

GVP - Estd. 1988

GVPIHLR - Estd. 2026



GAYATRI VIDYA PARISHAD INSTITUTE FOR HIGHER LEARNING AND RESEARCH

(Deemed to be University under Distinct Category
under Section 3 of the UGC Act, 1956)

Kommadi, Madhurawada, Visakhapatnam – 530 048, Andhra Pradesh

SCHOOL OF SCIENCE (GVPIHLR-SOUTH EAST CAMPUS,RUSHIKONDA)

B.Sc.(Hons) Quantum Computing and Artificial Intelligence

(A Four-Year Undergraduate Honors Program / Five- Year
Integrated with multiple Entry and Exit Option)



VISION:

CREATING HUMAN
EXCELLENCE FOR A BETTER
SOCIETY THROUGH HOLISTIC
AND MULTIDISCIPLINARY
EDUCATION.

MISSION:

PROPELLED BY AN UNWAVERING DEDICATION
TO ACHIEVING HUMAN EXCELLENCE AND
CONTRIBUTING TO A BETTER SOCIETY THROUGH
A HOLISTIC AND MULTIDISCIPLINARY APPROACH
TO EDUCATION

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ABOUT GVPIHLR

Gayatri Vidya Parishad (GVP) is established in 1988 with a service motive, committed to develop education in India. The basic aim is

“to promote, establish, maintain and assist or aid in maintaining educational and other institutions with a view to impart education in all branches in general and in Advanced Technology, Management, Education and Science (including Healthcare) in particular and thus to facilitate securing gainful employment for the youth of the country.”

In line with this and in tune with National Educational Policy 2020, the GVP established Gayatri Vidya Parishad Institute of Higher Learning (GVPIHLR), a deemed to be university under distinct category that promotes integration of Multidisciplinary, Interdisciplinary and Transdisciplinary fields. It enables the blend of ancient wisdom and traditional values with modern science and technology for the health and well-being of the society among the youth.

GVPIHLR provides students with an integrated learning experience that transcends conventional disciplinary boundaries and offers abundant opportunities for academic exploration, innovation, and holistic development. It will foster multidisciplinary and transdisciplinary education and research through flexible curricular structures that enable students to creatively combine diverse disciplinary areas of study and pursue emerging areas of knowledge in multidisciplinary contexts.

Through this integrated academic ecosystem, GVPIHLR enable learners attain critical thinking, creativity, innovation, collaboration, and problem-solving, while drawing upon the strengths of diverse disciplines to address complex societal challenges and contribute meaningfully to the advancement of knowledge and the well-being of society.

SCHOOLS UNDER GVPIHLR

**SCHOOL OF ARTS
AND HUMANITIES**

**SCHOOL OF COMPUTER
SCIENCE AND ENGG.**

**SCHOOL OF COMMERCE
AND MANAGEMENT**

**SCHOOL OF ELECTRICAL AND
ELECTRONICS ENGG.**

**SCHOOL OF CHEMICAL,
MECHANICAL AND CIVIL ENGG.**

SCHOOL OF SCIENCES

PROGRAMS UNDER SCHOOL OF SCIENCES

UNDERGRADUATE HONOURS PROGRAMS

AICTE- four-year Undergraduate Honors Program

- BCA (Hons)-Bachelor of Computer Applications

UG four-Year Honors / Five-Year Integrated Program

- B.Sc. (Hons.) Computer Science and Artificial Intelligence
- B.Sc. (Hons) Embedded Electronics and Artificial Intelligence
- B.Sc. (Hons) Quantum Computing and Artificial Intelligence
- B.Sc. (Hons) Bioinformatics with Artificial Intelligence
- B.Sc. (Hons) Statistics and Data Science
- B.Sc. (Hons.)Mathematics and Computer Science
- B.Sc. (Hons) Statistics and Quantitative Methods
- B.Sc. (Hons) Chemistry and Pharmaceutical Applications

POSTGRADUATE PROGRAMS

AICTE- Two-year Postgraduate Program

- MCA -Master of Computer Applications

Two-year Postgraduate Program

- M.Sc. (CS & AI) Master of Science in Computer Science and Artificial Intelligence
- M.Sc. (OC-DD) Master of Science in Organic Chemistry with Drug Design

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★ Programme Highlights ★

- Provide a strong foundation in Physics, Mathematics, Artificial Intelligence, and Quantum Computing
- Develop analytical, computational, and problem-solving skills through theory, laboratory work, and scientific computing
- Equip students with programming skills in C, Python, and quantum programming frameworks for simulation and algorithm development
- Build competency in quantum mechanics, quantum computing, quantum communication, quantum information, quantum materials, and quantum sensing
- Promote interdisciplinary learning to solve scientific and technological problems
- Develop research aptitude through laboratory experiments, computational projects, internships, and dissertation work.
- Foster innovation, entrepreneurship, ethical scientific practices, and lifelong learning

Why B.Sc. (Hons) Quantum Computing and Artificial Intelligence?

- Understand the Fundamental Laws of Nature: learn how matter and energy behave at the atomic and subatomic levels through quantum mechanics
- Prepare for Next-Generation Computing: explore quantum computing's potential to solve complex problems far faster than classical computers
- Drive Technological Innovation: gain knowledge of quantum communication, quantum cryptography, quantum sensing, and quantum simulation
- Develop Interdisciplinary Skills: build expertise across physics, mathematics, computer science, engineering, and information science
- Address Real-World Challenges: apply quantum technologies to drug discovery, materials design, financial modelling, logistics optimization, AI, and climate research
- Enhance Cybersecurity: study quantum cryptography and Quantum Key Distribution (QKD) for secure communication systems
- Meet Industry Demand: prepare for careers in academia, research laboratories, government organizations, and technology companies
- Support National and Global Initiatives: contribute to quantum technology missions and innovation programmes worldwide
- Promote Research and Innovation: develop skills to design new quantum algorithms, devices, and applications
- Shape the Future: be part of the next technological revolution transforming computing, communication, healthcare, and manufacturing

Program Features

- Discipline Specific Core
- Discipline Specific Electives
- Skill enhancement Courses
- Value added
- Multidisciplinary
- Ability Enhancement
- Social Immersion Project
- Internships
- Academic Projects

Learning Beyond the Classroom

- Laboratory Training
- Projects & Internships
- Industry Workshops
- Guest Lectures
- Technical Seminars
- Hackathons & Coding Challenges
- Certifications
- Communication & Soft-Skills Training
- NCC – Army & Air Wings
- NSS & Extension Activities

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CORE COURSES

- Fundamentals of Mathematics in Computing-1
- Basics of Modern Physics
- Introduction to Computers and Office Applications
- Fundamentals of Mathematics in Computing-II
- Problem Solving Using C
- Quantum Mechanics-I
- Basic Statistics
- Introduction to Artificial Intelligence
- Quantum Technologies: Principles and Applications
- Introduction to Electro Magnitics
- Quantum Mechanics-II
- Python Programming
- Introduction to Semiconductor devices and Digital Electronics
- Artificial Intelligence for Problem Solving
- Quantum Optics
- Foundations of Data Science
- Web Application Development using PHP & MySQL
- Numerical Methods for Quantum Applications

CAREER PATHWAYS

Placement Opportunities

- AI/ML Engineer
- Data Scientist / Data Analyst
- Software Developer
- Quantum Computing Associate
- Quantum Algorithm Developer
- Cybersecurity & Cryptography Associate
- R&D / Research Assistant

Higher Education Opportunities

- M.Sc. Artificial Intelligence
- M.Sc. Quantum Computing / Quantum Technology
- M.Sc. Computer Science / Data Science
- M.Tech. / MCA in relevant fields
- M.Sc. Physics / Computational Science
- Ph.D. in Quantum Computing, AI & related fields
- Research & Academic Careers

Eligibility

- Intermediate or (10+2)
- Mathematics as one subject

Electives Baskets

Artificial Intelligence Electives

- Data Structures Using C
- Computer Organization
- Operating Systems
- Database Management Systems
- Generative AI and Prompt Engineering
- Introduction to Machine Learning
- Computer Vision
- Computational Intelligence

Quantum Computing Electives

- Condensed Matter Physics
- Quantum Materials
- Solid State Physics for Quantum Technologies
- Quantum Sensing
- Quantum Communication
- Quantum Computing
- Quantum information theory
- Quantum Filed Theory (Introductory)

GVP PAST RECRUITERS

- | | |
|-----------------|--------------------------|
| • TCS | • Mindtree |
| • Cognizant | • Wipro |
| • Tech Mahindra | • Infosys |
| • Amazon | • Salesforce |
| • ICICI Bank | • Capgemini |
| • D-Mart | • L&T |
| • JIO | • HDB Financial Services |
| • Hansa | • Services |
| • Asian Paints | • Miracle Software |

