

# Andhra Christian college

(Day, Evening and PG)

## NOTICE

Date: 22-08-2018

This is to inform you that there will be a seminar on “QUNTAM NUMBERS” tomorrow, i.e., on 23-08-2018 to be conducted by the department of physics, at 11 AM.

Dr. G. Gowri Sankar, Head Department of Physics, Hindu College, Guntur. Will be address the seminar. All the students of III B.Sc. are instructed to attend the programme without fail.



Copy to:

1. The coordinator, IQAC, Andhra Christian College
2. The office manager, Andhra Christian College

Principal

A handwritten signature in blue ink, appearing to read "G. Gowri Sankar".

PRINCIPAL  
ANDHRA CHRISTIAN COLLEGE  
GUNTUR

# Andhra Christian College::Guntur

## Department of Physics

### Seminar Report on "Quantum Numbers"

**Organized by:**

Department of Physics, A. C. College, Guntur

**Date:**

23rd August 2018

**Time:**

11:00 a.m.

**Venue:**

Department of Physics, A. C. College, Guntur

## 1. Introduction

The Department of Physics at A. C. College, Guntur, organized a seminar on "Quantum Numbers" on the 23rd of August, 2018. The seminar was part of the department's ongoing efforts to deepen the understanding of fundamental physics concepts among faculty and students. Quantum numbers are a cornerstone of quantum mechanics and play a crucial role in explaining the behavior of subatomic particles.

The resource person for this seminar was Dr. G. Gowri Sankar, Head of the Department of Physics, Hindu College, Guntur, who is known for his expertise in quantum mechanics and atomic physics.

## 2. Objectives of the Seminar

The primary objectives of the seminar were:

1. To provide a comprehensive understanding of quantum numbers:
  - o Explain the concept of quantum numbers and their significance in quantum mechanics.
2. To explore the different types of quantum numbers:
  - o Detail the four quantum numbers (Principal, Azimuthal, Magnetic, and Spin) and their roles in determining the properties of electrons in atoms.
3. To discuss the application of quantum numbers in atomic structure:

- o Illustrate how quantum numbers are used to describe electron configurations and predict the chemical behavior of elements.
- 4. **To enhance the participants' knowledge in advanced quantum physics:**
  - o Introduce participants to the implications of quantum numbers in modern physics and emerging technologies.

### 3. Seminar Proceedings

The seminar began at 11:00 a.m. with an opening address by the Head of the Department of Physics, A. C. College. The introduction highlighted the importance of the topic and welcomed Dr. G. Gowri Sankar to the seminar.

#### 3.1 Lecture by Dr. G. Gowri Sankar

Dr. G. Gowri Sankar delivered an in-depth lecture covering the following topics:

##### **Fundamental Concepts of Quantum Numbers:**

- o Dr. Sankar began by defining quantum numbers and explaining their importance in quantum mechanics as descriptors of the quantized states of electrons in an atom.

##### **Types of Quantum Numbers:**

- o **Principal Quantum Number (n):** Describes the energy level of an electron.
- o **Azimuthal Quantum Number (l):** Determines the shape of the electron's orbital.
- o **Magnetic Quantum Number (m<sub>l</sub>):** Indicates the orientation of the orbital in space.
- o **Spin Quantum Number (m<sub>s</sub>):** Represents the spin of the electron, a fundamental property affecting its magnetic moment.

##### **Pauli Exclusion Principle:**

- o The principle that no two electrons in an atom can have identical quantum numbers was discussed, emphasizing its role in electron configuration and atomic stability.

##### **Applications of Quantum Numbers in Physics:**

- o Dr. Sankar provided examples of how quantum numbers are applied in various fields, including atomic physics, quantum chemistry, and quantum computing.

#### 3.2 Interactive Session

An interactive session followed the lecture, during which participants asked questions and engaged in discussions about the complexities of quantum numbers. Dr. Sankar's clear explanations helped demystify challenging concepts, making the session highly productive.

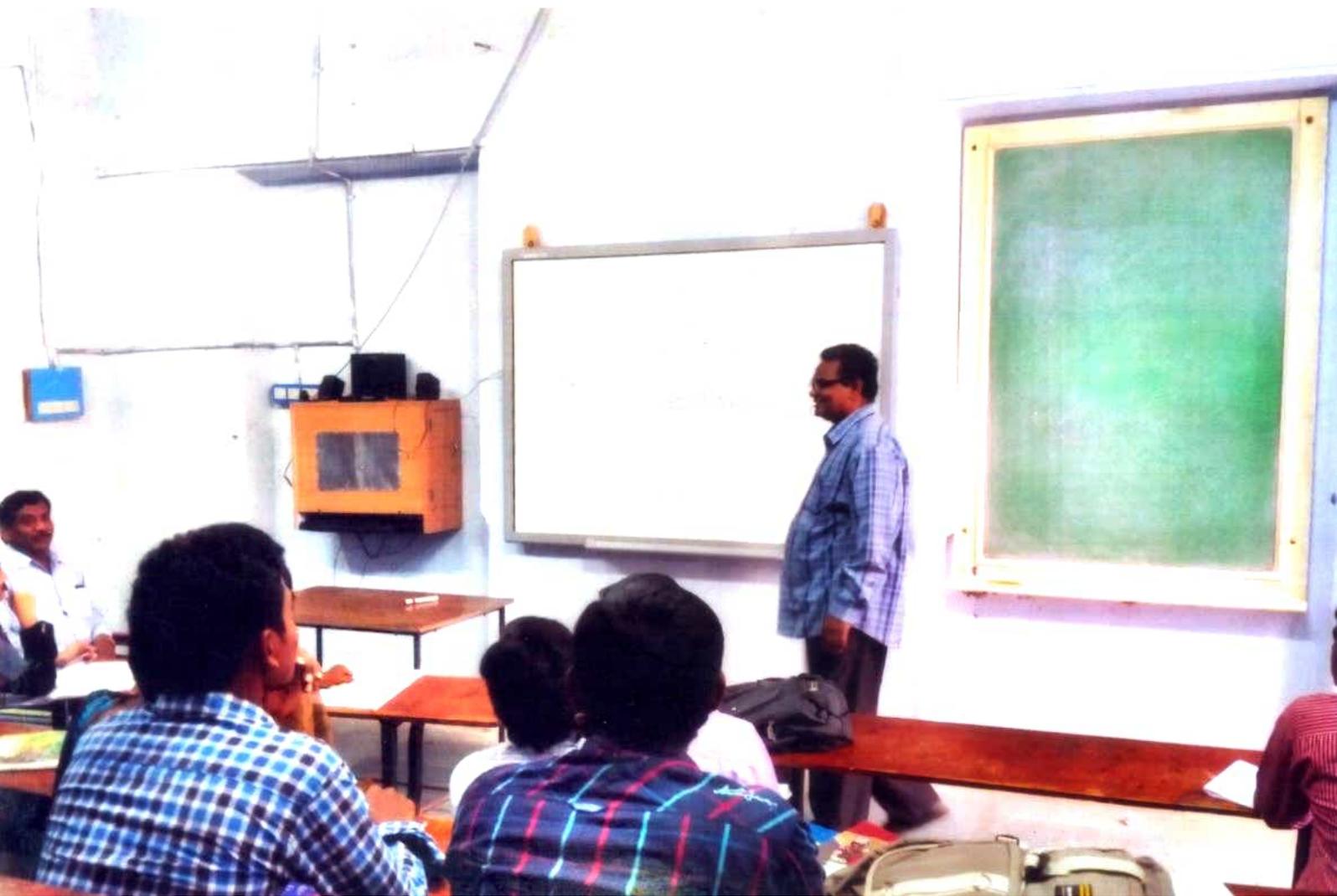
## 4. Outcomes of the Seminar

The seminar successfully met its objectives and yielded the following outcomes:

1. **Enhanced Understanding:**
  - o Participants gained a thorough understanding of the concept of quantum numbers and their significance in quantum mechanics.
2. **Clarification of Complex Concepts:**
  - o The seminar clarified complex topics related to quantum numbers, particularly the Pauli Exclusion Principle and its implications for atomic structure.
3. **Increased Academic Interest:**
  - o The seminar stimulated interest among students and faculty members in further exploring quantum mechanics and its applications in modern physics.
4. **Practical Insights:**
  - o The application of quantum numbers in understanding atomic structure and behavior was effectively conveyed, helping participants appreciate their relevance in both theoretical and applied physics.

## 5. Conclusion

The seminar on "Quantum Numbers" was a resounding success, achieving its goals of educating and inspiring participants. Dr. G. Gowri Sankar's expertise and engaging presentation style contributed significantly to the seminar's impact. The Department of Physics at A. C. College, Guntur, looks forward to organizing more such events to continue fostering a deep understanding of fundamental and advanced topics in physics.



# Andhra Christian College, Guntur

## Department of Physics

List of Students Attended for SEMINAR CLASS

TOPIC: Quantum Numbers

Date: 23.08.18

Class: III<sup>rd</sup> B.Sc

S. No.	Class No	Name of the Students	Signature
1.	602.	K. Bangaru Rani	K. Bangaru Rani
2.	610.	K. Amara Rama Krishna	K. Amara Rama Krishna
3.	612.	T. Naveen Kumar	T. Naveen Kumar
4.	615.	E. Trivikram	E. Trivikram
5.	617.	S. Gopinadh	S. Gopinadh
6.	619.	R. Vamsi	R. Vamsi
7.	620	L. Chinnam Naidu	L. Chinnam Naidu
8.	622.	A. Vijay Kumar	A. Vijay Kumar
9.	625.	Y. Vasa Kumar	Y. Vasa Kumar
10.	628.	K. Mahesh Babu	K. Mahesh Babu
11.	630.	K. Madhu Babu	K. Madhu Babu
12.	633.	K. Prem Kumar	K. Prem Kumar
13.	635.	K. Narendra Babu	K. Narendra Babu
14.	638.	M. Pavan Kalyan Nayak	M. Pavan Kalyan Nayak
15.	640.	D. Naga Babu	D. Naga Babu
16.	642.	P. Arun Kumar	P. Arun Kumar
17.	643.	B. Nagaraju	B. Nagaraju
18.	644.	D. Esu Babu	D. Esu Babu
19.	702.	S.K. Nagur Babu	S.K. Nagur Babu
20.	703.	A. Ravi Teja	A. Ravi Teja
21.	705.	D. Naveen Kumar	D. Naveen Kumar
22.	708	V. Anand	V. Anand
23.	709.	M. Prasanna Kumar	M. Prasanna Kumar
24.	710.	T. Gopi Raju	T. Gopi Raju
25.	711.	G. Ganesh	G. Ganesh
26.			
27.			

*Rubz...*  
 Department of Physics  
 A.C. College, Guntur.

