



MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE
(Deemed to be University)



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A Report on
State-wide Quantum Awareness Programme (Phase 1)
Organized by Department of Physics and Research & Development Cell
In association with
The Andhra Pradesh State Skill Development Corporation (APSSDC),
Amaravati Quantum Valley (AQV), the Commissionerate of Higher Education,
A.P.
The Washington Institute for STEM, Entrepreneurship and Research (WISER),
and its implementation partner on 29.07.2026.

Report Submitted by: Dr. S. Sreedhar, Assistant Professor, Department of Physics.

Date: July 29, 2026 | Time: 10:30 AM – 04:30 PM

Venue: Scale-up Classroom & Seminar Hall- A

Mode of Conduct: Offline

Report Received on 01.08.2026.

1. Summary

The Department of Physics, in collaboration with the R&D Cell at MITS Deemed to be University, successfully conducted the **State-wide Quantum Awareness Programme (Phase 1)**. The initiative aims to build foundational awareness of emerging Quantum Technologies, quantum computing applications, and Quantum + AI integration among faculty and engineering students. The event hosted strategic discussions with departmental leaders, expert presentations, interdisciplinary faculty discussions, and interactive student sessions.

2. Inaugural Session

The program commenced with an inaugural gathering attended by institutional leadership, key faculty heads, and visiting dignitaries: (29.07-2026, 10.30 am, Venue: Scale up Classroom, MITS)

- **Chief Guest & Keynote Speaker:** Mr. MGMSSV Phanindra, Head of AI Ecosystem at QISE Pvt. Ltd. (representing WISER & QISE)
- **Institutional Dignitaries Present:** Dr. P. Ramanathan, Principal, MITS; Dr. N. Nanda Kumar Reddy, Associate Dean (R&D, Admissions); Dr. M. Chandra Sekhar, Head of the Physics Department; and Dr. S. Sreedhar, Assistant Professor in Physics, the Program Coordinator. Faculty (~ 35 faculty) participants were from the School of Computing, School of Engineering, School of AI and ML, and Basic Sciences (Physics and Chemistry).

The inauguration highlighted the importance of establishing early-stage skill development and workforce readiness in quantum science across higher education institutions in Andhra Pradesh.

3. Keynote Presentation Insights

During the keynote address, Mr. MGMSSV Phanindra delivered an in-depth presentation on global quantum adoption, industry impacts, and market growth models, highlighting key technical and economic projections:

- **Global Quantum Ecosystem & Investments:** Global public and private investments in quantum technologies have crossed **USD 40 Billion+** across 70+ countries. Major nation-state leaders include China (**USD 15B**), the European Union (**USD 10B**), and the United States (**USD 5B**).
- **Andhra Pradesh Ecosystem & Amaravati Quantum Valley (AQV):** Strategic state-wide roadmaps align with national goals to build local quantum infrastructure, testbeds, supply chains, and academic talent pathways. The quantum computing market in India is projected to grow at a **27%+ CAGR**, reaching **USD 7 Billion by 2032**.
- **Convergence of AI & Quantum:** The presentation mapped the evolution of AI (1950s–Present) alongside Quantum Technology (1980s–Present), showing how the convergence of **Quantum + AI by 2030** will revolutionize complex problem-solving in climate modeling, drug discovery, financial modeling, and materials science.
- **Global Workforce Demand & Job Projections:** The quantum sector is projected to create **2.3 to 2.6 Million jobs globally by 2035**. Demand will span diverse sectors including Mobility & Logistics (450K–550K jobs), Financial

Services (350K–450K jobs), AI & Technology (300K–350K jobs), Healthcare & Pharma (250K–300K jobs), and Cybersecurity & Defense (150K–200K jobs).

- **Estimated Market Share Breakdown (by 2035):** Defense & Space (22%), Financial Services (17%), Healthcare & Pharma (15%), Chemicals & Materials (13%), Telecom & Cybersecurity (11%), Manufacturing & Semiconductors (7%), Mobility (6%), Energy (4%), AI & Tech (3%), and Climate/Agriculture (2%).

4. High-Tea & Faculty Interaction Session (from 11.50 am to 1.30 pm)

Following the presentation and tea break, an intensive interdisciplinary faculty interaction session was held.

Key Discussion Highlights & Faculty Beneficiary Impact

During this session, faculty members actively engaged with the guest speaker to understand the broader ecosystem and implementation strategies:

- **Exposure to Quantum Infrastructure:** The interaction provided faculty with valuable exposure to state-of-the-art quantum infrastructures, cloud-based quantum platforms, and national/state testbed developments.
- **Urgency of Curriculum Integration:** Attendees developed a strong, unified consensus on the imperative need to introduce quantum education to undergraduate students immediately to keep pace with rapid industry shifts.
- **Clarifying Government Vision:** Faculty members actively clarified details regarding the Andhra Pradesh state government's policy framework and vision to democratize quantum education through the Amaravati Quantum Valley (AQV) initiative.
- **Academic Support Frameworks:** Detailed discussions took place regarding quantum-related courses offered to students through WISER and QISE Academy. Speakers outlined concrete support structures including:
 - Assistance in institutional Curriculum Development for elective and minor degree pathways. Deployment of Subject Matter Experts (SMEs) for guest lectures and specialized modules
 - Faculty Development Programs (FDPs) and tailored training initiatives.
 - Guidance on establishing Centers of Excellence (CoE) and integrating digital platform tools/LMS platforms for student skilling.

5. Afternoon Student Interactive Session

(29-07-2026, From 3.00 pm to 4.30 pm; Venue: Seminar hall-A)

At 3:00 PM, a dedicated interactive workshop was conducted for students specialising in **CSE – Artificial Intelligence (CSE-AI)**, **CSE and ECE** branches.

Student Beneficiary Impact

- **Future-Ready Skill Awareness:** Students gained deep clarity on how Quantum Computing intersects with modern Artificial Intelligence algorithms, expanding their career horizon beyond classical computing models.
- **Clear Skilling Roadmap:** The interactive workshop demystified upcoming academic courses, certification tracks, and practical learning pathways, helping students align their academic projects with quantum technologies.
- **Direct Industry & Research Insights:** Students engaged in an open Q&A session where they explored real-world career roles, internship possibilities, and entrepreneurship opportunities created under the state's growing quantum ecosystem.

6. Valedictory & Felicitation (at 4.30 pm)

The program concluded with a formal valedictory and felicitation ceremony. Chief Guest Mr. MGMSSV Phanindra and representatives from the QISE/WISER team were formally felicitated by the Advisor R & D and Consultancy MITS Deemed to be University, Dr. M. Chandra Sekhar, Head of Department (Physics), and Dr. S. Sreedhar, Event Coordinator.

7. Vote of Thanks & Acknowledgments

Program vote of thanks delivered by Dr. B. Jagadeesh Babu, Department of Physics faculty.

The organising team expresses deep gratitude to:

- **Institutional Management:** The Chancellor, Vice-Chancellor, Registrar, and Principal for their constant vision, encouragement, and administrative guidance.
- **Key Leadership Supporters:** Special thanks to Dr. P. Sivaiah, Associate Dean (Research & Development) and the Head of Department (Physics) for their support in planning, organising, and executing this state-wide initiative. Department of Physics faculty members for constant support and engagement during the program.
- **Sponsoring & Knowledge Partners:** APSSDC, AQV, Commissionerate of Higher Education (A.P.), WISER, and QISE for bringing this awareness drive to MITS Deemed to be University.