

ST.FRANCIS COLLEGE FOR WOMEN - HYDERABAD

ACADEMIC YEAR 2025-26

Annual Report

NAME OF THE DEPARTMENT: PHYSICS

1. WORKSHOPS CONDUCTED

1. The One day workshop titled Image Processing with open CV was conducted on September 1, 2025 by the department of Physics. This was organised in association with Pantech E-learning Limited, and attended by a total of 40 students.
2. The One day workshop titled From Battery to drive: Build your own EV under DBT STAR COLLEGE was conducted on January 7, 2026 by the department of Physics. The resource person for the event was Mr. Param Mandloi (Co-Founder, Chartered Bike; Founder, GrowOwn) and attended by a total of 66 students.
3. The One day workshop titled Solar-Powered Portable Energy Systems” under DBT STAR COLLEGE was conducted on January 27, 2026 by the department of Physics. The resource person for the event was Mr. Hamed from AR technologies, Hyderabad and attended by a total of 46 students.
4. The One day workshop titled Experimental Techniques on Magnetic Material Analysis under DBT STAR COLLEGE” was conducted on February 9, 2026 by the department of Physics. The resource person for the event was Mr. Vijaya Krishna from Texla Instruments, Hyderabad and attended by a total of 45 students.
5. A two days Online Hands-on workshop in Scientific Data Analysis for Material Characterization using Origin Software under DBT STAR COLLEGE was conducted on February 17&18, 2026 by the department of Physics. The resource person for the event was Dr.Roopam Gaur, DST Inspire faculty, Centre for Nanomaterials, Jawaharlal Nehru University, Delhi and attended by a total of 45 students and 12 faculty members.

2. SEMINARS CONDUCTED

1. A webinar “Quantum Science for Sustainable Tomorrow” was conducted on December 13, 2025 by the department of Physics. It was organised in association with Indian Association of Physics Teachers (IAPT) facilitated by the resource person Prof. P. K. Ahluwalia, and was attended by 94 students and 16 faculty.

3. WORKSHOP / SEMINAR ATTENDED (By the Faculty)

1. Ms. K. Devy attended a 5 Day national Level Online FDP on outcome Based Education, Binary Accreditation & usage of AI from June 2-6, 2025 organised by IQAC of St. Mary’s Centenary degree College, Hyderabad.
2. Ms. K.Devy attended an online faculty Development Program on “Generative AI tools for smart Teaching” from June 9-13, 2025 organised by All India Association for Christian Higher Education, New Delhi.
3. Dr.Usha Praveena and Ms. K. Devy attended a FDP on The changing face of NAAC Accreditation: BAF&MBGL on June 24, 2025 organised by St. Francis College for Women, Hyderabad.
4. Dr. Usha Praveena attended a Two day National Seminar on Empowering India's Research Future from July 9-10, 2025 organised by Research Heights Foundation, Hyderabad in Engineering Staff College of India, Hyderabad
5. Dr.Usha Praveena attended an online National faculty development program on Experimental and Computational Physics conducted from October 06-10, 2025 organised by the department of Physics, Bon Secours College for Women, Thanjavur, Tamil nadu.
6. Dr.Usha Praveena attended an online National faculty development program on Foundations of Data science and it’s Applications conducted from October 27 to November 01, 2025 organised by the department of Computer Science & Engineering, Gurunank Institute of Technology, Hyderabad.
7. Dr.Usha Praveena attended an e -Workshop on Scientific and Mathematical Solutions from IKS conducted from November 4&5, 2025 organised by St.Wilfred’s College, Jaipur.
8. Dr.K. Devy attended a workshop on Material Characterisation & Data analysis conducted from 20th January- 04 th February 2026 organised by SIAS Research Centre, Kerala.

9. Dr.K. Devy attended a workshop on Innovative ways to teach Optics conducted on January 21, 2026 organised by Physics section, School of Sciences, MANUU, Hyderabad.
10. Dr.K. Devy attended a FDP on Essentials of Power BI conducted on February 12, 2026 organised by department Statistics, St. Francis college for Women.
11. Dr.Usha Praveena attended a Workshop on Artificial Intelligence Use in Daily Life conducted on March 18, 2026 organised by Indraraj Arts, Commerce and Science College, Sillod, Maharashtra.
12. Dr.Usha Praveena attended a Workshop on conducted on Academic enrichment Series on Research & Innovation Outcomes on February 27, 2026 organised by AIACHE.

4. PAPERS PRESENTED, PUBLISHED / BOOK /CHAPTERS PUBLISHED BY FACULTY MEMBERS

Papers Published

1. Dr.Usha Praveena., & A, R. M. (2025). Structural and Magneto Absorption Study of Hard and Soft Ferrite. *International Journal of Natural and Engineering Sciences*, 19(1), 1–9.
2. Chander, S., & Praveena, V. U. (2025, November). Synthesis of activated carbon from coconut shell using ZnCl₂ and FeCl₃ for chemical activation, binding PAC and exploring it's applications. In *AIP Conference Proceedings*, Vol. 3361, No. 1, p. 030066. AIP Publishing LLC.
3. Navya Sri Chandana M. & Devy, K. (2026). Sustainable development by integrating nuclear and renewable energy systems. *Journal of Xidian University*, 20(1), 412–418.

Patents

1. Dr.Usha Praveena published a patent on Phytochemical, Antimicrobial, Antioxidant and Dielectric Characterization of Withania Somnifera and Curcuma Caesia on August 01, 2025.

Book Chapters

1. Anitha Thomas, Usha Praveena, V. J., & Talath (2025). Comparative Assessment of Antibacterial Activity of Ocimum Basilium...Nanoparticles, *Fundamentals and Emerging Applications of Nanoscience and Nanotechnology*, Vol 3, Chapter 6, pp 80-101. ISBN 978-93-48679-89-5
2. Usha Praveena, V. J., Sindhuja S & Kalpana (2026). AI in Astronomical Imaging: Enhancing Our Cosmic Vision, *Astronomical Imagery:Unveiling the Physics of Space and Atmospheric Wonders*, Cambridge Scholars Publishing, UK, Chapter 9, pp 183-210. ISBN: 978-1-0364-6721-0

Papers presented

1. Dr. K. Devy & Navya Sri Chanadana presented a paper on Nuclear energy for a sustainable Future: A Pathway towards Renewable Integration in the International conference on Sustainable science & Technology organised by the School of Sciences, Woxsen University, Hyderabad from December 8-12, 2025.

5. GUEST LECTURES ORGANISED

1. A guest lecture titled Chat with Alumna: Unlocking New Possibilities with Physics was organized by the department of Physics facilitated by the resource person Ch.Aarthi on July 16, 2025 for the students of B.Sc Physics & Electronics.
2. A guest lecture titled Quantum Computing: Translating Science into Technological Reality was organized by the Department of Physics facilitated by the resource person Dr.Shaik Ahmed, Lecturer in Physics, Government Junior College, Lingampet, Kamareddy, Telangana on July 28, 2025 for the students of B.sc Physics & Electronics.
3. A guest lecture titled Physics of Audio, Video &Image Forensics was organized by the department of Physics facilitated by the resource person Ms.Maheshwari, Assistant Director & Scientist (physics), Central Forensic Science Laboratory, Hyderabad on December 17, 2025 for the students of B.Sc Physics & Electronics.

6. INDUSTRY -ACADEMIA CONNECT INITIATIVES

B. Guest talk by Industry experts:

1. A guest lecture titled “Quantum Computing: Translating Science into Technological Reality” was organized by the Department of Physics facilitated by the resource person “Dr.Shaik Ahmed, Lecturer in Physics, Government Junior College, Lingampet, Kama Reddy, Telangana” on July 28, 2025 for the students of B.Sc. Physics& Electronics.
2. A guest lecture titled “Physics of Audio,Video & Image Forensics” under DBT STAR COLLEGE (Strengthening Component) was organized by the Department of Physics facilitated by the resource person Ms. M. Maheshwari (Assistant Director & Scientist (physics), Central Forensic Science Laboratory, Hyderabad) on December 17, 2025.

7. FACULTY ACHIEVEMENTS

Ms.K. Devy was awarded the Doctor of Philosophy from Bharathidasan University, Tiruchirapalli in October 2025.

8. STUDENT ACHIEVEMENTS (WINNER DETAILS)

1. Madhuri participated in Inter collegiate classical solo Dance competition on November 29, 2025 and was awarded second prize by Loyola Degree College, Hyderabad.
2. Ms Esha Sri participated in Inter collegiate group Dance competition on February 13, 2026 and was awarded third prize by Little flower Degree College, Hyderabad.

9. SOCIAL OUTREACH INITIATIVES

60 students from BSc II B (MPC & MPCs) were accompanied by the faculty Members Dr. Suryavardhini, Dr. K. Devy, & Ms. Jenifer Johnson visited Helen Keller Institute for Disabled Neredmet, Secunderabad, on December 8, 2025.

10. FIELD VISITS ORGANISED

1. A group of 44 students from B.Sc III year accompanied by Dr. K.Devy visited Indian Meteorological Department (IMD), Hyderabad for a field visit on July 17, 2025.

2. A group of 66 students from B.Sc III B & E accompanied by Dr. K.Devy & Ms. B. Sushma visited School of Physics, University of Hyderabad, Gachibowli for a field visit on February 5, 2026.

11. FDP Conducted

Faculty development cell and IQAC conducted a Faculty Enrichment Program for all the teaching staff on September 10, 2025. The resource person for the same was Dr.Usha Praveena and the topic was “Synergy for Success: Community, Globalisation and Ranking Excellence”.

12. Any other:

1. The Department of Physics in collaboration with Spectrum Club had organized a ‘**Public Awareness Program on Peaceful Uses of Nuclear Energy**’ on August 28, 2025. The resource person for the same was Dr. Taru Bhattacharya, Scientific Officer and In-Charge of the Radiation Standards and Analysis Laboratory, Atomic Minerals Directorate, Department of Atomic Energy, Hyderabad. Around 600 students and six faculty members attended it.

2. The Departments of Physics and Electronics celebrated **National Energy Conservation Day on December 15, 2025** to promote awareness about the importance of conserving energy. As a part of the program, a formation was organized in the Quadrangle with the active participation of 150 students. An Intercollege Reel making competition on the theme ‘**Spark the Change: Save the Earth**’ was conducted and three cash prizes were awarded to the Winners.

3. Dr.Usha Praveena was invited as Jury members at the 18th Science Engineering Fair organised by Telangana Science Fair Academy on November 8, 2025 in Government City College, Hyderabad.



Head of the Department

