

JAIN INSTITUTE OF TECHNOLOGY

DAVANGERE

(A Unit of Jain Group of Institutions, Bangalore)



Department of Electronics & Communication Engineering



ENCORE

2020-2021 Technical Magazine



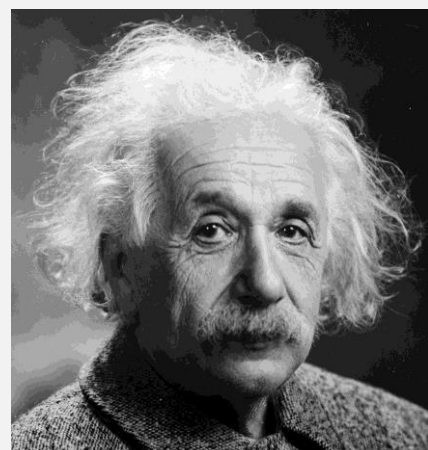
Insanity is doing the same things

Over and over again and

Expecting the different results

Albert Einstein

Physicist, Scientist



About The Department



Dr. Nagaraj B G

**HOD, Dept. of ECE
JIT, Davanagere**

Department of Electronics and Communication was started in the year 2011-12. The department emphasizes on imparting advanced technical knowledge in various fields like signal processing, VLSI Technology, Embedded system, wireless technology, microwave engineering, optical communication, micro electronics and control systems. Highly qualified, experienced and dedicated staff members are the backbone of the department. Well equipped, sophisticated, precision and state of the art laboratories are center of attraction in the campus. Another major strength of the department is its extensive collection of technical books, periodical and journals, ENCORE association of the department of E & CE aims at targeting innovations in the field of advanced communication and networking.

The Department has MOU with Karunadu Technologies Pvt. Ltd, Bengaluru, Abiyantrix, Soft Solutions, Davangere, Sai Tech, Mysore. The MOU organizations provide Internship training and conduct workshops on recent trends and organize seminars for the students to enhance their industrial exposure.

Editor's Desk



Mr. Ravi Rayappa

Assistant Professor
Dept. of ECE,
JIT, Davangere



Mr. Suprith P G

Assistant Professor
Dept. of ECE,
JIT, Davangere

*Warm greetings to the readers of **ENCORE!!***

We are pleased to share with you the Technical Magazine for the Academic year 2020-21. We express our considerable gratitude and appreciation to everyone who have contributed to this Newsletter magazine. These contributions have required a generous amount of time and effort. It is this willingness to share knowledge, concerns and special insights with fellow beings that has made this magazine possible.

*Finally we would like to conclude with these words The True Laboratory is the MIND Where behind illusions we uncover the Laws of TRUTH -**Sir J C BOSE**, Father of Indian Science*

Embrace each challenge in your life as an opportunity for self-transformation.

Happy reading....Thank You

Editorial Team

Faculty Members

Mr. Ravi Rayappa

Mr. Suprith P G

Student Members

Ms. Ramya K C

Ms. Dixitha K N

Vision of the Department

Endeavours to achieve academic excellence by providing value based education to the students of Electronics and communication engineering and enable them to meet the ever changing needs of the society.

Mission of the Department

- ❖ *To emphasize on student focus learning environment.*
- ❖ *To provide a supportive atmosphere which promotes the educational, career, social ethics and professional development of the students.*
- ❖ *To provide a platform to inculcate team spirit and leadership qualities to succeed in professional career.*

Program Specific Outcomes (PSOs)

- ❖ *PSO1: Analyze, simulate and design electronic and communication circuits for given specifications.*
- ❖ *PSO2: Design and test processor based systems*

Program Educational Objectives (PEOs)

- ❖ *PEO1: To create graduates with a strong base in Electronics & Communication Engineering.*
- ❖ *PEO2: To produce technically competent graduates with the ability to understand, analyze & develop electronic systems.*
- ❖ *PEO3: Ability to work with professional ethics and as a team member to realize the goals of the projects.*
- ❖ *PEO4: Excellence in professional career by attaining higher education.*

Institute Academic Calender of Events

ODD SEMESTER



ARKA Educational & Cultural Trust (Regd.)
Jain Institute of Technology, Davangere.
ACADEMIC CALENDER

III, V&VII SEMESTER BE 2020-21(SEP 2020-FEB 2021)

Commencement of Classes V&VII Sem: 1/09/2020

Last working day: 16/01/2021(V & VII)

Commencement of Classes III:1/09/2020

Last working day:27/02/2021(III)

MONTH	MO N	TU E	WED	TH U	FRI	SAT	SU N	EVENTS III, V & VII Sem	HOLIDAYS
SEPTEMBER		1	2	3	4	5	6	-	17 TH -MAHALAYA AMAVASE
	7	8	9	10	11	12	13		
	14	15	16	17	18	19	20		
	21	22	23	24	25	26	27		
	28	29	30						
OCTOBER				1	2	3	4	1 ST IA- 21/10/2020,22/10/2020 AND 23/10/2020	2 ND - GANDI JAYANTHI 30 TH - EID MILAD 31 ST - VALMIKI JAYANTHI
	5	6	7	8	9	10	11		
	12	13	14	15	16	17	18		
	19	20							
	26	27	28	29	30	31			
NOVEMBER							1	2 ND IA- 1/12/2020 TO 4/12/2020	1 ST - KANNADA RAJYOTASVA 14 TH - NARAKA CHARTURDASHI 16 TH - BALIPADYAMI
	2	3	4	5	6	7	8		
	9	10	11	12	13	14	15		
	16	17	18	19	20	21	22		
	23	24	25	26	23	24	25		
	30								
DECEMBER								3 RD IA - 11/01/2021 TO 16/01/2021	14 TH - MAKARA SANKRANTI 26 TH - REPUBLIC DAY
	7	8	9	10	11	12	13		
	14	15	16	17	18	19	20		
	21	22	23	24	25	26	27		
	28	29	30	31					
JANUARY					1	2	3	3 RD IA - 11/01/2021 TO 16/01/2021	11 TH - MAHA SHIVRATRI
	4	5	6	7	8	9	10		
	11	12	13	14	15	16	17		
	18	19	20	21	22	23	24		
	25	26	27	28	29	30	31		
FEBRAUARY	1	2	3	4	5	6	7		
	8	9	10	11	12	13	14		
	15	16	17	18	19	20	21		
	22	23	24	25	26	27	28		
Total No. of Working days for III Sem: 145									
Total No. of Working days for V & VII Sem: 111									
VTU Even Semester Exams									
Practical Exams for IIISem				5/4/2021- 16/4/2021		Theory Exams		15/03/2021	
Practical Exams for V& VII Sem				25/1/2021 - 29/1/2021		Theory Exams		18/01/2021	
				Holidays					
				Internal Assessment Tests					

Co-ordinator
Mr. Ravikumar K I

HOD, ECE
Dr. Nagaraja B. G

Principal
Dr. Manjunatha T. S

EVEN SEMESTER



ARKA Educational & Cultural Trust (Regd.)

Jain Institute of Technology, Davangere.

ACADEMIC CALENDER

IV, VI & VIII SEMESTER BE 2020-21 (April 2021 – August 2021) Revised)

Commencement of Classes: 19/04/2021

Last working day: 14/08/2021

MONTH	MON	TUE	WED	THU	FRI	SAT	SUN	EVENTS	HOLIDAYS
APRIL	19	20	21	22	23	24	25	19 th Commencement of classes	
	26	27	28	29	30				
MAY						1	2	1 st Internal Assessment 20 th , 21 st & 22 nd	1 st – Labour's day 14 th – <u>Basava jayanthi</u>
	3	4	5	6	7	8	9		
	10	11	12	13	14	15	16		
	17	18	19	20	21	22	23		
	24	25	26	27	28	29	30		
	31								
JUNE		1	2	3	4	5	6	2 nd Internal Assessment 28 th , 29 th & 30 th	
	7	8	9	10	11	12	13		
	14	15	16	17	18	19	20		
	21	22	23	24	25	26	27		
	28	29	30						
JULY				1	2	3	4	3 rd Internal Assessment 29 th , 30 th & 31 st 24 th – Parents meet	21 st – <u>Bakrid</u>
	5	6	7	8	9	10	11		
	12	13	14	15	16	17	18		
	19	20	21	22	23	24	25		
	26	27	28	29	30	31			
AUGUST							1	Lab IA: 2 nd to 5 th 14 th Last working day	
	2	3	4	5	6	7	8		
	9	10	11	12	13	14			
Total number of working days	17	17	16	17	16	16			

Total No. of Working days : 99

VTU Even Semester Exams

Practical Exams	09-08-2021 To 19-08-2021	Theory Exams	23-08-2021 To 09-09-2021
	Holidays		
	Internal Assessment Tests		Parents Meeting

Co-Ordinator

Dean Academics

Principal

Department Academic Calendar of Events

ODD SEMESTER



ARKA Educational & Cultural Trust (Regd.)

Jain Institute of Technology, Davangere.
Department of Electronics & Communication Engineering
DEPARTMENT ACADEMIC CALENDER

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Last working day: 27/02/2021 (III)

MONTH	MO N	TU E	WED	TH U	FRI	SAT	SU N	EVENTS III, V&VI Sem	HOLIDAYS
SEPTEMBER		1	2	3	4	5	6	5 th Teachers Day Celebration	17 th - MAHALAYA AMAVASE
	7	8	9	10	11	12	13		
	14	15	16	17	18	19	20		
	21	22	23	24	25	26	27		
OCTOBER	28	29	30					1 st IA- 21/10/2020, 22/10/2020 AND 23/10/2020 18 th - A webinar on AI	2 nd - GANDI JAYANTHI 30 th - EID MILAD 31 st - VALMIKI JAYANTHI
				1	2	3	4		
	5	6	7	8	9	10	11		
	12	13	14	15	16	17	18		
NOVEMBER	19	20	21	22	23	24	25		1 st - KANNADA RAJYOTASVA 14 th - NARAKA CHATURDASHI 16 th - BALIPADYAMI
	26	27	28	29	30	31			
	2	3	4	5	6	7	8		
DECEMBER	9	10	11	12	13	14	15	2 nd IA- 1/12/2020 TO 4/12/2020 12 th - Online Workshop on Circuit Simulation Using PSpice	3 rd - KANAKADASA JAYANTHI 25 th - CHRISTMAS
	16	17	18	19	20	21	22		
	23	24	25	26	27	28	29		
	30								
JANUARY								3 rd IA - 11/01/2021 TO 16/01/2021	14 th - MAKARA SANKRANTI 26 th - REPUBLIC DAY
	7	8	9	10	11	12	13		
	14	15	16	17	18	19	20		
	21	22	23	24	25	26	27		
FEBRUARY	28	29	30	31					11 th - MAHA SHIVRATRI
	4	5	6	7	8	9	10		
	11	12	13	14	15	16	17		
	18	19	20	21	22	23	24		
	25	26	27	28	29	30	31		
	1	2	3	4	5	6	7		
	8	9	10	11	12	13	14		
	15	16	17	18	19	20	21		
	22	23	24	25	26	27	28		

Total No. of Working days for III Sem: 145

Total No. of Working days for V & VII Sem: 111

VTU Even Semester Exams

Practical Exams for IIISem	5/4/2021- 16/4/2021	Theory Exams	15/03/2021
Practical Exams for V & VII Sem	25/1/2021 - 29/1/2021	Theory Exams	18/01/2021
	Holidays		
	Internal Assessment Tests		

Co-ordinator
Mr. Ravikumar K I

HOD ECE
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EVEN SEMESTER



ARKA Educational & Cultural Trust (Regd.)

Jain Institute of Technology, Davangere.

Department of Electronics & Communication Engineering

DEPARTMENT ACADEMIC CALENDER

IV, VI & VIII SEMESTER BE 2020-21 (April 2021 – August 2021)(Revised)

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APRIL	19	20	21	22	23	24	25	19 th Commencement of classes	
	26	27	28	29	30				
MAY						1	2	1 st Internal Assessment 20 th , 21 st & 22 nd 10 th Project Exhibition for Diploma students 28 th – One day Workshop on Hand-on session on Machine Learning	1 st – Labor's Day 14 th – <u>Basava Jayanthi</u>
	3	4	5	6	7	8	9		
	10	11	12	13	14	15	16		
	17	18	19	20	21	22	23		
	24	25	26	27	28	29	30		
	31								
JUNE		1	2	3	4	5	6	2 nd Internal Assessment 28 th , 29 th & 30 th 6 th World Environmental day Celebration 19 th – A webinar on Signal Processing	
	7	8	9	10	11	12	13		
	14	15	16	17	18	19	20		
	21	22	23	24	25	26	27		
	28	29	30						
JULY				1	2	3	4	3 rd Internal Assessment 29 th , 30 th & 31 st 23 rd Role of Youths in building <u>swasth Bharath</u> 24 th – Parents meet Lab IA: 2 nd to 5 th 14 th Last working day	21 st – <u>Bakrid</u>
	5	6	7	8	9	10	11		
	12	13	14	15	16	17	18		
	19	20	21	22	23	24	25		
	26	27	28	29	30	31			
AUGUST							1		
	2	3	4	5	6	7	8		
	9	10	11	12	13	14			
Total number of working days	17	17	16	17	16	16			

Total No. of Working days : 99

VTU Even Semester Exams

Practical Exams	09-08-2021 To 19-08-2021	Theory Exams	23-08-2021 To 09-09-2021
	Holidays		Parents Meeting
	Internal Assessment Tests		

Co-Ordinator

Dean Academics

Principal

TechTalk

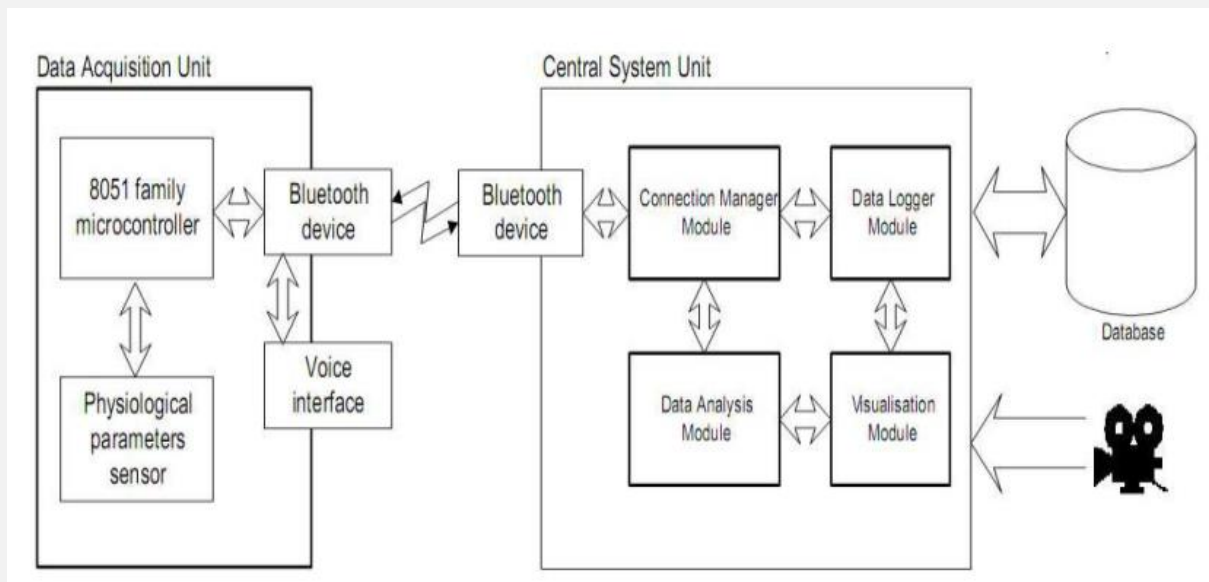
BLUE EYES TECHNOLOGY

Introduction

Is it possible to create a computer, which can interact with us as we interact with each other? For example imagine in a fine morning you walk on to your computer room and switch on your computer, and then it tells you "Hey friend, good morning you seem to be a bad mood today. And then it opens your mail box and shows you some of the mails and tries to cheer you. It seems to be a fiction, but it will be the life lead by "BLUE EYES" in the very near future.

The basic idea behind this technology is to give the computer the human power. We all have some perceptual abilities. That is we can understand each other's feelings. For example we can understand one's emotional state by analyzing his facial expression. If we add these perceptual abilities of human to computers would enable computers to work together with human beings as intimate partners. The "BLUE EYES" technology aims at creating computational machines that have perceptual and sensory ability like those of human beings.

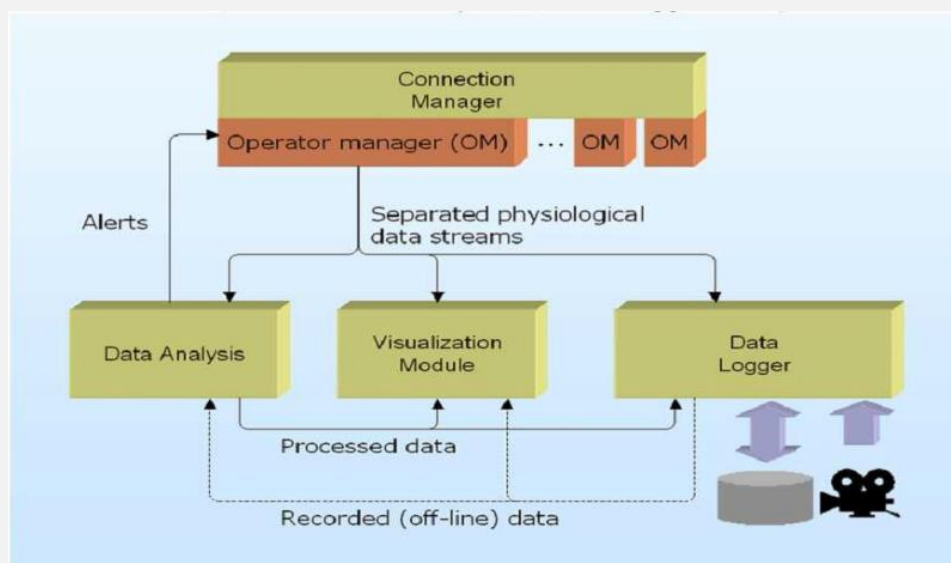
System Overview



"BLUE EYES" system provides technical means for monitoring and recording the operator's basic physiological parameters. The most important parameter is saccadic activity¹, which enables the system to monitor the status of the operator's visual attention along with head acceleration, which accompanies large displacement of the visual axis (saccades larger than 15 degrees). Complex industrial environment can create a danger of exposing the operator to toxic substances, which can affect his cardiac, circulatory and pulmonary systems.

Thus, on the grounds of lethysmographic signal taken from the forehead skin surface, the system computes heart beat rate and blood oxygenation. The BLUE EYES system checks above parameters against abnormal (e.g. a low level of blood oxygenation or a high pulse rate) or undesirable (e.g. a longer period of lowered visual attention) values and triggers user-defined alarms when necessary. Quite often in an emergency situation operators speak to themselves expressing their surprise or stating verbally the problem. Therefore, the operator's voice, physiological parameters and an overall view of the operating room are recorded. This helps to reconstruct the course of operators' work and provides data for long-term analysis. This system consists of a mobile measuring device and a central analytical system. The mobile device is integrated with Bluetooth module providing wireless interface between sensors worn by the operator and the central unit. ID cards assigned to each of the operators and adequate user profiles on the central unit side provide necessary data personalization so different people can use a single mobile device.

Software Overview



Visualization Module provides a user interface for the supervisors. It enables them to watch each of the working operator's physiological condition along with a preview of selected video source and related sound stream. All the incoming alarm messages are instantly signaled to the supervisor. The Visualization module can be set in an offline mode, where all the data is fetched from the database. Watching all the recorded physiological parameters, alarms, video and audio data the supervisor is able to reconstruct the course of the selected operator's duty.

Mr. RaviKumar K.I

Assistant Professor

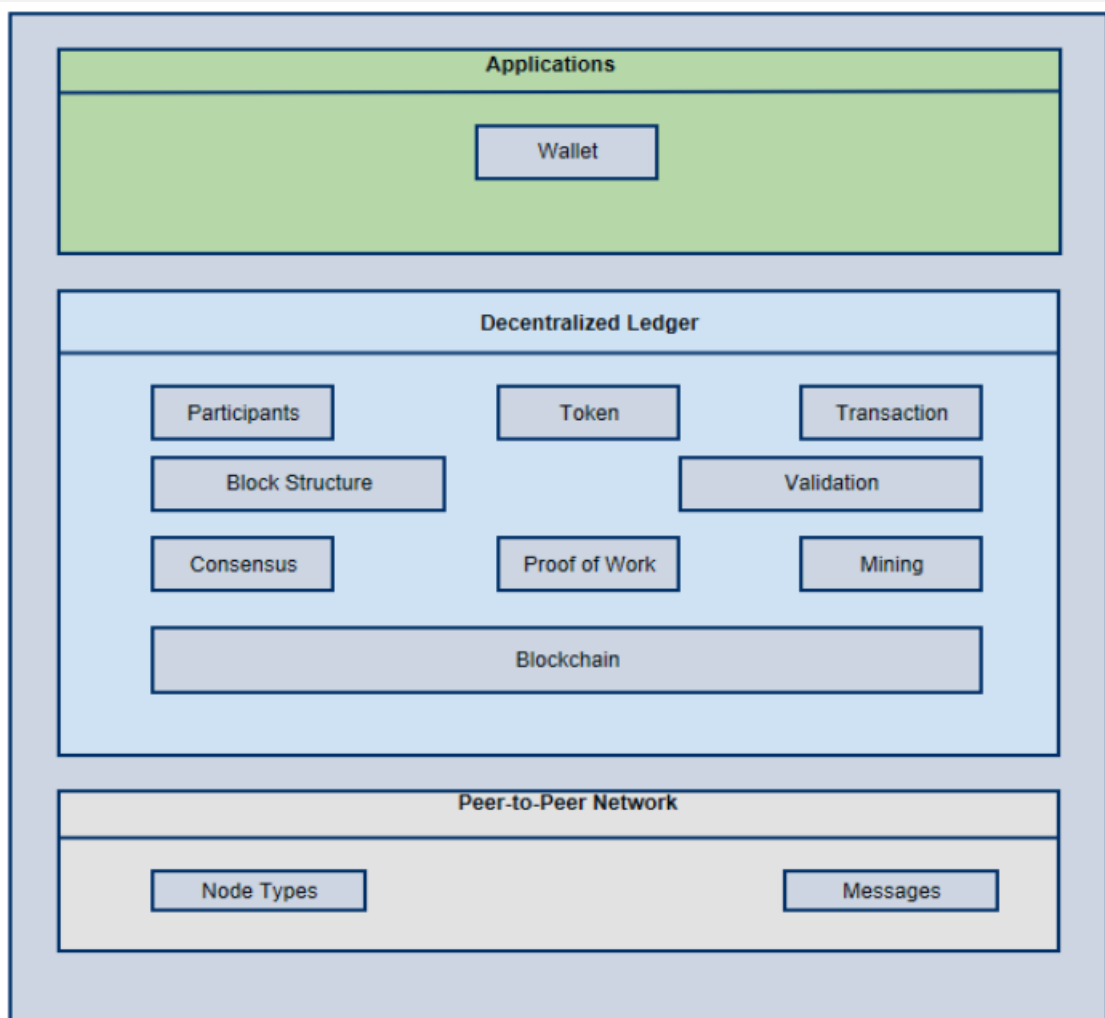
Dept. of ECE, JIT, Davangere

Block chain Technology

What is Block Chain

Block chain technology is normally associated with crypto currencies such as Bit coin. It is a database of record of transactions which is distributed, and which is validated and maintained by a network of computers around the world. Instead of a single central authority such as a bank, the records are supervised by a large community and no individual person has control over it and no one can go back and change or erase a transaction history. As compared to a conventional centralized database, the information cannot be manipulated due to block chain's built in distributed nature of structure and confirmed guarantees by the peers. In another words, when a normal centralized database is located on an individual server, block chain is distributed among the users of a software.

Block Chain Architecture



Types of Blockchain

1. Public Blockchains

Public blockchains are open to the public and any individual can involve in the decision-making process by becoming a node, but users may or may not be benefited for their involvement in the decision-making process. No one in the network has ownership of the ledgers and are publicly open to anyone participated in the network. The users in the blockchain use a distributed consensus mechanism to reach on a decision and maintain a copy of the ledger on their local nodes.

2. Private Blockchains

These types of blockchains are not open to the public and are open to only a group of people or organizations and the ledger is shared to its participated members only.

3. Semi-private Blockchains

In a semi-private blockchain, some part of the blockchain is private and controlled by a group or organizations and the rest is open to the public for anyone to participate.

4. Sidechains

These blockchains are also known as pegged sidechains where coins can be moved from blockchain to another blockchain. There are two types of sidechains naming one-way pegged sidechain and two-way pegged sidechain. One-way pegged sidechain allows movement from one sidechain to another whereas two-way pegged sidechain allows movement on both sides of two sidechain.

5. Permissioned Ledger

In this type of blockchain, the participants are known and already trusted. In permissioned ledger, an agreement protocol is used to maintain a shared version of the truth rather than a consensus mechanism.

6. Distributed Ledger

In a distributed ledger blockchain, the ledger is distributed among all the participants in the blockchain and it can spread across multiple organizations. In distributed ledger, records are stored contiguously instead sorted block and they can be both private or public.

7. Shared Ledger

Shared ledger can be an application or a database that is shared by public or an organization.

8. Fully Private of Proprietary Blockchains

These types of Blockchains are not a part of any mainstream applications and differ the idea of decentralization. These type of blockchains come in handy when it is required to shared data within an organization and provide authenticity of the data. Government organizations use private of proprietary Blockchains to share data between various departments.

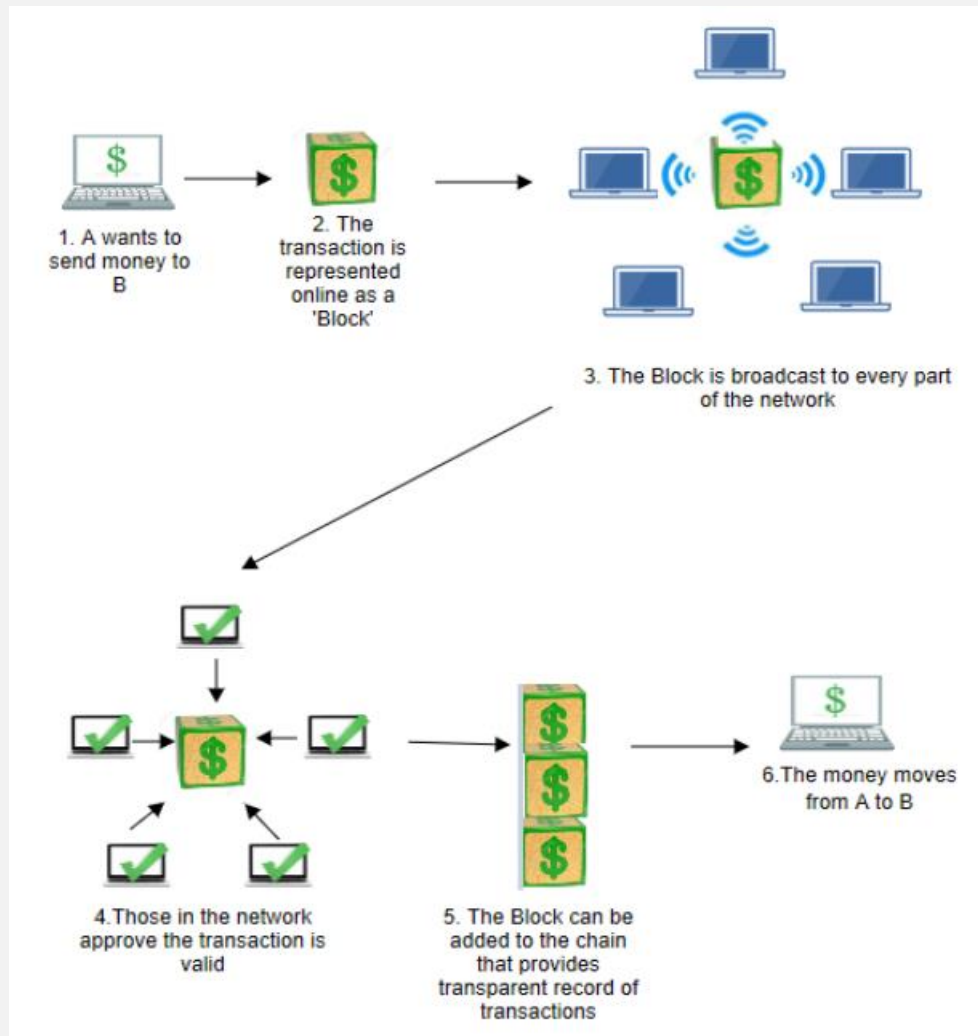
9. Tokenized Blockchains

These are standard blockchains which generate cryptocurrencies through consensus process using mining or initial distribution.

10. Tokenless Blockchains

These blockchains are not real blockchains as they do not have the ability to transfer values, but they can be useful when it is not required to transfer value between nodes and there is only the need to transfer data among already trusted parties.

Working of a Blockchain



Mrs. Kavitha KJ

Assistant Professor

Dept. of ECE, JIT, Davangere

A Webinar on Swasth Bharath

23-07-2021



MoU with Abhyantrix

24-08-2021

An MoU was signed with Abhyantrix softlabs, Davangere on 24th August 2021. Dr. Ganesh D B, Principal, JIT, Davangere and CEO of Abhyantrix signed MoU to extend placement training and internship support to the students of JITD.



Webinar on How to plan for Start-Up and Legal & Ethical steps

26-08-2021

MINISTRY OF INNOVATION CELL
GOVERNMENT OF INDIA

MHRD
Ministry of Human Resource Development

JGI
Jain Group of Institutions

INSTITUTION'S INNOVATION COUNCIL
JAIN INSTITUTE OF TECHNOLOGY

ARKA EDUCATIONAL AND CULTURAL TRUST

JAIN INSTITUTE OF TECHNOLOGY
Davanagere

INSTITUTION INNOVATION COUNCIL
&
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
JOINTLY ORGANISES
A Session for all faculties and students

**How to plan for
START-UP
and legal & Ethical Steps!!**

RESOURCE PERSON:
Mr. Anand Kumar B
Advocate &
Legal Advisor
Harihar

DATE:
26/08/2021 @
3:00 PM

MEETING LINK:
<https://bit.ly/3D9Kzx7>

Kavitha K J
Pushpalatha O
Faculty Coordinators

Dr. Nagaraja B G
HOD, E&CE

Dr. Ganesh D B
Principal & Director

Stay Home and Stay Safe
#323, Near Veereshwara Punyashrama, Bada cross, Davanagere - 577003
Ph: 08192-297002, 9448729053, 9916595050



A Webinar on

Mentoring Session for Students

30-08-2021

The screenshot shows a Google Meet window with a browser address bar displaying the URL: `meet.google.com/mki-axti-mbw?pli=1&authuser=1`. The interface includes a grid of participant tiles. Visible participants include Maruti Handral, Anusha K, Soundarya Kirwadi, sanmati satabhai, 4JD18EC020 MANOHARA K M, SAHANA K MURTHY, Vaibhav Sugandhi, 92 others, and You. A 'Tracking Started' notification indicates the session began 8 minutes and 20 seconds ago. An 'In-call messages' panel on the right contains a message from 'You' at 10:47 AM with a YouTube link: <https://youtu.be/2ROKnZeh7l0>. The bottom toolbar shows icons for mute, video, chat, and other controls. A presentation titled 'Presentation1 (1).pptx' is visible at the bottom.

The screenshot shows a Zoom meeting interface with a grid of participant tiles. Visible participants include PhDO1 JU, Ravikumar K I, Raj Makaram, Chandrasekar Shastry, Manjula Eshwar..., Anushree R, Uma S Gowda, Gadug Sudhamsu, Mohammed Zabaeulla A N, Gautham Krishna, Anusha S, Priyank, Santhosh S, and Julius Wosowei. The bottom toolbar includes controls for Unmute, Start Video, Participants (Alt+U), Chat, Share Screen, Record, Reactions, Apps, and a red 'Leave' button. A 'Recording' status indicator is visible in the top left corner.

Graduation DAY

2020 & 2021 Passout Batch

23-10-2021



Workshop on Embedded System for Beginner's

30-10-2021





The Odd Semester results of 2020-21 of ECE branch is as follows

Sl. No.	SEMESTER	OVERALL RESULT (%)
1	III	54.56
2	V	69.35
3	VII	92.59

Topper's List

3 rd Semester	USN	NAME	MARKS SCORED	PERCENTAGE(&)
First	4JD19EC010	BHOOMIKA G R	702	78
Second	4JD19EC005	ARPITHA K R	695	77.23
	4JD19EC050	VIMARSHA S P	695	77.23
Third	4JD19EC048	TRUPTHI G G	690	76.67

5 th Semester	USN	NAME	MARKS SCORED	PERCENTAGE
First	4JD18EC019	KOMALA TARUNKUMAR YALAVATTI	749	93.62
Second	4JD18EC024	NAGARAJ M S	730	91.25
Third	4JD18EC030	POOJA P	718	89.75

7 th Semester	USN	NAME	MARKS SCORED	PERCENTAGE
First	4JD17EC057	SHIVASHANKAR S K	684	85.5
Second	4JD17EC054	VIKAS G L	683	85.37
Third	4JD17EC044	SHREE RAKSHA R	664	83

The Even Semester results of 2020-21 of ECE branch is as follows

Sl. No.	SEMESTER	OVERALL RESULT(%)
1	IV	100
2	VI	100
3	VIII	98.14

Topper's List

4 th Semester	USN	NAME	MARKS SCORED	PERCENTAGE
First	4JD19EC010	BHOOMIKA G R	753	83.67
Second	4JD19EC005	ARPITHA K R	752	83.56
Third	4JD19EC017	KAVYA JAIN	146	82.89

6 th Semester	USN	NAME	MARKS SCORED	PERCENTAGE
First	4JD18EC019	KOMALA TARUNKUMAR YALAVATTI	698	87.25
Second	4JD18EC024	NAGARAJ M S	689	86.12
Third	4JD18EC030	POOJA P	681	85.12

8 th Semester	USN	NAME	MARKS SCORED	PERCENTAGE
First	4JD17EC057	SHIVASHANKAR S K	648	92.57
Second	4JD17EC044	SHREE RAKSHA R	636	90.85
Third	4JD17EC054	VIKAS G L	630	90