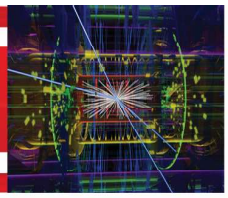


DEPARTMENT OF BASIC SCIENCES AND HUMANITIES

Communication Empowers



New Trends in Technology

Quantum computers:

Quantum computers are a revolutionary type of machine that use the principles of quantum mechanics—like superposition and entanglement—to perform calculations far beyond the capability of classical supercomputers.

Instead of using classical bits (which store information as a 0 or a 1), quantum computers use qubits. A qubit can exist as a 0, a 1, or both simultaneously (superposition). This allows the computer to test millions of possibilities in parallel, leading to an exponential increase in processing power with every added qubit.

They are not meant to replace your personal laptop but are designed for specialized, complex problems. Potential applications include:

- **Drug and Materials Discovery:** Precisely simulating molecular interactions.
- **Optimization:** Solving complex logistics and financial modelling problems (e.g., portfolio optimization).
- Cryptography: Breaking current encryption methods (though they are a lso driving new, quantum-safe encryption).

The technology is currently in the NISQ (Noisy Intermediate-Scale Quantum) era, meaning current devices are fragile and prone to errors. However, major tech companies like IBM and Google are rapidly achieving breakthroughs in quantum error correction, aiming for "quantum advantage"—where a quantum machine definitively outperforms the best classical one—in the coming years.

FACULTYFOCUS

1. Dr. Mohiddin Shaw Professor and Heard of the department of BS&H has participated in 7th International Conference on Advances in Electrical and Computer Technologies 2025(ICAECT 2025) and Presented a research paper entitled “A Data Safety Method that uses an Adjacent Matrix that Represents the graph to acquire the key for both Decryption and Encryption”, Organized by Sengunth Engineering College , Tiruchengode, Tamil Nadu during 24th - 25th July 2025.

2. Dr. Mohiddin Shaw Professor and Heard of the department of BS&H has actively contributed as a Reviewer in the 3-Day International Conference on “Advancing Innovations Through Mathematics: A Journey Across Disciplines (AITM-2025)”, Organized by department of mathematics in association with the Institution’s Innovation Council(IIC), Bapatla Engineering College, Bapatla held from 8-9-2025 to 12-9-2025.

3. Dr. V. Aruna, Assoc Professor of English participated in 2 day international conference and Digital Humanities, Cognitive Linguistics and Contemporary Literatures organized by Dept. of English , in collaboration with Cambridge University Press & Assessment at KL University Guntur on 11th & 12th August 2025 and presented a paper titled “ Mapping Voices: Linguistic Landscapes as Gateways to Cultural Identity and Representation.”

4. Dr. V. Aruna, Assoc. Professor of English has successfully completed a certificate course on Sustainable happiness conducted by NPTEL.

5. Dr. V. Aruna, Assoc. Professor of English has completed the online workshop on “career development: Grow your communication by prof. Devdip Purkayastha, Desal Sethi school of Entrepreneurship, IIT Bombay in the month of July conducted by NPTEL.

6. Dr.G.R. K Murthy asst professor of English Completed a certificate course on “Sustainable Happiness” July September conducted by NPTEL.

7. Mr. M.Purnachandrarao, Asst.Professor of English participated in 2 day international conference and Digital Humanities, Cognitive Linguistics and Contemporary Literatures organized by Dept. of English , in collaboration with Cambridge University Press & Assessment at KL University Guntur on 11th & 12th August 2025 and presented a paper titled “Dislocation and Identity A Post-Colonial reading of amithav Ghosh’s the circle of reason .”

8. Mr. M. Purnachandrarao, Asst.Professor of English participated in 8-day International Faculty Development com Short term course on “Relevant research methodologies in English Language and Literature: 21th Century perspective with AI and Technological Integration” Organized by department of English Pragati Engineering College from August 10th to 17th 2025.

9. Mr. M. Purnachandrarao, Asst.Professor of English attended in a 6-Day online faculty development program “Synergizing Transformative Pedagogy and AI- Driven Strategies: Innovative Approaches in ELT, Literature, Research, Methodology and Entrepreneurship” held during 27th Oct 2025 to 1 Nov 2025 organized by the department of BS&hH (English and CVR College of Engineering, Hyd.

10. Dr. Poli Reddy Asst.Professor of Physics was successfully completed the 5-day National level Professional Development program (PDP) on Quantum Computing held from 21st oct to 25th oct 2025 organized by VNR Vignana Jyothi Institute of Engineering and Technology, Hyd in collaboration with the Blackbucks Group.

11. Dr. Poli Reddy Asst.Professor of Physics has participated in 1-Day National Webinar on “Recreating the Early Universe in the Laboratory: Exploring the Quark- Gluon Plasma” Organized by Department of Physics, Koneru Lakshmaiah Education Foundation, Guntur on 30th august 2025.