



**ST. XAVIER'S COLLEGE (AUTONOMOUS)
PALAYAMKOTTAI - 627 002**
(Recognized as "College with Potential for Excellence" by UGC &
Accredited by NAAC at A++ Grade with a CGPA of 3.66 out of 4)



**ANNUAL REPORT 2022-2023
DEPARTMENT OF PHYSICS (SHIFT- I & II)**

The Inauguration of Physics Association was held on 11.08.2022. Dr. S. Jeyakumari Assistant Professor of Physics, Sri K.G.S. Arts College, Srivaikundam, has inaugurated the association with her address on "The Energy Flows - Where the Attention Goes". An Intercollegiate Physics meet (PHYSCOM-2022) was organized on 29.09.2022.

Dr. J. Shakina, Assistant Professor, Department of Chemistry, Sarah Tucker College delivered an invited talk on "Advances in Nanoscience and Nanotechnology" on 14.10.2022.

Dr. R. Anitha, Assistant Professor, Department of Physics, Sarah Tucker College, Palayamkottai delivered an invited talk on "Crystallography and Hydrogen Bonds" on 06.03.2023. One day faculty workshop was organized by the Department of Physics on 17.03.2023. An invited talk was organized by the Department of Physics on 20.03.2023. Dr. D. Cherine, Assistant Professor of Physics, Government College of Engineering, Tirunelveli has delivered a lecture on the topic "Chaos and Physical Reality".



The Valedictory function was held on 21.03.2023. Dr. M. Darathi, The Principal, Government Arts and Science College, Maanur addressed the gathering.

TABLE.8.a. PAPERS PUBLISHED IN JOURNALS (2022-2023)

S. NO	Name of the Teacher	Name of the Department	Title of the Paper	Name of the Journal	Volume No/ Issue No/ Page No / Year	ISSN No. / e-ISSN No.	Cited in Web of Science / Scopus Indexed/UGC Approved / Not Found in UGC-CARE List	National / International	Impact Factor
1	Dr. R. Mary Jenila	Physics	Swine manure as soil supplement to enhance the growth and yield of Bengal gram (vigna mungo): A field study	Oriental journal of chemistry	38/2 399 – 405 (2022)	0970 – 020X	Scopus	International	3.516
2	Dr.R.Mary Jenila	Physics	Improving superior characteristics of glass using Graphene-coated	International journal of scientific research in, science, engineering and technology	9/3 226 – 234(2022)	2394 - 4099	UGC approved	International	8.154
3	Dr.R.Mary Jenila	Physics	Photocatalytic and Antibacterial Activity of CoFe ₂ O ₄ Nanoparticles from Hibiscus rosa-sinensis Plant Extract	Nanomaterials	12/20 3668 (2022)	20794991	UGC/Scopus	International	5.719

4	Dr. D.E. Jain Ruth	Physics	Preferential grain growth and impact of aluminum and tin doping on the physical properties of ZnO microrods	J Mater Sci: Mater Electron	33, pages233 06–23324 (2022)	0957-4522 (print); 1573-482X (web)	Web of Science / Scopus Indexed	International	2.478
5	Dr. D.E. Jain Ruth	Physics	Suppression of intermediate antiferroelectric phase in sub-micron grain size Na _{0.5} Bi _{0.5} TiO ₃ ceramics	J Mater Sci: Mater Electron	33, pages250 06–25024 (2022)	0957-4522 (print); 1573-482X (web)	Web of Science / Scopus Indexed	International	2.478
6	Dr. D.E. Jain Ruth	Physics	Study on vibrational Raman modes and electric properties of lead-free sodium bismuth titanate – bismuth magnesium zirconate piezoelectric ceramics	Chemical Physics Impact	6, 100172 (2023)	2667-0224	Web of Science / Scopus Indexed	International	
7	Dr.B.Helina	Physics	2D Hexagonal Yttrium doped SnO ₂ nanoplatelets for photocatalytic degradation	Springer-Chemical Papers	77, 18 November 2022	1683–1693	UGC	International	2.16
8	Dr.B.Helina	Physics	Effect of Calcium on Two-Dimensional Morphology and Photocatalytic Properties of Tin Oxide Nanoparticles	Asian Journal of Chemistry	27 February 2023	679-686	Web of Science	International	4.568

9	Dr. D. Prem Anand	Physics	Preparation and characterization studies of chitosan encapsulated ZnO nanoparticles modified with folic acid and their antibacterial activity against selected bacterial species	Particulate Science and Technology	10/08, 2022		UGC	International	
10	Dr. D. Prem Anand	Physics	Structural, Optical, Electrochemical Properties of Nano Graphene oxide / Nanocomposite suitable for supercapacitor applications.	International Journal of Physics and Research	13/1/ June 2022, 1-10	2250-0030	Web of Science / Scopus Indexed	International	
11	Dr. D. Prem Anand	Physics	Solvothermal synthesis and characterization studies of CaV6O16. 3H2O nanoribbons	Materials Today: Proceedings		2214-7853	Web of Science / Scopus Indexed	International	
12	Dr. D. Prem Anand	Physics	Fluorescence, SEM, NLO and Impedance of Swift heavy ion Irradiate 2 Amino 5-Nitropyridinium Sulfamate single crystal	Journal of Xi'an Shiyou University, Natural Science Edition,	Vol 18, Issue 12' 294-304	1673-064X	UGC	International	

13	Dr. D. Prem Anand	Physics	One pot synthesis, Structural, morphological, Optical Properties of Graphene Oxide/ NiO Nano composite suitable for super capacitor Applications	YMER	VOLUME 21: ISSUE 11 (Nov) - 2022	0044-0477	UGC	International	
14	Dr. D. Prem Anand	Physics	Preparation and characterization studies of nano graphene oxide	Materials Today: Proceedings		2214-7853	Web of Science / Scopus Indexed	International	
15	Dr. D. Prem Anand	Physics	SYNTHESIS, CHARACTERIZATION AND ANTIBACTERIAL ACTIVITY OF ALUMINIUM OXIDE NANOPARTICLES	Journal of Xi'an Shiyou University, Natural Science Edition	Vol 18, Issue 4, 263-267	1673-064X	UGC	International	
16	Dr. D. Prem Anand	Physics	Synthesis, characterizations and Antibacterial Studies of Chromium trioxide Nanoparticles	International Journal for Modern Trends in Science and Technology	8(01): 252-258, 2022	2455-3778	UGC	International	
17	Dr. D. Prem Anand	Physics	Synthesis and characterization of chitosan encapsulated nickel oxide nanoparticles modified with folic acid	Materials Today: Proceedings		2214-7853	Web of Science / Scopus Indexed	International	

TABLE.8.b. – PAPERS PUBLISHED IN CONFERENCE / SEMINAR PROCEEDINGS (2022-2023)

S. No	Name of Teacher	Department	Title of the Paper	Title of the Proceedings	National / International	(Place, Publisher, Year, Page No.)	ISSN / ISBN No.
1	Dr.B.Helina	Physics	Structural Characterization And Functional AnalysisOf Pure And Mndoped Nickel Oxide Nanoparticles	Emerging Materials And Its Applications	International	SXC, Palayamkottai, 2022	978-81-956471-0-1
2	Dr.B.Helina	Physics	Synthesis And Characterization Of Zirconium Dioxide Nanoparticles	Emerging Materials And Its Applications	International	SXC, Palayamkottai, 2022	978-81-956471-0-1
3	Dr.B.Helina	Physics	Growth And Studies Of Semiorganic Nlo Crystals:L-Leucine Barium Chloride	Emerging Materials And Its Applications	International	SXC, Palayamkottai, 2022	978-81-956471-0-1
4	Dr.B.Helina	Physics	Structural Characterization and Thermal Analysis of eco-friendly synthesized CuO Nps	Science in the Environment of Rapid Changes	International	Belgium, Chemistry and Materials Science, 2023, 294-301	