

Department of Computer Science Engineering
(Data Science)

DATASPECTRUM

Bi-Monthly News Letter
(September-October)

2025-26



VISION & MISSION OF THE INSTITUTE

VISION

To be a premier institution ensuring globally competent and ethically strong professionals.

MISSION

1. To provide higher education by refining the traditional methods of teaching to make globally competent professionals.
2. To impart quality education by providing the state-of-the-art infrastructure and innovative research facilities.
3. To practice and promote high standards of professional ethics, transparency, and accountability

VISION & MISSION OF THE DEPARTMENT

VISION

To emerge as a center of excellence in Data Science for high quality education and research by nurturing professionals who can transform data into actionable knowledge for innovation and societal advancement.

MISSION

1. To deliver high-quality education in data analytics, machine learning, and data-driven technologies through effective, student-centric and hands-on teaching–learning methodologies.
2. To inculcate innovation, research, and experiential learning among students by training them on advanced data science tools and emerging technologies.
3. To develop competent, ethical, and industry-ready data science professionals by forging strong industry collaboration, encouraging students to take-up internships in the industry, and give real-time project exposure.

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EDITORIAL BOARD

<u>Name</u>	<u>Designation</u>	<u>Role</u>	<u>Department</u>
Mrs. V. Indrani	Assoc. Professor	Chief Editor	CSD
Mrs. S. Sandya Rani	Asst. Professor	Editor	CSD
Mr. V. Hemanth	Student	Coordinator	II CSD
Ms. P. Akshitha	Student	Coordinator	II CSD
Ms. V. Khushi	Student	Coordinator	II CSD
Ms. P. Rajeshwari	Student	Coordinator	II CSD
Mr. S. Mrudul Kumar	Student	Coordinator	II CSD

ABOUT THE DEPARTMENT

The Department of Data Science was established in the year 2021 with an initial intake of 60 students, which was later increased to 120 students in 2023 due to the growing demand in the field. Since its inception, the department has been progressing in strength, infrastructure, and academic excellence.

The Department offers a four-year course of Bachelor's Degree (B.Tech) in Data Science with the aim of equipping students with skills in data analytics, machine learning, artificial intelligence, and big data technologies. The Department strives for continuous improvement in teaching and learning methodologies.

The Department is known for its highly qualified faculty with expertise across domains like Artificial Intelligence, Machine Learning, Data Mining, Statistics, and Cloud Computing. Students are trained to handle real-world data challenges, ensuring they become industry-ready professionals.

The department encourages students to actively participate in technical symposiums, workshops, hackathons, and research forums.

With state-of-the-art infrastructure, the Department has dedicated Data Science laboratories equipped with high-end computing systems and the latest software tools recommended by AICTE and industry standards. Students extensively use Python, R, TensorFlow, Hadoop, and other open-source technologies.

The Department also emphasizes industry collaboration by partnering with leading IT and Data Analytics firms to provide internships, expert lectures, and skill-development workshops. It maintains professional associations with reputed societies such as IEEE, ACM, and ISTE to encourage student and faculty engagement in global technical communities.

The teaching faculty is deeply committed to academic and research excellence, constantly updating themselves with emerging technologies to impart cutting-edge knowledge. With a vision to bridge the gap between academia and industry, the Department of Data Science is grooming the next generation of professionals to excel in the rapidly evolving world of data.

SALIENT FEATURES:

Intake:

The B.Tech Computer Science and Engineering (Data Science) program has an annual sanctioned intake of 120 seats, with 70% filled through TG EAPCET and 30% via management quota.

Accreditations:

The B.Tech CSE (Data Science) program is backed by an institutional **NAAC A+ Grade** accreditation and **UGC Autonomous Status**. While it is approved by **AICTE** and permanently affiliated with **JNTUH**

Infrastructure:

The CSE (Data Science) infrastructure features specialized laboratories equipped with high-end computing systems configured for a Linux environment. These systems are pre-loaded with essential data science tools including Python, R, TensorFlow, and Hadoop. Students have access to the parent CSE department's network of 9 computer centers housing over 400 networked terminals. Additionally, the college provides a dedicated Elite Research and Development Center for building advanced machine learning prototypes. The entire setup is supported by high-speed LAN connectivity and smart classrooms.

Faculty:

The CSE (Data Science) faculty, comprising Professors, Associate Professors, and Assistant Professors, specializes in AI, Machine Learning, Deep Learning, and Big Data Analytics. Led by an experienced Associate Professor, the team holds advanced M.Tech and Ph.D. degrees, with expertise in publishing research in IEEE and Scopus-indexed journals. Faculty members actively participate in FDPs and bridge industry gaps by training students in data modeling, complex projects, and hackathon prototypes. They utilize an Outcome-Based Education (OBE) model to blend theoretical knowledge with practical skills. Additionally, many staff members hold certifications from IITs and NPTEL. They are heavily involved in guiding students through internships and industry-focused placements.

Faculty Achievements

Conferences & Faculty development programs

- Mrs. Srivalli Revathi presented her research paper, titled "Enhancing Cloud Information Security using Honey Badger Algorithm," at the IEEE 2025 3rd International Conference on Sustainable Computing and Data Communication Systems (ICSCDS) on September 24, 2025, published under ISBN 979-8-3315-1250-7.
- Mrs. Lakshmi Banavath presented her research paper, titled "Enhancing Cloud Information Security using Honey Badger Algorithm," at the IEEE 2025 3rd International Conference on Sustainable Computing and Data Communication Systems (ICSCDS) on September 24, 2025, published under ISBN 979-8-3315-1250-7.
- Mrs. Ch. Srivalli Revathi participated in the faculty development program "ML From Data to Decisions" hosted by IIT Roorkee between September 17th and 21st, 2025.
- Mr. Penta Srinivas completed a faculty development program on "Quantum Computing and Quantum Machine Learning for Sustainable Development" conducted by KCG College of Technology between September 8 and September 13, 2025. Additionally, he completed a program on "Next-Gen Medical Devices: A Fusion of Artificial Intelligence and 3D Printing" at the Modern Institute of Pharmaceutical Sciences, Indore, from September 1 to September 6, 2025.
- Mrs. T. Spoorthi Reddy participated in the faculty development program "Federated Learning for User Privacy and Data Confidentiality" hosted by the E&ICT Academy, IIT Roorkee, between September 1 and September 5, 2025.
- Mrs. Ch. Srivalli Revathi participated in the faculty development program "Optimizing Next Generation Computing for Smart System Development" hosted by NIT Warangal between October 13 and October 18, 2025.
- Mrs. T. Spoorthi Reddy participated in the AICTE Training And Learning (ATAL) Academy faculty development program "Optimizing Next-Gen Computing for Smart System Development" between October 13 and October 18, 2025.
- Mrs. M. Pooja participated in the AICTE Training And Learning (ATAL) Academy faculty development program "Optimizing Next-Gen Computing for Smart System Development" between October 13 and October 18, 2025.

NPTEL Certifications

S.No	Name of the Faculty	Name of the SWAYAM / NPTEL course	Organized	Date(s)	Duration
1	Mrs.T.Spoorthi Reddy	Cloud Computing	IIT Kanpur	Jan-Oct 2025	12weeks
2	Mrs.RAJANI BANDARU	Introduction to machine learning	IIT Madras	july-oct 2025	12weeks
3.	Mrs.Ch.Srivalli Revathi	Mentor for NPTEL	IIT KHARAGPUR	July-Oct 2025	12weeks
4	Mr. Penta srinivas	Introduction to machine learning	IIT Kanpur	JUL-SEP 2025	8 WEEKS
5	Mr. Penta srinivas	Learning Analytics tools	IIT Bombay	jul-oct 2025	12 weeks
6	Mr. Penta srinivas	Introduction to Large Language Models	IIT Delhi	jul-oct 2025	12weeks
7	Mrs. Ch.Srivalli Revathi	Introcuction to IoT	IIT Kharagpur	jul-oct 2025	12 Weeks

STUDENT ACHIEVEMENTS

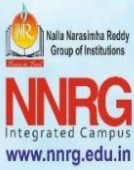
NPTEL certifications

S.No	Roll Number	Name of the Student	Year	Name Of The NPTEL Course	Date
1	247Z1A6702	Gangadhari Harshitha	IV	Introduction to Operating System	Jul-Sep-2025
2	247Z1A67A8	Shaik Ayesha Banu	II	Introduction to Programming in C	Jul-Sep-2025

Internships

S.No	Name of the Student	Roll Number	Duration	Area	Organized By
1	Rahul Asthwik sunki	227Z1A6755	july-sep-2024 (10weeks)	Generative AI Virtual Inetrnship	Eduskills

Guest Lecture



NALLA NARASIMHA REDDY EDUCATION SOCIETY'S
GROUP OF INSTITUTIONS-INTEGRATED CAMPUS
(UGC AUTONOMOUS INSTITUTION)




Resource Person



Mr. AMIT KUMAR
 Security Corporate Trainer,
 Zscaler, New Delhi

Industry Institute Interaction Cell (IIIC)

Organizes

A Three Day TechCamp

on

“ZSCALER - ZERO TRUST CLOUD SECURITY”

by

ZSCALER (through EDUSKILLS Foundation)



Nation Building Through Skills



Date: 13th to 15th October, 2025

IV Year: CSE, AIML, DS, ECE

1. Overview Summary

This report consolidates insights from three core Zscaler training modules and lab guides —Z scaler Day-1Training Report, Z scaler EDU – 200 Lab Overview, and Zscaler EDU-200 Lab Summary (Labs6–14). Together, these documents represent a structured learning pathway for administrators mastering the Zscaler Zero Trust Exchange(ZTE) eco system.The training progresses from foundation al cyber security principles to hands-on deployment, configuration ,and monitoring of ZIA (Internet Access), ZPA (Private Access), and ZDX (Digital Experience).

2. Key Learnings from Each Phase

Phase1: Zscaler Day-1

Training The Day-1 training established he conceptual loundation of Zscaler’s Zero Trust model.It emphasized securing users, work loads, and IoT/OT through the Z scaler Zero Trust Exchange.Key take aways included understanding the Cyber KillChain ,attack stages, and the elimination of traditional perimeter security models through Zero Trust. Administrators learned about ZIA, ZPA,and ZDX components, identity management (Z Identity), and authorization principles using IDPs like Okta. The session concluded With hands-on exposure to Z scaler Client Connector(ZCC) and tunneling mechanisms for secure traffic

Phase2:Zscaler EDU-200 Lab Overview(Labs1–5)

The initial EDU-200 labs focused on the Safe march Organization scenario, a practical simulation of Zscaler deployment. Administrators configured user groups, installed the Zscaler Client Connector, and verified connectivity with ZIA, ZPA, and ZDX. The labs covered SSL inspection, URL-based content filtering ,and Cloud App Control to manage SaaS application access. This phase built operational familiarity with policy creation, logging, and role-based access control within the Zscaler environment.

Phase3: Zscaler EDU-200Labs (6–14)

The advanced section expanded into ZPA deployment, Cyber Risk quantification, DLP (Data Loss Prevention), and ZDX analytics. Administrators learned To deploy App Connectors, define Application Segments, and create Access Policies that grant least-privilege access. Through Application Discovery, Zscaler automatically identified internal resources, reducing manual configuration. In the Cyber Risk Posture exercises, participants measured threat exposure on protected versus unprotected devices.The labs concluded with practical use of the Risk360 and Deception Portals, followed by ZDX Performance Dashboard analysis to track metrics like ZDX Score and user experience across regions

3. Comparative Insights

Across the three modules, a clear progression emerges—from conceptual understanding (Day1) to practical application (EDU-200). Zscaler’s ecosystem demonstrates a shift from network-centric to application-centric security. The use of App Connectors, DLP policies, and risk quantification highlights automation and visibility as core strengths. The Deception Portal and ZDX Dashboard reinforce proactive defense and continuous user experience monitoring. Together, these tools embody Zscaler’s philosophy of Zero Trust: verifying every connection, user, and device continuously.

4. Key Take aways

- Zero Trust Exchange (ZTE) eliminates implicit trust and ensures secure application access.
- Cyber Risk Quantification provides measurable insights into an organization’s security posture.
- Data Loss Prevention (DLP) safeguards sensitive information via predefined and custom dictionaries
- Risk 360 and Deception Portals enhance situational awareness and active threat response
- ZDX Analytics ensures high-quality user experiences through real-time performance metrics.
- The combination of ZIA, ZPA, and ZDX forms a comprehensive digital defense system for modern enterprises.



5. Conclusion

The collective Z scalar training journey represents a complete roadmap for Zero Trust implementation — from foundational cyber security theory to advanced operational analytics. Administrators completing these labs are equipped to deploy, secure, and monitor applications effectively in hybrid and cloud-native environments. The integration of ZIA, ZPA, and ZDX under a unified management console allows organizations to achieve not only enhanced security but also optimized performance and resilience in digital transformation.

INDUSTRIAL VISITS

➤ Indian National Centre for Ocean Information Services (INCOIS), Hyderabad

The Department of Data Science organized an industrial visit to the Indian National Centre for Ocean Information Services (INCOIS), Hyderabad, on 23rd Oct 2025. The visit was planned as part of the academic curriculum enrichment program to provide students with practical exposure to real-world applications of Information Technology in providing the nation with the best possible ocean information and advisory services. A total of 172 III & IV-Year CSD students and 5 faculty members, along with the coordinator, actively participated in this educational tour.

Objectives:

The main objectives of the industrial visit were:

- ☐ To gain insights into the functioning and research activities of INCOIS.
- ☐ To understand the advancing research in ocean modeling, climate prediction, and marine spatial planning.
- ☐ To bridge the gap between classroom learning and industry practices.
- ☐ To expose students to emerging technologies in space research and data analytics.

Activities During the Visit:

1. Orientation Session:

Officials at INCOIS welcomed the students and gave an introduction



2. Presentation & Demonstration:

- Students attended a technical session where experts explained:
- Tsunami Early Warning: Operates 24x7 through the Indian Tsunami Early Warning Centre (ITEWC), monitoring seismic activity and sea-level changes to issue alerts within minutes.
- Potential Fishing Zone (PFZ) Advisory: Uses satellite data to identify fish-rich ocean zones,
- Ocean State Forecast (OSF): Provides 3–7 day forecasts for waves, currents, winds, and sea surface temperature, supporting ports, shipping, and naval operations.
- Data Management and Archiving: Acts as India's National Oceanographic Data Centre, managing physical, chemical, and biological ocean data collected from buoys, floats, ships, and satellites
- Climate and Ocean Research: Develops numerical models for ocean circulation, monsoon prediction, and climate studies
- International Collaboration: Works with UNESCO, IOC, and global observation networks like Argo to share ocean data worldwide.



Conclusion:

The industrial visit to INCOIS, Hyderabad, on 23rd Oct 2025 was a successful and enriching experience for the III-Year and IV-Year DS Students of NNRG. The Department of Data Science extends heartfelt thanks to INCOIS officials Mr. M Nagaraja Kumar Scientist-f and Division head and Miss. Pragna Industrial visit activities team head for their valuable time and

➤ **National Geophysical Research Institute (NGRI), Hyderabad**

The Department of Data Science organized an industrial visit to the National Geophysical research Institute (NGRI), Hyderabad, on 26th September 2025. The visit was planned as part of the academic curriculum enrichment program to provide students with practical exposure to real-world applications of Information Technology in mission to carry out research in multidisciplinary areas of the highly complex structure and processes of the Earth system and its extensively interlinked subsystems. A total of 71 III-Year CSD students and 2 faculty members, along with the coordinator, actively participated in this educational tour.

Objectives:

The main objectives of the industrial visit were:

- To gain insights into the functioning and research activities of NGRI
- To understand the Complex Structure of Earth System.
- To bridge the gap between classroom learning and industry practices.
- To bridge the gap between classroom learning and industry practices.

Activities During the Visit:

1. Orientation Session:

Officials at NGRI welcomed the students and gave an introduction.

2. Presentation & Demonstration:

- Students attended a technical session where experts explained:
- Geodynamics, which revolve round investigating and modeling fundamental aspects of the Earth system and processes, Earthquake Hazards, which encompass features on the surface and subsurface of crust which may potentially endanger lives and properties through catastrophes like earthquakes and landslides as well as deterioration in pollution levels of groundwater and soil, changes in climatic conditions and associated environmental issues.
- The theme Natural Resources comprise of implementation of techniques to identify primary georesources, which are the pillars of human civilization and fount of economic growth like groundwater, hydrocarbons as well as alternate energy sources and minerals. IT infrastructure used in handling large-scale spatial data.



3. Extension building Visit:

Students visited different buildings to observe the use of advanced technologies in image processing, GIS systems, and satellite communication.



Outcome:

The visit proved to be highly informative and inspiring. Students gained knowledge beyond textbooks, understood real-world IT applications, and were motivated to align their career paths toward innovative technologies in space research, data science, and remote sensing.

Conclusion:

The industrial visit to NGRI, Hyderabad, on 26th September 2025 was a successful and enriching experience for the IV-Year DS Students of NNRG. The Department of Data Science extends heartfelt thanks to NGRI officials for their valuable time and guidance. Such visits not only enhance technical knowledge but also inspire students to contribute to India's growth in the field of technology and space research.



BATHUKAMMA

NNRESGI celebrated Bathukamma the cultural festival of Telengana. This being the first Bathukamma festival in the newly formed Telangana State, it has been officially announced that it will be a State festival and will be celebrated on a very grand scale in all districts of the State with huge financial and infrastructure support from the Government, and such support will continue forever. NNRG has made this celebrations as a part of our academic calendar from this inception year of Telangana .Faculty and students took photos and videos while cheering and offering the songs and dance of Bathukamma. Every one celebrated the festival with great enthusiasm, devotion and gaiety. Organizers of the women faculty thanked management for their valuable support to organize the Bathukamma event in the campus from the year of newly formed Telangana state. Director, Deans appreciated the women staff for making the celebration a grand success.





1ST GRADUATION DAY



Nalla Narasimha Reddy Education Society's Group of Institutions (NNRG), an AICTE and PCI-approved, NAAC A+ Grade, UGC-autonomous institution affiliated with JNTUH, proudly celebrated its First Graduation Day at the Chowdariguda campus. The grand ceremony witnessed the presence of over 2,000 attendees, including graduates, parents, faculty members, and distinguished guests. The event was graced by Prof. T. Kishen Kumar Reddy, Vice-Chancellor, JNTUH, as the Chief Guest, along with Sri Nalla Narasimha Reddy, Chairman, and Dr. C. V. Krishna Reddy, Director, NNRG. In his annual report, Dr. C. V. Krishna Reddy highlighted the institution's remarkable achievements in academics, research, publications, and student accomplishments at national and international levels. Chairman Sri Nalla Narasimha Reddy congratulated the graduating students and encouraged them to pursue excellence with dedication, integrity, and confidence. Addressing the graduates, Prof. T. Kishen Kumar Reddy inspired students to create their own path to success, emphasizing that determination, hard work, and continuous learning are the keys to achieving their goals. He also encouraged students to explore global opportunities, develop research skills, learn foreign languages, and contribute to innovation in emerging fields. The ceremony featured an academic procession, inspiring speeches, and the presentation of 12 Gold Medals and 12 Silver Medals to outstanding achievers across MBA, B.Tech., and Pharmacy programmes. Degrees were awarded to graduates from B.Tech., Pharmacy, and Management Science, making the occasion a memorable milestone in the institution's journey. The event concluded with a pledge of professional ethics and lifelong learning, marking a proud and historic chapter for NNRG and its graduating students.

Value Added Courses(VAC)

Objective

To provide students with practical exposure and advanced technical knowledge through Value Added Courses in cloud computing, computer networking, and data analytics technologies.

Outcome

Students gained knowledge in AWS EKS and Kubernetes, Computer Networks using Cisco Packet Tracer, and Python Pandas. The courses improved their technical skills, networking abilities, analytical thinking, problem-solving skills, practical implementation capabilities, and awareness of modern computing technologies. The Department of Computer Science & Engineering – Data Science organized a series of Value Added Courses for II, III, and IV Year DS students during 14-10-2025 to 28-10-2025 . The programs were conducted successfully with active participation from students and faculty members. These courses were designed to bridge the gap between academic learning and industry requirements by focusing on practical applications and skill enhancement



The following Value Added Courses were conducted:

S.No	Course Title	Faculty Coordinator	Date	Time	Venue
1	AWS EKS Vs Kubernetes Challenges: Load Balancing, POD Failures and Leader Election	V. Indrani	22-10-2025 to 29-10-2025	11:00 AM – 12:45 PM	CSE Seminar Hall
2	Cisco Packet Tracer – Computer Networks	G. Sri Ramya	28-10-2025 to 05-11-2025	09:00 AM – 11:00 AM	MBA Seminar Hall
3	Python (Pandas)	K. Nandhini	14-10-2025 to 18-10-2025	02:00 PM – 04:00 PM	MBA Seminar Hall

Dr. C. V. Krishna Reddy, Director, NNRG, motivated the students by explaining the importance of Value Added Courses in improving employability skills and technical competency. He encouraged students to actively participate in such programs to strengthen their practical knowledge and industry readiness.

Prof. V. Indrani, Head of the Department of Data Science, addressed the students and highlighted the importance of emerging technologies and continuous learning. She encouraged students to actively participate in the sessions and make effective use of the learning opportunities provided through these courses.

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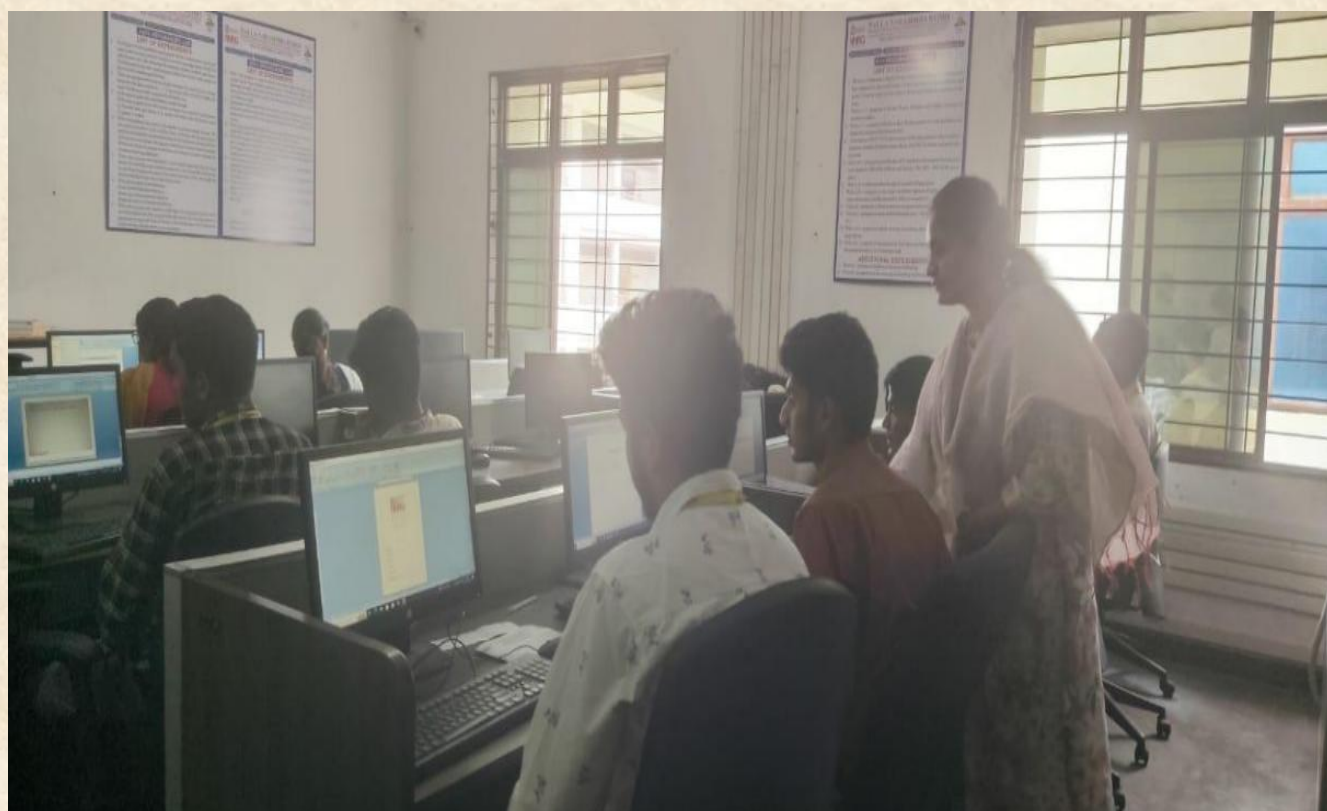
Faculty member G. Sri Ramya conducted the Cisco Packet Tracer – Computer Networks sessions and explained networking fundamentals, network topologies, IP addressing, routing and switching concepts, network simulation, troubleshooting techniques, and practical implementation using Cisco Packet Tracer. Students gained hands-on experience in designing, configuring, and managing computer networks

Faculty member K. Nandhini conducted the Python (Pandas) sessions and explained data manipulation techniques, data cleaning, data analysis, handling missing values, filtering and sorting operations, aggregation methods, data visualization basics, and real-time dataset processing using the Pandas library. Students gained practical exposure to data analytics and data-driven decision-making techniques.

The sessions were highly interactive and student-centered. Faculty members clarified doubts, conducted practical demonstrations, and encouraged students to participate actively in discussions and activities. The students showed great interest and enthusiasm throughout the courses.

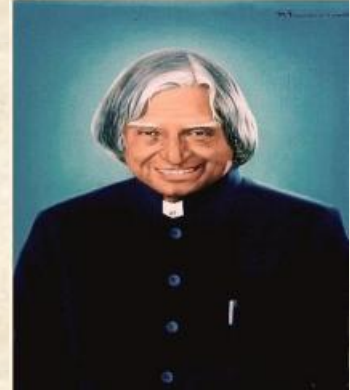
Overall, the Value Added Courses were highly beneficial in enhancing students' technical knowledge, programming skills, analytical abilities, communication skills, and confidence. The programs successfully created awareness about cloud computing, computer networking, and data analytics technologies and prepared students for future academic and career opportunities.





“The power of concentration is the only key to the treasure-house of knowledge.”

- A.P.J Abdul Kalam



“Discipline is the bridge between goals and accomplishment.”

- Jim Rohn

“Education is not just about gathering knowledge, but more so about learning how to think.”

- Sandeep Maheshwari





NALLA NARASIMHA REDDY

Education Society's Group of Institutions-Integrated Campus

Near Narapally, Chowdariguda (V), Korremula 'X' Road, Ghatkesar (M),
Medchal-Malkajgiri (D), Hyderabad - 500088, Telangana.

(UGC AUTONOMOUS INSTITUTION)

