Dr. Ambedkar Institute of Technology, Bangalore 560056

Requirements for the web page

Department of Electronics and Communication Engineering

Department Web site Coordinator Details:

Name:	Ripal Patel
WhatsApp Mobile number	7600128687
E-mail-id:	ripalpatel315@gmail.com

Name of the Department: Electronics and Communication Engineering

About the Department (Brief Profile of the department):

The Department of Electronics and Communication Engineering was instituted in the year 1980 with the objective of imparting knowledge in cutting-edge technologies of Electronics and Communication Technology. Ever since the inception of the department, it has been fulfilling to the needs of the students by imparting the latest and need based technical knowledge. Presently, the department has well-qualified faculty members who have made significant contribution in various fields and have published research papers in reputed journals, International and national conferences. We encourage participation of students in various co-curricular and extra-curricular activities as well.

HoD's Photo

Name of HoD and Qualification: Dr. Ramesh S, Ph.D.

Designation: Professor and Head of the Department of Electronics and Communication Engg.

Mobile Number: 9743535359

Email Id: rameshs.ec@drait.edu.in

Programs Offered (both UG and PG)

Name of the Program	Student Intake	Year of Establishment
BE	1980	180
M.Tech in VLSI Design & Embedded Systems	2004	18
Ph.D in Electronics & Communication Engg.	2008	As Per VTU

UG Programme

Vision

To excel in education and research in Electronics and Communication Engineering and its related areas through its integrated activities"

Missions:

- To provide students a strong foundation in Electronics and Communication Engineering.
- To provide high quality technical education in Electronics and Communication Engineering discipline and its related areas to meet the growing needs and challenges of industry and society.
- To be a contributor to the technology through the process of skill development, value based education, research and innovation.

PEOs

- **PEO1:** Graduates will have a solid foundation in Electronics and Communication Engineering.
- **PEO2:** Graduates are technically competent and able to analyze, design, develop and implement Electronics and Communication systems.
- **PEO3:** Graduates will have sufficient depth and breadth in Electronics, Communication Engineering and related fields to enable to solve the general engineering problems.
- **PEO4:** Graduates will have an ability to communicate effectively and interact professionally with colleagues, clients, employers and the society.
- **PEO5:** Graduates are capable of engaging in life - long learning and to keep themselves abreast of new developments in their fields of practice.

PSOs

- **PSO1**: Capability to use mathematical Techniques to model the real time problems, to optimize the implementation using mathematical techniques and to analyze the system performance.
- **PSO2**: Ability to Understand, Analyse and Apply the Electronic Circuits, Digital Circuits, VLSI Circuits, Antennas, Microwaves, Microcontrollers and Embedded Controllers, Communication Systems concepts to design and implement the real time applications.
- **PSO3**: Ability to identify and have the social and ethical responsibilities for the betterment of Society and to become an entrepreneur.

Pos

1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to

comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

PG Programme

Vision

To excel in education and research in Electronics and Communication Engineering and its related areas through its integrated activities"

Missions:

- To provide students a strong foundation in Electronics and Communication Engineering.
- To provide high quality technical education in Electronics and Communication Engineering discipline and its related areas to meet the growing needs and challenges of industry and society.
- To be a contributor to the technology through the process of skill development, value based education, research and innovation.

PEOs

- **PEO1:** Graduates will have a solid foundation in Electronics and Communication Engineering.
- **PEO2:** Graduates are technically competent and able to analyze, design, develop and implement Electronics and Communication systems.
- **PEO3:** Graduates will have sufficient depth and breadth in Electronics, Communication Engineering and related fields to enable to solve the general engineering problems.
- **PEO4:** Graduates will have an ability to communicate effectively and interact professionally with colleagues, clients, employers and the society.
- **PEO5:** Graduates are capable of engaging in life - long learning and to keep themselves abreast of new developments in their fields of practice.

PSOs

- **PSO1**: Capability to use mathematical Techniques to model the real time problems, to optimize the implementation using mathematical techniques and to analyze the system performance.
- **PSO2**: Ability to Understand, Analyse and Apply the Electronic Circuits, Digital Circuits, VLSI Circuits, Antennas, Microwaves, Microcontrollers and Embedded Controllers, Communication Systems concepts to design and implement the real time applications.
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Pos

1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
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12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

List of Faculty members

S.No	Name of the Faculty	Designation	Specialization	Experience	E-mail d	Mobile Number	Passport Size Photo
1.	Dr. RAMESH S	Professor & HOD	Cryptography, Network security, Digital design and VLSI.	28 years	rameshs.ec@drait.edu.in	9743535359	
2.	Dr. H UMADEVI	Professor	Wireless Communication	24 years	umadeviait@gmail.com	9880324815	
3.	Dr. MAHALINGA V MANDI	Professor	Digital Spread spectrum communication, Cryptography and network security	29 years	mvmandi@yahoo.com	9448800637	

4.	AKALPITA L KULKARNI	Associate Professor	Analog and Digital Communication	28 years	akalpita.kulkarni@gmail.com	9739046795	
5.	SUDHA BS	Associate Professor	Communication	28 years	sudsur@yahoo.com	9242363088	
6.	Dr. SHIVAPUTRA	Assistant Professor	Image Processing	18 years	putrauvce@gmail.com	9035698291	
7.	MEENAKSHI L RATHOD	Assistant Professor	VLSI design and Embedded system	16 years	meenakshi.chavan@gmail.com	9845121061	

8.	MALA SINNOOR	Assistant Professor	Electronics	16 years	malasinnoor@gmail.com	9243818283	
9.	Dr.TANUJA P PATGAR	Assistant Professor	Machine Learning	16 years	tanujaharish13@gmail.com	6360373101	
10.	PUSHPALATHA G S	Assistant Professor	Cryptography	14 years	pushpalatha.gs@dr-ait.org	9880964111	
11.	B.SAJIDHA THABASSUM	Assistant Professor	Communication	14 years	tabumustaq@gmail.com	8884362626	

12.	NAGARATHANA	Assistant Professor	Signal Processing and Digital communication	12 years	nagarathanahs@gmail.com	9731736388	
13.	TRIVENI	Assistant Professor	Communication and Embedded systems	9 years	sg3veni@gmail.com	9739093111	
14.	MOHAN KUMAR V	Assistant Professor	Electronics and Communication and Computer science	15 years	mohan.drait@gmail.com	8884660123	
15.	GIRIJA S	Assistant Professor	Digital design and computer science	16 years	sb_girija@yahoo.com	9986007870	

16.	KAVITHA DEVI CS	Assistant Professor	RF and Microwave communication	16 years	kavithasuresh.drait@gmail.com	9980655336	
17.	HEMALATHA K N	Assistant Professor	VLSI design and Embedded system	14 years	knhemalatha@gmail.com	9972877116	
18.	KESTARA V	Assistant Professor	Communication	8 years	kesthara33@gmail.com	9900162313	
19.	Dr.SHILPA K C	Assistant Professor	Electronics circuit and VLSI	13 years	shipla.kc2@gmail.com	9591915533	

20.	DIVYA.A	Assistant Professor	Digital Communication	8 years	divyavsagar24@gmail.com	9741058038	
21.	SWAMY TN	Assistant Professor	VLSI, Embedded and Image Processing	8 years	swamyohm@gmail.com	9620216633	
22.	SHWETHA M	Assistant Professor	Communication	8 years	shwetha.drait@gmail.com	9686882492	
23.	MADHUSUDAN M	Assistant Professor	Automotive Electronics	5 years	sudhanmadhu8111@gmail.com	9900854999	

24.	S NITHYASHREE	Assistant Professor	Digital Communication and networking	8 years	nithyashree.23@gmail.com	8123963980	
25.	ANAND HD	Assistant Professor	VLSI and Embedded system	4 years	anandanihd@gmail.com	9844518832	
26.	KAVYA S	Assistant Professor	VLSI and Embedded system	4 years	kavyashivashankar9@gmail.com	9686463599	
27.	HARSHA R	Assistant Professor	VLSI	4 years	Harsh4nol@gmail.com	9620640486	

28.	VIDYASHRI C	Assistant Professor	Power Electronics	6 years	vidya4dbest@gmail.com	9742060353	
29.	MANJULA N	Assistant Professor	VLSI and Embedded system	10 years	manjulan6@gmail.com	8073493186	
30.	SANGEETHA N	Assistant Professor	VLSI and Embedded system	11 years	sumisang202@gmail.com,	9945444117	
31.	SPOORTHI PA	Assistant Professor	Digital Communication	5 years	spoorthiyadav.24@gmail.com	9035286400	

32.	SHWETHA N	Assistant Professor	Signal Processing	6 years	shwethaec48@gmail.com	9663207843	
33.	SUJAY S N	Assistant Professor	VLSI Design and Image Processing	7 years	sujaygnk@gmail.com	9886991995	
34.	Dr.RANGASWAMY Y	Assistant Professor	Image and Signal Processing	12 years	ranga.ace@gmail.com	9986496064	
35.	RIPAL PATEL	Assistant Professor	Computer vision and Machine Learning	11 years	ripal.patel.ec@drait.edu.in	7600128687	
PG Faculties							

36.	Dr. JAMBUNATH BALIGAR	Associate Professor	RF engineering and VLSI Design	17 years	jbaligar@gmail.com	9880211144	
37.	Dr. CHETHAN S	Assistant Professor	VLSI design and Embedded system	10 years	chethan531@gmail.com	9900295840	
38.	SIDDESHA K	Assistant Professor	Embedded system, RTOS and communication systems	8 years	siddesha.k@gmail.com	9743633247	

List of Technical staff and other staff members

S.No	Name of the Staff	Designation	Experience	E-mail d	Mobile Number	**Passport Size Photo**
1.	Munavar Pasha	Foreman	33 years	Munavarbasha1962@gmail.com	7204598743	
2.	Shakle	Instructor	14 years	shakle4@gmail.com	9448423841	
3.	Shakunyhala K V	Instructor	16 years	Shaku2776@gmail.com	9448813149	

4.	Narayana H	Instructor	36 years	narayan.h1962@gmail.com	9844798751	
5.	Jayaramu S K	Assistant Instructor	16 years	jayaramu69@gmail.com	9036983645	
6.	Chikkanna	Mechanic	30 years	chikkana861966@gmail.com	8073712843	
7.	Puttarachaiah.R	Helper	29 years	siddharth02061999@gmail.com	9900793149	

8.	Chowdamma N C	Helper	28 years	chowdammadrait@gmail.com	9845937767	
9.	Nagesha T	Helper	14 years	nagesha1971@gmail.com	9036182624	
10.	Nagaraja H P	Helper	5 years	nagarajhp1974@gmail.com	9686040793	
11.	Megha M	Assistant Instructor	11 months	meghadrait@gmail.com	9036696312	

12.	Mahanthesh H L	Mechanic	1.5 years	Mahanthesh1997kl@gmail.com	9964978316	

List of BoS Members

Sl No.	CATEGORY	Nomination of the Committee	Name of the Person with Designation
1	Head of the Department	Chairperson	Dr. Ramesh.S Professor and Head Department of ECE, Dr.AIT, Bengaluru-56
2	Faculty Members at Different Levels Bearing Different Specializations	Member 1	Dr.Umadevi.H Professor, Department of ECE, Dr.AIT, Bengaluru-56
		Member 2	Dr. Mahalinga V Mandi, Professor, Department of ECE, Dr.AIT, Bengaluru-56
		Member 3	Smt. Akalpita L Kulkarni Associate Professor, Department of ECE, Dr.AIT,

			Bengaluru-56
		Member 4	**Smt. Sudha.B.S.** **Associate Professor, Department of ECE, Dr.AIT,** **Bengaluru-56**
		Member 5	**Dr.Shivaputra** **Assistant Professor Department of ECE, Dr.AIT, Bengaluru-56**
		Member 6	**Smt. Meenakshi L Rathod** **Assistant Professor Department of ECE, Dr.AIT, Bengaluru-56**
		Member 7	**Dr. Jambunath S Baligar** **Associate Professor Department of ECE, Dr.AIT, Bengaluru-56**
		Member 8	**Dr. Chetan. S** **Assistant Professor, Department of ECE, Dr.AIT, Bengaluru-56**
		Member 1	**Dr. DevenDra Jalihal Professor, EEE department IIT**

3	Subject Experts from outside the College Nominated by Academic Council		MaDras, Chennai-600 036
		Member 2	Prof. Santanu Mahapatra Professor, Department of Electronic Systems Engineering, Indian Institute of Science Bangalore, Bengaluru- 560012
		Member 3	Dr. Mrityunjaya V Latte Principal JSS Academy of Technical Education, Dr. Vishnuvardhan Road, Uttarahalli – Kengeri Main Road, Bengaluru-560 045
		Member 4	Prof. P.Nagaraju Associate Professor, Dept. of TCE, RVCE, Bengaluru-560 059
4	Expert from IET Ayodhya	Member 5.	Prof. Ramapati Mishra Director, Former HOD, Dept. of ECE IET Ayodya,

			UP **India**
5	**Expert from outside College, Nominated by Vice Chancellor (VTU)**	**VTU Nominee**	**Dr. Sri Ram P Hegde Professor and HOD, Department of ECE,** **SDM college of Engineering Ujire-Dharmastala Road, Uijre, Karnataka - 574240**
6	**Representative from Industry /Corporate Sector/Allied area related to Placement Nominated by Academic council**	**Member 1.**	**Mr. Narashimamurthy Analog devices India Private Limited** **Saapuria Nova No.1, Varthur Road Nagavarapalya Bengaluru-560 093**
		Member 2	**Dr. J. Krishna Kishore** **Senior Scientist, ISRO Satellite Centre, Bangalore – 560017**
		Member 3	**Mr. Arun ChanDrashekar** **Principal Scientist, INTEL Corporation, Bengaluru,**
		Member 4	**Mr. Manjunath B Senior Manger HR,**

			Wistron, India Bengaluru,
7	**Post Graduate Meritorious alumnus nominated by Principal**	**Member**	**Mr. KubenDra.K Senior Design Engineer VLSI Group,** **Samsung India,Outer ring Road,** **Near Marathahalli, Bengaluru**

Syllabus

(One pdf file for each Program, include all the schemes in the same file)

ECE_SCHEME.pdf file is sent along with this file.

Infrastructure Details

Brief Details with Photographs of Laboratories

The ECE department has well established state-of-art classrooms and laboratories for Electronics and Communication engineering subjects. Practical experiments and workshops are just as important as theoretical study; therefore we make sure that we provide our students with the best infrastructure and state-of-the-art laboratories that are well-stocked and equipped with the latest technology, to offer the most apt environment for learning. The ECE department has total six smart classrooms, six laboratories and one seminar room. Classrooms are spacious, accommodate, well-ventilated classrooms with natural light, and provide a conductive environment for learning. Every classroom has broadband connectivity, audio-visual facilities, public address system, display boards, lockers for students, and ergonomically designed age-appropriate furniture.

Microcontrollers Laboratory/ Computer Communication Laboratory/ Programming for Problem Solving Laboratory

Analog Communication Laboratory/Communication Laboratory and Advanced Communication Laboratory:

HDL Laboratory / Digital Signal Processing Laboratory/ VLSI Laboratory

Embedded Systems Laboratory:

Digital System Design Laboratory/Logic Design Laboratory:

Analog Electronic Circuits Laboratory/Electronic Devices and Instrumentation Laboratory:

Seminar Hall:

Smart Classroom:

Publications (in numbers)

Year	National Journals	International Journals	National Conferences	International Conferences
2019-20	**8**	**62**	**8**	**24**
2018-19	**5**	**54**	**17**	**9**
2017-18	**6**	**36**	**7**	**12**

Industry-Institute Interaction

Memorandum of Understanding (MoU):

- Wistron Corporation,
- Entuple Technologies Private Limited
- Tequed Labs Private Limited
- Master i2R Solutions (TCS iON)

Industrial Visits

Sr.No.	Visited place	Date
1.	BHARAT SANCHAR NIGAM LIMITED	19-02-2018, 20-02-2018, 26-02-2018, 27-02-2018
2.	Robotics Division, TCS Kochi and Control System Division, Harrisons Malayalam Limited, Wayanad, Kerala.	03-03-2017 to 04-03-2017
3.	Keltronics, Kerala	20-02-2016
4.	Supa hydro electric generation	3rd and 4th March 2020
5.	Isro MCF	November 8th,2019
6.	Metro	23 march 2017

R&D Projects

Sl. No.	*Title*	*Agency /Industry*	*Duration*	*Amount*	*Status*
01	Digital Encryption of Speech signal using chaotic based stream cipher system for secure voice communication	VGST	3 years/ Approved on 2018-19	Rs.20,00,000.00	Procuring
02	Voltage controllers for stand-alone systems using induction generator	AICTE	2013-14 to 2015-16 (3 Years)	Rs.22,81,667.00	Completed
03	Dual mode reconfigurable microstrip filters	VTU	2011-12 to 2014-15 (3 Years)	Rs.12,52,000.00	Completed

VTU Research Centre Details

S.No	Name of Research supervisor	Area of Specialization	No of Ph.Ds awarded	No. of Research Scholars pursuing
1.	Dr. S Ramesh	Cryptography and Network Security		3
2.	Dr. Mahalinga V Mandi	Digital Spread Spectrum Techniques and Network Security		2
3.	Dr. H Umadevi	RF and Microwave Engineering		2
4.	Dr. J S Baligar	RF, Microwave Engineering, Digital Design		6
5.	Dr. G V Jayaramaiah	Control system	1	
6.	Dr.Shivaputra	Image Processing		1

Patent details if any

- Number of Applied Patents: 08

International Patent:

1. DWT Based Feature Extraction for Iris Recognition

National Patent:

1. Methods for Generating Highly Random Sequences over Finite Fields for FHSS (Frequency Hopping Spread Spectrum) systems.
2. Multi Band Microstrip Patch Antenna.
3. Planar Inverted-F Antenna (PIFA) with Improved Bandwidth and Impedance.
4. Resource bin for waste segregation.
5. The train tracking control and monitoring system
6. Design of Luminous Light for Vehicle Monitoring System using IoT.
7. Development of IoT based system to detect and prevent Child Abuse

Photographs of Events Organized with caption

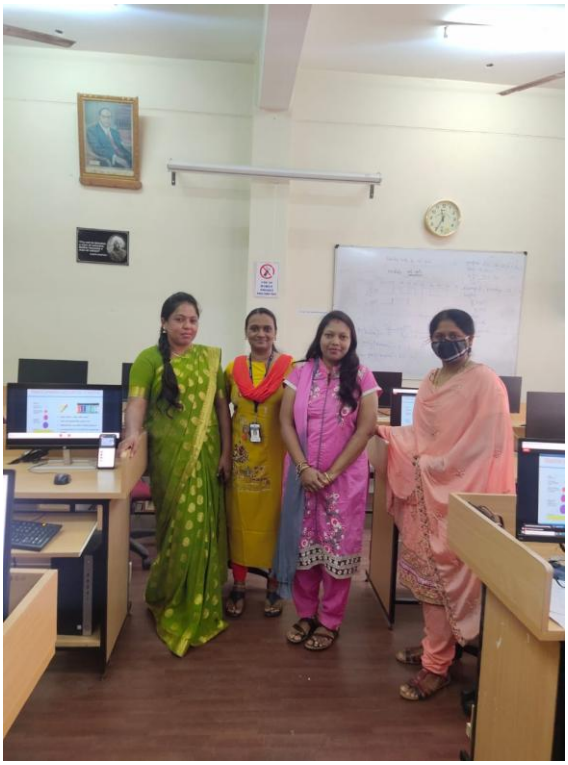
Welcome function for the Taiwan delegates from Wistron company

Innaugral function of National Conference on Recent Trends in Electrical, Instrumentation, Electronics and communication-2019(NCRTEIEC-2019) and Students of EC departments are displaying their project in IIT exhibition.

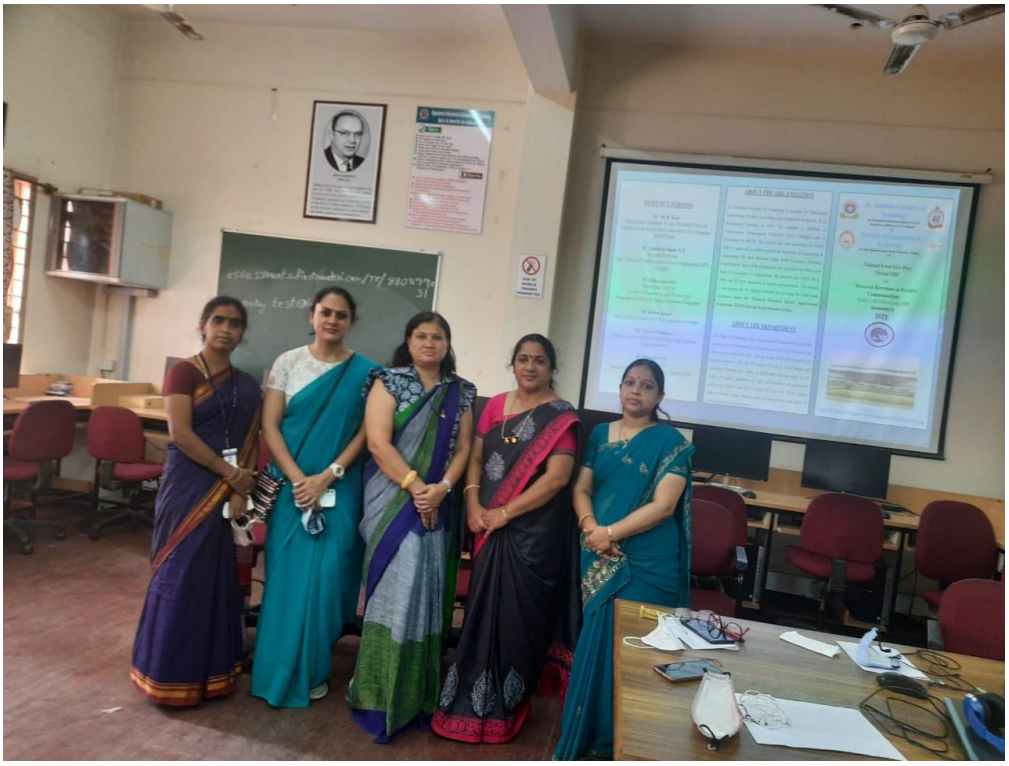
Dr. S Ramesh (Professor and HOD of ECE dept.) with Dr. H Umadevi , Prof. Meenakshi L Rathod and Prof. Kavitha Devi at innaugral of Advance to IoT and it's Application.

Dr. H Umadevi and Prof. Kavitha Devi are addressing to the webinar participants.

Alumni meet 2020. Dr.Ramesh S, Dr. Mandi and Dr. H Umadevi are adressing the participants online.



Co-ordinators (left to right)Prof. Shwetha, Prof. Sangeetha N., Dr. Shilpa K C, and Prof. B Sajidha Thabassum of webinar “Insights into NanoTechnology”

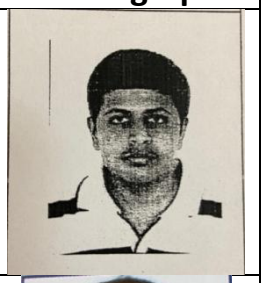


Co-ordinators (left to right) Prof. Triveni, Prof. Ripal Patel, Dr. Tanuja P, Prof. B S Sudha and Prof. Mala Sinnoor of National Level Five Days Virtual FDP on “Research Directions in Wireless Communication”

Co-ordinators (left to right) Prof. Spoorthi P A, Prof. Mala Sinnoor and Prof.Vidyashree C of webinar on “Verilog HDL and Opportunities in VLSI”

Co-ordinators (left to right) Prof. Dr. RangaswamY, Prof. Swami T N and Prof.Sujay S N of Short Term Trining Program on “Image Processing, System Generator and VLSI chipscope analyser” with Dr.S Ramesh and Dr. Umadevi H

List of Rank holders (First Three Ranks during each year for last 3 years)

USN	Name	Year	Rank	Photo graph
1DA16EC114	Shreyas M	2019-20	1st	
1DA15EC072	KUMUDINI G	2018-19	1st	
1DA14EC147	UMASHANKAR	2017-18	1st