

**D.R.G. GOVERNMENT DEGREE COLLEGE,
TADEPALLIGUDEM**

PROFILE



DEPARTMENT OF PHYSICS

Brief history of the department

The department of Physics, D.R.G. Government College, Tadepalligudem, was established in the year 1966 along with the college. At that time the college was composite college and it offered both intermediate courses and Under graduate courses. At that time Physics department offered M.P.C. (Maths, Physics and Chemistry), Bi. P.C. (Biology, Physics and Chemistry) combinations in Pre - University course (One year course) and M.P.C. (Maths, Physics and Chemistry) combination in B.Sc. – UG course . The U. G. Courses are affiliated to Andhra University, Visakhapatnam. The medium of instruction is Telugu.

In 1971 the intermediate (Two years) course was introduced in place of P.U.C. In the year 1996 the college was bifurcated as Government junior college and D.R.G. Government Degree college. In the academic year 2006 – 07 the department introduced a new restructured course, M.P.CS.(Maths, Physics and Computer Science) in English Medium.

The affiliation changes to Adikavi Nanaya University, Rajamahendravaram from the academic year 2012 – 13. Semester system was introduced from the year 2015 – 16. In this system internal assessment was also introduced. The ratio of External : Internal is 75 : 25.

From the academic year 2016 – 17 (Admitted Batch) CBCS (Choice Based Credit System) was introduced. In this system the VI – Semester student can choose one elective and three Clusters. From the Academic year 2020 – 21 (Admitted Batch) Community service Project (for two months after 2nd semester) and two internships (for two months after 4th semester and six months in 6th semester). From the 2023 – 24 academic year the department introduced single major system.

Vision :

The Department of Physics envisions fostering a dynamic learning environment that cultivates a deep understanding of the fundamental principles of physics.

Mission :

Our mission is to inspire and empower students to excel in scientific inquiry, critical thinking and problem-solving, while promoting a passion for lifelong learning.

Aims and Objectives

Aim :

To provide high-quality education in fundamental principles and theories of physics.

Objective

To develop critical thinking and problem-solving skills through theoretical and experimental (Practical)

Courses offered by the department

1. Physics Minor 2023-24 onwards

Intake capacity

1. B.Sc. Maths/Computer Science/Chemistry (Conventional/Self Finance)
: 40

Sanctioned posts

1. Teaching posts (Lecturer) : 03
2. Store Keeper : 01

Faculty details

S.No.	Name of the Faculty	Qualification	Designation	Experience
1.	Dr. B Venkatesulu Reddy	M.Sc., Ph.D	Lecturer in Physics	5 Years
2.	Dr. N. Srinivasa Rao	M.Sc.,B.Ed.,MPhil., Ph.D.	Lecturer in Physics	27 Years

Non-teaching staff details

S.No.	Name of the Staff	Qualification	Designation	Experience
1.	M Arjuna Rao	Intermediate	Record Assistant	20 Years

Infrastructure details

1. Staff room : 01
2. Laboratories : 02
3. Store room : 01

Lab – 1 : Mechanics, waves & Oscillations and electricity Magnetism)

Lab – 2 : Optics and heat & Thermodynamics

Students' Strength Particulars

1. I B.Sc. 2023-24

Computer Science Major : 15

Chemistry Major : 10

2. II B.Sc.	
MPC	: 08
MPCS	: 20
3. III B.Sc.	
MPC	: 30
MPCS	: 27
Total	: 110

Academic Year 2024-25

1. I B.Sc Chemistry - Nil admissions	
2. II B.Sc Chemistry Major	: 10
3. III B.Sc MPC	: 08
4. III MPCS	: 20
5. Total:	:38

Academic Year 2025-26

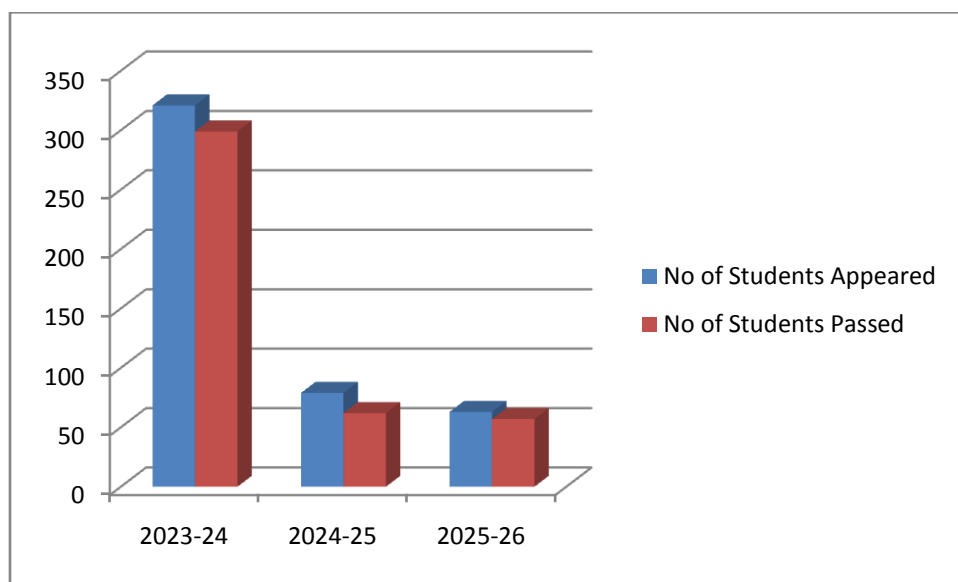
1. I B.Sc Chemistry	:13
2. II B.Sc Chemistry Major	: 00
3. III B.Sc Chemistry Major	: 09
4. Total:	:22

Academic Year 2025-26

1. I B.Sc Chemistry	:13
2. II B.Sc Chemistry Major	: 12
3. Total:	:25

Results:

Department of Physics – Results Analysis			
Academic Year	No of Students Appeared	No of Students Passed	Pass Percentage
2023-24	321	299	94%
2024-25	79	62	78%
2025-26	63	57	91%



List of publications Dr. N. Srinivasa Rao, Lecturer in Physics

NUMBER OF RESEARCH PAPERS

S. No	Title of the Paper	Journal Name Vol.No. PP	ISBN/ ISSN No.	Impact Factor/ Citation Index	National / International
1	Study on the influence of TiO ₂ on the insulating strength of ZnO-ZnF ₂ -B ₂ O ₃ glasses by means of dielectric properties	Solid State Communications, 139 (2006) 64-69	ISSN: 0038-1098	1.458	International
2	Copper Ion as a structural probe in lead bismuth arsenate Glasses by means of dielectric and spectroscopic studies	Physica B 405 (2010) 4092-4100 - Elsevier publications	ISSN No.0921-4526, Physica B 405 (2010) 4092-4100 -	1.88	International
3	Investigation on spectral features of tungsten ions in Pbo-Bi ₂ O ₃ -As ₂ O ₃ glass matrix	Physica B 406 (2011) 4494-4499 - Elsevier publications	ISSN No.0921-4526, Physica B 406 (2011) 4494-4499 -	1.88	International
4	Influence of valence states and coordination of Cobalt ions on dielectric properties of Pbo-Bi ₂ O ₃ - AS ₂ O ₃ - CoO glass system	Physica B 407 (2012) 581-588 - Elsevier publications	ISSN No.0921-4526, Physica B 407 (2012) 581-588 -	1.88	International
5	"Dielectric properties of on LiI - AgI-B ₂ O ₃ glasses doped with MnO" International journal of Luminescence and Applications.	Vol 32 (Special issues - III March 2013, ISSN : 2277-6362	ISSN : 2277-6362	3.805	National

6	Investigation on Luminescence properties of P_2O_5 - CaO - Na_2O - K_2O : Tm_2O_3 Glasses"	International journal of science and Research (ITSR) ISSN (online) 21319 - 7064 Paper ID : ATOM 2014-42	ISSN (online) 21319 - 7064		Inter national
7	"Environment and human rights"	Proceedings of National Seminar on human rights - A Study & Review. ISBN - 978 - 81-922783 - 3-9	ISBN - 978 - 81-922783 - 3-9		Natio nal
8	"Nanotechnology its applications"	International journal of Advanced Research in Physical Science (IJARPS) Vol2, Issue IA, Jan 2015, PP 222-228, ISSN - 2349 - 7874	, PP 222-228, ISSN - 2349 - 7874		Inter national
9	Liquid crystals and their Applications	International Journal of Engineering Research - online Vol 3, SI, 2015 (Jan, Feb) ISSN -2321-7758	ISSN -2321-7758		Inter national
10	Enhancement of Photocatalytic activity of γ - Bi_2MoO_6 with Graphite flake under Visible light irradiation	IOSR Journal of Applied Chemistry (IOSR-JAC) e-ISSN: 2278-5736. Volume.10, Issue7 Ver.I (July.2017), PP 11-17	e-ISSN: 2278-5736. Volume.10, Issue7		Natio nal
11	Differential equations application : Newton's Law of Cooling	Suraj Punj Journal For Multidisciplinary Research ISSN NO:2394-2886, Volume 8, Issue 12, 2018, Page No.79-86	Research ISSN NO:2394-2886, Volume 8, Issue 12, 2018, Page No.79-86		Natio nal
12	Unrecognized Indian Women Scientists In Science & Technology (C.A.Jyothirmayee, K.Sreelatha, N.Srinivasa Rao)	International Journal of Emerging Technologies and Innovative Research(JETIR)	ISSN No: 2349 – 5162, Impact Factor – 5.87, Vol.6, Issue:5- May 2019 P NO : 133 -137 Website: www.jetir.org		Inter national

13	Advances In Solid State Lighting (K.Sreelatha, C.A.Jyothirmayee, P.Paul Divakar, N.Srinivasa Rao)	Journal of Emerging Technologies and Innovative Research(JETIR)	ISSN No: 2349 – 5162 Vol.6, Issue:6, June 2019 P NO : 136 -138 www.jetir.org		International
14	Influence of Silver ions on some Physical Properties of LiI-AgI-B ₂ O ₃ Glass system (K.Sreelatha, A.Nirmala Jyothsna, K.Showrilu, C.A.Jyothirmayee, N.Srinivasa Rao)	“Recent Trends in Physics, Chemistry, & Allied Sciences”– Dr Sr K.Showrilu, Dr Ratnakar D B Compiled & Published by Ch.S.D.St Theresa’s College for Women _ Eluru &IMRF Institute for Higher Education & Research, India	ISBN:978-93-86435-86-6 Chapter : 21 Pg No: 122 – 128 Sept 27-29, 2019 www.imrfedu.org Email:info@imrf.in		National
15	Future applications & challenges of Remote sensing, GPS, and GIS in Disaster Management in India (K.Sreelatha, A.Nirmala Jyothsna, K.Showrilu, P.Paul Diwakar, N.Srinivasa Rao)	Engineering Sciences International Research journal (Biannual Journal of IMRF for Ratna Prasad Multidisciplinary Research & Educational society)	Print ISSN : 2320 – 4338 Online ISSN : 2320 – 3668 Vol : 7, Issue : 2 2019 SE Impact Factor : 2.54 P No : 61 – 65 Imrf journals.in Copyright 2013, IMRF Publications		International
16	Spectroscopic studies of copper doped PbO – Bi ₂ O ₃ – As ₂ O ₃ glasses (K.Sreelatha, C.A.Jyothirmayee, P.Paul Diwakar, N.ASrinivasa Rao)	Engineering Sciences International Research journal (Biannual Journal of IMRF for Ratna Prasad Multidisciplinary Research & Educational society)	Print ISSN : 2320 – 4338 Online ISSN : 2320 – 3668 Vol : 8, Issue : 1 Feb 2020 SE Impact Factor : 2.54 P No : 52 – 56 imrf journals.in		International
17	Spectroscopic studies of copper doped PbO – Bi ₂ O ₃ – As ₂ O ₃ glasses (K.Sreelatha, C.A.Jyothirmayee, P.Paul Diwakar, N.ASrinivasa Rao)	Industrial Applications of Physical & Mathematical sciences (Compiled & Published by Sir C R Reddy College – Eluru in collaboration with IMRF Institute of Higher Education & Research – India)	ISBN 978 – 81 – 944859 – 6 -4 Copyright (C)2020, IMRF International Publications P No : 119 – 124 www.imrfedu.org Email : info@imrf.in		National

18	Influence of Silver Iodide on spectral features of Fe^{2+} , Fe^{3+} in Lithium Iodide Borate Glasses	KY Publications (Published in Proceedings of National Seminar on Recent Trends in Research Methodology in Chemistry)	ISBN No: 978_93_87769_80_9 Edited by : Dr Praveen Chopra WWW.KYPUBLICATIONS@gmail.com editorkypublications@gmail.com		National
19	Spectroscopic Studies on Bi_2O_3 Based Heavy Metal Oxide Glasses Doped With Copper Ions For Far Infrared Window Applications	GIS Science Journal	ISSN No.1869-9391 Volume 9, ISSUE 6, 2022		International
20	Climate policy clean energy and intellectual property rights in India	Book chapter on intellectual property rights in environmental science	ISBN:978-93-5779-472-5, pno:1-4 March -2026		National

List of publications Dr. B Venkatesulu Reddy, Lecturer in Physics

S. No	Title of the Paper	Journal Name Vol.No. PP	ISBN/ ISSN No.	Impact Factor/ Citation Index	National / International
1	Two Phase Microstructure Generated by reaction of nano WO ₃ addition and effect on flux pinning in Bi 2212composites	Journal of Superconductivity and Novel Magnetism https://doi.org/10.1007/s10948-023-06675-5 Vol -37, PP: 1-14, Dec-2023	ISSN Online 1557-1947 ISSN: 1557-1939 (print)	1.8	International
2	Net-shaping (Y,NSG)BCO composite superconductor into cylindrical geometry with enhanced flux pinning up to 9 T at 77 K	IOP Physica Scripta Vol-100, Issue:1, PP : 5914-5927 Dec-2024	ISSN Online 1402-4896 ISSN Print: 0031-8949	2.6	International
3	Flux Pinning by BaCeO ₃ Nanoparticles in Single-Grain YBCO Superconductors	<u>IEEE Transactions on Applied Superconductivity</u> DOI: 10.1109/TA SC.2025.3534256 V olume: 35, <u>Issue: 3</u> , (May 2025) PP: 1-22	Print ISSN: 1051-8223 Electronic ISSN: 1558-2515 CD: 2378-7074	1.8	International
4	Mathematics In Artificial Intelligence And Machine Learning For Biological Applications	International Journal ofCreative Research Thoughts Volume 13, Issue 12 December	ISSN: 2320-2882	9.17	International

		2025, PP:101-106 			
5	Mathematical Modeling for Climate Prediction and Frameworks in Forecasting and Addressing Global Climate Shifts	International Journal of Scientific Research in Science and Technology (IJSRST) DOI: https://doi.org/10.32628/IJSRST26131135 , Vol: 13, Issue No: 11, PP: 246-252, Mar-2026	Print ISSN: 2395-6011 Online ISSN: 2395-602X		International
6	INNOVATION, INTELLECTUAL PROPERTY RIGHTS(IPR),PATENT S, AND START-UP RESEARCH CULTURE	International Journal of Multidisciplinary Educational Research (IJMER) Volume:15, Issue:7(4), July 2026, PP: 27-37	ISSN:2277-7881(Print)	10.16	International