



|| Jai Sri Gurudev ||  
Sri Adichunchanagiri Shikshana Trust®

# SJB Institute of Technology

#67, BGS Health & Education City, Dr. Vishnuvardhan Road, Kengeri, Bengaluru - 560060

## Department of Electronics and Communication Engineering



Dr. K.V. Mahendra Prashanth  
Principal



VOLUME 15

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### Editorial Board

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**Vision:** Empowering Electronics and Communication engineers to meet the advancements in technological and societal needs.

### Mission:

- M1: To facilitate students in acquiring proficiency & providing eminence in technical education.
- M2: To imbibe value based education that contributes to the human values, ethics and societal relevance
- M3: To foster culture of innovation, industry and research in developing intellectual professionals and entrepreneurs

### About the Department

Department of Electronics and communication Engineering was established in the institution during 2001. The department is AICTE approved and permanently affiliated to VTU and accredited by National Assessment and Accreditation Council (NAAC) with 'A' Grade and NBA. The Department offers UG & PG courses. Further, it is recognized as "Research Center" by VTU.

The department is strengthened with qualified Doctorates, Professors, Assoc. Professors, Asst. Professors and technical staffs. Apart from the academic events department also oversees the overall development activities. The students are being provided with state-of-the-art lab facilities; training / certification programs, industrial visits, periodic technical talks, workshops, conferences, empowering employability skills.



Dr. Chandrappa D.N.  
Prof & HOD

### Achievements

- 30 Ph.D scholars have registered under ECE Department research centre.
- Faculties of the Department are members of various professional bodies such as ISTE, IEI and IEEE.
- Progressive results and placement records.

### Department Association with Industries

- MOU with NI systems (India) Pvt. Ltd to establish NI Labview Academy.
- MOU with Intel Corporation (FICE), Knowx Innovations Pvt Ltd., Effent Technologies Pvt. Ltd, EDII.
- MOU with University of Agricultural Sciences, M/s Win Global Tek, Speckbit Exploratories Private Limited, Loginware Softec Pvt Ltd, Elint Labz.
- MOU with Rexroth Bosch Group to establish "Center of excellence for Training and research in Automation Technologies".
- MOU with M/s Tequed Labs, M/s Training world 360 Solutions Pvt. Ltd, M/s Dlithe Consultancy Services Pvt Ltd.
- MOU with M/s Jyoti Electronics Pvt. Ltd, M/s Global Quest Technologies and M/s OKTRA EV Pvt. Ltd.

### Department Activities:

#### Orientation Program

Conducted the "Orientation Program" for students of 6th semester on 04-04-2022 at 9.30 AM in the department seminar hall. Dr. Chandrappa D N, Professor and Head, ECE department welcomed all the students to the forthcoming semester and wished them all the very best.



- Department conducted the "Orientation Program" for students of 4th semester on 25-05-2022 at 10.45 AM in the department seminar hall.



### Industry Visit

- The Department of Electronics and Communication Engineering in association with MHRD -Institution's Innovation Council (IIC), 33 students and 3 faculty visited K-Tech Innovation Hub, Jalahalli, Bengaluru on 24-02-2022.



- The Department of Electronics and Communication Engineering in association with MoE's -Institution's Innovation Council (IIC), 24 students and 3 faculty visited Micrologic Integrated Systems (P) Limited, Kumbalagodu, Bengaluru on 04-04-2022.



### Internship

- The Internship Program at Department of ECE was inaugurated by Principal for Final year students on 14/3/2022, Monday at 10:00 AM at ECE Seminar Hall. The session was delivered by Global Quest Technologies Pvt Ltd, Tequed Labs, Dlithe Consultancy Pvt Ltd, NI Systems Pvt Ltd.

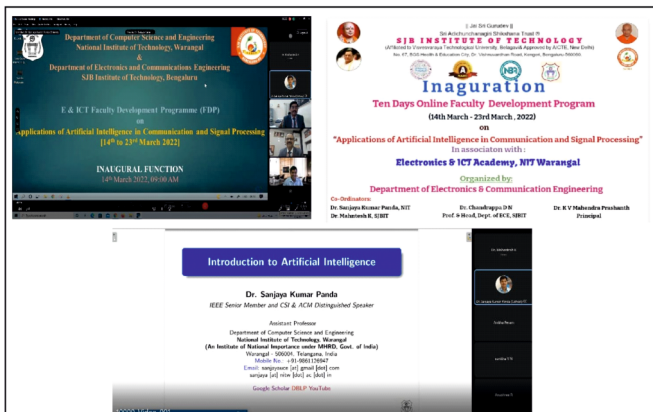


### Funds

- Dr. K.Somashekar (Principal Investigator) and Dr.Supreeth HSG (Co-Principal Investigator) received Research grants of INR. 10 Lakhs from VTU, Belagavi during Mar-2022.

### Workshop / Seminar / Conference

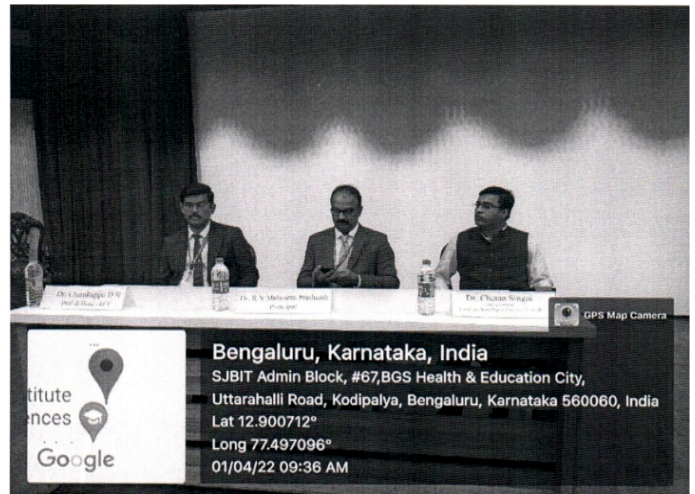
- Department Conducted Workshop on "Android Development with Kotlin-101" in Association with Edler Hub Private Limited & IEEE on 11th Feb 2022 in NI Lab, ECE Dept.
- Department of Electronics and Communication Engineering in association with E & ICT Academy, National IT Warangal, Telangana, organized a Ten Days Faculty Development Programme (FDP) on "Applications of Artificial Intelligence in Communication and Signal Processing" (AICSP) for Faculties, Research Scholars, UG / PG students and Industries persons across the country on 14<sup>th</sup> March 2022 to 23<sup>rd</sup> March 2022 in Online Meeting using WebEx Platform.



- Department of ECE has organized the Expert talk on "The Implementation of National Education Policy" by Dr. K M Ravikumar, Member, NEP on 02/03/2022 at 10.30 am at SJB Gallery.



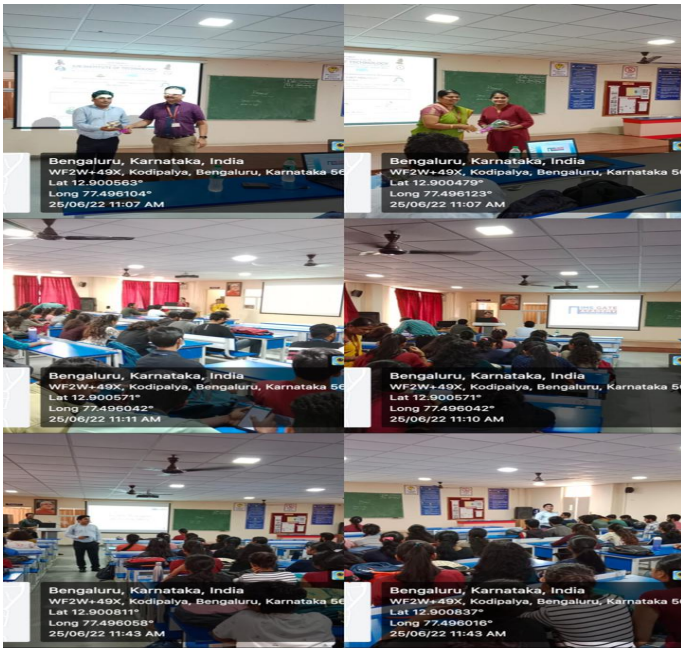
- The Department of Electronics and Communication Engineering organized an Expert talk on "The implementation of National education policy (NEP) - 2020 Road map for higher education institutions for all the Teaching staff of SJBIT by the resource person Dr. Chethan Singai on 1<sup>st</sup> April 2022 at 9:30 AM at SJBIT Gallery.



- The Department of Electronics and Communication Engineering conducted Three Days Workshop on "Embedded and Communication System Applications from 11<sup>th</sup> to 13<sup>th</sup> April 2022 for Non-Teaching Faculties.



- Conducted seminar on "Preparation for Higher Education (GATE, GRE, TOFEL Etc...) and Career Opportunities in Engineering" by Ms. Lamiya Naseem, Mr. Sarvendu Mishra for all 6<sup>th</sup> sem students from GATE Academy on 25/06/2022 in ECE seminar hall.



- Conducted seminar on “Planning & Preparation for Higher Studies (GATE, GRE, TOFEL Etc...)” in association with SJBIT NDLI club by Mr. Satish Anand from Byju’s Academy on 04/06/2022 in ECE seminar hall.



- Conducted FDP on “Motion Controller & IOT which covers programming of 2<sup>nd</sup> Gen PLC and IoT” by the Resource person Mr. Milind Tavre, Asst., Manager, Drive & control Academy, Bosch Rexroth India Pvt. Ltd. on 20/01/2022
- Conducted Project Exhibition for 8<sup>th</sup> sem students on 22/6/22.



- Organized 17<sup>th</sup> Graduation Day celebration for 2017-21 batch on 27/4/22.
- Conducted Environment Day on 4/6/2022 by planting a sapling and theme-based Collage competition was organized for staff and students. Pledge to save environment was also organized for all the staff members.



- The Staff Club celebrated International Women’s Day on 08/03/2022 in DSP Lab, ECE Dept.



**Dept Fest**

- Department organized ECHORA 4.0 with the theme on AQUA-ARENA on 15<sup>th</sup> Jun 2022. Organized various Technical Events and also conducted 5K marathon from SJBIT to Global Village West gate.



**New Technology**

**What is ChatGPT?**

ChatGPT is an AI-powered chatbot that uses machine learning to answer queries in a conversational dialogue. OpenAI released ChatGPT on Nov. 30, 2022. Within five days, ChatGPT reached 1 million users, according to OpenAI’s CEO Sam Altman.

ChatGPT uses the GPT-3 language model, which is trained from human-created text on the internet. ChatGPT uses this language model to formulate responses to user queries.

**What is Bard?**

Bard draws responses from the internet and uses Google’s Language Model for Dialogue Applications (LaMDA). Bard will provide more details to questions asked than the typical Google search through this language model. The lighter and second version of LaMDA uses less computing power, so it can scale for more people to use and provide feedback.

Bard’s main goal is to retrieve information in a simple answer versus a search engine results page, like digital assistants such as Alexa and Siri, but with links for users to gather more information. Bard will also work as a personal assistant and help with tasks such as booking vacations, finding existing reservations and helping with meal planning.

## Main differences between ChatGPT and Bard

The services of ChatGPT and Bard will be similar, with users typing in a query to receive a human-like response.

In February 2023, Microsoft announced they will release technology for large companies to create and customize their own chatbots using ChatGPT technology. Microsoft will also embed AI-powered search functions to Bing and Edge with chat experience to aid a user's search. These browsers will feature a newer version of ChatGPT using GPT-4, providing more relevant information from the internet. Google has not announced when it plans to add AI chatbot functionality to its search engines.

The main difference between ChatGPT and Bard is the data source. Bard will continually draw information from the internet, so it will have the latest information. ChatGPT's sources end with 2021 data, so it is limited to newer research and information. Bard will have more data to gather information in real-time by accessing the latest research.

Bard uses its LaMDA for dialogue applications, while ChatGPT uses GPT 3.5. LaMDA was built on an open-source network to understand natural language. It's trained to find patterns in sentences and between words to create dialogue versus individual words. Bard will create more chunks of information, while ChatGPT creates content in a single text prompt.

## Placement

- The Following list of companies recruited the students of ECE during the academic year 2022.

Name of the company	No. of students selected
Mind Tree	03
Capgemini	18
6D Technologies	01
Netcracker	08
Stratigent	05
Sonata Software	16
TuringMinds	01
Infosys	07
L&T Infotech	01
First American	01
CYRAAC Services (P) Ltd.,	01
Xoriant	02
Mercedes-Benz	01
Research and Development India Pvt. Ltd.	
Zensar Technologies	05
Rinex Technologies	01
CGI	04
ITC Infotech	07
Wipro	05
NTT Data	02
PlanSource	01
K&S Partner	01
RENAULT NISSAN TECHNOLOGY BUSINESS	01
CENTRE INDIA	
Techcanopy	01
Signoff Semiconductor	06
Accord Global Technology Services	01
HCL	01

## Student Publication

Sl.No	Student Name	Title of the Paper	Month and Year of Publication	Conference Or Journal
1	C S Sharan Prasad, Rishi Singh, Suraj S, Sumukha R Kashyap	Cloud Computing on Pneumonia (during COVID-19) Prediction Using CNN Algorithm	Jan 2022	International Journal of Advanced Research in Computer and Communication Engineering, Vol.11, Issue:01, PP:331-338, DOI:10.17148/IJARCCCE.2022.11155, ISSN (P) 2319-5940
2	Soumya L M, Vyshnavi Shekhar B S, Preeti Karanji, Rishi K	Texture Feature Extraction using GLCM & Wavelets for Image Classification	June 2022	International Journal of Innovations in Engineering and Technology (IJET), Vol:22, Issue: 03, PP:19-27, June-2022, <a href="http://dx.doi.org/10.21172/ijiet.223.03">http://dx.doi.org/10.21172/ijiet.223.03</a>
3	Preeti Karanji, Rishi K, Dr. Mahantesh K Chetana R	Emotion Recognition in EEG Data using Machine Learning	June 2022	International Journal of Innovations in Engineering and Technology (IJET), Vol:22, Issue 03, PP:28-33, June-2022, ISSN: 2319-1058 <a href="http://dx.doi.org/10.21172/ijiet.223.04">http://dx.doi.org/10.21172/ijiet.223.04</a>
4	Anirudh N Bharadwaj, Bhanu K N	SRDSS: Smart regenerative Deceleration and Safety System using IoT in Electric Vehicle	May 2022	2022 3rd International Conference for Emerging Technology (INCET) Belgaum, India. PP:1-5, Print on Demand (PoD) ISBN:978-1-6654-9500-4

## Staff Publication:

Sl.No	Faculty Name	Title of the Paper	Month and Year of Publication	Conference Or Journal
1	Dr. Rekha K R	Advanced CMOS VLSI technology for Low Power Analog System Design with High Gain	June 2022	2022 IEEE International Conference on Distributed Computing and Electrical Circuits and Electronics (ICDCECE), Scopus, ISBN:978-1-6654-8317-9 <a href="https://doi.org/10.1109/ICDCECE53908.2022.9793203">https://doi.org/10.1109/ICDCECE53908.2022.9793203</a>
2		Review of Fault Tolerant Power Converters Deployed In Critical Applications	May 2022	Proceedings of the Second International Conference on Electronics and Sustainable Communication Systems (ICESC-2021), IEEE Xplore Part Number: CFP21V66-ART; ISBN: 978-1-6654-2867-5, Scopus
3	Dr. Vijaykumar T	Study of Capacitor & Diode Aging effects on Output Ripple in Voltage Regulators and Prognostic Detection of Failure	May 2022	Intl Journal of Electronics and Telecommunications, vol. 68, no. 2, pp. 281-286, doi:10.24425/ijet.2022.139879 Q3, sjr 0.22
4	Dr. Mahantesh K	VIRNet for Image Retrieval: One for All Top Based on Feature Fusion Technique	June 2022	International Journal of Innovations in Engineering and Technology (IJET), IF-0.672, Copernicus index, Volume 22 Issue 3, ISSN: 2319-1058, <a href="http://dx.doi.org/10.21172/ijiet.223.04">http://dx.doi.org/10.21172/ijiet.223.04</a>
5	Dr. Mahantesh K/ Mrs. Chetana R	Emotion Recognition in EEG Data using Machine Learning	June 2022	International Journal of Innovations in Engineering and Technology (IJET), Copernicus index, IF-0.672, <a href="http://dx.doi.org/10.21172/ijiet.223.04">http://dx.doi.org/10.21172/ijiet.223.04</a> Volume 22 Issue 3, ISSN: 2319-1058
6	Dr. Ravi Kumar AV	Multi-channel neuro signal classification using Adam-based coyote optimization enabled deep belief network.	May 2022	Biomedical Signal Processing and Control, Volume 12, Issue 8, PP-2972-2986, 01-08-2022 <a href="https://doi.org/10.1016/j.bspc.2022.103774">https://doi.org/10.1016/j.bspc.2022.103774</a> ISBN: 978-981-16-3497-0. Q1, SJR 1.21
7	Dr. Lakshminarayana M	Optimization on Tribological Behaviour of AA7178/Nano Titanium Diboride Hybrid Composites Employing Taguchi Techniques	Feb 2022	Hindawi Journal of Nanomaterials, Q2, SJR2020-0.46, Scopus indexed, Volume 2022, Article ID 1619923, 8pages <a href="https://doi.org/10.1155/2022/1619923">https://doi.org/10.1155/2022/1619923</a>