



GVP Estd 1988

GVPIHLR Estd 2026

# GAYATRI VIDYA PARISHAD INSTITUTE OF HIGHER LEARNING AND RESEARCH

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

Kommadi, Madhurawada, Visakhapatnam- 530048, Andhra Pradesh

## SCHOOL OF SCIENCES

(GVPIHLR-SOUTHEAST CAMPUS, Rushikonda)

### B.Sc.(Honors) in Embedded Electronics and Artificial Intelligence

(Four-Year Undergraduate Honors/Five-Year Integrated program with multiple entry and exit option)

#### Shaping the Future of Smart Technology

An interdisciplinary program that integrates Electronics, Embedded Systems, Internet of Things (IoT) and Artificial Intelligence to build intelligent systems that power the world of tomorrow.



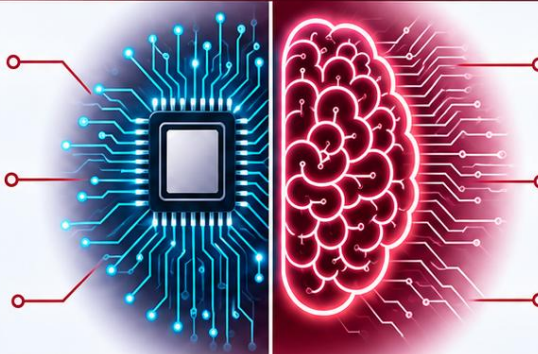
Electronics



Embedded Systems



IoT



Artificial Intelligence



Machine Learning



Data & Analytics

#### Real-World Applications



Smart Homes



Healthcare Devices



Robotics



Industrial Automation



Autonomous Vehicles



Smart Agriculture



Wearable Devices



Smart Cities



Blend of Electronics & AI



Practical Learning



Industry Relevance



Endless Opportunities

EMBEDDED INTELLIGENCE • LIMITLESS POSSIBILITIES

#### VISION OF GVPIHLR

Creating Human Excellence for a better society through holistic and multidisciplinary education

#### MISSION OF GVPIHLR

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), established in 1988, is committed to promoting quality education while blending traditional values with modern science and technology. GVPIHLR is envisioned as a multidisciplinary and interdisciplinary institution that offers students flexible, integrated learning through diverse academic pathways, multiple entry and exit options, and opportunities to explore subjects across disciplines.

GVPIHLR strives to drive progress through holistic education, innovative research and excellence in teaching and learning. Its learner-centred approach nurtures critical thinking, creativity, professional skills, ethical values and social responsibility, preparing students to become adaptable, innovative and future-ready citizens.

## ◆ SCHOOLS UNDER GVPIHLR



School of  
Arts &  
Humanities



School of  
Commerce &  
Management



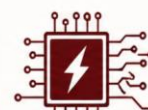
School of  
Computer Science  
& Engineering



School of  
Chemical, Mechanical  
& Civil Engineering



School of  
Sciences



School of  
Electrical &  
Electronics  
Engineering

## ◆ PROGRAMS UNDER SCHOOL OF SCIENCES

### ◆ U.G.4yrs Honors/5yrs Integrated Programs

- ◆ BCA (Hons.) AICTE Prog Bachelor of Computer Applications
- ◆ B.Sc. (Hons.) Computer Science & Artificial Intelligence
- ◆ **B.Sc. (Hons.) Embedded Electronics & Artificial Intelligence**
- ◆ B.Sc. (Hons.) Mathematics & Computer Science
- ◆ B.Sc. (Hons.) Statistics and Data Science
- ◆ B.Sc. (Hons.) Quantum Science and AI
- ◆ B.Sc. (Hons.) Chemistry & Pharmaceuticals Applications
- ◆ B.Sc. (Hons.) Bioinformatics with Artificial Intelligence
- ◆ B.Sc. (Hons.) Statistics, Econometrics and Mathematical Economics

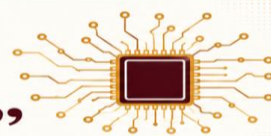
### P.G.Programs

- ◆ MCA AICTE Prog  
Master of Computer Applications - MCA
- ◆ M.Sc. Computer Science - Artificial Intelligence
- ◆ M.Sc. Organic Chemistry with Drug Design

## ◆ ABOUT THE PROGRAM



“ To shape the future of technology by integrating Electronics, Embedded Intelligence, and Artificial Intelligence to develop smart, innovative, and sustainable solutions for society. ”



**Integrate**  
Electronics, Embedded Intelligence, AI, and emerging technologies to build interdisciplinary capabilities.



**Cultivate**  
the ability to design, prototype, and solve real-world problems through experiential learning.



**Nurture**  
curiosity, creativity, research thinking, and entrepreneurial perspectives.



**Connect**  
learners with industry and the wider technology ecosystem for meaningful professional exposure.



**Shape**  
responsible technologists who create sustainable and socially relevant intelligent solutions.

This 4-year B.Sc.(Honours) program in Embedded Electronics and Artificial Intelligence combines Electronics, Embedded Systems, IoT and AI into one interdisciplinary curriculum, equipping students with hardware and software skills to design intelligent, real-world systems. This program was started with the motto “Innovating Electronics, Inspiring Intelligent Futures.”

## ◆ ELIGIBILITY

Passed 10+2 / Intermediate or its equivalent from a recognised Board.

Must have studied Mathematics and Physics as compulsory subjects at the Intermediate level.

## ◆ PROGRAM OUTCOMES

- Apply core knowledge of Electronics, Embedded Systems, and AI to solve engineering problems.
- Demonstrate practical skills through hands-on learning, labs, and projects.
- Develop innovative solutions using creativity, critical thinking, and emerging technologies.
- Pursue careers in Electronics, Embedded Systems, AI, and emerging technology fields.
- Demonstrate professionalism through ethics, leadership, teamwork, and social responsibility.

## ◆ PROGRAM STRENGTHS

### UNIQUENESS OF THE PROGRAM



#### Unique Blend of Embedded Systems & AI

Integrates core embedded systems with AI concepts to develop intelligent solutions.



#### Industry-Oriented Curriculum

Designed with industry insights to ensure job-ready skills and real-world relevance.



#### Hands-on Learning

Practical, lab-based learning through projects, tools, and real-time applications.



#### Focus on Emerging Technologies

Covers cutting-edge areas like IoT, AI, ML, Robotics, and Intelligent Automation.



#### Excellent Career Opportunities

Prepares you for roles in embedded systems, AI, IoT, and allied industries.



#### Research, Innovation & Higher Studies

Encourages innovation, research and provides a strong foundation for higher education.

## ◆ WHY CHOOSE THIS PROGRAM IN GVPIHLR

## ◆ OUR PAST RECRUITERS



#### FIRST-OF-ITS-KIND UG PROGRAM

A pioneering program offered for the first time at the UG level.



#### INDUSTRY TIE UPS

Strong collaborations with leading industries for exposure, internships and placements.



#### AI AND HARDWARE INTEGRATION

Unique blend of embedded systems with AI to build intelligent and smart solutions.



#### HIGH MARKET DEMAND

High-growth field with excellent career prospects in diverse domains.



#### HANDS ON LABS

Well-equipped labs and practical learning for real-world expertise.

## ◆ CURRICULUM COMPONENTS



**18**  
Core Courses  
(out of 8 offered)



**8**  
Elective Courses  
(out of 12 offered)



**4**  
Ability Enhancement Courses



**5**  
Multidisciplinary Courses



**5**  
Value-Added Courses



**6**  
Skill Enhancement Courses



**1**  
Community Service Project



**Two**  
Mandatory Internships/Projects



**MOOCs / SWAYAM**

## ◆ ACADEMIC COURSES OFFERED

### CORE COURSES Build Strong Fundamentals



- Electronic Devices and Analog Circuits
- Digital Logic Design
- Computer Organization
- Microprocessors and Microcontrollers
- Embedded Systems Programming
- Internet of Things (IoT)
- Intelligent Embedded Systems Design
- Embedded RTOS
- Problem Solving Using C
- Introduction to Artificial Intelligence
- Probability and Statistics
- Python Programming
- Foundations of Quantum Technologies
- Artificial Intelligence for Problem Solving
- Internet of Things
- Generative AI and Prompt Engineering

### ELECTIVE COURSES Explore & Specialize



- PCB Design with CAD Software
- Electronic Circuit Simulation
- Electronic Sensors and Interfacing
- Wireless Communications
- Robotics and Automation Fundamentals
- VLSI Design
- FPGA and Programmable Logic Devices
- Edge AI and TinyML Applications
- Machine Learning
- Deep Learning
- Natural Language Processing
- Computer Vision
- Image Processing
- Computer Networks
- Block Chain Technologies
- Cyber Security

### SKILL ENHANCEMENT Hands-on Expertise



- Basic Electronics
- Battery Technology and Maintenance
- Hardware and Networking
- Hardware Peripherals and Interface
- Consumer Electronics
- PCB Designing and Fabrication

## ◆ BEYOND CLASSROOM ACTIVITIES



Industrial Visits



Field Trips



Expert Lectures



Technical Workshops



Coding & Hardware Competitions



Hackathons



Project Exhibitions



Technical Clubs



Certification Programmes



NSS



NCC



Sports

## ◆ EXPLORE YOUR FUTURE

### CAREER OPPORTUNITIES



#### Embedded Systems Engineer

Design and develop intelligent embedded hardware and software.



#### AI & Machine Learning Engineer

Build AI-powered applications and intelligent automation solutions.



#### IoT Developer

Create smart connected devices using sensors, controllers and cloud technologies.

### WHERE YOU CAN WORK



#### Electronics & Semiconductor Industries

Design, develop and test advanced electronic products and systems.



#### AI, IoT & Robotics Companies

Work on intelligent technologies shaping the future.



#### Automotive & Consumer Electronics Industries

Innovate solutions for smarter vehicles and devices.

### HIGHER STUDIES & BEYOND



#### Higher Education

M.Sc., M.Tech., MBA and other advanced degree programs.



#### Research

Pursue research in Embedded Systems, AI, IoT, Robotics, VLSI and emerging domains.



#### Entrepreneurship

Start your own venture and innovate solutions for real-world challenges.

## ◆ OUR PAST RECRUITERS

