

Department of Physics

(Estd. 1958)

DST-FIST and UGC-DRS Supported Department

Sardar Patel University

Vallabh Vidyanagar



Contact

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Head of the Department

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Academic Programmes

Ph. D. (Physics) [Full Time and Part Time]

M.Sc. (Physics) CBCS Mode [4 semesters] with specializations in

- (i) Condensed Matter Physics
- (ii) Electronics & Communication
- (iii) Computational Physics
- (iv) Energy Science & Technology

Total Credits in M.Sc.: 4 semesters x 25 = 100

- ✓ Inclusion of Learning Outcomes
- ✓ Focus on Employability (E), Skill Development (SD) and Entrepreneurship (ET)
- ✓ Local, regional, national & global developmental needs
- ✓ Inputs from Industry experts and Alumni

Course Type	Credits
Core	40
Elective	24
Practical	32
Comprehensive Viva	04

Courses focusing on Employability (E), Skill Development (SD) & Entrepreneurship (ET)

Core Courses

Mathematical Physics (SD), Classical and Statistical Mechanics (SD)
Advanced Quantum Mechanics (SD), Elements of Experimental Physics (SD, E)
Advanced Experimental & Characterization Techniques (SD, E)
Nanoscience & Thin Film Physics (E), Nuclear & Particle Physics (E)
Practical in All Semesters (SD)

Elective Courses

Crystal Growth & Imperfections in Solids (E)
Advanced Solid State Electronic Devices (ET)
Microwave Communication : Electronics & Technology (ET),
Microprocessors : Programming, Interfacing & Applications (ET),
Crystallography & Materials Science (E),
Computational Physics (SD)

Interdisciplinary Courses

Thin Films and Nanoscience (SD,E)
Biophysics (SD,E)
Solid State Electronic Devices and Solar Cells (ET),
Signal Processing and Satellite Communication (ET)

Teaching and Academic Activities

Orientation /
Induction
Program for
freshers

Academic Calendar
Planned and
Circulated at the
beginning of the
semester

Students' seminars /
Quiz / Projects,
assignments etc.

Study tours and
Industrial Visits

Remedial classes
/ counseling in
contact hours
and special
classes

Distinguished
experts are invited
for special lectures

ICT enabled offline
classroom teaching
as well as
Hybrid method of
teaching

Faculty
empowerment
through OP/RC/FDP

Participative
learning through
Lab sessions

Faculty Members

Faculty Member	Designation	Field of Research	Experience in Years	No. of articles*	No. of Citations*	h-index*
Dr. V. M. Pathak	Professor	Expt. CMP	35	136	1907	26
Dr. M. P. Deshpande	Professor	Expt. CMP	30	157	2087	26
Dr. B. Y. Thakore	Professor	Theory CMP	22	73	296	10
Dr. K. D. Patel	Professor	Expt. CMP	30	147	2176	28
Dr. G. K. Solanki	Professor	Expt. CMP	30	144	2094	28
Dr. S. H. Chaki	Professor	Expt. CMP	16	156	2295	26
Dr. K. N. Lad	Professor	Theory CMP	18	40	641	13
Dr. Arun Anand	Professor	Optics	21	138	2423	27
Dr. J. N. Pandya	Professor	Particle Phys	19	29	404	12
Dr. A. N. Prajapati	Associate Professor	Dielectrics	26	17	217	7
Dr. S. J. Pandya	Assistant Professor	Expt. CMP	07	46	732	14

*Numbers as on 06 April 2024 | Source: SCOPUS | Please click on the name of the faculty to view respective current SCOPUS profiles

Teaching-Learning-Evaluation



Evaluation Process and Reforms

Continuous Evaluation

Test, Quiz, Seminar and Assignment

During Pandemic, Quiz and Test consisting of MCQ or short answers were taken on Online platform

Answer books are shown and reevaluated if required

Timely assessment and declaration of results

Practical and Comprehensive Viva

Provision for improvement test

Project and Dissertation

Learning outcomes

Conceptual clarity, Comprehension of theory, Techniques and their Applications are continuously monitored

The improvement in learning attributes are facilitated through assignments and counselling

Thrust Area of Research: Condensed Matter Physics

Fields of Research

- Crystal Growth, Characterization and Device Fabrication
- Nanomaterials and their applications
- Crystallographic study of biomolecules
- DFT and classical MD of materials
- Physics of disordered materials
- Optical Physics, Biomedical Optics, 3D Microscopy, Optical Instrumentation
- Microwave dielectrics
- Theoretical High Energy Physics

Research Collaborations

- BARC, Mumbai and RRCAT, Indore
- IIT Delhi and IIT Bombay
- University of Connecticut, Storrs, USA.
- JINR, Dubna, Russia and University of Napoli, Italy
- University of Stuttgart, Germany.
- Medical University of Vienna, Austria.
- HICS, South Korea
- ICTP, Trieste, Italy
- University of Jean-Monnet, France
- Université Grenoble Alpes, Saint Martin d'Herès, France

Major Equipment and Research Facilities

Powder X-Ray Diffractometer

Micro Raman Spectrometer

Single crystal X-Ray Diffractometer

Photoluminescence spectroscopy

Hall effect measurement system

FPLC

Imagine spectrometer

Vacuum coating Units

Trinocular microscope

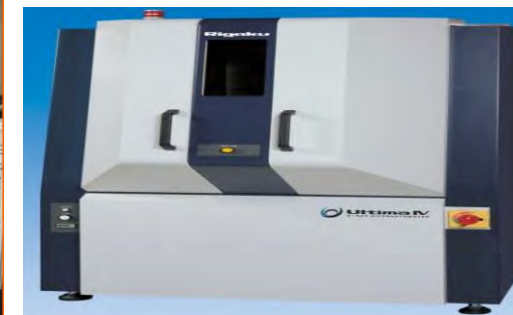
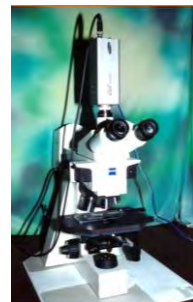
Particle Size Analyser

Xeon based Workstations

High temperature furnace

Thermal Analyzer system

Potantioostat Galvenostat



Research, Consultancy and Extension



Research Publications (Source: SCOPUS)

1643 (716)
Research Publications

19664 (9582)
Citations

18.03 (18.03)
Highest Impact Factor

56 (40)
H-index

76 (47)
Publications with Citations
more than 50

117 (60)
Publications in Journals with
JIF more than 5

544 (192)
i10-index

3.01 (3.47)
Average Impact Factor

Patents/Design Registrations 14

Numbers in the parenthesis indicate respective data of presently serving teachers



IF 6.63

IF 7.14

IF 7.38

IF 7.39

IF 7.61

IF 8.31

IF 9.24

IF 9.26

IF 9.97

IF 10.05

IF 10.38

IF 18.03

Infrastructure & Learning Resources



04
ICT Enabled Classrooms

05
Central Instrumentation Facility

03
Laboratories for Teaching

11
Research Laboratories

01
Ladies Common Room

01
Meeting Room

01+01
Administrative Office
And Store-room

15
Office Cabins for Faculty with
ICT Facility and Intercom

Central RO System for staff and students

Wheel Chair Facility

Fire Extinguisher and fire safety system

Common facilities such as Health Centre, Gymnasium, Swimming pool, Canteen, Hostels at University level

Departmental Library Facilities

2530
References & Text Books

16
Subscribed Journals

DST FIST Computer & Networking Lab



Intel Xeon processor based Server	01
i5 processor based PCs	15
Brother DCP MFD Laser printer	01
APC 3.0 kVA UPS	01

Students Participation in Various Committees



Physical Society
A Departmental Student Body
Constituted Annually

Composition

Office Bearers

President
Head of the Department

Chairman
Teacher of the Department

General Secretary
Student Representative

Programme Coordinator
Teacher of the Department

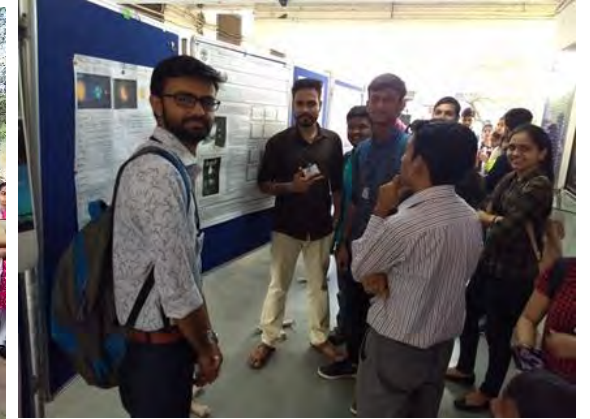
Executive Members

Sports Secretary
Student Representative

Cultural Secretary
Student Representative

Class Representatives
Student Representatives

Co-opted members
Students



**Admission to
M.Sc. (Physics)
is OPEN now at**

<https://gcas.gujgov.edu.in/>