AICTE Training and Learning (ATAL) Academy

Sponsored Six Days Online Faculty Development Program On

QUANTUM COMPUTING & CYBERSECURITY

15th – 20th DECEMBER 2025

Organised By : DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

S-VYASA
(Deemed to be University u/s 3 of the UGC Act, 1956)
SCHOOL of ADVANCED STUDIES
Sattva Global City, Kengeri, Mysore Road, Bengaluru - 560059

NAAC GRADE A+
ACCREDITED UNIVERSITY

About S-VYASA

S-VYASA Deemed to be University, stands as a beacon of integrative education, rooted in the visionary legacy of **Padma Shri Dr. H. R. Nagendra**, the renowned "**Yoga Scientist.**" From contributing to nasa's pioneering research to spearheading the global celebration of the international day of yoga, **Dr. Nagendra's** journey continues to inspire the university's unique blend of scientific innovation and holistic development.

At the School of Advanced Studies, **S-VYASA** redefines engineering and higher education through a diverse range of undergraduate programs, including Bachelor of Technology (B.Tech.), Bachelor of Computer Applications (BCA), Bachelor of Science (B.Sc.), Bachelor of Commerce (B.Com), and Bachelor of Business Administration (BBA). Our Postgraduate offerings include Master of Computer Applications (MCA), M.Sc. in Computer Science, and Master of Business Administration (MBA), along with robust Doctoral (Ph.D.) Programs that foster cutting-edge research.

At **S-VYASA**, students are equipped not only with strong technical expertise but also with values-driven leadership qualities. They are nurtured to become visionary professionals who blend creativity, ethics, and a deep sense of responsibility-engineering sustainable and transformative solutions for a better tomorrow.

About Department

The Department of Engineering and Technology at the School of Advanced Studies, **S-VYASA** Deemed to be University, is committed to shaping future-ready technologists through its B.Tech programs in Computer Science and Engineering, along with specializations in Software Engineering, Cyber Security, Artificial Intelligence & Machine Learning, Computer Science & IT, and Data Science.

These programs emphasize a dynamic blend of strong theoretical foundations and industry-aligned practical skills. Students gain hands-on experience in Programming, Cloud Computing, Ethical Hacking, Data Analytics, and AI Technologies. The curriculum is designed to foster innovation, problem-solving abilities, and real-world application.

The department actively engages students through research projects, internships, and expert-led workshops. Graduates emerge with critical thinking skills, technical expertise, and leadership qualities essential to excel in high-demand technology sectors and drive meaningful progress in the digital era.

Objectives of the FDP

- To equip faculty members with foundational and advanced knowledge of quantum computing principles.
- To develop an understanding of the impact of quantum computing on cybersecurity.
- To enhance faculty capabilities in applying mathematical tools, especially linear algebra and quantum mechanics.

Outcomes
Participants will be able to

- Describe the fundamental principles of Quantum Computing and differentiate classical logic from quantum logic. They will also be able to design and analyze basic quantum circuits using unitary transformations and quantum gates.
- Understand the vulnerabilities of classical cryptographic systems to quantum attacks and explore secure solutions such as Quantum Key Distribution (QKD) and post-quantum cryptographic techniques.
- Apply concepts from linear algebra and quantum mechanics - such as vector spaces, tensor products, and eigenvalues - to interpret quantum computing operations and fundamental error - correction mechanisms.

- Contribute to curriculum development, mentor student projects, and support research initiatives in the domains of quantum computing and cybersecurity.

Contact Details of The Institute / Coordinator
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Organizing Team
Ms. Sangeeta Behera, Assistant Professor, School of Engineering & Technology
Mr. Vivek Khirasaria, Assistant Professor, School of Engineering & Technology
Mr. Veerendra Reddy, Assistant Professor, School of Engineering & Technology

Targeted Participants
The Faculty Members, Research Scholars & PG Scholars of The AICTE - Approved Institutions And Industry Personnel

Domain Experts From Academic Institutions
Dr. Aswath Babu H, Assistant Professor In Physics, Indian Institute of Information Technology, Dharwad
Dr. Manjula Gandhi S, IBM Qiskit Certified Associate Developer, Associate Professor, Coimbatore Institute of Technology
Dr. Raghavendra, Quantum Research Faculty, SRM Institute of Science And Technology
Mr. Seenivasan Hariharan, Postdoctoral Researcher, University of Amsterdam, North Holland

Domain Experts From Industry
Dr. Jayakumar Vaithiyashankar, IBM Quantum Educator, Founder & CEO, Anuthantra Private Limited
Dr. Mostafizur Rahaman, Research Scientist, IBM Research Lab
Ms. Arthi Udayakumar, Quantum Computing Research Scientist, HSBC Singapore
Mr. Shashank Gupta, Research Lead, QNU Labs, Bengaluru, (Visiting Researcher, Oist, Japan)
Dr. Sathyaprakash Palaniyappan, IBM Quantum Educator, Chief Operating Officer, Anuthantra Private Limited, Bengaluru

Chief Patron
Padma Shri Dr. H R Nagendra, President, S-VYASA

Patrons
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