



# Little Flower Degree College

(Affiliated to Osmania University)

Uppal, Hyderabad

Managed by Brothers of St. Gabriel Educational Society

**LEAD TO ILLUMINATE**



# PHYSICS



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## ACADEMIC YEAR 2018 - 2019

### MEMBERS OF DEPARTMENT OF PHYSICS

Faculty Name	Designation
Mr. Naresh	HOD
Ms. Sreelekha	Member

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## **FACULTY DEVELOPMENT PROGRAM ON NEW CBCS SYLLABUS**

**Event: FDP on New CBCS syllabus**

**Date: 18/06/2018 to 23/06/2018**

**Venue: AV College**

**Participants: Faculty (1)**

A Faculty Development Program was conducted by AV College-Dept. of Physics at their college premises from 18-06-2018 to 23-06-2018. It was attended by G. Sreelekha, Dept of Physics During the Morning sessions, topics such as Statistical Mechanics, Quantum Mechanics were discussed. During afternoon session, they explained to us all the new lab experiments that were introduced in this academic year. These sessions provided an insight into new developments in Physics curriculum of Degree students.



Group photo of the participants at AV College





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Participants observing Lab Equipment at AV College



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## GUEST LECTURE ON INTELLIGENT TRANSPORT SYSTEM

**Event: Guest Lecture**

**Date: 28-07-2018**

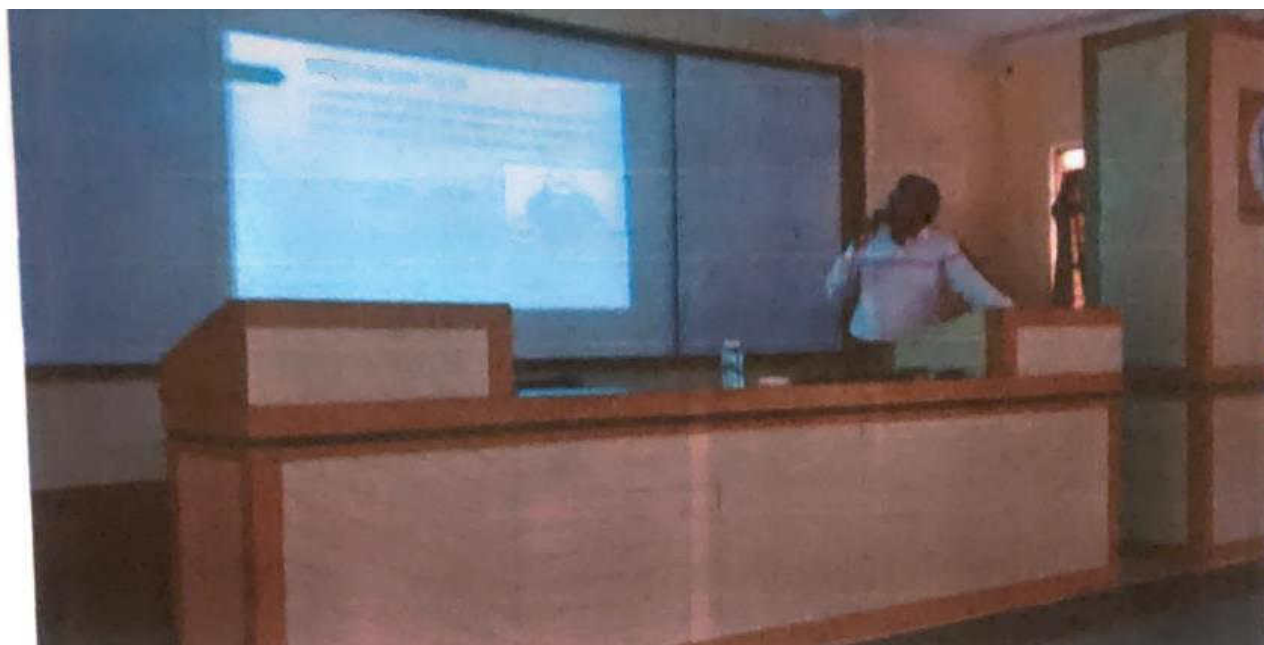
**Venue: Heritage Hall**

**Participants: Students (22)**

A Seminar was organised for the III year B.SC (physics) students be on 28 July, 2018, presented by A. Sanjeeva Rao IRSEE, who is working as a Joint General Manager, RVNL, Ministry of Railways and got more than 12Years of experience in transportation.

The seminar was conducted on "Intelligent Transportation systems". It basically includes the necessity of intelligence in transportation, technologies used, applications and advantages. Briefly introduced about existing intelligent transportation systems across the world and their level of implementation at present. Secondly Sensing and Computation technologies were discussed. Presentation was concluded after discussion on application of intelligent transportation systems such as Advanced Travellers information Systems, Advanced Traffic information, Emergency Services, Electronic Toll Collection, Real time traffic information etc.

The topic was quite relevant to the students, as it explained and connected to the present traffic issues and technologies used. Trials conducted on Anti Collision Avoidance Systems on Indian Railways were also discussed.





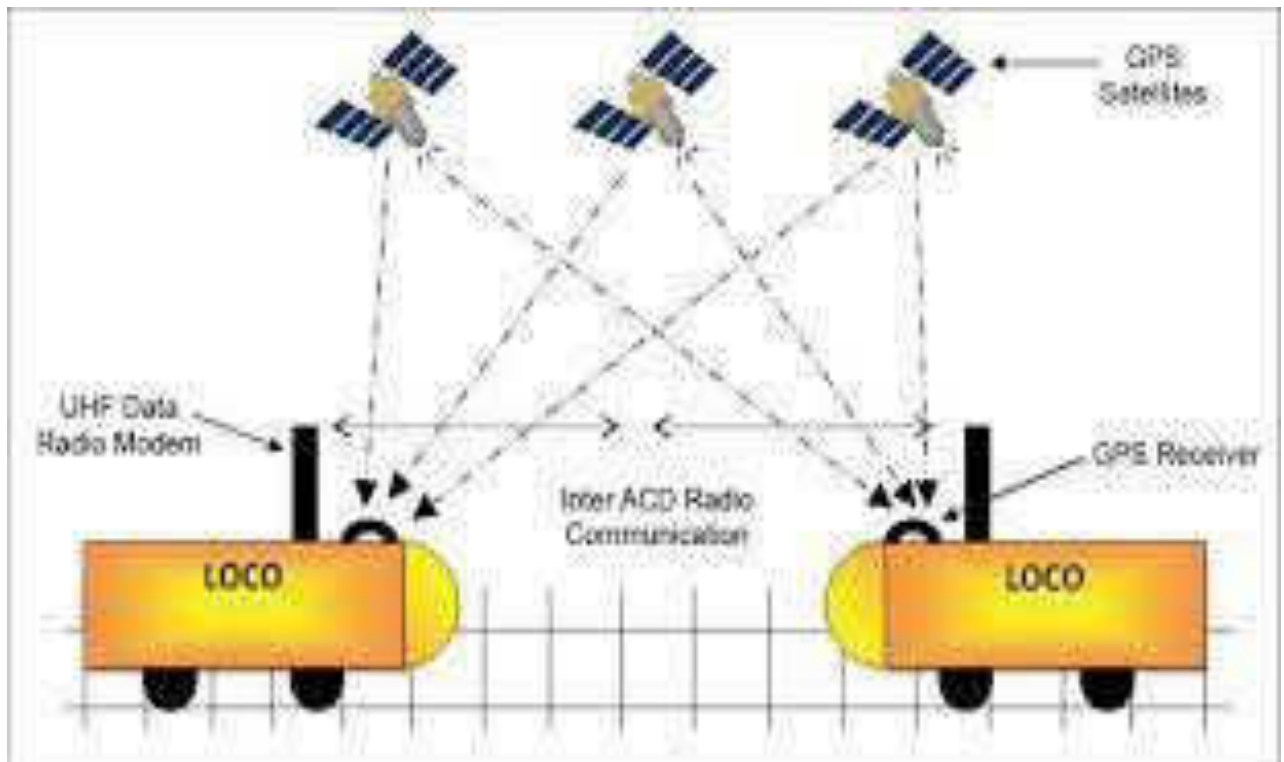
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A. Sanjeeva Rao Explained about advanced and real time traffic system.



A. Sanjeeva Rao Explained about Implementation of Latest Technology in Railway network





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### **CERTIFICATE COURSE IN ASTRONOMY AND ASTRO PHYSICS**

**Event: Certificate course**

**Date: 27-07-2018**

**Venue: JAPAL Observatory**

**Participants: Students (3)**

Department of Astronomy of OU has conducted foundation course in Astronomy and Astrophysics from 24-07-2018 to 03-08-2018. This course was attended by B.Sc. I MPCS students accompanied by Ms. Sree Lekha, Lecturer in Physics. Each session was taken up by an esteemed guest on various topics beginning from "Why Astronomy Matters" to in-depth issues like Comets, Meteor Showers, Eclipses, Black Holes etc. Students participated enthusiastically in all the sessions and they understood the scope of subject to be taken as a career option.



G. Sree Lekha Lecturer in Physics receiving Certificate on Foundation course in Astronomy and Astrophysics.



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CH. Sai Swetha from II MPCs receiving certificate of Foundation course in astronomy and astrophysics.





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## FIELD TRIP TO CDFD

**Event: Field Trip**

**Date: 25-09-2018**

**Venue: CDFD**

**Participants: Students (10)**

Students of MPCs final year little flower degree college visited Centre for DNA finger printing and diagnostics. The centre is equipped with world class state-of-the-art instrumentation and computing infrastructure to facilitate working in frontier areas of research in life sciences. It helped the union government in big way over drafting DNA technology. Students saw many demonstrations like

- Virulence and drug resistance mechanic in pathogenic yeast
- genomic defence in neurospora
- understanding cancer in Indian population
- Cancer protein localization
- Forensic DNA profiling
- Plant microbe interaction and many more

Students also saw hybrid varieties of rice, 23 pairs of chromosomes under microscope, organs of rat, DNA fingerprinting by using gel electrophoresis method etc. It was very informative. Altogether it was a great learning experience.



III MPCS Students Visited CDFD on Open Day.



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III MPCS students seeing Organs of Rat Model.



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## FIELD TRIP TO NGRI

**Event: Field Trip**

**Date: 26-09-2018**

**Venue: NGRI**

**Participants: Students (13)**

Students of second M.P.C visited NGRI,

The NATIONAL GEOPHYSICAL RESEARCH INSTITUTE is an age specific research organisation established under the council of scientific and industrial research, India's largest research and development organisation. It is supported by more than 200 scientists and other technical staff whose research activities are published in several journals of national and international interest NGRI is a vast and beautiful place to visit.

Following the map given after Registrations students visited 10 places and saw different models out of them VT NGRI was an interesting model to look at. It is used for the detection of metals and minerals like uranium etc. The model was beautifully presented and the videos projected helped us to understand it better. Gas hydrate project is an upcoming process and its success can provide energy for the coming 20 years. Ships and hydrophones are used to detect the gas hydrates using air guns.

Scientists are working on this project and trials are made in China which gave a bitter result but eventually it might turn out well. visit to NGRI was very informative and gave loads of knowledge. Altogether we had fun and a very good learning experience.



Group Photo of II MPC students at NGRI





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Model Presentation at NGRI



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## **STUDENT DEVELOPMENT AND LEARNING PROGRAM (IOT SYSTEM PERSPECTIVE)**

**Event: Student development and learning program**

**Date: 11-09-2018**

**Venue: SUJATHA DEGREE COLLEGE**

**Participants: Students (110)**

A seminar was Organised by Sujatha Degree and PG college in association with Dhanvantari Institute of science and Technology on "IOT system perspective, Challenges and Applications" and also on "Robotic Project Design and Implementation Techniques" on 11 September, 2018.

The first session was on IOT system perspective challenges and Applications. The session was taken up by Mr. Sanjay, Founder and Director, Mytri Electro tech Private Limited. He explained how IOT was conceived, working of IOT with examples. He stressed mainly upon the security concerns in designing IOT systems.

The second session was on 'Robotic Project Design and Implementation'. They showcased robots used in the military such as drones and Unmanned Aerial Vehicles UAVs which can be made to work in highly sensitive areas. This technology helps in reducing human loss. Robots made by Boston Dynamics were also shown. They are developed using a software for realistic human simulation and are used for defence purposes.

The two sessions were quite interesting and informative. They helped students to further explore more about IOT and Robotics.



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Introduction Of Guest at Sujatha Degree and PG college



Group Photo Of The Participants along with the Chief Guest.





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## FIELD TRIP TO NRSC

**Event: Field Trip**

**Date: 28-01-2019**

**Venue: NRSC**

**Participants: Students (50)**

Department of Physics, has organised a field trip to NRSC on 28-01-2019. Students of II MPCS, IIMPC&IMPCS accompanied by Ms. Sreelekha and Mr. Naresh Dept of Physics have attended the field trip.

The scientist of NRSC T. Shankar Prasad has given brief introduction about NRSC. After that they presented audio visual presentation about different satellites and remote sensing. The NRSC people clearly explained about high scale mapping of digital pictures and applications of remote sensing in various fields like environment, agriculture etc. Finally, students observed various models of satellites and digital pictures sent by satellites in the gallery of NRSC. Students gained knowledge about remote sensing devices and its applications.



Mr. C. Naresh Kumar Coordinated Field trip to NRSC.

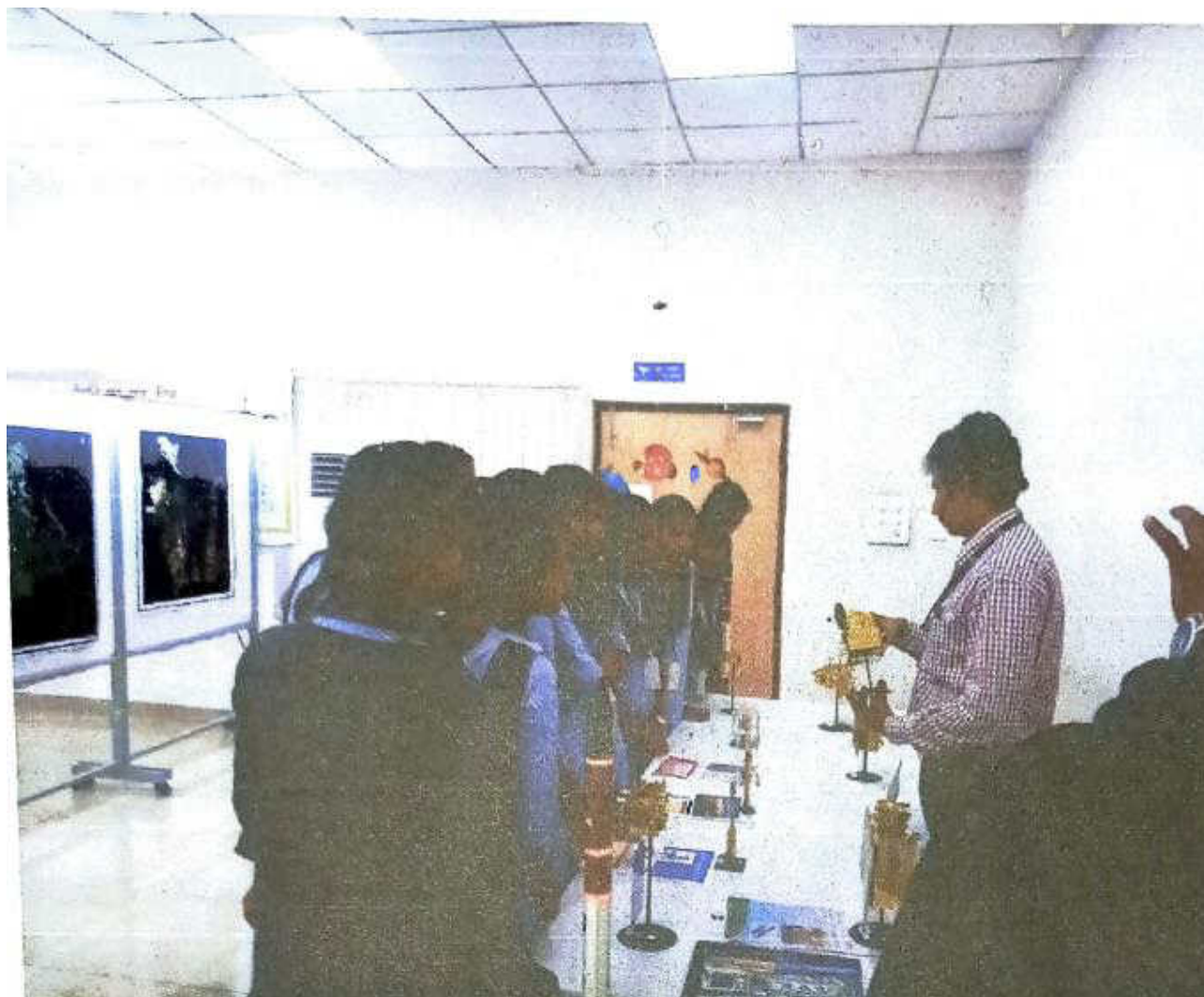


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Students Observing Models of Rockets at NR



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## GUEST LECTURE ON OCEANOGRAPHY

**Event: Guest Lecture**

**Date: 19-01-2019**

**Venue: Heritage Hall**

**Participants: Students (100)**

A Seminar was organised for the I & II-year B.SC (Physics) students by the Department of Physics on 19 Jan,2019 presented by K. Siva Srinivas scientist from INCOIS Indian national centre for ocean information services provides information and advisory services to the society, industry, government and scientific community through sustained ocean observations.

Dr k. Siva Srinivas briefly explained about the applications of physics and mathematics in observation of the ocean. He also explained various transducers which are installed in the deep ocean to measure various physical quantities like pressure, speed of tides. Using the information collected in the above process INCOIS scientists will give prior information to the society on Tsunami and cyclones. Presentation was concluded after discussion with students about present technologies used in INCOIS. The topic was clearly understood by students.



Dr Siva Srinivas explaining about Oceanographic Studies





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Rev. Bro Vincent Reddy Presenting memento to guest Speaker.



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## INTRA COLLEGIATE COMPETITION- CROSSWORD PUZZLE

**Event: Crossword puzzle**

**Date:** 20/09/2018

**Venue: Classroom**

**Participants: Students (27)**

The physics crossword puzzle was created, featuring a variety of terms and concepts relevant to introductory physics courses. Feedback from I, II, III MPCS and MPC students indicated that the puzzle was engaging and helped reinforce understanding of key physics principles. Some suggestions for improvement included adding more visual clues or incorporating multimedia elements for a more interactive experience. Creating a physics crossword puzzle proved to be an effective tool for promoting active learning and reinforcing key concepts in physics education. Further iterations could explore additional features to enhance interactivity and engagement, catering to diverse learning styles and preferences.

1st position: A. Mayank (II MPC)

2nd Position: G. Vardhini (III MPCS)

3rd Position: L. Roopana (I MPCS)



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DEPARTMENT OF PHYSICS  
CROSS WORD PUZZLE

G. vardhini  
Bsc(Med) - III

**Across**

3. reciprocal of time period (9)
5. nuclear principle of Hydrogen bomb (6)
10. energy may neither be..... nor destroyed (7)
12. commonly used semiconductor element (7)
13. property by which object resist changes in its state of motion or rest (7)
14. reflected sound note (4)
- S.I unit of magnetic field intensity (5)

**Down**

1. measure of gravitational pull on an object (6)
2. measure of the amount of matter in an object (4)
4. the rate of doing work over time (5)
6. longitudinal wave of frequency > 20 KHz (10) *ultra sonic*
7. positive charged particle (6)
- branch of physics which deals about light energy (6) *optics*
11. unit for intensity of sound (7)

Response sheet of Vardhini III MPCS