JSS COLLEGE OF ARTS, COMMERCE AND SCIENCE, NANJANGUD-571301

DEPARTMENT OF PHYSICS

About the Department

Only education can help the young rural generation to become the responsible citizens of this nation. It empowers individuals with awareness about the society, technology and their applications. Hence the department of Physics was established in the year 1972 with the aim of spreading science education with physics as one of the main subjects at undergraduate level. Since its inception, continuous efforts have been made to provide quality education to rural students.

The department has dedicated faculty members. The faculty members of the department strive on honing up experimental skills of students by encouraging them to apply the relevant theoretical knowledge taught in class in order to gain more practical experience. The department provides the conducive environment for the students to think creatively and forge their paths in scientific community. The department has implemented CBCS scheme as per Mysore University regulations. The department has conducted state-level seminar on renewable energy and special lecture programmes by eminent speakers on topics of general interests and subject for the benefit of the students and faculty members. Science students of our college have been placed in various sectors.

In order to promote and to encourage the students to excel in their studies, various cash prizes have been instituted. Cash prizes will be given to the students who excel in their examinations every year on the occasion of the Founders'- Day.

Department initiated coaching program for the aspired BSc students to guide them for common entrance test for PG studies in Physics with the help of an alumnus of the department.

- Contact phone number with Extension: 082212-26277 Ext No. 215

Vision

- Offering need based quality education in Physics at undergraduate level
- Creating a conducive atmosphere with emphasis on academic learning
- Transforming the students into globally competitive, employable and responsible citizens.

Mission

- To stimulate intellectual curiosity, promote scientific temper and instill logical and analytical approach to problem solving
- To motivate students to pursue research in emerging trends
- To provide necessary support and services for the betterment of students' progress and welfare
- To establish linkage and collaborations for the betterment of teaching, learning, research and extension activities

Programme offered

Physics is offered as one of the optional subjects for BSc students with following combinations:

- Physics, Chemistry, Mathematics (PCM)
- Physics, Mathematics, Computer Science (PMCs)

Objectives of the BSc programme

- To sharpen the experimental skills and develop an appreciation for the inter relation between theory and practical.
- To develop problem solving techniques in students..
- Perform experiments and interpret the results of observation, including making an assessment of experimental uncertainties.
- Provide an intellectually stimulating environment to develop skills and enthusiasms of students to the best of their potential.
- Use Information Communication Technology (ICT enabled) to gather knowledge at will.

Outcomes of the programme:

Following are the various Programme outcomes:

1. Demonstrate proficiency in mathematics and the mathematical concepts needed for a proper understanding of Physics.
2. The programme makes the students ready to take up jobs in various sectors such as research firms, health care industry, chemical industry, testing laboratories, Software Company, banks, etc.
3. Students are expected to have an understanding of the analytical methods required to interpret and analyze results and draw conclusions as supported by their data.

4. Students are also expected to develop written and oral communication skills in science and mathematics related topics.

5. Develop laboratory skills and professional communication skills.

6. Students will use effective technology appropriately, such as PowerPoint, slides, posters, handouts, and transparencies in oral presentations.

7. Develop personal skills such as the ability to work both independently and in a group.

8. Acquire academic abilities, personal qualities and transferable skills, which will give them an opportunity to develop as responsible citizens.

BSc Programme Credit Pattern

Semester	Core		Electives		Ability Enhancement Courses				Total Credits
	DSC		DSE		SEC				
	Course	Credits	Course	Credits	Course	Credits	Course	Credits	
I	DSC-1 A DSC-2 A DSC-3 A	6 6 6	-	-	-	-	Kannada/MIL-1 English -1 Environmental studies/ Constitution of India	3 3 3	27
II	DSC-1 B DSC-2 B DSC-3 B	6 6 6	-	-	-	-	Kannada/MIL-2 English -2 Constitution of India/Environmental studies	3 3 3	27
III	DSC-1 C DSC-2 C DSC-3 C	6 6 6	-	-	-	-	Kannada/MIL-3 English -3	3 3	24
IV	DSC-1 D DSC-2 D DSC-3 D	6 6 6	-	-	-	-	Kannada/MIL-4 English -4	3 3	24
V	-	-	DSE-1A DSE-2A DSE-3A	6 6 6	SEC-1 SEC-2	2 2	-	-	22
VI	-	-	DSE-1B DSE-2B DSE-3B	6 6 6	SEC-3 SEC-4	2 2	-	-	22
Total		72		36		08		30	146

COURSE STRUCTURE

Credit Matrix

L: Lecture; T: Tutorial; P: Practicals

Semester	Type	Id	Core course	L+T+P= Total
I Semester	DSC	PHY101	Mechanics, Properties of Matter and Electrostatics	4+0+0=4
	DSC	PHY102	Practical 1	0+0+2=2
II Semester	DSC	PHY201	Heat, Thermodynamics and Sound	4+0+0=4
	DSC	PHY202	Practical 2	0+0+2=2
III Semester	DSC	PHY301	Electricity and Electromagnetism	4+0+0=4
	DSC	PHY302	Practical 3	0+0+2=2
IV Semester	DSC	PHY401	Optics and Spectroscopy	4+0+0=4
	DSC	PHY402	Practical 4	0+0+2=2
V Semester	DSE	PHY501	Nuclear and Theoretical Physics	3+0+0=3
	DSE	PHY502	Practical 5	0+0+1.5=1.5
	DSE	PHY503	Practical 6	0+0+1.5=1.5
	SEC	PHY511	Lasers and Fibre Optics	2+0+0=2
	SEC	PHY512	Astronomy and Astrophysics	2+0+0=2
	SEC	PHY513	Nano Materials	2+0+0=2
VI Semester	DSE	PHY601	Solid State Physics	3+0+0=3
	DSE	PHY602	Practical 7	0+0+1.5=1.5
	DSE	PHY603	Practical 8	0+0+1.5=1.5
	SEC	PHY611	Optoelectronics	2+0+0=2
	SEC	PHY612	Renewable Energy Sources	2+0+0=2
	SEC	PHY613	Solving Problems in Physics	2+0+0=2

Best Practices of the Department

- Encouraging students to attend intercollegiate debate competitions, quiz competitions and science exhibitions
- Encouraging students to use more of e-learning resources – MIT lectures.
- Organizing Seminars/ Special lectures on recent developments in the various fields of Physics.
- Conducting Student-Seminars,
- Visit to industries and research centers-
    - Bhabha Atomic Research Center, Mysuru
    - 220kV receiving station located at Kadakola
    - Vinyas Innovative Technology, Mysuru
    - CIPET & Planet Earth Aquarium, Mysuru

Laboratory facilities

Physics department has a well-equipped laboratory spanning an area of 99 square meter. Other necessary facilities such as LCD projector, laptop, and desktop computer and internet connection, UPS are also provided. The students perform experiments related to electricity & magnetism, light, electronics, mechanics, heat, sound, nuclear and solid state physics. The laboratory is well equipped with sufficient apparatus to provide equal opportunity for all the students. Final year students are able to design electronic circuit as part of the extracurricular activities.

Learning resources:

- Computer, LCD projector with internet facility
- Central Library consists of 1912 books of 285 titles worth of Rs.181621.00
- Journals – Physics for you, Current Science, Resonance, Bulletin of pure and applied physics
- INFLIBNET service
- E-Learning resources– MIT lectures
- Department Library
- Laboratory experiments
- Special lectures, seminars

Placement Details :

Sl no	Name of the Company/Organisation/Department	No .of candidate Placed
1	Infosys, Mysore	03
2	H G Solutions Ltd., Bangalore	13
3	Infosys, BPO, Bangalore	01
4	Caps Gemini, Bangalore	05
5	ICICI	12

Higher Education:

- Eight students admitted to post-graduation programme in Physics at Mysore University, JSSCACS, Government College, Mandya.
- Forty students have enrolled for Bachelor of Education programme.

Contact details of HoD:

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Details of Faculty members

Sl. No.	Name	Designation	Date of joining
1	Shreedevi N Dyavanagoudar	Associate Professor	09-01-1991

2	Ravitheja R	Assistant Professor	06-08-2016
3	Shruthi M	Assistant Professor	05-08-2019
4	Varsha N	Assistant Professor	05-07-2019