

**Parvathaneni Brahmaya**  
**Siddhartha College of Arts and Science, Vijayawada**  
**(Autonomous)**

## **Programme: B.Sc Honours (Physics)**

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B.Sc Honours (Physics) is a four-year undergraduate course that deals with the fundamentals of physics. B.Sc Honours (Physics) aims at teaching graduates essential topics such as Quantum Mechanics, Electromagnetism, Optics, Calculus, Semiconductors, Waves, Statistics, etc. B.Sc Honours (Physics) duration is divided into six semesters, and each BSc physics syllabus for each semester comprises theory, lab, and practical examinations.

After completing B.Sc Honours (Physics), graduates have the scope of getting jobs in both the private and public sectors. For example, they can get jobs as physicists, researchers, scientists, assistant radiologists, statisticians, etc.

### **What is B.Sc Honours (Physics)? Course Details**

B.Sc Honours (Physics) is a four-year undergraduate course that aims to teach about the fundamentals of physics such as force, electromagnetism, waves, optics, etc. The course requires you to have high reasoning and problem-solving abilities. The course is offered by some of the top colleges in the country.

### **Why Opt for B.Sc Honours (Physics)?**

Physics is a fundamental science that tries to explain; how the universe works. Advancement in the field of physics has a direct correction with technological advances. A degree in physics allows students to develop logical thinking, reasoning, and intellectual thinking. Physics as a field opens the door to the most exciting and rewarding jobs in the world. The overall employment is expected to increase in the coming years.

The course syllabus is focused on both modern and classical physics, which gives the graduates a strong foundation for further studies. For example, the course focuses on quantum mechanisms and relativity in modern physics. On the other hand, electrodynamics, electricity, magnetism, and optics are essential topics in classical physics that provide students a holistic view of physics.

Once graduation is complete, students can get jobs in many fields. Due to the increasing technological advancement, there is always scope in the field of physics. Students can get jobs as researchers, teachers, technicians, lab assistants, physicists, etc.

## **Who Should Opt for B.Sc Honours (Physics)?**

- Students who have a genuine interest in physics while high school completion should go for further studies in the field. They also must have a conceptual mind and good imagination.
- Physics is a technical subject and requires logical thinking. Students who have an investigative nature are more suited to pursue this field. Basic mathematical skills are also necessary for pursuing this course.
- After completion of class 12, many non -medical students find no interest in the field of engineering. BSc Honours in physics opens a new avenue for such students to explore. In addition, the subject itself is versatile as you can either study old theories or discover new theories.
- A student who decides to pursue this field must have a logical approach. High reasoning skills and the ability to deal with complex problems are also some of the required traits for students who want to pursue this field.

## **After B.Sc Honours (Physics): Scope in India**

The graduates can complete their studies or decide to get a job once their graduation is complete. Many students choose to do an MSc degree in different fields or get jobs as researchers, physicists, lab assistants, teachers, etc.

## **Courses after B.Sc Honours (Physics)**

After completing a bachelor's course in physics, many students decide to continue their studies further as it increases the chances of getting better jobs. Thus, students can do master's in a specific field of physics or go for different degrees.

M.Sc. in Physics (General)

M.Sc. in Oceanography

MSc in Meteorology

M.Sc. in Atmospheric Sciences

M.Sc. in Electronics (Instrumentation)

M.Sc. in Applied Physics

M.Sc. in Nuclear Physics

M.Sc. in Molecular Physics

Integrated M.Sc. in Physics

M.Sc. Broadband and Optical Communications

M.Tech., in Physics  
M.Tech., in Solid State Technology  
M.S in Physics  
M.S in Optics and Materials  
M.S in Optics and Medical Imaging  
Ph.D in Applied Physics: Applied Optics  
Ph.D in Physics

In addition, students can decide to do an MSc for advanced knowledge on the subject and later on opt for PhD programs to become a professor of Physics. For a quick career growth after **B.Sc Honours (Physics)**, MBA is a good choice.

## **What to Do After B.Sc Honours (Physics)**

After completing the **B.Sc Honours (Physics)**, graduates can get jobs in both the private and public sectors. For example, the graduates can get government jobs with the Indian Space Research Organisation (ISRO), National Institute of Oceanography (NIO), and Centre for Good Governance (CGG). National Institute of Oceanography (NIO) and Centre for Good Governance (CGG).

The careers that graduates can pursue are as follows:

- Consulting Physicist
- Assistant Scientist
- Radiation Oncologist
- Research Associate
- Lab Supervisor
- Radiologist
- Professor
- Researcher
- Senior Physicist
- Technician
- Teacher
- Scientist

## **BSc Honours (Physics): Jobs and Salary**

- Research Assistant- they are employed by a university on a temporary contract to conduct and assist research programs.
- Lab Technician-the main job of a lab technician is to manage and supervise all the equipment and tools in the lab.
- Consulting Physicist-a physicist invents technologies, works on theories, discovers elements that help in technological advancement.
- Technical Assistant-they provide technical support to engineers in repairing electronic items.

- Radiologist Assistant-they work as assistants to radiologists as they have a large amount of knowledge about devices, rays, and emissions.
- Radiation Oncologist Assistant – they work with radiologists to help treat cancer as they have a lot of knowledge about radiation waves.
- Statistician- they collect and manage data to provide clients with correct statistical information.

### **BSc Physics Salary**

<b>Job profile</b>	<b>Salary offered.</b>
Content developer	2.42 LPA
Lab supervisor	3 LPA
Radiologist assistant	6 LPA
Statistician	4.5 LPA
Senior physicist	7 LPA
Researcher	6 LPA
Radiation oncologist	10 LPA
Consulting physicist	8 LPA
Research associate	3.5 LPA
High school teacher	4.86 LPA

### **BSc Physics Top Recruiters in India**

The graduates can get jobs in the public and private sector. in the public sector, the top recruiters are:

- Indian Space Research Organisation
- Defence Research and Development Organisation?
- National Institute of Oceanography (NIO)
- Physical Research Laboratory, Ahmedabad
- Saha Institute of Nuclear Physics, Kolkata
- Bhabha atomic research centre
- Nuclear science centre

### **B.Sc Honours (Physics) Admission Process**

Admissions to B.Sc Honours (Physics) are done on the basis of merit. The government of Andhra Pradesh notifies the admission process and asks registration for convener quota of 42 seats. The remaining 18 seats will be in management quota. For management quota consult the college office or use chat bot for enquiry.

### **B.Sc Honours (Physics) Eligibility**

Students who wish to pursue B.Sc Honours (Physics) courses should fulfil the following eligibility criteria in order to get through colleges offering B.Sc Honours (Physics) course,

- Students should clear class 12th board exams with MPC/BiPC.
- They should clear their class 12th board exams from a recognized board

## **Proposed Minor courses**

Chemistry/Mathematics