



ST. JOSEPH'S DEGREE COLLEGE

SUNKESULA ROAD, KURNOOL - 518004

(Affiliated to Rayalaseema University, Kurnool)



PRACTICAL EXPOSURE TO PHYSICS AND ELECTRONICS - "ARDUINO UNO BOARD"

Atal School Linkage with Institution's Innovation Council,
Higher Education Institution Program

**PRAGNA BHARATI SCHOOL,
Munagalapadu, Kurnool**

DATE: 03/09/2025

TIME: 12:00 NOON to 5:00PM

Organized by:

ENTREPRENUERSHIP DEVELOPMENT CELL IN
COLLABORATION WITH INSTITUTION'S INNOVATION
COUNCIL AND ELECTRONICS DEPARTMENT



St. JOSEPH'S DEGREE COLLEGE

Sunkesala Road, Kurnool – 518 004. A.P.

(Affiliated to Rayalaseema University, Kurnool)

Email id: sjcknl@yahoo.com; website: sjcknl@edu.in; Phone: 08518 226268



03.09.2025

To

The Principal,
Pragna Bharathi High School,
Munagalapadu,
Kurnool.

Respected Sir/Madam ,

Greetings of the day, at the outset we thank for your positive response on the phone call, towards "ATAL School Linkage with Institution's Innovation Council, Higher Education Institutions Program". We intend to organise a **Practical exposure to Physics and Electronics - "Arduino-UNO-Board"** in the Atal Tinkering Lab at your school on 03.09.2025. We strongly feel that this program would leave an impact in the areas of Entrepreneurship and Innovation in the young minds and it would be of great help in developing a sustainable ecosystem. We are looking forward for a similar program in the following academic years leading to a symbiotic growth.

Thanking you

With regards

R. Prasad
Convener

Institution's Innovation Council
St Joseph's Degree College
Kurnool

Principal 3/9/25
St. Joseph's Degree College
Sunkesala Road, KURNOOL

PRAGNA BHARATI SCHOOL
Sunkesala Road, Kurnool-518004. A.P.

Email id : srinivas@pragnabharati.com; <https://www.pbskurnool.com/>; phone: 9394250450

Date: 03-09-2025

To
The Pricipal,
St Joseph's Degree College,
Kurnool.

Respected Madam,

Greetings of the day. We are happy to be part of "ATAL School Linkage with Institutaion's Innovation council, Higher Education Institutions Program" and appreciate your college Institutaion's Innovation council for organizing a 1-Day workshop on **Practical Exposure to Physics and Electronics- " Arduino-UNO-Board** at ATLLab of our school on 03-September-2025. we also look forward for a successful future ahead.

Thanking you

PRINCIPAL
Pragna Bharati School
With regards
Munagalapadu, Kurnool

M. Shiseesha
M-Shiseesha
Head master, 3/9/2025

Pragna bharati school.
Munagalapadu, Kurnool.



ST. JOSEPH'S DEGREE COLLEGE

SUNKESULA ROAD, KURNOOL - 518004

(Affiliated to Rayalaseema University, Kurnool)

Email-id: sjcknl@yahoo.com; Website: sjcknl@edu.in; Phone: 08518226268



PRACTICAL EXPOSURE TO PHYSICS AND ELECTRONICS - "ARDUINO UNO BOARD"

Program Report :

The Institution's Innovation Council in collaboration with the ED Cell organized an exceptional hands-on workshop on "Automatic railway gate control system using Arduino Uno Board" at Pragna Bharati School, Munagalapadu, Kurnool District. With 05 EDC students and 50 enthusiastic school children participating, the program successfully bridged theoretical concepts with practical applications in railway safety and embedded systems. The EDC students brought comprehensive teaching aids including circuit diagrams, sensor modules, servo motors, and working Arduino prototypes to demonstrate real-time train detection and automatic gate control technology. The school children participated with remarkable curiosity, observing how various sensors including IR sensors and ultrasonic modules detect approaching trains and automatically control gate operations through servo mechanisms, and were genuinely amazed by the integration of electronics with railway safety applications. This transformative workshop effectively inspired young minds to explore the exciting field of automation technology and understand how simple electronic components can create life-saving railway safety systems that prevent accidents at unmanned level crossings.

DATE: 03/09/2025

TIME: 12:00 NOON to 5:00PM

Student's Participated: 05

School Student's Participated: 50

Faculty Attended: Mr. B.T. SUBASHCHANDRA NAIDU, Dr.
V.SURESH BABU

Program Objectives:

- 1.To establish comprehensive understanding of smart railway infrastructure through Arduino-based microcontroller programming and sensor integration for unmanned level crossing automation.
- 2.To foster critical engineering mindset by designing fail-safe mechanisms and emergency protocols in railway gate control systems using embedded technology.
- 3.To cultivate passion for intelligent transportation systems by demonstrating how IoT-enabled devices can revolutionize traditional railway safety protocols.

Program Outcomes:

- 1.Mastered the integration of multiple sensor technologies (IR, ultrasonic, proximity) with Arduino microcontrollers to create robust train approach detection systems for level crossing safety.
- 2.Developed proficiency in programming servo motor control algorithms and implementing time-delay mechanisms for optimal gate operation sequences.
- 3.Enhanced analytical capabilities in troubleshooting sensor calibration issues and optimizing detection range parameters for various weather conditions and train speeds.



Kurnool, Andhra Pradesh, India

98/1-21-106-1, Revenue Ward-98, Munagalapadu, Kurnool, Andhra Pradesh 518004, India

Lat 15.860634° Long 77.999336°

03/09/2025 04:30 PM GMT +05:30



Kurnool, Andhra Pradesh, India

98/1-21-106-1, Revenue Ward-98, Munagalapadu, Kurnool, Andhra Pradesh 518004, India

Lat 15.860631° Long 77.999338°

03/09/2025 04:30 PM GMT +05:30





Kurnool, Andhra Pradesh, India

98/1-21-106-1, Revenue Ward-98, Munagalapadu, Kurnool, Andhra Pradesh 518004, India

Lat 15.860645° Long 77.999322°

03/09/2025 04:32 PM GMT +05:30



Google

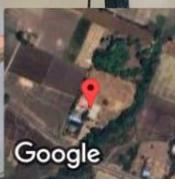


Kurnool, Andhra Pradesh, India

98/1-21-106-1, Revenue Ward-98, Munagalapadu, Kurnool, Andhra Pradesh 518004, India

Lat 15.860637° Long 77.999333°

03/09/2025 04:33 PM GMT +05:30



Google



Kurnool, Andhra Pradesh, India
98/1-21-106-1, Revenue Ward-98, Munagalapadu, Kurnool, Andhra Pradesh 518004, India
Lat 15.860625° Long 77.999346°
03/09/2025 04:33 PM GMT +05:30