

About the Institution

Kongunadu College of Engineering and Technology (KNCET) is an Autonomous, self-financing Engineering College established in the year 2007, Approved by AICTE, New Delhi, Affiliated to Anna University, Chennai, Accredited by NBA(CSE, ECE, EEE & Mech), NAAC, Recognized by UGC with 2(f) & 12(B) and Certified by ISO 9001:2015. The College has 9 UG courses(AD ,AE,BME, Civil, CSE, ECE, EEE, IT and Mechanical Engineering) and 2 PG courses such as Applied Electronics and CSE. ECE and Mechanical departments have been recognized as approved research centers by Anna University. A Separate department Campus to Corporate is to train the students in the area of communication, soft skills and aptitude etc., through which obtaining top notch placements with the facilitation of diverse options in IT industries, core industries, ITES and startup firms respectively. The Kongunadu International Cell assists students explore opportunities to work and study in foreign countries. The college has obtained many awards & recognition from various government/private authorities and received research grants from funding agencies for doing projects, establishing MODROBS labs, organizing FDPs, STTPs, National and International Conferences, Seminars and Workshops. MSME Incubation Center and Unnat Bharat Abhiyan (UBA) schemes are approved by the Government of India. The College has signed MOUs with Industries, academics, hospitals and R&D Institutions. Various Professional societies, clubs and cells are supporting students to become industry ready graduates, to do higher studies and to become successful entrepreneurs. The sports teams have won many prizes in various events at National level including Zonal, Inter Zonal and University level Sports Championship. The College attracts outstanding students by virtue of its discipline, modern infrastructure, library and faculty members.

About the Department

The Department of Information Technology (IT) was established in the year 2007, with an intake of 60 students in it for UG course - B.Tech. IT. The Department is supported by a team of well qualified and highly experienced faculty members and technical staff who deliver their skills to the students through effective teaching-learning environment. The faculty members in the department are specialized in various areas like Wireless Networks, Network Security, Data Science, Cyber Security, Artificial Intelligence, Machine Learning, Image Processing, Cloud Computing, Mobile Computing and Software Engineering.



Address for Communication

Mr.R.V.Viswanathan Assistant Professor
Coordinator
FDP on

“Quantum Computing: Fundamentals and Future Perspectives”

Kongunadu College of Engineering and Technology
Namakkal-Trichy Main Road,
Thottiam,Trichy(Dt)-621 215,
Tamilnadu

Mobile: +91-8012505010

E-mail ID: fdpit@kongunadu.ac.in

URL: www.kongunadu.ac.in



Online Faculty Development Programme on

“Quantum Computing: Fundamentals and Future Perspectives”

19.02.2024 to 23.02.2024

Organized by

Department of Information Technology

**KONGUNADU COLLEGE OF ENGINEERING
AND TECHNOLOGY
(Autonomous)**

Approved by AICTE, New Delhi,
Affiliated to Anna University, Chennai,
Accredited by NAAC with B++ Grade,
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Website : www.kongunadu.ac.in

DEPARTMENT VISION AND MISSION

Vision

To become an Internationally Renowned Institution in Technical Education, Research and Development by Transforming the Students into Competent Professionals with Leadership Skills and Ethical Values.

Mission

- Providing the Best Resources and Infrastructure.
- Creating Learner-Centric Environment and Continuous Learning.
- Promoting Effective Links with Intellectuals and Industries.
- Enriching Employability and Entrepreneurial Skills.
- Adapting to Changes for Sustainable Development.

About the FDP

Quantum computing represents a revolutionary shift in computational capabilities, leveraging the principles of quantum mechanics to process information in fundamentally different ways than classical computers. Here’s an overview of the fundamentals of quantum computing and its future perspectives. Unlike classical bits, which can be either 0 or 1, qubits can exist in a superposition of states, allowing them to represent both 0 and 1 simultaneously. This property enables quantum computers to perform multiple calculations at once. Superposition is a fundamental principle of quantum mechanics that allows qubits to be in multiple states at the same time. Quantum computing holds immense promise for transforming computing capabilities and solving complex problems across various domains. While significant challenges remain in hardware development, error correction, and practical applications, the future of quantum computing is poised to reshape industries and redefine our understanding of computation. As research progresses, collaboration between academia, industry, and government will be crucial to harness the full potential of this groundbreaking technology.

Next-generation wireless networks are set to revolutionize communication, but several challenges must be addressed to achieve seamless connectivity, high security, and optimal performance. Addressing spectrum management, energy efficiency, security threats, network densification, and interoperability will be crucial in shaping the future of wireless communication.

This FDP will provide an excellent opportunity for participants to have an interaction with renowned experts in the area of wireless networks.

FDP Objectives

- Create stable and scalable quantum systems that can support a larger number of qubits while minimizing errors and decoherence.
- Demonstrate that quantum computers can perform specific calculations faster than the best classical supercomputers, validating the potential of quantum computing.
- Research and develop new quantum algorithms that can solve real-world problems more efficiently than classical algorithms, particularly in fields like cryptography, optimization, and simulation.
- Develop robust quantum error correction methods to mitigate the effects of decoherence and operational errors, ensuring reliable quantum computations.
- Identify and explore practical applications of quantum computing across various industries, including pharmaceuticals, finance, logistics, and materials science.

Course Contents

- Quantum Computing Fundamentals: Theoretical Models and Quantum Mechanics
- Research Trends in Quantum Algorithms: Emerging Approaches and Applications
- Quantum Algorithms and Computational Advantage
- Quantum Machine Learning: Research and Applications

- Future Directions and Career Opportunities
- Quantum Computing Hardware Advancements and Integration Strategies

Resource Persons:

The resource persons for the program shall include faculty members of the NIT, Host institute, Industry experienced and skilled experts from reputed organizations/industries.

Eligibility:

Faculty members of the AICTE approved institutions, Research scholars, PG Scholars, participants from Government, Industry Bureaucrats/Technicians/ Professionals/School Teachers and staff of host institutions.

Registration Procedure:

Candidates will be informed about their registration status via email and will receive a confirmation email upon successful registration. A digital certificate will be issued to all candidates who achieve a minimum of 90% attendance.