



VIMALJYOTHI ENGINEERING COLLEGE

METRON

ELECTRONICS & INSTRUMENTATION

Volume 2, Issue 2

MARCH 2014

From HOD'S Desk

I am very happy that our Electronics & Instrumentation department is releasing 11th issue of 'Metron' as a forerunner of department activities. It is a technical platform to bring out the hidden talents of students and faculty. The major strength of the department is a team of well qualified and dedicated faculties who are continuously supporting the students for their academic excellence. Now we are almost at the end of the academic year. University exams are going to start from April onwards. It is the time for us to work hard for getting good results in exams.

We have arranged several industrial visits and workshops for our 2nd, 3rd and 4th year students in this semester. Our post graduate program is also going on successfully. As part of the development of Process control Lab for the PG students, we have purchased large number of equipments like Quanser QNET Rotary inverted pendulum etc. Also we have started an exclusive research lab for the PG students. The department has already applied for the NBA accreditation. I hope the NBA committee will be visiting our department in the coming semester. So let us work together for the achievement of this goal. I take this opportunity to congratulate our staff editors Mr.Dhanoj M and Ms.Teenu Jose for their great effort to make this news letter as a reality. Also I invite the readers of 'Metron' for their contribution and suggestions for the forthcoming issues.

- Reema Mathew A



From Student Editor

Greetings from the Electronics & Instrumentation Department of Vimal Jyothi Engineering College. Our enrollment continues to ascend great heights of rigorous admissions standards. First of all we would like to thank all those who generously contributed for the 11th edition of EIE Dept Newsletter. Department as a whole, we have received more admission into Electronics & Instrumentation Engineering. Thus, the student body is a remarkable group of exceptionally bright, ambitious, & hardworking students who are thirsty for a top-flight engineering education. Our students find a diverse curriculum that emphasizes both traditional & emerging areas of Electronics & Instrumentation Engineering, simultaneously developing experimental, communication & leadership skills. A major strength of our department is a truly outstanding faculty, many in the early stages of their carriers, who have become some of the brightest stars in the instrumentation discipline.

— Aswamesh R

Inside this issue:

Staff Publication	2
Main Project 2014	2
Industrial Visit	4
Yantra 2k14	4
Result Analysis	4



DESIGN, FABRICATION AND CONTROL OF A VISION

BASED CARTESIAN ROBOT FOR 3-D PRINTING APPLICATIONS

Process of creating a three dimensional solid object from a digital model is called a 3D printing or Additive manufacturing. Its application scope includes industrial design, automotive, aerospace, military, engineering, civil engineering, dental and medical industries, fashion, footwear, jewelry, education, food, and many other fields. Robots with vision has a wide range of applications primarily because of its capacity to acquire more information in less time and least effort. Ad-

vancements in vision technology for robotics broaden the possibility of robotic application in minimal error task environment like 3-D printing. Vision based robots eases the cost by evading most of the sensors. The industries demands low cost and rapid response from vision system. These demands can be achieved by using the latest vision technology advancements. This paper presents a vision based Cartesian robot for 3-D printing applications. The objective includes design,

fabrication and control a four degree of freedom Cartesian robot that can perform common industrial applications like welding, drilling, screw tightening on a single platform. This paper presents the kinematic and dynamic modelling of the proposed robot. Denavit-Hartenberg (D-H) representation of the robot was obtained. Dynamic analysis was done using Lagrangian Dynamic formulation method. 3-D Modelling using SolidWorks was performed prior to fabrication. This paper also details the results of various image processing operations.

Sarath T Sekharan
Asst Professor
EIE Dept

MAIN PROJECT EXHIBITION (2010-2014 BATCH)



MAIN PROJECT (2010-2014 BATCH).....



Electronics & Instrumentation department of Vimal Jyothi Engineering College is proud to present the department technical fest “Yanthrik 2k14” on 4/4/14.

RESULT ANALYSIS

S8 First Internal

Sangeetha P K—91.00%

Pass Percentage—58.62%

S6 Second Internal

Surya Sunil—93.8%

Pass Percentage—50%

S4 Second Internal

Jenu Jose—75%

Pass Percentage—22.22%

EDITORIAL BOARD

STAFF

Dhanoj. M

dhanoj24@vjec.ac.in

9446403312

Teenu Jose

teenujose@vjec.ac.in

9846516510

STUDENT

Aswadesh R

S8 EIE

INDUSTRIAL VISIT OF SEMESTER-IV EIE STUDENTS

40 students of semester – 4 Electronics & Instrumentation Engineering Department accompanied with four staffs (Mr. Avinash K K, Mr Sarath T S, Mrs Divya K Vinod & Ms Kavya) went for an industrial visit on 21st & 22nd February 2014 to Travancore Cochin Chemicals Ltd.

