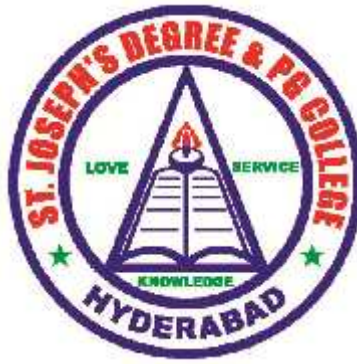


ANNUAL REPORT

2014-15



Department of Physics & Electronics

**St. Joseph's Degree & PG College
King Koti, Hyderabad**

About Department

The Department of Physics & Electronics had its inception in the year 1997-98 with the combination of B.Sc (Mathematics, Physics, Computer Science), as Physics as a core subject and subsequently Electronics subject was introduced in the year 1998-99 with the combination of B.Sc (Mathematics, Electronics, Computer Science). These courses are affiliated to Osmania University and it is a three year full time programme.

Continuous disciplined efforts of the faculty members' results in providing the responsible and good citizens to society

Achievements/Ranking of the Department

St. Joseph's ranked as 9th best science colleges 2014 in India today survey in the city wise ranking:

CITY: HYDERABAD	
RANK	NAME OF THE COLLEGE
1.	St. Francis College for Women
2.	Osmania University College for Women
3.	Nizam College
4.	Bhavan's New Science College
5.	St. Ann's College for Women
6.	Kasturba Gandhi Degree & P. G. College for Women
7.	A V College
8.	Loyola Academy Degree & P G College
9.	St. Joseph's Degree & PG College
10.	Aurora's Degree College

Library/Infrastructure Facilities

- This year the Department taken effort to include more books including books related to 8086 Microprocessor and Electronic Instrumentation.
- Department library maintaining a copy of Project reports submitted by students for the reference of other students.
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Details of full time and part time faculty

S.no	Name	Qualifications	Designation	Full time / part time
1.	Mrs. L. Mihira Priya	M.Sc.(Electronics), B.Ed.,M.Tech	Associate Prof.	Full time
2.	Mr. M. Sravan Kumar	M.Sc. (Appl. Elec.), B.Ed., MBA, (Ph.D)	Assistant - Prof	Full time
3.	Mr. M. L. Narsimha Rao	M.Sc. (Appl. Elec.)	Assistant - Prof	Full time
4.	Mr. Ashok	M.Sc. (Appl. Elec.)	Assistant - Prof	Full time

Orientation/Seminars/Conferences/Workshop-attended by faculty In house & Outside

Name of Faculty	Programme attended/conducted	In house/Outside
Mrs. L. Mihira Priya, Mr. M. Sravan Kumar, Mr. M. L. Narsimha Rao, Mr. Ashok	Faculty Orientation(Attended)	In house
Mr. M. Sravan Kumar	Resource person for AIEEE contact classes	Outside(Prism Academy)

Paper Presentations/Paper Publications by faculty

Name of the faculty	Type of Article (National or International)	Article title	Name of Journal/Paper Presentation	Year of Publication
Mrs.L.Mihira priya	International	A New Compensation Technique for Stable the Gain of Sub-Micron Amplifiers	International Journal of Engineering Research	Dec 2014 ISSN:2319-6890
	International	Power Risky Pattern Reduction by Launch	International Journal of Science	Nov 2014 ISSN: 2347-

		on Capture and Weighted Switching Activity for At Speed Scan Based Testing	and Engineering	2200
	National	Tracking Devices for Visually impaired & Elderly care system by using GPS and RFID tags-An Enhanced scope for Indian Retail A Review of Issues, Application and Opportunities in Indoor Wireless Optical Communication System	Emerging Trends in Commerce –An Edge, Hyd. Interdisciplinary peer review journal	19 th Dec ,2013 7 th & 9 th Feb2013

Paper Setters/Member of any Bodies

S.NO	Faculty Name	Details
1.	Mr. M. Sravan Kumar	Panel of Examiner in City College, RBVRR Women's College.
2.	Mrs L. Mihira Priya	Paper setter for Osmania University

Details of Student Strength

Course	Year	Strength
B.Sc(MPCs)	I Year	31(42 Admitted)
B.Sc(MPCs)	II Year	28
B.Sc(MPCs)	III Year	16
B.Sc(MECs)	I Year	37(42 Admitted)
B.Sc(MECs)	II Year	33
B.Sc(MECs)	III Year	35
B.Sc(NHAEM)	I Year	14
B.Sc(NHAEM)	II Year	24
B.Sc(NHAEM)	III Year	11

Orientation Programme

Date : June 2014
Incharge/Coordinator : Mrs.L.Mihira Priya
Venue : Seminar Hall-Cellar, St.Joseph's Degree & PG College
Target Group : I B.Sc (All Groups)
Resource Person & Organization: 1.Principal 2. Director
Objective:

- To introduce the academic structure.
- To acquaint with the college rules & guidelines.

About the Activity (few lines):

First year students often feel ill-equipped academically and emotionally, hindering their integration and adjustment into college life. A standardized orientation program for first year undergraduate students organized focusing on peer and academic support based principles, assisting commencing students to achieve a smooth transition from intermediate level into university level under graduation programme

we introduced activities which are focused on information for the first year, incorporation of Alumni student interaction and the inclusion of ice-breaker activities.



About College life-Interaction by Principal



Ice-breaker activities



Alumni interaction

Bridge Course/Remedial Classes Conducted

Course/Class	Subject	Faculty	Nature of Classes	Topic
B.Sc(MPCs)	Physics	Mr. Sravan Kumar	Tutorial	Necessity of study of Physics- Philosophical issues of Physics- Introduction to Mechanics, Heat, Optics And Modern Physics
B.Sc(MECs/N HAEM)	Electronics	Mr. MLN Rao	Tutorial	Basics in Electricity
B.Sc(MPCs)	Physics	Mr. Sravan Kumar	Remedial	Mechanics (Important Questions given and Revised) in SEM I &II

Innovative Teaching- Learning Practices

Faculty	Subject	Innovative Practice
Mr Sravan Kumar	Physics	<ul style="list-style-type: none"> Classroom interactive sessions using E-resources from MIT open Source Demonstrative Sessions
Mr. Ashok Kumar	Electronics	Mini projects, E Content study material prepared for moodle, NPTEL Video lecturers
Mr.L.Mihira Priya Mr MLN Rao	Electronics	Assignment maintained using Scrap books(drawing book),Animation Videos

Best Practices/SWOT Analysis

BEST PRACTICES

➤ Evaluation

- **Knowledge Level** Slip Tests, Assignments
- **Comprehensive Level** Seminars, Quizzes
- **Analytical Level** Mini-projects

➤ LEARNING

- **Encouraging Hands** - on Learning - Experiential learning through Observations, Mini projects.
- **Each one, Teach one** - (Empowering students as leaders)- with the intension that Peers can understand each other, the Department has introduced this concept to help slow learners in laboratory, mini-projects, class room discussions etc.

➤ TEACHING

- **Peer review of Materials** - ppts of class room Session, Activity Description, Lesson Plans, Discipline Procedures
- **Developing Scientific Research Skills** - Collection of Scientific Database, Science Projects, Extended Seminars / Workshops / Conference.
- **Developing Scientific Understanding** - Learning with Analogies, Simulations.

➤ List of important "best practices" include the following

- Engage students in active learning experiences through mini projects, field visits, learning with simulators.
- Provide, use regular, timely Counseling with regard to regularity, studies and discipline.
- Recognize and stretch student styles and developmental levels in presentations, preparations etc.
- Seek and present real-world applications by Seminars/lectures/Workshops/Visits organized by other organizations.
- Understand methods for student assessment –to conduct remedial /tutorial programme.
- Create opportunities for student-faculty interactions.
- Create opportunities for student-student interactions.

SWOT Analysis

Strength

- ✓ Regular conduct of collaborative activities for students –Internships/Projects/Mini Projects
- ✓ Good placements & Pre placement activities
- ✓ Department MOU's
- ✓ Personal attention to students

Weakness

- ✓ Low academic standards of the students.
- ✓ Lack of research & Consultancy

Opportunities

- ✓ Course redesigning according to industry need.
- ✓ Use of latest technology & innovations methods of teaching.
- ✓ Faculty development Programmes.
- ✓ Introduction of new academic programmes.

Challenges

- ✓ Attaining 100% result as most of the students are slow learners
- ✓ Enhance research publications by both staff and students.
- ✓ Low demand for traditional science courses.
- ✓ Procurement of latest lab equipment being self finance institution

Guest Lectures/Seminars/Workshops Organized

Entrepreneurship Orientation Programme

Name of the Activity	:	Entrepreneurship Orientation Programme
Date	:	24 th July 2014
Incharge/Coordinator	:	Mrs Savithri ,HoD Department of Commerce.
Venue	:	Joseph's Hall
Target Group	:	B.Sc
Resource Person & Organization	:	Programme conducted by Commerce Department for Science students in collaboration with National Small industries Corporation Ltd (NSIC)
No. of students participated:		10

Objective:

The objective of the workshop was to create awareness amongst the students about the option of setting up new small business enterprises.

About the Activity :

NSIC Organized three Day Entrepreneurship Orientation Training Programme to encourage the budding entrepreneur, who are still pursuing their studies in Colleges and do not have any idea about the Entrepreneurship or how to start any new business and what problems are faced to start the new business. This programme offers the insight into the self employment opportunities and develops the confidence to become self employed..

Workshop on VHDL

Name of the Activity	:	Workshop on VHDL
Date	:	30 th Sep 2014
Nature of Activity	:	Staff & student enrichment programme
In-charge/Coordinator	:	Mrs. L.Mihira Priya
Venue	:	MCA Lab
Target Group	:	III B.Sc(Elec)
Resource Person & Organization:		1. P.V Kiran Kumar (Marketing Manager) 2. K.Dasharath (Senior application Engineer) 3. S.Ramesh(Customer support Engineer) Physitech Electronics

Objective:

To gain valuable hands-on experience. Incoming students with little or no VHDL knowledge be empowered with the ability to write efficient hardware designs and perform high-level HDL simulations.

About the Activity (few lines):

This workshop addresses targeting Xilinx devices specifically and FPGA devices in general. The information gained can be applied to any digital design by using a top-down synthesis design approach. This workshop combines insightful lecture with practical lab exercises to reinforce key concepts.



Technical Session

Project/Internship Details

Mini Projects

Miniprojects are assigned to Electronics students of II /IV Sem .Various projects are done based on curriculum. Some of those are listed below.

S.No	Topic	No.of students
1	Clap Switch using 741 IC	2
2	Dark Detector	2
3	LED Flasher Light	2
4	Flashing LED using 555 IC Timer	2
5	Blinking LED	3
6	Touch Switch	2
7	Burglar Alarm	1
8	Touch sensor	2
9	Anti – Theft alarm	2
10	Clap Switch using 555 Timer IC	2
11	Laser Security System	1
12	Flashing LED Circuit	2
13	Listening Bug	2

Semester INTERNSHIPS/ PROJECTS

S. No	Topic	No. of students
1	Wireless Power Transmission	2
2	Embedded security system using IR Sensor	2
3	ROBOT controlled by radio frequency	2
4	Obstacle Detecting Robot	2
5	Voice controlled home automation	2
6.	Automatic door open closed system	1
7.	Automatic Room light	1
8.	Solar conversation power	2
9.	Metal Detector	2
10.	Internship at Yahoo company	1

Student Participation

S. No	Student Details	Event	Prize
1.	T .Vijay Kumar B.Sc(NHAEM)- IIIIYr	Spochan championships in Japan (World championship) - Nov2014	Trophy holder
2.	P.Ravi Raja Chowdary II B.Sc(MPCS)	Essay writing competition on the topic "Green Technologies for Environmental protection" for International conference on Green Technologies for Environmental Protection sponsored by UGC - Vivek Vardhini College of Arts, Commerce, Science & PG studies 29 th &30 th Dec 2014	Participated
3.	Khalid-I B.Sc(MPCs)	NCC Camp	Silver Medal
4.	Mohammed Shujaat Ali I B.Sc(MPCs)	National Level Martial Arts Competition Mahaboobnagar - Karate State level - Kick Boxing	Gold medal

Placement Details

B.Sc PLACEMENT SUMMARY (2014 JULY TO JANUARY 2015)

S.No	Date	Company visited	No. of students enrolled	Name of the Student	Contact Number	Pay scale
1.	29-09-2014	Genpact	41	Clinton NeilBosco	9985154823	Rs. 2,80,000 PA
2.	29-11-2014	Wipro	41	Nikhil Goud V.Mounika M.Rohit C.V.Vivek Clinton	7569304560 8019214271 8790919697 8019479289 9985154823	Rs.1,80,000 PA
3.	04-12-2014	HGS	41	Clinton Neil Bosco J Maria Christina C.V Vivek	9985154823 9966076476 8019479289	Rs.2,22,000 PA
4.	12-12-2014	AMAZON	41	Clinton Neil Bosco Avinash Shravani Tanvi Vamshi Gopinath .T	9985154823 9573403110 8801880636	Rs.2, 80,000 PA
5.	23-01-2015	Infosys	41	Kuntala Nikhil Goud T.G.Vamshi M.Rohit J.P.Suzana Abdul Quddus C.V.Vivek Rohit Kumar Prasad	7569304560 8801880636 8790919697 9000065883 9989688657 8019479289	Rs.2,50,000
6.	02-02-2015	Tech Mahindra	41	M.Rohit Vamshi Gopinath Nikhil Goud V.Mounika	8790919697 8801880636 7569304560 8019214271	Rs.1,90,000 PA
7	15-12-2014	Sutherland Global	41	Lenin Vencent	B.Sc	Rs.2,00,000 PA
8	19-02-2015	Synchrony (GE Capital)		Sanhita	B.Sc	Rs.2,80,000 PA

Note: Offer letters of students who are placed in the year 2014-2015 will be sent to the students after the course completion by some companies

Pre- Placements Activity

Date	No. of students enrolled	Type of Activity	Description
1-12-2014 to 11-12-2014	240	Module -1 : Aptitude training Module -2:English/Verbal Training Module-3: Personal Interview Module-4:CV Making/Group Discussion Module-5: Sector Specific Training	For The Academic year (2014 – 15) college placement cell outsourced the UG Campus recruitment training programme (CRT) by placement team (A skill development organization run by IIM Calcutta, Alumni students (Mr.Gaurav Kejriwal, Varun K Choudhary & Rahul Kishore Singh).

Certificate Courses

Android Gaming Software

Course Coordinator : Mr. M.L.N Rao / Mr R. Ashok Kumar / Mr M. Sravan Kumar.

Resource Persons : Mr. T.Nagurjuna , Mr. M. Kiran Kumar

Company / Institution : Prayog Labs Pvt Ltd.

Address : Kukatpally, Hyd.

Course Duration : 3 Days (21 Hours) – 26th, 27th Feb & 02nd March 2015.

Venue : Computer Lab – 3, St. Joseph's Degree & Pg College.

Details Of The Course Conducted:

- **Day1:** Program started with introduction of resource persons to students and course coordinator briefed about the course, contents and its applications. Students had been motivated to adapt various application software like Android Software.
- **Day2:** Started with theory and practicals.
- **Day3:** Students acquired the relevant and required knowledge and implemented for developing the games on PC. Also conducted the test after the end of the afternoon session and concluded the course with vote of thanks.

Feedback:

1. Students found the course interesting and useful for developing games by using android software.
2. Easy to develop games in smart phones.
3. Few students found self employability in the making the gaming apps.

PCB DESIGNING

Course coordinator	: Mr.M.Sravan kumar / Mr. M.L.N.Rao / Mr R. Ashok kumar
Resource persons	: Mr. Srikanth & team.
Company / institution	: Prayog labs Pvt ltd.
Address	: Kukatpally, Hyd.
Course duration	: 3 days (21 hours) – 02 nd , 03 rd & 4 th march 2015.
Venue	: Computer lab – 3, St. Joseph’s degree & PG college.

Details of the course conducted:

- Day1: Program started with introduction of resource persons to students and course coordinator briefed about the course, contents and its applications. Students had been motivated to learn this course and its uses particularly in physics & electronics field.
- Day2: Started with theory and designing of circuits using kicad software in the computer lab.
- Day3: Students developed the pcb boards using chemicals in the electronics lab. After that conducted the test in the course and concluded the course with vote of thanks.



PCB Design lab work

Parent-Teacher Meeting

Date : 7th Feb 2015

The following activities are organized in Parent-Teacher Association:

- The performance of student discussed.
- The personal as well as academic problems of the student discussed jointly and efforts made to solve these problems.
- Invited parents to accept their viewpoints.

Alumni Meet

Date : 26th July 2014
Incharge/Coordinator : Mrs L.Mihira Priya
Venue : Joseph's Hall
Target Group : Old Batch Students

Objective:

- To maintain an up-to-date and comprehensive database of alumni
- To identify and promote alumni success and achievements to advance the credibility and reputation of the college
- To encourage the Alumni to take an active and abiding interest in the work and progress of the Institute.
- To promote and foster mutually beneficial interaction between the Alumni and the present students.

About the Activity:

Alumni meet, an initiative taken by us to stay in touch with our alumni and to ensure that our alumni feel connected irrespective of the physical boundaries. These meets have been providing a platform for all alumni to know the progress SJC has made in the years from when they left the college. The meets are not only an occasion for the alumni to get nostalgic and relive their college memories but also they help us to maintain the strong connect with our alumni and gain from their knowledge and expertise of the industry.



Chief Guest of the day: Rev.Fr.Amal –B.Sc(MECs) Alumni

Future Plans of the Department

- To develop fully equipped Embedded systems lab
- To organize National level seminars/Conference/Workshops
- To establish a small research oriented lab for Physics students, to do mini or study projects in the Campus.