



Gokaraju Rangaraju Institute of Engineering and Technology

(Autonomous)

Bachupally-Hyderabad-500090

(Affiliated to JNTUH, Hyderabad-500085)

Intensive Faculty Training Program

On

COMPUTER NETWORKS LAB

(Organized by Department of Computer
Science and Engineering in association with
Department of ECE, G-SDC and G-FTDC)

Schedule: 5 -9 AUG 2024
(10.00AM-3.00PM)

Venue:

RoomNo.1406/1407 Block-I and
Room No.4512, Block-IV
GRIET

**Department of Computer Science
and Engineering**
GRIET

GRIET: Gokaraju Rangaraju Institute of Engineering and Technology (GRIET) is established in 1997 by Dr.G. Gangaraju as a self-finance institute under the aegis Gokaraju Rangaraju Educational Society. GRIET is approved by AICTE, New Delhi, permanently affiliated to and autonomous under JNTUH-Hyderabad. GRIET is committed to quality education and is known for its innovative teaching practices. GRIET is accredited by NAAC with A++ grade.

G-FTDC: The GRIET Faculty Training and Development Centre(G-FTDC) envisions a faculty professional development environment where faculty members are empowered with innovative teaching methodologies, advanced subjects sensitization, advanced technical skills and administrative & managerial skills that aims to cultivate a culture of continuous growth, collaboration and excellence.

G-SDC: GRIET Skill Development Cell (G-SDC) was established to train students by providing them with various courses to enhance their employment/self employment opportunities. It established partnerships with renowned industries for providing cutting-edge training and development opportunities for students relevant to the rapidly changing industrial landscape.

Department of CSE: The Department of Computer Science and Engineering was established in 1997 with a vision "To be a center of global excellence and to emerge as a valuable resource for industry and society. The Department B.Tech Program was accredited by NBA for six years. The Department offers both UG and PG programs. The Department has well equipped laboratories and senior faculty.

Department of ECE: The Department of Electronics and Communication Engineering was established in 1997 with a vision "To be recognized globally through quality education for well qualified engineers, innovative in research, ethically strong, entrepreneurial with good managerial skills and successful in their professional careers. The Department UG and PG Programs were accredited by NBA. The Department has well equipped laboratories.

Intensive Faculty Training Program: The objective of this training program is to sensitize the latest and advanced techniques of Computer Networks Laboratory that were included in the new curriculum and Syllabus. The present program is designed for both circuit and non circuit branches with a flavor of multidisciplinary program reflecting the theme of NEP-2020. New topics and practical were included in the syllabus to cater the needs of communications and networking practical knowledge that is very much useful in the domains like IOT, CN and Networking.

By identifying learning objectives, conducting pre- and post-training assessments, analyzing the results and making improvements, one can ensure that the training program is successful and meets the needs of your learners.

Training Modules:

Task-1: Implement the following Data Link Layer framing methods: a) Bit stuffing b) Character-stuffing c) Character count.

Task-2: Implement the following Data Link layer protocols: a) Simplex protocol b) Stop and Wait protocol c) Sliding Window protocol

Task-3: Design a program to implement the following: a) Shortest Path routing protocol b) Distance Vector routing protocol c) Token Bucket algorithm

Task-4: Develop a program to implement the following: a) DES algorithm b) RSA algorithm

Task-5: a). Configure network devices, such as hubs and switches within a network topology using Packet Tracer software).Construct a single LAN and understand the concepts and operation of ARP.

Task-6: Configure and implementation of a Switch within a Network using Packet Tracer. Learn and implement basic commands of Computer network like PING, trace route, nslookup etc.

Task-7:a). Configure and implementation of a Router within a Network using Packet Tracer. b). Configure and examine Network Address Translation (NAT)

Task-8:a).Configure network topology to implement VLANs with using Packet Tracer software. b).Configure network topology and implement static routing using Packet Tracer Software.

Task-9: a). Configure network topology and implement dynamic routing protocol such as RIP, OSPF etc.using Packet Tracer.

Task-10: Configure DHCP Server in the Network using packet tracer software. Configure a remote login using SSH and Telnet.

Task-11: Establishing a Web Server Connection Using the PC's Web Browser, .Install Wire shark and view i). Network Traffic. ii).Wired and wireless NIC information. iii).Examine Ethernet Frames

Task-12: Adding IoT devices to Smart Homes using Packet Tracer b). Connect and Monitor IoT Devices using Packet Tracer

TEXT BOOKS: 1.Packet Tracer Network Simulator, Jesin A, O'REILLY, Packt Publishing, 2.Introduction to Networks Companion Guide (CCNAV7), Cisco Press, Cisco NetworkingAcademy

Prerequisites: Basics in Network Models, connectors, Network cables, crimping tool, etc

Course Outcomes:

- Implement the Data link layer framing methods and protocols.
- Illustrate routing, security and congestion control algorithms,
- Analyze how network and Internetwork devices are configured using Packet Tracer.
- Demonstrate Virtual LANs, Network Address Translation and routing protocols.
- Demonstrate how to connect and monitor IOT devices.
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Pre-training Assessments

This evaluation process is conducted before a learning program or training session to determine learners' current knowledge, skills and abilities. The pre-training assessment identifies learners' knowledge and skills gaps, which can help you, design an effective training program.

Post-training Assessments

This evaluation process is conducted after a training program or course to determine training effectiveness and how practical the training session was to learners.

Resource Person: Dr.G.S. Bapiraju Dean Internships and Chief Instructor, Skill development Cell (G-SDC), Accredited CISCO Instructor.

Participants: Faculty of all Engineering Programs as multidisciplinary subject.

Program organization:

Chief Patrons:

Dr.G. Ganga Raju, Chairman GRIET
Sri G.V.K. Ranga Raju, Vice president

Patrons:

- 1. Dr.Jandhyala N. Murthy, Director, GRIET**
- 2. Dr.J. Praveen, Principal, GRIET**
- 3. Dr.K.V.S. Raju SAO GRIET**

Conveners:

Dr.B.Sankarababu HOD CSE
Dr. Ch. Usha Kumari HOD ECE

Co-Conveners:

Dr.B. Srinivasa Rao Dean FDP(G-FTDC)
Dr.G.S. Bapiraju Dean Internships (G-SDC)

Coordinators:

Mr. Nagender Babu Coordinator FDP (CSE)
Mrs. Swathi Asst.Professor (CSE)

Contact: 99492 69898 / 91602 32854

Registration: FREE

For Registration:



Registration link: <https://forms.gle/9ut7xHUKi34JncFV6>

Note: For registration HOD permission is compulsory.

Otherwise, registration will not be considered.



Gokaraju Rangaraju

Institute of Engineering and Technology

Registration Form

Intensive Faculty Training Program

On

COMPUTER NETWORKS LAB

Name of the Faculty:

Faculty ID:

Designation:

Department:

I would like to attend the program and strictly adhere to the objectives of the program and reach the learning outcomes of the program. I also use the knowledge acquired during this program for the training of students and to share with the other faculty. I will attend all five days of the training program without any detriment to my training process.

Signature of the Faculty

Mobile No:

Email-id:

The faculty is permitted to attend the training program and will be relieved from all other Department works during the training period.

HOD

Date:

Faculty has to fill up this form and duly signed by HOD of respective Department.