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Institution Affiliated to Visvesvaraya Technological University, Belagavi Approved by AICTE, New Delhi

# "AUTOMATION EXPLORER" **NEWSLETTER**

Vol 8, Issue-1, 2022



Message from HoD's Desk

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Established in 1963, RV College of Engineering is one of the country's first self-financing engineering institutes. The Rashtreeya Sikshana Samithi Trust (RSST), a non-profit organisation, oversees the operation of the facility. RVCE is a self-governed institution. A total of 15 bachelor's and 14 master's programmes are currently available at the college, which is associated with Visvesvaraya Technological University (VTU) Belagavi. "Leadership in Quality Technical Education, Interdisciplinary Research & Innovation, with a Focus on Sustainable and Inclusive Technology" is the institution's mission statement. RVCE "Engineering College of the Year-2021," by the Higher Education Review Magazine. Ranked 13th in the Country and 2<sup>nd</sup> in Karnataka by IIRF ranking in 2021. RVCE is also ranked 77th nationally by the National Institutional Ranking Framework (NIRF- 2021). More than a dozen research institutes have been approved by the university. DST, AICTE, CSIR and many more agencies have financed the institution's projects. NBA has accredited all undergraduate and postgraduate programmes multiple times. PhDs are being pursued by around 250 Research Scholars. The institution has established 19 centre's of excellence/competence in the campus. The institution has to its credit over 50 filed patents,47 published patents and 9 granted patents. Six Centres of Excellence have been established in the Institute. An incubator is a part of the college.

## Message from Editor's Desk:

Welcome to the Electronics and Instrumentation Engineering department's newsletter. The "AUTOMATION EXPLORER" newsletter has been launched. We're using this newsletter to stay in touch with our students, professors, former students, and business partners in a digital format. The activities and accomplishments of the department will be highlighted in this newsletter. In addition, it informs readers about recent departmental events, such as placement, ISA activities and accomplishments of both student and staff. The department's future is bright, and we're eager to see what more the future holds. We would want to express our gratitude to every one of our faculty, staff, and students for the constant encouragement and support.

Editorial Committee: Prof. Rajasree.P.M, Assistant Professor

Dr. CH. Renu Madhavi, HoD

Data Collection & Entry:

Mrs. Chandrakala M R, Programmer G-II

## Message from HoD's Desk



Dr. CH. Renu Madhavi, HoD

Warm greetings!!

I am happy to release this year's first issue of department's newsletter. There are many updates to share with respect to the department activities, achievements of both staff and student happened during the last six months. We successfully conducted Odd semester SEE exams recently and the results of 3<sup>rd</sup>, 5<sup>th</sup> and 7<sup>th</sup> semester were good. Department has conducted few technical talks by Industry experts, Expert Lectures from eminent speakers from academia, and conducted workshops for students and faculties. Faculty have attended various workshops, FDPs, and webinars. Developing networking connections between Foreign universities are initiated. Few faculties have done NPTEL certification courses, and few had been resource persons for national level conferences/workshops and reviewers of various International journals/conferences. Happy to share that Two more faculty of the Department have completed their PhD final Viva during this tenure. Department technical staff members too successfully completed certification courses. The department is always institutive in organizing events related to the academic and holistic development of students and the other stakeholders involved. Events such as Parent Teacher's meetings, BoS, BoE and Orientations on Electives offered, counselling the students, Annual Alumni meet are organized on regular basis.

Stay Safe & Stay Healthy

Dr. CH. Renu Madhavi

Associate Professor & HoD, Department of EIE

## 1. Department Vision, Mission, PEOs and PSOs.

#### **Vision**

Achieving academic excellence in Instrumentation Technology by adopting interdisciplinary research with a focus on sustainable and inclusive technologies.

#### Mission

- 1. To create an environment for students to excel in domain areas and get motivated to involve in interdisciplinary research by utilizing state of the art infrastructure.
- 2. To impart technical knowledge, encourage experiential learning and develop future professional leaders.
- 3. To establish industry-academia networking and develop industry-ready students and future entrepreneurs, to meet societal & industrial challenges.
- 4. To motivate lifelong learning and research in sustainable technologies to find improved solutions for the betterment of society.

#### Program Educational Objectives (PEOs) of the Department

- 1. Apply Instrumentation, Electronics, Controls and Automation concepts to develop technical solutions for industrial problems.
- 2. Exhibit competency in adapting to various industrial challenges and work in inter-disciplinary projects with team spirit and professional ethics for achieving organizational goals.
- 3. Pursue higher education in technology or management and achieve professional excellence by imbibing leadership qualities and communication skills.
- 4. Become entrepreneurs with a focus on sustainable technologies and develop innovative solutions to meet industrial and societal needs.

## Program Specific Outcome (PSOs) of the Department

- **PSO1:** Design, analyse, and practice the instrumentation, controls and automation concepts and techniques required for industrial and/or research pursuits resulting in product development, publications or patents.
- **PSO2:** Demonstrate the knowledge of basic science, mathematics, electronic system design, and programming for real-time applications, towards developing industrial solutions and become technology leaders of future.

## 2. Departmental Activities from JANUARY 2022 to JUNE 2022

The department has always been contributing significantly to the growth of technical education. The ISA - RVCE Student section has organised technical talk and student membership drive. Skill labs conducted for 1<sup>st</sup> Semester students. Conducted Parents Teachers Meeting for 6<sup>th</sup> Semester.

### 3. Major Project Details of UG.

The students of 8<sup>th</sup> semester UG have taken up the innovative, societal-related problems and developed prototypes to showcase the working of the module. Some of the students executed the problem statements given by the industries of the current era and bridged the gap between the academics and industry standards. The list of projects is given below.

**Internship Cum Projects-2021-2022** 

Sl No.	Company name	Project Title
1	SAMSUNG	Design and Verification of AMBA & AXI protocol
2	Lam Research	Non-Interruptible Non-Contact Real Time Current Sensor for Multicore Cable
3	HPE-ARUBA	Designing of FAN Board in ARUBA Gateways for Thermal Management
4	Function up	Automated software to obtain grades attenuation
5	PLAY SIMPLE	Data Mixing for Business Intelligence
6	HEP - R&D	Cyber Security Operation Centre
7	SAMSUNG	Designing a Test Bench to verify IP Module
8	SAMSUNG	Development of Test Benches using System Verilog to improve coverage of SoC bus protocol AMBA
9	TATA	Developing React based Applications
10	Amalgam	Design & Development of Interactive Chatbot
11	The Math Company	Prediction of Gross Gaming revenue for Casino
12	Telstra	Code Review Utility
13	Walmart Global Tech India	Upgrading Lantern to SaaS
14	Rcube Electric Private Limited	Water management System using PLC
15	SAMSUNG	Designing & Implementation of SRI/OV in NVMe SSD
16	AIRBUS	Automatic verification for Configuration / Change management data in the domain Avionics Software development as per DO178C Guidelines
17	LOG9	Development of communication protocols for BMS of Electric Vehicle.
18	SAMSUNG	Verification NVMe Controllers with AXI protocol
19	Ansys	Toggle die down in Logic Cone
20	Genpact	Go test using Cora sequence
21	Genpact	Go test using Cora sequence
22	Western Digital	NAND Sequence Automation & Validation
23	THOUGHTFOCUS	Multiradio Home Automation Gateway
24	Telstra	Analysis and Performance enhancement of RTCA & RTFA
25	HPE Aruba	OS Development for Enterprise-grade Wireless Controllers
26	HAVELLS	IOT integration to Circuit Breaker
27	Telstra	Automating the renewal process of SSL Certificate
28	HPE	AI driven test automation
29	KPMG	Customers Segmentation Model using Machine Learning

30	Rambus	Design and Verification of AHB to APB Bridge with I2C and I3C Modules Connected as slaves
31	Phonepe	API Heartbeat Aggregator & Monitoring
32	Samsung	Recreation of Activation Function of a Neural network
33	Infineon	Product Marketing / management of Auto PSoC devices for HMI & Smart Sensing
34	IISC	Instruments and Instruments Panel Architecture for eV <sub>TOL</sub> Avionic System
35	In house	Crop Yield Prediction and efficient use of fertilizers using machine learning
36	Genpact	Online Bank Management System using Appian
37	Stipe Solutions Pvt. Ltd.	Detection of Anomalies in Posture during Computer usage for Industrial Safety
38	Telstra	API proxy Automation from non-production Environment to production Environment
39	GAIL	Measurement and Control of Process variable using SCADA
40	In house	Footstep Power Generation system for Mobile charging using RFID
41	In House	Graphical Representation of data using data Studio & Big Query for Blue fever App
42	Inter House	Self-Parking Robot
43	In House	Ergonomic waistband to detect real time obliteration in lumbar lordosis
44	ISRO	PXI Based ATE for TMTC Systems Testing for Satellites
45	In House	Battery Management System
46	INTER Dept.	Design and development of PLC based automatic sorting system using sensors in waste management
47	Intellipaat	Business development using ZOHO CRM & AWS
48	In House	Real Time EYE Blink based Password Authentication System
49	GENPACT	Automation of Website data management
50	Walmart	OrchUX
51	Inter dept.	Knee osteoarthritis detection using Deep Learning based Knee Bone & Cartilage segmentation
52	Chitra Electricals and Electronics	Automation of poka-yoke control system in spot welding operation.

# 4. Workshops/seminars/FDP/conference/attended by faculty.

SI No	Faculty Name	Conference /Workshop /Seminar	Organized By	Date Attended
1	Rajasree P M	ATAL FDP on "Machine Learning Applications on Image Processing"	AICTE Online	17-01-2022 to 21-01-2022

2	Dr. Veena Divya K	ATAL FDP on "Machine Learning Applications on Image Processing"	AICTE Online	17-01-2022 to 21-01-2022
3	Dr. Padmaja K V	Online Orientation webinar on Six Mini Course Pilot program, social and emotional learning	IUCEE, RVCE	17-01-2022 and 31-01-2022
4	Dr. Padmaja K V	Online Orientation webinar on Six Mini Course Pilot program, social and emotional learning	IUCEE	14/02/2022 and 18/02/2022
5	Dr. Tabitha Janumala	AICTE-Workshop on Examination Reforms	Online AICTE	14/02/2022 to 16/02/2022
6	Dr. Veena Divya K	Online UHV Refresher 1 FDP	AICTE	21-02-2022 to 25-02-2022
7	Dr. Kendaganna Swamy	Online UHV Refresher 1 FDP	AICTE	21-02-2022 to 25-02-2022
8	Rajasree P M	Online UHV Refresher 1 FDP	AICTE	21-02-2022 to 25-02-2022
9	Dr. K B Ramesh	4 <sup>th</sup> International conference on Machine Intelligence and Signal Processing (MISP 2022)	Dept. of CSE NIT Raipur, India	12-03-2022 to 14-03-2022
10	Dr. Kendaganna Swamy S	Two-day workshop attended on AI and ML	Robert Bosch	07/03/2022
11	Dr. Padmaja K V	3 day AICTE southern Regional offline conference for UHV volunteers	RVCE, Bengaluru	28/04/2022 to 30/04/2022

# Workshops /online courses/Webinars attended by technical staff

Sl. No	Attended by the Technical Staff	Courses /Workshop / Details	Organized By	Date
1	Anil Kumar N A	Pneumatics and PLC Control	Famic Technologies Inc	18-01-2022
2	Anil Kumar N A	Electrical System and PLC Control	Famic Technologies Inc	20-01-2022
3	Somanna	RSLOgix/Studio 5000 PLC LadderLogic Training .Basic	Udemy	26-01-2022
4	Anil Kumar N A	Renewable Energy (Wind and Solar Power) and Electrical System	Famic Technologies Inc, Automation Studio	23-02-2022
5	Krishna Murthy A V	Webinar Support Essentials	Department of Information Science and Engineering, RVCE	26-02-2022
6	Anil Kumar N A	3D Animation and PLC Simulation	Famic Technologies Inc, Automation Studio	09-03-2022

# 5. Invited Talks delivered by Faculty:

Sl	Faculty Name	Topic	Venue	Date	Participants		
N o					No.of Stude nts	No.of Faculty	Indust ry
1	Dr.Kendaganna Swamy S	Sensors and its application	JSSATE- Bengaluru	82	-	-	
2	Dr. Anand Jatti	Hands on Laboratory experiments demonstration of Control System by using Mat Lab	PVP Polytechnic Bengaluru	03/03/2022	30	2	-
3	Dr. Anand Jatti	Technical Talk on Biosensor	Ramaiah Institute of Technology	22/3/2022	30	-	-
4	Dr. Anand Jatti	Technical Talk on Advanced Control Applications	Ramaiah Institute of Technology	22/3/2022	30	-	-
5	Dr. Kendaganna Swamy S	Two day technical talk delivered on ICT Tools for Innovative Teaching Learning Process	RVITM, Bengaluru	28/3/2022 and 30/3/2022	108	-	-
6	Dr. Kendaganna Swamy S	Technical talk delivered on ICT Tools for Innovative Teaching Learning Process	RVITM, Bengaluru	RVITM, 01/04/2022 Bengaluru		-	-
7	Dr. Kendaganna Swamy S	Design and Developed Colours Sorting Machine	RVCE, Dept of IEM	Dept of			-
8	Dr. Veena Divya K and Rajasree P M	Medical image processing using CNN: Challenges and opportunities	FDP on Application s of Artificial Intelligence, SR University ,Warangal	12/05/2022	-	150	-
9	Dr. Kendaganna Swamy S	Technical talk on IoT applications	Dept of BCA, National college, Jayanagar, Bengaluru	26/05/2022	42	-	-

10	Dr. Kendaganna	Sensors and its	National	15/06/2022	28	-	-
	Swamy S	Application	College,				
			Bengaluru				

# 6. List of Workshops organised by the Faculty:

Sl	Details of workshop /	Date of the	P	articipan	Organized by	
No	seminar / conference	Event	No. of	No. of	Industry	
	/events		Students	Faculty	Person	
1	One day workshop on	23/04/2022	12	3	-	Dr. Kendaganna
	Layout Design for					Swamy S
	VLSI					-
2	3 day workshop Skill	25/04/2022 to	-	20	-	Dr. Kendaganna
	Lab Conducted at	27/04/2022				Swamy S
	RVITM					•
3	Two day workshop on	25/05/2022	62	-	-	Dr. Tabitha Janumala
	Explore the LPC2148	to				
	ARM Board and its	26/05/2022				
	Peripherals					

# 7. List of Technical Talks arranged by the Faculty:

S No	Details of workshop /	Date of the	I	Participant	S	Organized by
	seminar / conference	Events	No. of	No. of	Industry	
	/events		Students	Faculty	Person	
1	A seminar on Digital transformation in Process Automation	08/06/2022	100	3	-	Dept of EIE (Prof. Venkatesh S)
2	A Webinar on Bio – Imaging in Health Care Analysis and its Application	21/06/2022	50	6	-	Dept of EIE (Dr. Padmaja K V)

# 8. Awards / Recognition of Faculty:

#### Faculty completed PhD final Viva in 2022



Prof. Harsha Completed Ph.D. final Défense Presentation on 04.07.2022



Prof. Rajasree P M Completed Ph.D. final Défense Presentation on 10.06.2022



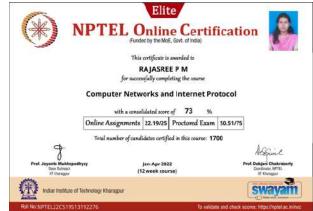


Dr.CH Renu Madhavi involved in Telugu Translation of 2 NPTEL courses



Taylor and Francis Book Chapter published by Nishita Anand, Reeth Nalamitha, M. J. Vidya, K. V. Padmaja, P. M. Rajasree





Successfully completed online NPTEL SWAYAM certification course on "Computer Networks and Internet Protocol"

CI	Faculty Name	Award / Achievement Details	Awarded by
Sl No			Organization Name
1	Dr. K B Ramesh	Certificate of Appreciation 4 <sup>th</sup> International	Dept. of CSE
1	Di. K D Kaillesii	conference on Machine Intelligence and Signal	National Institute of
		Processing (MISP 2022) for chairing Session on	Technology Raipur,
		Deep Learning for Computer Vision	India
4	Dr. Veena Divya K	Degree of Doctor of Philosophy in Faculty of	VTU, Belagavi
	•	electrical and Electronics Engineering Sciences for	, ,
		the thesis entitled Design and Development of	
		algorithms for early detection of teeth and jaw related	
		disorders using digital panoramic radiographs on 10 <sup>th</sup>	
		March 2022	
3	Dr, Tabitha Janumala	Guided the students from MCA, EIE, ECE to attend	
		the off-campus drive at Invendis Technologies and	
		are placed in the month of May and June, 2022.	

# The following faculty are involved in Training and Consultancy for different Centre of Excellence and Centre of Competency established in RVCE as follows

S.No	Name of the Faculty	СоЕ
1	Dr. Padmaja K V & Prof. Rajasree.P.M	Centre of Excellence in Internet of Things
2	Dr.Rachana S Akki	Centre of Excellence in e- mobility
3	Prof.Harsha	RVCE Bosch Rexroth: Centre of Competence in Automation Technologies
4	Dr.Sandesh.R.S	Centre of Excellence in Automotive Electronics Mercedes Benz
5	Dr. Veena Divya K	Centre of Competence on Visual Computing

#### SCOPUS INDEXED JOURNALS

Year	2022	2021	2020	2019	2018	2017	2016	2015
Scopus Indexed Journals	4	15	05	15	15	11	08	07

## 9. Publication details of faculty and students.

- 1. Ananya Ananth Rao, Shaun Qien Yeau Tan, Raghavi R, Archit Srivastava, CH Renumadhavi, "Autism Spectrum Disorder Therapy: Analysis of Artificial Intelligence integrated Robotic Approach", Journal of Physics: Conference Series 2161 (2022).
- 2. Shwetha V,CH.Renu Madhavi and Nagendra Kumar M, "Classification of Brain Tumours using Hybridized Convolutional Neural Networks in Brain MRI Images", International Journal of Circuits, Systems and Signal Processing, Vol 16,2022, pp561-570.,E-Issn:1998-4464.
- 3. Chalapathiraju Kanumuri CH. Renu Madhavi "A Survey: Brain Tumor Detection Using MRI Image with Deep Learning Techniques", Smart and Sustainable Approaches for Optimizing Performance of Wireless Networks. Available from: Vital Source Bookshelf, Wiley Professional and Trade, 2022.pp125-138.
- 4. Veena Divya K, Anand Jatti, Vidya.M J, Srikar gade, "A Novel Approach towards Automatic Contour Identification of Jaw Cysts from Digital Panoramic Radiographs to improvise the Treatment planning", International Journal of Biology and Biomedical Engineering, 2022.

#### 10. Student Achievements





Krishna Dvaipayan 2<sup>nd</sup> Semester student participated in a competition conducted by Solana Hacker House and raised \$5000 as grant money.

Sl.No	Name of the Event	Name of the student	USN	Prize won/Participated	Date
				Certificate of	
				Excellence and	
1	Samsung PRISM	Siddhant Shekhar	1RV18EI052	Amazon vouchers	June 21-Jan22
				Certificate of	
2	Samsung PRISM	Rohith Vivek Kamath	1RV18EI046	Excellence and	June 21-Jan22

				Amazon vouchers	
				Certificate of	
				Excellence and	
3	Samsung PRISM	Rounak Raj	1RV18EI047	Amazon vouchers	June 21-Jan22
				Certificate of	
				Excellence and	
4	Samsung PRISM	Mohit Kumar	1RV18EI033	Amazon vouchers	June 21-Jan22

# Extra-Curricular Activities:

					Place
Sl.		Name of the			of
No	Event	student	USN	Prize won/Participated	event
				Best NCC college for year	
1	National Cadet Corps (NCC)	Mohit Kumar	1RV18EI033	21-22	Offline
2	8th Mile(DISCOM)	Mohit Kumar	1RV18EI033	Volunteer	offline
3	Fit India Campaign	Mohit Kumar	1RV18EI033	Participated and Volunteer	Virtual
4	Blood Donation Drive	Mohit Kumar	1RV18EI033	Participated and Volunteer	Offline
	Tree plantation and Lake				
5	cleaning	Mohit Kumar	1RV18EI033	Participated and Volunteer	offline
	Orphanage visit and				
	environment awareness				
6	programme	Mohit Kumar	1RV18EI033	Participated and Volunteer	offline
7	Utsarga Marathon	Mohit Kumar	1RV18EI033	Participated	offline
		Rohith Vivek			
8	Utsarga Marathon	Kamath	1RV18EI046	Participated	RVCE
	Blood Donation Camp by	Pankaj			
9	Apollo Hospitals	Kankani	1RV19EI033	Participated	offline
10	Utsarga Marathon	Vaibhav B A	1RV18EI060	Volunteer	Offline
11	Utsarga Marathon	Vaibhav B A	1RV18EI060	Main Organizer	Offline
12	Utsarga Marathon	Vaibhav B A	1RV18EI060	Main Organizer	Online
13	Blood Donation Camp	Vaibhav B A	1RV18EI060	Participated and Volunteer	Offline
14	Stem Cell Donation	Vaibhav B A	1RV18EI060	Main Organizer	Offline
15	World Marrow Day	Vaibhav B A	1RV18EI060	Main Organizer	Offline
16	School Bell Camp	Vaibhav B A	1RV18EI060	Main Organizer	Offline
17	Student Induction Program	Vaibhav B A	1RV18EI060	Main Organizer	Offline
18	Student Induction Program	Vaibhav B A	1RV18EI060	Main Organizer	Offline
19	Student Induction Program	Vaibhav B A	1RV18EI060	Main Organizer	Offline
	National Service Scheme				
20	(NSS)	Vaibhav B A	1RV18EI060	Core Member	RVCE
	National Service Scheme				
21	(NSS)	Vaibhav B A	1RV18EI060	Secretary	RVCE
22	DKMS BMST	Vaibhav B A	1RV18EI060	Student Ambassador	RVCE

# 11. Gallery Section



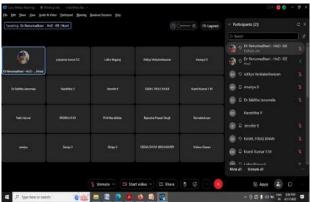
Department level Academic Audit done on 09/06/2022



Department level Grades Auditing conducted on 13/06/2022.



Technical Talk: "Bio-imaging in healthcare analysis and its application" by Mr.Channarayapatna Srinivasa Arvind for  $6^{th}$  Semeter students on 21.06.2022



Parent-Teachers Meeting 19.06.2022





A seminar on Bosch Insights eMachines and the Future of Electrified Powertrain Mr. Matthias Naumann, Director, Engineering Simulation & Design, Robert Bosch GmbH on 13/05/2022





Two-day workshop on Explore the LPC2148 ARM Board and its Peripherals Guest Speaker: Mr. Raghavendra, Technical Expert, ALS Technologies on 13/05/2022





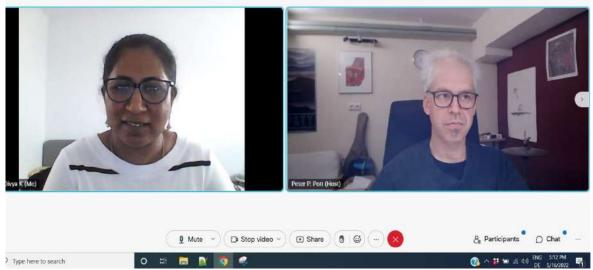
Seminar on Digital transformation in Process Automation on 08/06/2022

Guest Speaker: Mr. Arun Kumar, Head of Automation Engineering from Siemens Advanta India gave a seminar on "Digital Transformation in Process Automation".





Skill lab conducted for 1st Semester students



Dr. Veena Divya K had an online interaction with Prof. Peter Pott, Biomedical Systems Department, University of Stuttgart, Germany to have a fruitful Collaboration.





Dr. Veena Divya K visited University of Stuttgart, Germany and interacted with Prof. Andrey Morozov, at department of automation technology and software systems to have a fruitful Collaboration.



Dr.Rachana S Akki visited "AMPERE" vehicle factory at Ranipet on 14.05.2022

#### Other Information

- 1. Dr. Padmaja.K.V, Professor and Associate Dean, Invited by RV University to attend the Anti-Ragging Committee meeting held on 23 Feb 2022, Wednesday, 11:00 AM, RV University Senate Room.
- 2. Dr. Padmaja K V, Professor and Associate Dean, involved as committee member in selecting Security services during March/April 2022.
- 3. Dr. Padmaja K V, Professor and Associate Dean, as a member of BOS attended Department online BOS Meeting on 11.03.22 for the discussion of second year 2021 syllabus revision.
- 4. Department level Academic Audit done on 09/06/2022.
- 5. Department level Grades Audit done on 13/06/2022.
- 6. Ph.D final viva voce of Mrs. Rajasree P M doe on 10/06/2022 Guided by Dr. Anand Jatti.
- 7. Dr. Padmaja K.V, Associate Dean & Professor, Invited as examiner for the Comprehensive Ph.D Viva of Dr. Ravish Aradhya student on 29.06.22 at 10AM, ECE, RVCE VTU Research centre.
- 8. Dr. Padmaja K.V, Associate Dean & Professor, Invited as External expert for Faculty recruitment at MVJ College of Engineering, Bengaluru on 11.06.22.
- 9. Dr. CH Renu Madhavi, Associate Professor & HoD, Invited as External expert for Faculty recruitment at VIT.