

Physics Department

ABOUT THE DEPARTMENT

Department of Physics was established in 1969 with the motive to provide education and up to date information to the young minds who want to pursue a career in science. The department commenced with Prep and Pre-Engineering/Medical and achieved new heights each day with untiring endeavors of the faculty and management, which lead to the introduction of B.Sc. (Non-Medical) course in the year 1969 followed by B. Sc. (Computer Science) in 1998. Department started with nearly 40 students and the number is more than 250 for B. Sc. (I) in the session 2020-21.

There are well equipped and furnished laboratories in the department to encourage and inculcate the scientific outlook among students. A huge stock of books is available in the college library and recently we have added 227 books especially for the post graduate course. The department also has a book bank, which provides free books for a complete session to the financially weak and needy students.-At present the department has strength of eight aided regular positions and 4 non-teaching staff. All engaged in providing a trained manpower in physics for teaching, research and other professions. Currently, Nuclear and Radiation Physics (Both Theoretical and Experimental), Material Science and Nanotechnology (Theoretical and Experimental) form major research areas of faculty. The faculty members have also been supervising students for their doctoral research work. Our students clear various entrance examinations for career in teaching, besides entering professional courses.

Department boasts of providing the parent college with very intellectual, hard working and motivating personalities. Veteran Professor Dr. P.S. Gill held the chair of Senator, Panjab University and Professor M.S. Marwaha, Professor S.S. Dhillon and Professor S.S. Kang served as officiating principals of the college. Apart from leading the department and then the whole college, Professor M.S. Marwaha is also renowned for his innovative experimental work in the field of Physics. He was member of IAPT Executive Council for two terms (2010-2015).

Successfully running graduate courses in Physics for five decades, we have started M.Sc. Physics Course in the academic session (2018-19). Our M.Sc. Physics students have secured Panjab University Merit position.

Academic Achievers & University Positions in PU Examination

Name	Class	Position	Examination
Mr. Varun Kamboj (36512)	M.Sc.(TYC) Semester	1 st 10 th position	Dec. Examination, 2018.
Mr. Varun Kamboj (35911)	M.Sc.(TYC) Semester	2 nd 9 th position	May Examination, 2019.
Ms Ritu (36878)	M.Sc (TYC) Semester	1 st 7 th position	Dec. Examination, 2019.

Courses Offered

Course offered	Duration	No. of seats	Academic Qualification
M.Sc. Physics	02 Years	53	Admission to MSc I (Chemistry) will be based on entrance test PU-CET (PG) conducted by PU Chandigarh. Only the rank holders in the entrance test will be considered. 50% weightage will be given to the score in entrance test and 50% to the score in the qualifying examination. Once the list is exhausted, admissions will be on merit basis under University instructions.
B. Sc. (Non-Medical)	03 Years	160	A student who has passed with minimum of 40% marks in Science group (PCM) in +2 examination of a recognized Board.
B. Sc. (Computer Science)	03 Years	80	A student who has passed with minimum of 40% marks in Science group (PCM) in +2 examination of a recognized Board.

INTERDISCIPLINARY COURSES

B.Sc. Biotech (elective) and B.Sc. Biotech (honors) for undergraduate students

Faculty:**Teaching Staff:**

Name and Email	No. of Publications	No. of books/ Book Chapters	Oral/Poster Presentation	Conferences/seminar Attended/workshop Attended	Refresher orientation courses Attended/FDP/STTP	Area of Specialization
Prof. Kulwinder Singh randhwa64@gmail.com	---	----	----	15	1 orientation 4 refreshers	Electronics
Dr. Ranber Singh ranber14@gmail.com	70	01Book	20	20	01 orientation 01 refresher	Condensed matter physics
Dr. Kuljeet Singh Chakkal chakkal.ks@gmail.com	26	02 Book chapter	02	06	01 Orientation 01 Refresher	Experimental Nuclear Physics
Dr. Saroj Bala sarojsggs26@gmail.com	12	01 Book chapter	08	13 02 workshop	01 Orientation 03 FDP	Semiconductor Physics and Material science
Dr. Arshdeep Kaur Sidhu arshdeep.pu@gmail.com	11	---	14	20	01 Orientation 01 Refresher	Nuclear physics
Dr. AnamikaMukhopadhyay anamukherjeester@gmail.com	15	02 Book Chapter	11	11	---	Molecular Physics and Spectroscopy
Dr. Vipenpal Singh dr.singhpu@gmail.com	31	01	12	16	03 Refresher	Nuclear Physics

TECHNICAL/ NON-TEACHING STAFF

S. No.	Name	Qualification	Designation
1.	Mr. Randhir Singh	Matriculation	Senior Lab Attendant
2.	Ms. Jaspreet Kaur	B.A.	Senior Lab Attendant
3.	Mr. Gurjeet Singh	Diploma (ECE)	Senior Lab Attendant
4.	Ms. Poonam Sharma	BA, D.Pharmacy	Senior Lab Attendant

INFRASTRUCTURE

Infrastructural Details and facilities	
Physics Lab I	Fully Equipped for B. Sc I
Physics Lab II	Fully Equipped for B. Sc II Along with Darkroom
Physics Lab III	Fully Equipped for M. Sc (Physics) I & II Smart Interactive Board Installed
Physics Lab IV	Fully Equipped for B. Sc III
Store Room	One
Classrooms	Available as per college time-table.
Seminar Room	Yes
Computer Lab (with internet facility)	Slots available in Dept. of Computer Science Labs
Departmental Library	~250 Books of National and International publications accessible for students.

IMPORTANT POST HELD BY THE FACULTY

Faculty	Post
Prof. Kulwinder Singh	Convenor, Purchase Committee
Dr. Ranber Singh	Dean research
Dr. Kuljeet Singh Chakkal	Coordinator, RUSA
Dr. Saroj Bala	Hostel In-Charge (Girl's)
Dr. Arshdeep Kaur Sidhu	Ex- Staff Secretary
Dr. Vipenpal Singh	Nodal Officer, Mosquitogenic Situation Control

DEPARTMENT ACTIVITIES

PG Department of Physics organizes different kinds of activities i.e. educational trips, motivating talks by eminent speakers; celebrate special days etc in parallel with regular academic session. Here we summarize such activities which were held in past five years.

➤ **Special day Celebration:**

❖ **National Science Day:** The department has been celebrating ‘National Science day’ (February 28th) with great zeal over past academic years (2016-17, 2017-18, 2018-19, 2019-20). Both students and teachers participate in this celebration with full enthusiasm. Different activities such as poster making, quiz, PowerPoint presentations etc were organized every year. Total 250 students including UG and PG departments participated in these activities each year.

❖ **Akshay Urja Diwas:** Akshay Urja Diwas was celebrated by PG Dept. of Physics in the academic session 2019-20 and 2020-21 in the month of August to mark the awareness of renewable energy in our country.

- 2019-20: Students participated in different activities such as Slogan writing, Poster making, Powerpoint presentation, Eco-rangoli etc to make the day eventful. An expert lecture on the topic “Renewable energy sources” was delivered by the resource person Prof. Amrit Pal Toor, Ex coordinator of Energy Research Center.

- 2020-21: The PG Dept. of Physics in collaboration with Dharat Suhavi Environment Society organized a logo design competition on the topic ‘Green Energy’ on August 20th, 2020 to mark the special day. The winners were awarded with cash prize.

➤ **Guest lectures:** Every year the department organizes guest lectures by eminent speakers to enlighten students about recent developments in scientific areas. These activities also help to develop scientific temperament in students. The talks organized in last five years are listed below:

❖ **2015-16:** Guest lecture on the topic ‘Quantum Cryptography’ was organized on 18th January, 2016. The speaker was Prof. Arvind, Department of Physics, IISER Mohali.

- ❖ **2016-17**: Guest lecture was delivered by Prof. Sandeep Sahijpal, Dept. of Physics, PU Chandigarh, on the topic ‘Timeline’ on 2nd February, 2017.
 - ❖ **2017-18**: Guest lecture was delivered by Prof. Jatinder Kumar Goswamy, UIET, PU, Chandigarh on the topic ‘Nanotechnology: A Revolution’ on 8th November, 2017.
 - ❖ **2018-19**: Guest lecture was delivered by Prof. Hardev Singh Virk on the topic ‘My Journey in science from elementary particles to nanotechnology’ on 28th September, 2018.
 - ❖ **2019-20**: Expert lecture on the topic “Renewable energy sources” was delivered by the resource person Prof. Amrit Pal Toor, Ex coordinator of Energy Research Center.
 - ❖ **2020-21**: In the session 2020-21 the PG dept of Physics organized five webinars. They are as following:
 - Prof. Arvind, Dept. of Physics, IISER Mohali delivered a lecture on ‘Future of Quantum Computing’ on July 29th, 2020.
 - Prof. Arvinder Sandhu, Dept. of Physics, University of Arizona, Tucson, USA was the resource person in the Interactive session on ‘Physics as a career’ dated Dec 17th, 2020.
 - Prof. Bikramjit Singh Bajwa, Dept. of Physics, Guru Nanak Dev University delivered a lecture on ‘Health Effects of Nuclear Exposure’ on Jan 12th, 2021.
 - Prof. Harmanjit Sandhu, Dept. of Physics and Applied Mathematics, Centennial college, Toronto (Canada), was the resource person in the Interactive session on ‘My experience in Academiaas an Immigrant’ dated May 7th, 2021s
 - Dr. Bindiya Arora, Dept. of Physics, Guru Nanak dev University, Amritsar delivered a lecture on ‘Quantum Computers’ on May 13th, 2021.
- **Educational Trip**: An educational trip to Pushpa Gujral Science City, Jalandhar was organized by PG Dept. of Physics for the PG students of all the departments on 19th October, 2019.
- **Fresher and Farewell Functions** :
- Every year PG Dept. of Physics organizes cultural functions to give warm welcome to new batches of Bachelor and Master’s students. These functions help fresh students to interact with their seniors.
 - And at the completion of their degrees department offers farewell to the outgoing batches and wish them good career.