UGC sponsored International Conference on Electronics and Advanced Signal Processing, ISBN 978-81-945111-2-0.
- Vindhuja Vijayakumar, Amrutha K. Ajayan, Amrutha R. Nair, Roshni Alex & Neethu Ponnappan, "Safety Assessment System for Walkthrough Metal Detector Processor", Proceedings of UGC sponsored International Conference on Electronics and Advanced Signal Processing, ISBN 978-81-945111-2-0, pages 47- 49, 2020.
- Thehsina Ibrahim, Fabiya V. J., Meenu Joy, Shareena E M and Chika K. Gangadharan, "Advanced Smart Trolley for Super Markets", Proceedings of UGC sponsored International Conference on Electronics and Advanced Signal Processing, ISBN 978-81-945111-2-0, pages 82- 85, 2020
- Roshni Alex, Neethu Ponnappan, Unnimaya P. S., Keerthana Chandran P., Rona Thomas, "Automatic Open-Shut Bin with Smart Compressing System", 32nd Kerala Science Congress: Abstracts, ISBN NO: 81-86366-97- 0-7.
- Shareena E.M, Akshai P. S. Sirajul Hugh, "Biometric Electronic Voting Machine", 32nd Kerala Science Congress - Abstracts, ISBN NO : 81-86366-97-0-7 Page No.94.

INNOVATIVE TEACHING METHODS

- IEEE paper presentation for PG students to inculcate research culture.
- Introduced the app "Every Circuit" for MSc students to help the students to build and simulate electronic circuits.
- Live session on optical fiber arranged for MSc students
- Students act as resource person for Knowledge Sharing Programme to students of other departments.
- Practical implementation of the technology is shown using pictures & videos.
- Simulation softwares, MATLAB is used to simulate problems in Digital Image Processing for III year UG students, Proteus and Arduino is used by the final year students for circuit & program simulations for their projects.
- Live library assignments

ALUMNI CONTRIBUTION

- BSc Electronics 2008-2011 batch presented a visualizer worth Rs 36,000/-.
- Sahad Pareed (UG 2016 admission) demonstrated the working of various application software used in the projects for the final year UG students.
- Mr Mujeeb P Y, Design manager, ASPIRE Technologies (MSc Electronics 2015 admn), Palarivattom conducted a workshop on "VHDL" for the students of Msc Electronics
- Mr. Amal Saroj , Alumni and faculty of BVoc Instrumentation took a session on Embedded systems & Arduino for the III BSc students and career development for I BSc students
- Mr. Joseph K & Mr. Nikhil Davis (MSc Electronics, 2018 admn) interacted with PG students on career development.

STUDENT PROGRESSION

- 16 students of BSc Electronics 2016 admission opted higher studies.
- First rank in the MSc Electronics Entrance Examination conducted by CUSAT.
- Akhin Das, III BSc Electronics placed in Wipro.
- Muhammed Swaleeh of III Bsc Electronics got placements in Choice Group, Indus Motors, Swathantra Finance.



EXTENSION AND OUTREACH PROGRAMMES



DYUTHI 2020

The Department in association with EEC of the College organized a one day technological skill development workshop on 'Energy Conservation' for the housewives of Vazhakkulam Gramapanchayat on 11 February 2020. Smt. Indira K, Executive Engineer, KSEB Shoranur inaugurated the programme. The first session on Introduction to Energy Conservation and KSEB initiatives was handled by the chief guest. The second session, Energy Conservation- Tips to save energy was handled by Sri. Baby Kuraikose, Director, Energy Engineering Enterprises & Secretary, Energy Conservation Society. The last session, Maintenance of Electrical and Electronic Household Equipment and how to Improve their Lives' was handled by Sri. Trinayanan N R, Senior Instructor, Govt. ITI Kalamassery. Certificates were distributed for participants.



ELECTRONICS TRAINING PROGRAMME 2019-20

Department conducted Electronics Training Programme for the students of NIVHSS Marampally. Formal inauguration of the training programme was held on 16 September 2019 at the school by Coordinator Sri. Sunny V Y. Smt. Roshni Alex handled the theory sessions. The practical sessions were completed with the support of Smt. Shareena E M, Smt. Chika K and Smt. Neethu Ponnappan. The five day training programme was completed on 20-09-2019. The valedictory session was conducted on 12 November 2019 at MES College Marampally. Adv. A A Abul Hassan, Secretary and Correspondent, College Management Committee distributed certificates to the participants and memento for the resource persons.





Dr. Jasmine P.M.



Dr. Raphika P.M.



Ms. Shemi P.M.



Ms. Shareena E.M.

Dr. Jasmine P M received the certificate of appreciation for the best NSS Programme officer of Mahatma Gandhi University for the year 2018-19 • UGC recommended travel grant to Shemi P M (Rs. 88,000/-) and Dr. Raphika P M (Rs. 86,000/-) for attending the 2nd IEEE Middle East and North Africa COMMUNICATIONS Conference held at Manama, Bahrain • Shareena E M secured second rank in the PhD entrance examination 2019 conducted by Karunya Institute of Technology & Science, Coimbatore.

STUDENTS' ACHIEVEMENTS



Rahul Krishna



Althaf Latheef

Rahul Krishna, III BSc Electronics represented Kerala in the National level Chess championship held at Madhyapradesh from 20-25 August 2019 and qualified for Asian Amateur championship at Nepal. Althaf Latheef, I BSc Electronics won Gold medal in the 10th National level Sombo championship held at Pune on 18/02/2020, Gold medal in the State level Kurash championship held at SH College Thevara on 9/2/2020, Silver medal in the junior and gold medal in the senior category in the district level Judo championship held at Sree Sankara college Kalady on 9 November

2019 and Bronze medal in the M G University intercollegiate Judo championship held at Sree Sankara college Kalady on 26 October 2019.

Afthab K.J., III BSc Electronics and Harikrishnan D, II BSc Electronics are members of the Kho Kho team and won third prize in the district level Kho Kho Championship on 7/9/2019.

Muhammed Yafith & K.N. Dilbar Hassan, III BSc Electronics are members of the football team and won first prize (Rs. 7000/- cash award in the Intercollegiate tournament organized by BMC Choondy on 26 February 2020.

Ajith P N, III BSc Electronics and Gokul Gopi, II BSc Electronics are members of the Netball team and won second position in the MG University intercollegiate championship held on 19 October 2019. Muhammed Shahirsha, III BSc Electronics, Muhsin Mubarak and Amjath E S II B Sc Electronics are members of the Kolkali team and won second prize in

the MG University Intercollegiate Arts festival Article 14.

Muhammed Rinshad, II BSc Electronics is a member of the Duffmuttu team, won second prize and Anil Velayudhan, II BSc Electronics is a member of the Skit team, won A Grade in the MG University Arts festival Article 14.

Hitha E L, Akshara K P and Pranav K of MSc Electronics won second prize in the Intercollegiate Project Exhibition and Expo 'IDEATE 2k20' held at UC College Aluva on 11/03/2020

Vishnu N and Harikrishnan D of S4 BSc Electronics participated in the Maker Fest Kerala 2019 and selected to make drone for the Pane based companies Razeena A. II MSc Electronics selected for the district level Power quiz competition conducted by KSEB Officers Association

Muhammed Swaleeh of III year BSc Electronics secured fifth position in the Mr. Ernakulam competition

Best Compliments from

MES COLLEGE
MANAGING COMMITTEE



Mr. M.A. MOHAMMED
CHAIRMAN



Adv. A.A. Abul Hassan
SECRETARY & CORRESPONDENT



Mr. V.A. PAREED
TREASURER