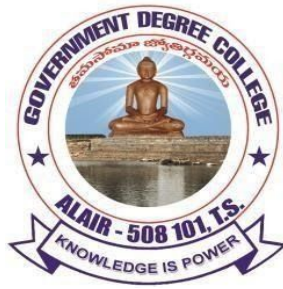


GOVERNMENT DEGREE COLLEGE ALAIR



*DEPARTMENT OF
PHYSICS PROFILE*



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1) ABOUT THE DEPARTMENT

The Department of Physics started in the year 2008 in Govt. Degree College ALAIR then affiliated to Osmania University, now Mahatma Gandhi University.

We have two sections viz M.P.C and M.P.CS (T/M &EM) .
One sanctioned post

Vision:

“Teachers who love teaching teach students love learning”

The department of Physics aspires to witness the manifestation of Physics Department into a powerful department creating passion and curiosity in the young minds to pursue higher education in Physics and thereby creating premier institution and center for pursuit of excellence.

Mission:

1. To encourage its students to pursue higher education in Physics
2. To render its students, quality education in physics.
3. To create a pleasant learning atmosphere with theory and experiments.
4. To refer to as many sources of teaching and learning, making use of modern technology.
5. To use ICT wherever necessary.

PERSONAL PROFILE



K. HARITHA

Assistant Professor and Head Department of PHYSICS

Academic Qualifications:

- BSc (MPC) –Osmania University
- MSc (Physics): Specialization in Theoretical Physics)–Osmania University Campus- 1997.
- Bachelor of Education in Physical Sciences from Osmania University Campus, Hyderabad- 1999.
- M. Phil in Physics 2003.
- (Pursuing Ph.D Physics from BITS-PILANI Hyderabad Campus): Sub Field- Theoretical Physics (Application of Exceptional Polynomials in solving the Quantum Mechanical Problems.)

Symposia and Workshops attended

Paper presentation:

Publications:

1. Relativistic potentials with rational extensions

KADIRI HARITHA and SHIV CHAITANYA K V S

Research Article Volume 94 Published: 10 July 2020 Article ID 0102

<https://www.ias.ac.in/describe/article/pram/094/0102>

Training Programmes:

1. Orientation Course from 1/11/2014- 29/12/2014 by UGC –Academic Staff College, JNT University.”
2. Refresher Course in Material Sciences held from February 3rd -27th (2017) Osmania University, Hyderabad.
3. NIPUNA - Nurturing Young Leaders in Higher Education -2 day training programme 19th -20th 2016 Govt of Telangana Commissionerate of Collegiate Education (RUSA)

Extension Lectures:

Delivered an extension lecture on the topic *Statistical Mechanics* at Government Degree College, Malkajgiri, Hyderabad on 16-11-2019.

TV Live Presentations:

1. Presented a **live lecture** on “*Production of low temperatures*” for B.Sc 2nd year students on TSAT Nipuna TV on 28-11-2019.
2. Presented a **live lecture** on “*Statistical Mechanics*” for B.Sc., 2nd year third semester students on TSAT Nipuna TV on 22-01-2020.
3. Demonstration of B.Sc., Physics Experiments - YouTube :

Few experiments of B.Sc., Physics are planned to be uploaded to the You Tube, As a part of it I have uploaded an experiment Volume Resonator on the YouTube channel. Link: <https://youtu.be/sUxWcxserWg>

2) Teaching Staff :

Sl.No.	Name of the Teaching Staff	Designation	Highest qualification	Awards received/ Achievements
1	K. HARITHA	Asst Professor	M.Sc. B.Ed., M.Phil	

3) Teaching Staff Work load particulars

S.No	Name of The Faculty	Work Load Per Week
1	K. HARITHA	22

Additional responsibilities of the faculty

S.No	Name of The Faculty	Additional Responsibilities
1	K. HARITHA	1.TSKC Coordinator 2. WEC Convenor 3. Faculty Forum convenor 4. Scholarship committee convenor 5. In charge of Computer department 6. In charge of Digital Classroom

		7. Mentor for B.Sc., III year 8. Member of IQAC
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4) Time table (Department of PHYSICS)

	<u>TIME TABLE 2018-2019</u>		<u>Govt Degree College Alair</u>			
	10-11am	11-12am	12- 01pm	1.30-2.30pm	2.30-3.30pm	3.30-4.30pm
Monday			II yr Theory	I Theory		
Tuesday	II yr Theory				←..... IIIyr B3 Practical... →	
Wednesday		I yr Theory	III yr Theory			
Thursday	III yr Theory	II yr Theory	III yr Theory			
Friday		I yr Theory				
Saturday		I yr Theory	III yr Theory			←..... Ilyr B2 Practical... →

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5) STUDENT PROFILE:

i) Courses offered

- B.Sc
1. M.P.C
 2. M.P.CS

ii) Syllabus:

The department is following common core syllabus framed by Mahatma Gandhi University.
From this academic year (2018-2019) following CBCS semester system

Semester-I : Mechanics

Semester-II : Waves and Oscillations

Semester –III : Thermal Physics

Semester –IV : Optics

Semester V Paper V: Electromagnetic theory

Elective- VI A: Solid state physics

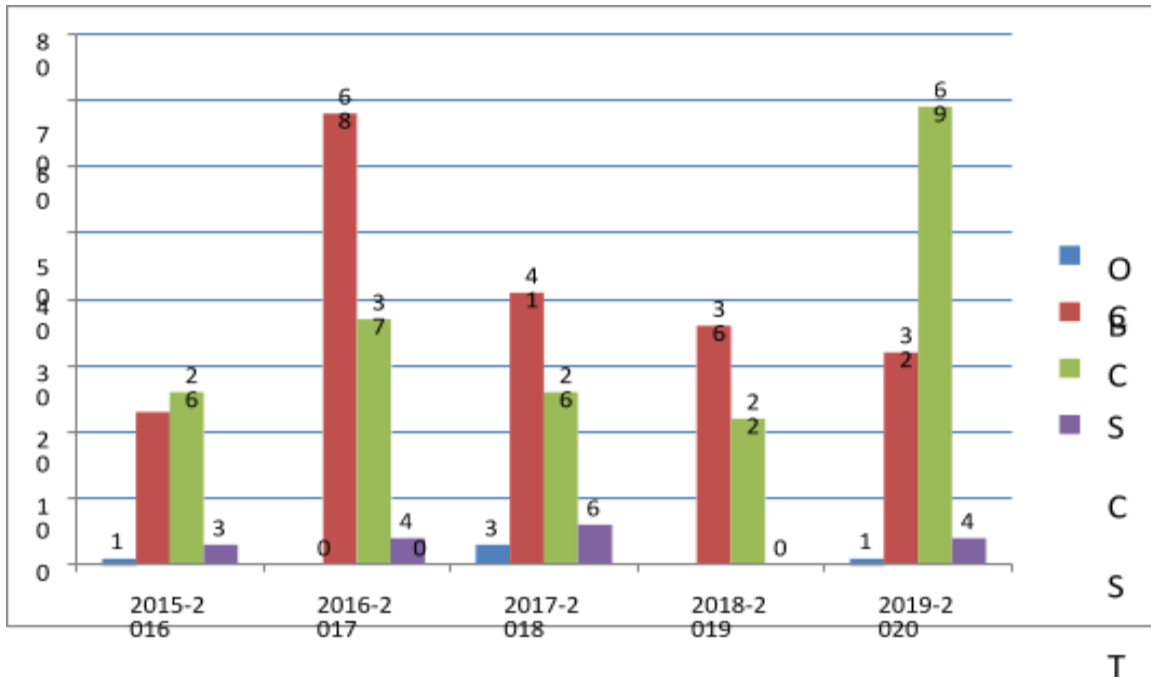
Semester - VI: paper VII : Modern Physics

Elective: VIII A Semi conductor devices

Strength particulars:**iv) Social Status:**

S.no	Academic year	OC			BC			SC			ST			Total		Gr.total
		M	F	T	M	F	T	M	F	T	M	F	T	M	F	
1	2015-2016	01	0	01	8	15	23	13	13	26	0	03	03	22	31	53
2	2016-2017	0	0	0	32	36	68	16	21	37	02	02	04	50	54	104
3	2017-2018	01	02	03	16	25	41	12	14	26	06	0	06	35	41	76
4	2018-2019	0	0	0	23	13	36	12	10	22	0	0	0	35	23	85

Graphical representation of Social Status



Results:

Course	2018-2019	2017-2018	2016-2017	2015-2016	2014-2015
B.Sc	79.45%	73.65%	47.7%	100%	87.85%

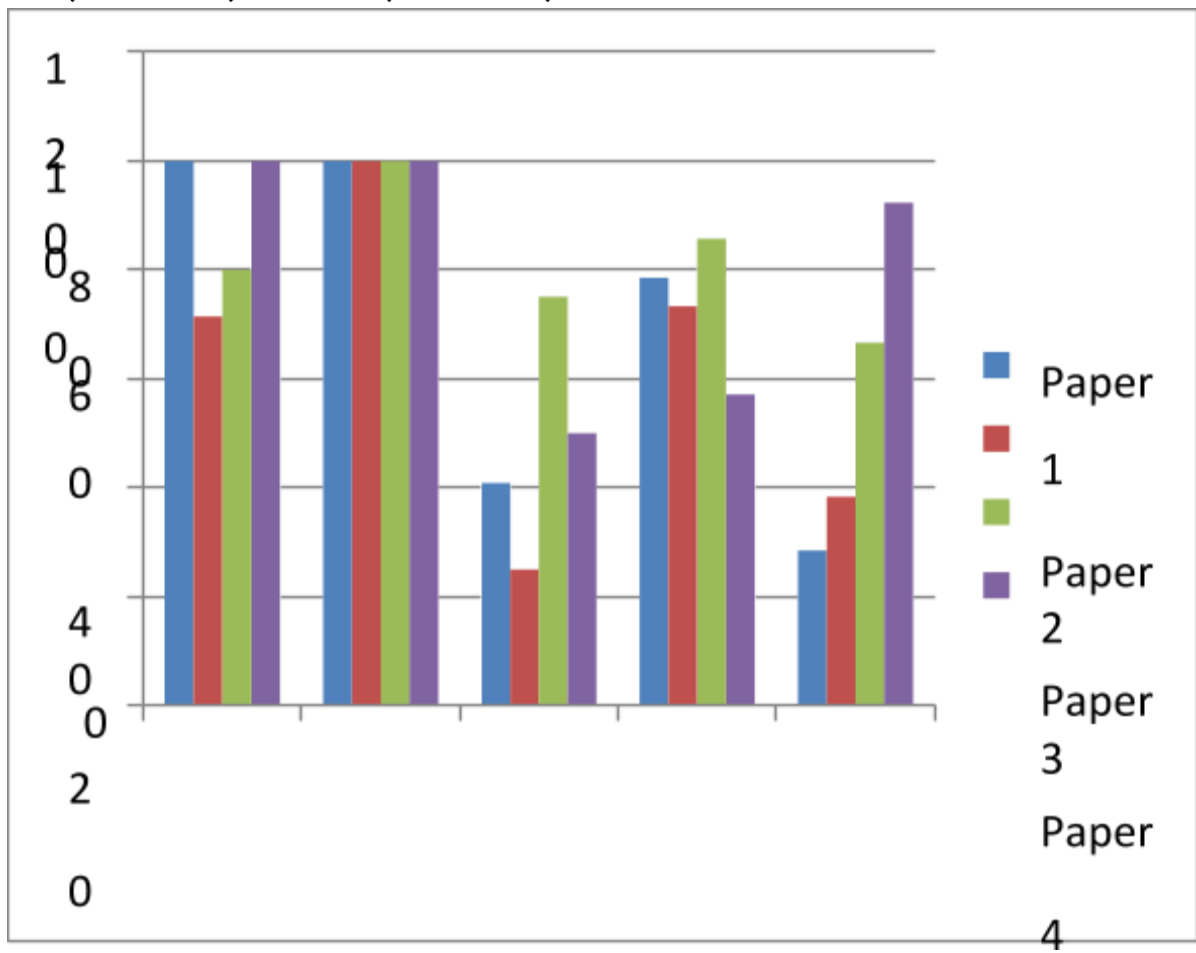
2014-2015

2015-2016

2016-2017

2017-2018

2018-2019



Paper wise result analysis and Graphical representation

Students Performance Analysis for a period of 5 consecutive years.

S.No	Year	Papers	No of Students appeared	No of Students passed	Pass Percentage
1	2014-2015	Paper-I	11	11	100%
		Paper-II	07	05	71.4%
		Paper-III	05	04	80%
		Paper-IV	05	05	100%
2	2015-2016	Paper-I	09	09	100%
		Paper-II	11	11	100%
		Paper-III	07	07	100%
		Paper-IV	07	07	100%
3	2016-2017	Paper-I	22	09	40.9%
		Paper-II	08	02	25%
		Paper-III	12	09	75%
		Paper-IV	12	06	50%
4	2017-2018	Paper-I	14	11	78.5%
		Paper-II	15	11	73.3%
		Paper-III	07	06	85.7%
		Paper-IV	07	04	57.1%
5	2018-2019	Paper-I	07	02	28.5%
		Paper-II	13	05	38.4%
		Paper-III	12	08	66.6%
		Paper-IV	13	12	92.3%

8) Guest and Extension Lectures:

The Department of Physics has organized guest lectures and extension lectures by eminent personalities to impart Knowledge to the students to latest development in the Botany and also general awareness of science and technologies.

S.No	YEAR	NAME OF THE RESOURCE PERSON	TOPIC	ADDRESS
1	2018-19			.
2	2019-2020	Mrs. Ch. Varalakshmi	Electronic circuits and Network theorems	Osmania University

9) Study Projects:

The Department has assigned and guided few project works to meritorious students in various topics to inculcate research activities amongst students. It also helps students to develop innovative ideas.

S.No	Title of the Project	Students Involved	Grade
1	Sound pollution and its consequences		A
2	The era of Optical Fibre		A+
3			

Projects/Seminars/Assignments

Projects, student seminars and assignments were given to the students and evaluated and given grades.

V 10) CO CURRICULAR /EXTRACURRICULAR ACTIVITIES CONDUCTED BY THE DEPARTMENT

S.NO	Academic year	Name of the activity	Name of Resource person	No. of students participated
1	2019-20	Quiz competition	Interdisciplinary	16 (04groups) Audience=50

Field Trips

Field Trip to Electric Transformer, Kolanpak

Field trip to Hyderabad as part of Jignasa study project

Field Trip to Microsoft

11) DEPARTMENTAL ANNUAL PLAN 2019-20

S.No	MONTH	ACTIVITY
1	JUNE-19	1)Preparation of Annual curricular plan and Lecturer wise 2)Student admissions 3) recording of student progression 4) Annual exams results review, syllabus allocation to the Lecturers for the academic year of 2019-20
2	JULY-19	1) Departmental staff meeting 2) Orientation class for first year students
3	AUG-19	1) Departmental staff meeting 2) Commencement of student seminars, field trips, competitions and allotment of study and science projects to students 3) Field /Industrial visit 4) First Internals for II & III year students
4	SEPT-19	1) Departmental staff meeting and review of First internals results 2) Arrangement of guest lecture/ extension activities 3)Conduct of student seminars by final year students 4) Remedial classes for backlog students
5	OCT-19	1) Departmental staff meeting and review of internal test results 2) Second Internals. 3) Conduct of Quiz competition for all the physics students of all years

6	NOV-19	1) Departmental staff meeting. 2) Conduct of student seminars by I & II year students 3) Practical exams
7	DEC-19	1) Departmental staff meeting 2) Collection of study projects and science project reports from the students 3) Conduct of quiz competition for I year students 4) Semester Exams.
8	JAN-2020	1) Departmental staff meeting and review of term exam results 2) Remedial classes for backlog students
9	FEB-2020	1) Departmental staff meeting and review 2) Conduct of science day
10	MAR-2020	1) Departmental staff meeting and review of academic matters
11	APRIL-2020	1. Review on the syllabus coverage 2. Practical examinations. 3. Semester Exams

Learning Resources:

We have Departmental library equipped with more than 25 books, out of that we have 2 different editorial of subject concerned and 20 academic books and practical manuals. Few journals

CDs

12) Infrastructural facilities:

- Central library facility is available for the students in the College Campus.
- Department library facility is available for reference.
- b) Internet facilities for staff & students
- Internet facility is available to both faculty and students.
- c) Class rooms with ICT facilities

- e-classroom is used for ICT based lecture and seminars.

13) Achievements & Highlights

The Department of Physics produced large number of post – graduates a large number of alumni have distinguished in academic, administrative area occupying positions of responsibilities in industries and academic institutions.

In addition to the above many a number of students getting admissions in P.G courses regularly.

Innovative Practice:

14) Best Practices:

15) Innovative Practices:

- a) **Seed bank:** Seed Bank of Medicinal plants was maintained.
- b) Compendium of Medicinal plants of GDC ALAIR was maintained.

PHOTO GALLERY



The Department of PHYSICS



The Inner view



Students' seminars:

Seminars concept is introduced to bring out the teaching abilities of the students, if they aspire to take up teaching profession. If they teach, they will learn the topic thoroughly and stage fear can be overcome.





Science Quiz:



A quiz programme was organized by the science departments of the college on 1-3-2019 on the occasion of National Science Day.



Encouraging in article writing for presentation in National seminars:

This is taken up as the Best practice by the Physics department; the students are given topics like Working of a Super Capacitor, Mechanical properties of nature material, Record of Lowest temperatures achieved so far, how to write the references in the bibliography etc.

Social Responsibility: The students are encouraged to take up tutoring to the school students in the adjacent Social Welfare hostel after college hours, as part of social responsibility.

Best Practices:

- ***PG Entrance coaching*** is offered after the college hours free of cost to the students of our college, we are thinking of extending this practice to the other college students also, so that our admissions can be improved in the coming years.
- The handwritten notes/study material is made available in the form of *PDF* which can be accessed by the smart phone and can be shared among the students. Important Questions are also given after each unit.

Social responsibility: Three students from B.Sc III year are interested in teaching, so they go and teach in the adjacent Social Welfare Hostel for 30 minutes daily after the college hours. This is done as a part of social responsibility.

Challenges and future goals:

- We need to improve the strength of MPC/MPCs students, this is our immediate goal.
- Laboratory has to be enriched with modern equipment.
- The dream is to see more number of students pursue their Masters degree in Physics.
