

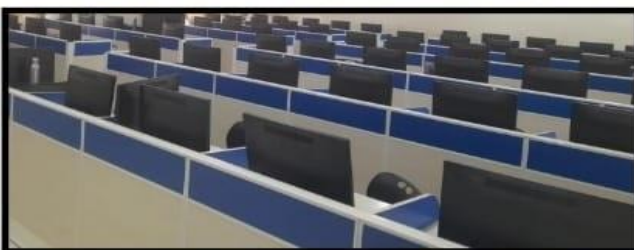


**KALLAM HARANADHAREDDY
INSTITUTE OF TECHNOLOGY**



IT - EPITOME

YEAR : 2022-23 VOL : 2



**DEPARTMENT OF
INFORMATION TECHNOLOGY**



I.T-EPITOME



VOL.2, 2022 - 2023

Volume: 2- Jan to June 2023

DEPARTMENT VISION

To emerge as a hub of excellence in Information Technology by producing technically proficient and ethically strong IT professionals to meet the evolving needs of industry and society.

DEPARTMENT MISSION

1. To deliver quality instruction in Information Technology through competent faculty and state-of-the-art laboratories and preparing graduates for successful careers in I.T enabled services.
2. To empower students with a socially relevant and industry-oriented curriculum, supported by innovative teaching methods and an outcome based evaluation process.
3. To Equip students with the skills and knowledge to excel in professional careers, pursue higher education, and launch successful entrepreneurial ventures.
4. To Instill in students strong ethical values, a sense of responsibility, and a commitment to using their IT skills for the betterment of society and the environment.
5. To collaborate with top institutes and industries to derive research and innovation, making the department as center for R&D.

PROGRAMME EDUCATIONAL OBJECTIVES

1. The graduates are able to exhibit strong foundation in core Information Technology principles enabling them to pursue successful careers in the IT industry and contribute effectively to the advancement of technology and society.
2. The graduates are able to apply analytical and computational techniques to design, implement, evaluate and maintain IT based solutions that are technically proficient, economically feasible and socially acceptable.

3. The graduates are able to Communicate effectively, demonstrate professionalism, collaboration, ethical attitude, team spirit and pursue lifelong learning to achieve career, organizational and societal goals.

PROGRAMME SPECIFIC OUTCOMES

PSO 1: Apply core principles and concepts of Information Technology to analyze and design solutions for complex engineering and societal problems.

POS 2: Integrate knowledge of emerging technologies, programming languages, web programming, and modern tools to design and develop IT-based solutions.

PO 3: Develop skills through experiential learning to foster innovation and entrepreneurship.

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1. TECH INSIGHTS

Wireless Sensor Networks: A Revolutionary Technology for Diverse Applications

Introduction

Wireless Sensor Networks (WSNs) represent a groundbreaking innovation in modern communication and automation systems. A WSN is a collection of spatially distributed, autonomous sensor nodes that are wirelessly interconnected to monitor and report on physical or environmental phenomena. These networks utilize low power, lightweight devices equipped with sensing, processing and communication capabilities. This article explores the technical foundation of WSNs and their transformative role in various applications.

Technical overview of WSNs

WSNs operate on multi-hop communication paradigm, where data collected by sensor nodes is relayed through neighboring nodes to a central base station or sink. These networks leverage energy efficient wireless protocols such as Zigbee, Bluetooth Low Energy (BLE), and LoRaWAN, to ensure reliable data transfer with minimal power consumption.

Each sensor node typically comprises the following components:

1. **Sensor Unit:** Detects physical parameters like temperature, humidity, motion, or light.
2. **Microcontroller Unit (MCU):** Processes raw data and controls communication.
3. **Wireless Transceiver:** Facilitates communication between nodes.
4. **Power Source:** Often battery-operated, with energy-harvesting techniques becoming popular to extend node lifespan.

Key design challenges in WSNs include energy efficiency, fault tolerance, scalability and secure data transmission. To address these, advanced algorithms and routing protocols like LEACH (Low-energy Adaptive Clustering Hierarchy) and RPL (Routing Protocol for Low-Power and Lossy Networks) are widely employed.

Significance of WSNs in Application Development

a. Environmental Monitoring

WSNs are pivotal in observing and managing environmental conditions. For instance, in precision agriculture, sensors monitor soil moisture, temperature, and nutrient levels, enabling optimal irrigation and fertilizer use. Similarly, WSNs are employed in disaster management to detect early signs of floods, landslides, or forest fires, allowing timely interventions and mitigation of damage.

b. Healthcare Applications

In healthcare, WSNs enable continuous patient monitoring through wearable and implantable devices. These sensors collect real-time data on vital parameters, such as heart rate, oxygen saturation, and glucose levels, and transmit it to medical professionals for diagnosis. This technology is particularly impactful in remote areas, improving accessibility to healthcare.

c. Military and Defense

WSNs are extensively used in defense applications, such as surveillance, target tracking, and intrusion detection. Sensor

nodes can be deployed in hostile terrains to monitor enemy activity or detect chemical and biological threats, ensuring national security.

d. Industrial Automation

In industrial settings, WSNs enable real-time monitoring of equipment and processes. They enhance predictive maintenance by identifying anomalies in machinery behavior, reducing downtime, and minimizing operational costs. WSNs also play a crucial role in supply chain management, tracking assets and monitoring stage conditions.

e. Smart Cities and Infrastructures

WSNs form backbone of smart city applications. They facilitate efficient traffic management, smart parking systems, and air quality monitoring. Additionally in structural health monitoring, WSNs are used to detect stress, cracks, or vibrations in bridges, building and dams, ensuring timely maintenance and safety.

Future Prospects

The integration of WSNs with emerging technologies like the Internet of Things

(IoT), artificial intelligence (AI), and edge computing is poised to expand their capabilities further. For example, AI-driven WSNs can analyze vast amounts of data locally, enabling real-time decision-making without the need for centralized processing. Additionally, advancements in energy harvesting and low-power communication technologies will enhance the longevity and scalability of WSN deployments.

Conclusion

Wireless Sensor Network have revolutionized the way data is collected, processed and utilized across various domains. Their versatility, low- cost deployment, and real-time monitoring capabilities make them indispensable in applications ranging from environmental conservation to healthcare and industrial automation. As the technology continues to evolve, WSNs are set to play an even more significant role in shaping a smarter, more connected world.

By: T.Nandini (198X1A1246)

2. STUDENT ACHIEVEMENTS

2.1.1 ACADEMIC EXCELLENCE

- R19 batch I.T students secured **98.21%** pass percentage in IV B.Tech. II Sem Results.
- **Chintha Bhavana (198X1A1261)**, secured a CGPA of 8.15 and emerged as the branch topper.
- **Telaganeti Nandini (198X1A1246)**, secured a CGPA of 8.06 and earned second rank in the branch.

2.1.2 PLACEMENTS

- **A.Akhila Reddy (198X1A1202)**, got placed in CONCENTRIX in on-campus drive on 03.02.2023 with package of 2.40 LPA.

- **Bhandhanadham Antony Lokesh (198X1A1205)**, got placed in CONCENTRIX in on-campus drive on 03.02.2023 with package of 2.40 LPA.
- **BudatiMeghana Sai Rajeswari (198X1A1208)**, got placed as Associate Software Engineer in SP Software Hyderabad with package of 3LPA.
- **Chandarlapati Venkata Naga Suvarna (198X1A1209)**, got placed in CONCENTRIX in on-campus drive on 03.02.2023 with package of 2.40 LPA.
- **Challa Gopi (198X1A1210)**, got placed in CONCENTRIX on 03.02.2023 with package of 2.40 LPA.
- **Challa Maheswari (198X1A1211)**, got placed in CONCENTRIX in on-campus drive on 03.02.2023 with package of 2.40 LPA.
- **Chekuri Sai Satish (198X1A1212)**, got placed in CONCENTRIX in on-campus drive on 03.02.2023 with package of 2.40 LPA.
- **Chekuri Sai Satish (198X1A1212)**, got placed as Software Engineer in TAP Academy, CONCENTRIX on 23.01.2023 with package of 3 LPA.
- **Devineni Bhargavi (198X1A1217)**, got placed as Software Engineer in TAP Academy, CONCENTRIX on 23.01.2023 with package of 3 LPA.
- **Divvela Uma Naga Venkata Bharath Akash (198X1A1218)**, got placed in CONCENTRIX in on-campus drive on 03.02.2023 with package of 2.40 LPA.
- **Imadabattini Lakshmi Prasanna (198X1A1242)**, got placed in CONCENTRIX in on-campus drive on 03.02.2023 with package of 2.40 LPA.
- **Imadabattini Lakshmi Prasanna (198X1A1242)**, got placed in CONCENTRIX in on-campus drive on 03.02.2023 with package of 2.40 LPA.
- **Karnati Hemalatha (198X1A1242)**, got placed in CONCENTRIX in on-campus drive on 03.02.2023 with package of 2.40 LPA.
- **Palaparthi Gayathri Reddy (198X1A1236)**, got placed in CONCENTRIX in on-campus drive on 03.02.2023 with package of 2.40 LPA.
- **ShaikRiyaz Ahmed (198X1A1244)**, got placed as Customer Care Execute, in ALLSEC TECHNOLOGIES, Chennai, on 03.05.2023 with package of 1.8LPA.
- **Telaganeti Nandini(198X1A1246)**, got placed in CONCENTRIX in on-campus drive on 03.02.2023 with package of 2.40 LPA.
- **Kanigelupula Sree Swetha (198X1A1256)**, got placed as Business Development Trainee, in L CUBE INNOVATIVE SOLUTIONS, CHENNAI, in off campus drive on 16.03.2023 with package of 3 LPA.
- **Vajrala Sri Bindu (198X1A1257)**, got placed in CONCENTRIX in on-campus drive on 03.02.2023 with package of 2.40 LPA.
- **Chintha Bhavana (198X1A1261)**, got placed in CONCENTRIX in on-campus drive on 03.02.2023 with package of 2.40 LPA.
- **Korraprolu Vijaya Bhumika (198X1A1231)**, got placed as US Healthcare, Recruiter in DENKEN SOLUTIONS INDIA Pvt.Ltd., in off-campus drive on 02.06.2023 with package of 2.1 LPA.

3. UPSKILLING & CERTIFICATIONS

- 46 Students of R20 III B.TECH I SEM I.T successfully completed **Software Testing** Course offered through **SWAYAM/NPTEL** platform.

4. RESEARCH PUBLICATIONS

S.NO	AUTHOR NAMES	TITLE OF RESEARCH OF WORKS	NAME OF JOURNAL	VOL & ISSUE	YEAR	ISSNO
1	1. Dr.CH.ANUSHA 2. Ch. BHAVANA 3. J.CHANDRA 4. D.UNVB AKASH 5. B.VENKATA NARENDRA	Fake News Detection Using ML Techniques With Artificial Intelligence	International Journal of Innovative Research	Vol.11 ISSUE 3	MARCH 2023	e-ISSN:2320-9801, P-ISSN:2320-9798
2	1. Dr..MD.SIRAJUDDIN 2. T.NANDINI 3. CH.VENKATA DEEPTHI 4. K.HEMALATHA 5. CH.KARTHIK	Identification and Mitigation of the Selfish Node and Its Behavior In WSN	International Journal of Scientific Research In Science, Engineering And Technology	Vol. 10 ISSUE 2	MARCH -APRIL 2023	Print ISSN:2395-1990 ONLINE ISSN:2394-4099
3	1.B.V.V.H.CHANDRA SEKHAR 2.P.VAMSI KRISHNA 3.B.LIKHITHA 4.D.BHARGAVI 5. CH.SUMANTH CHOWDARY	Data Integrity Protection of Secret Data Sharing through Algorithms	International Journal of Innovative Research	Vol. 11 ISSUE 3	MARCH 2023	e-ISSN:2320-9801 P-ISSN:2320-9798
4	1.B.V.V.H.CHANDRA SEKHAR 2.P.GAYATHRI REDDY 3.U.MOHAN RAMA SUBRAMANYAM 4.A.AKHILA REDDY 5.M.BHUVANA	A Novel Image Encryption Algorithm Using DNA Cryptography	International Journal of Scientific Research In Science And Technology	Vol.10 ISSUE:2	MARCH -APRIL- 2023	PRINT ISSN:2395-6011 ONLINE – ISSN:2395-602X
5	1.Dr.MD.SIRAJUDDIN 2.B.BHAVANI 3.Y.AKSHAYA 4.P.REETHIKA 5.T.SRIRAM REDDY	A Novel Approach For Detection of Malicious Websites Using Machine Learning Techniques	International Journal of Scientific Research In Science ,Engineering And Technology	Vol.10 ISSUE 2	MARCH -APRIL- 2023	PRINT ISSN:2394-1990 ONLINE ISSN:2394-4099
6	1.Dr.CH.ANUSHA 2.K.SREE SWETHA 3.D.ANUSHA 4.CH.SATISH 5.K.VENKAT	Sentimental Analysis On Twitter	International Journal of Innovative Research In Computer And Communication	Vol.11 ISSUE:4	MARCH -APRIL 2023	e-ISSN:2320-9801. P-ISSN:2320-9798

			Engineering			
7	1.Dr. CH.ANUSHA 2.B.MARUTHI LALITHA 3.B.SRAVYA 4.V.SRI BINDHU 5.T.OMKANTH	Credit Card Fraud Detection Using Random Forest And Cart Algorithm	International Journal of Scientific Research In Science And Technology	Vol.10 ISSUE:2	MARCH -APRIL- 2023	PRINT ISSN:2395-6011 ONLINE ISSN:2395-602X
8	1.A.CHANDRA SEKHAR REDDY 3.CH.MAHESWARI 4.V.KEERTHI REDDY 5.CH.SHAMITHA	Heart Disease Prediction Using Machine Learning	International Journal of Innovative Research	Vol.11 ISSUE:3	MARCH 2023	e-ISSN:2320-9801 P-ISSN:2320-9798
9	1.K.HIMA BINDU 2.SK.AMEEN BASHA 3.Y.B.MARIYA JYOTHI 4.S.PRIYATHAM 5.M.SATYANARAYANA REDDY	Performance And Analysis Of Predicting Chronic Disease Using Machine Learning Techniques	International Journal of Scientific In Science ,Engineering And Technology	Vol.10 ISSUE:2	MARCH -APRIL 2023	PRINT ISSN:2395-1990 ONLINE ISSN:2394-4099
10	1.K.BHUSHANM 2.T.VENKATA GAYATHRI 3.S.RESHMA 4.V.NAGI REDDY 5.J.NAVEEN REDDY	Novel Inception V3 Deep Learning Model Designation For Alzheimer's Disease Detection	International Journal of Scientific Research In Science , Engineering And Technology	Vol.10 ISSUE:2	MARCH -APRIL- 2023	PRINT ISSN:2395-1990 ONLINE ISSN:2394-4099
11	1.K.BHUSHANM 2.CH.ANKITHA 3.CH.SUVARNA 4.SK.AFRID 5.G.RUFUS	Predicting Price of Bitcoins Using Machine Learning And Flask	International Journal of Innovative Research	Vol.11 ISSUE;3	MARCH 2023	e-issn:2320-9801 p-ISSN:2320-9798
12	1.V.SAI PRAVEEN 2.P.SRAVANI 3.CH.LAHARI 4.B.ESWAR DEV 5.DR.MD.SIRAJUDDIN	Secure Health Care System Using Blockchain Technology	International Journal of Scientific Research In Science And Technology	Vol.10 ISSUE:2	MARCH -APRIL- 2023	PRINT ISSN:2395-6011 ONLINE ISSN:2395-602X
13	1.I.LAKSHMI PRASANNA 2. B.MEGHANA SAI RAJESWARI	A Novel Approach On Detecting Phishing Attacks On Urls Using	International Journal of Scientific	Vol.10 ISSUE:2	MARCH -APRIL- 2023	PRINT ISSN:2395-6011

	3. CH.GOPI 4. A.VIDYADHARI	MI Techniques	Research In Scientific And Technology			ONLINE ISSN:2395-602X
14	1.K.HIMA BINDHU 2.SK.RIYAZ AHMED 3.B.ANTONY LOKESH 4.K.VIJAYA BHUMIKA 5.K.APARNA	Bank Security Alert System Using Face Recognition	International Journal of Innovative Research In Computer and Communication Engineering	Vol.11 ISSUE:3	MARCH 2023	e-ISSN:2320-9801 P-ISSN:2320-9798

- **Dr.Md.Sirajuddin**, contributed a book chapter entitled “**Convergence of Blockchain and Computational Intelligence for Industry 4.0: A Survey**”, in “**Computational Intelligence of Blockchain Systems**”, published by Nova, Science Publishers, New York, ISBN: 978-1-68507-891-1, <https://doi.org/10.52305/NNYE5750>.(Scopus Indexed).

5. FACULTY ACHIEVEMENTS

- **The following faculty members participated in FDPs/STTPs.**

Name of the Faculty	Title of Faculty Development Programmes/STTPs Attended	Duration
Mr.K.Bhushanam	Research Paper Writing, Proposal Drafting and Patenting Strategies	22.05.2023 to 26.05.2023
Dr.MD.Sirajuddin	5-Days FDP on "New Age Technologies"	28-03-2023 to 01-04-2023.
Mr.K.Bhushanm	5-Days FDP on "New Age Technologies"	28-03-2023 to 01-04-2023.
Mr.Bvvh Chandrasekhar	5-Days FDP on "New Age Technologies"	28-03-2023 to 01-04-2023.
Dr.Ch.Anusha	5-Days FDP on "New Age Technologies"	28-03-2023 to 01-04-2023.
Dr.MD.Sirajuddin	Societal Applications of Machine Learning	26.12.2022 to 30.12.2022

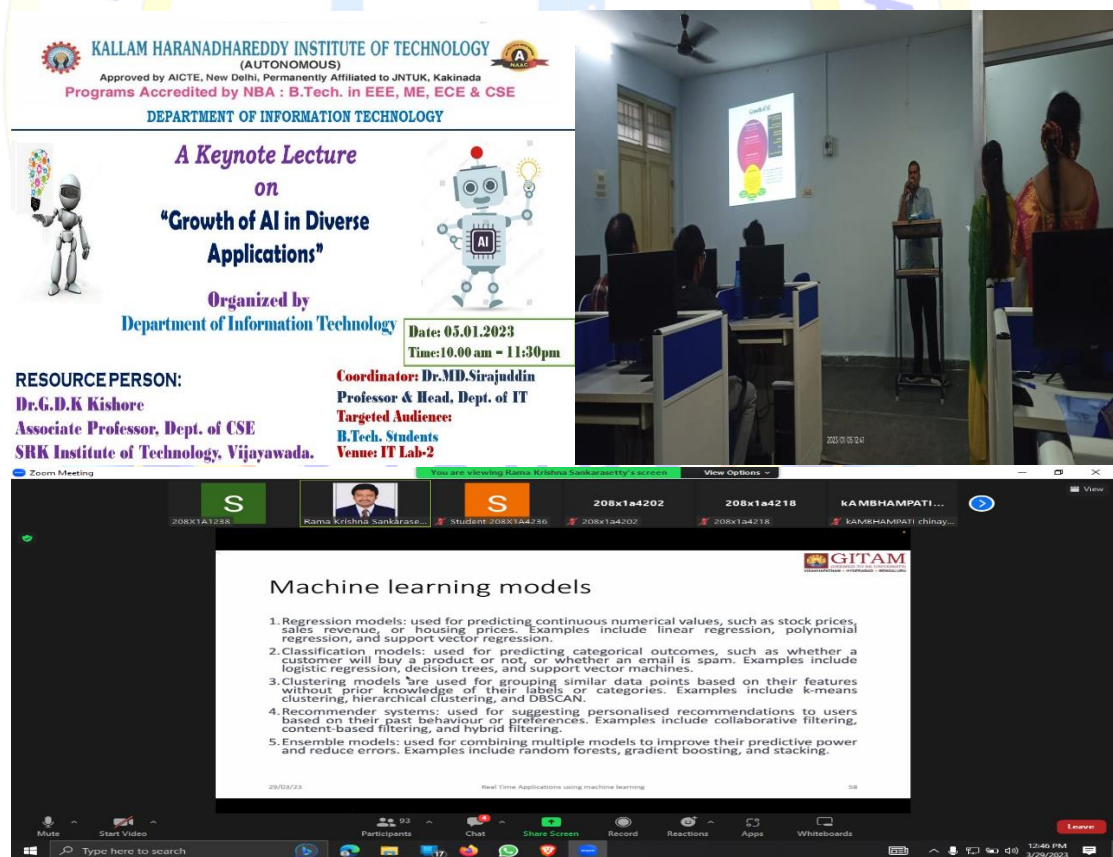
- **Mr.K.Bhushnm** presented a research work entitled “ **A Novel Ensemble Approach for Detection Autism in Children**”, at **ICRASTEM-2K23** on 11th April 2023 organized by VVIT, Guntur.
- **Dr.MD.Sirajuddin**, Professor & Head, Dept. of I.T, Served as an editor for the International Book Chapter Series entitled “**Computational**

Intelligence of Blockchain Systems”, published by Nova Science and Technology.

- **Dr.Md.Sirajuddin**, served as a reviewer for **International Conference ICCIDE-2022** (Scopus Indexed).

6. INVITED TALKS

- **Organized** Invited Talk On **“Machine Learning”** delivered by Dr.K.V Ramana, Rector & Professor, Department of CSE, UCEK,JNTUK, on 02.01.2023
- Organized a Key note address on **“Growth of AI in Diverse Applications”** on 05.01.2023.
- Conducted awareness session on **‘Innovate to Win: Idea Generation & Execution Strategies for Smart India Hackathon Success’**, by Mr.N.Venkata Reddy,CEO, Techteam Solutions.
- Organized a webinar on **“Developing Real Time Applications Using Machine Learning”** on 29.03.2023.

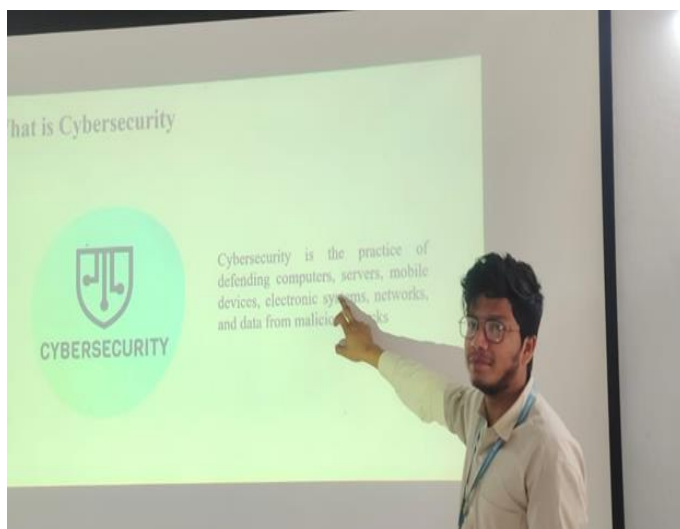


- III & IV Year I.T Students participated in **“Pseudo Code Challenge”** technical event on 02.02.2023.



7. ITFT STUDENT CHAPTER ACTIVITIES

- Organized **Group Discussion** competition on 09.01.2025 and 10.01.2025, with the objective of boosting student's confidence for attending interviews.
- Conducted a **Coding Session** on 10.02.2023 & 11.02.2023 to enhance students' problem-solving skills and prepare them for technical interviews.
- Organized Intra-department **Project-Expo**, enabling R19 batch I.T students to demonstrate their project work and motivate juniors through interactive sessions on 24.03.2025 & 25.03.2025.



8. HIGHER EDUCATION

- The following graduates have received admission offers from reputed international universities.

S.NO	ROLL NO	STUDENT NAME	PROGRAMME	UNIVERSITY
1.	198X1A1205	B. Antony Lokesh	M.S (Information Technology)	Clark University
2.	198X1A1206	B.Sravya	M.S (Information Technology)	Clark University
3.	198X1A1233	Likhitha Bandlamudi	Master in Computer Science (Data Science)	Universiteit Leiden
4.	198X1A1252	V.Keerthi Reddy	M.S (Information System)	Saint Louis University
5.	198X1A1261	Ch. Bhavana	M.S Computer Science	Bradley University
6.	198X1A1217	Bhargavi Devineni	MBA	University Of West Of Scotland

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IT-EPITOME EDITORIAL TEAM

- **Dr.MD.Sirajuddin Professor & Head,
Department of I.T, KHIT**
 - **Mr.BVVH Chandra sekhar,
Asst. Professor,
Department of I.T,KHIT**
1. **T.Nandini (198X1A1246)**
 2. **Sk.AmeenBasha (198X1A1243)**
 3. **CH.Ankitha (198X1A1259)**
 4. **Sk.Sohail (208X1A1238)**
 5. **Sk.Asmatulla (208X1A1236)**

