COLLEGE OF ENGINEERING ADOOR - 691551

ANNUAL REPORT

APRIL 2013 - MARCH 2014

INTRODUCTION AND OUR ORGANIZATION

The versatile manifestations of engineering have had a profound and lasting impact on our civilization. From the grandeur of the pyramids and man's journey into space, to the recent information revolution, engineering continues to fascinate and enthrall.

The College of Engineering, Adoor (CEA), was established by Government of Kerala in 1994 under the Institute of Human Resource Development (IHRD), a Government of Kerala undertaking. CEA is located in the District of Pathanamthitta in the state of Kerala. Geographical boundaries are Western Ghats in the East and Arabian Sea in the West. Tamilnadu and Karnataka are the neighboring states. Admissions are carried out on the basis of the rank obtained in the All Kerala Common Entrance Examination (KEAM), conducted by the Controller of Entrance Examinations, Government of Kerala.

CEA is known for its academic excellence that provides undergraduate studies to about 1500 students in four disciplines. It imparts technical education and training in the fields of Computer Science and Engineering, Electronics and Communication Engineering, Electrical and Electronics Engineering, and Mechanical Engineering. The institution is affiliated to Cochin University of Science and Technology (CUSAT) known internationally for its academic excellence. College of Engineering, Adoor is a recognized institution by the All India Council for Technical Education, New Delhi.

The college is magnificently spread up in 11.94 acres of scenic paradise. The College has good infrastructure facilities, which includes a central library, department libraries, well equipped laboratories and workshops. The College has two buildings where the main block is a five storey building and the second one, workshop block is a single storey building; together have a total built-up area of 10,886.4 sqm. Administrative sanction for an additional built-up area of 2000 sqm with financial support from NABARD is obtained. CEA also has a computer centre with high speed internet connection. The college's power requirement is catered by the 11kV substation with a 75kVA standby generator and with separate backup generator for Electrical Engineering Laboratories. Since the very first year of inception, CEA has achieved many a milestone both in academic and co-curricular pursuits. It has always provided an able platform for the students to turn into excellent engineers paving the path for a successful career.

VISION AND MISSION OF THE INSTITUTE

OUR VISION

OUR MISSION

As an institution, our mission is to provide world class education, foster development in research and development in Electronics, Computer& Mechanical fields. We strive to evolve innovative application of technology, encourage entrepreneurship and build young men and women capable of assuming leadership of the society.

TEQIP –II

The Institute is one of the 19 institutes all over Kerala to have been selected for Technical Education Quality Improvement Programme (TEQIP) Phase-II, sub-component 1.1, with a funding of **Rs.10.00 Crores**. The MoU has been signed in **February, 2013** and the project completion date is **31st October, 2016**. The objective of the programme is **"Strengthening Institutions to improve learning outcomes and employability of graduates".**

BOARD OF GOVERNORS

1.	Prof. T.I. Eldho , Professor (Civil Engg.), IIT Mumbai	Chairperson
2.	Mr. K.C.Chandrasekharan Nair, Associate Principal Consultant, KITCO, Cochin	Member
3.	Dr. Achuth Sankar Nair, Department of Computational Biology and Bioinformatics, University of Kerala	Member
4.	Sri. L. L Ramachandran, Deputy General Manager (IS), BPCL Kochi Refinery	Member
5.	Prof. Manju S Nair, Associate Professor, Department of CSE, College of Engineering Adoor	Member
6.	Prof. John George, Associate Professor, Department of EEE, College of Engineering Adoor	Member
7.	State Goverment Nominee(Ex-officio)	
	1. Addl.Sectry/Joint Sectry/Dy.Sectry (Admin Dept)	Member
	2.Secretary/Addl.Sectry/Joint ectry/Dy.Sectry(Fin Dept)	
8	Prof. Jyothi John (Ex-officio), Principal, College of Engineering Adoor.	Member

TEQIP –II ACTIVITIES

A. General

1. An **Orientation Programme** was conducted on **14.05.2013** in connection with TEQIP-II Implementation. The Session was handled by Prof. Narayanan K, Consultant, SPFU, Kerala.

2. The **mentor Dr. Ashalatha Thampuran**, Educationist and Former Principal of College of Engineering, Trivandrum, visited the campus on *15th & 16th November 2013* for the **First mentoring of the institution**. She interacted with the TEQIP Coordinators, faculty, technical and office staff and UG and PG students.

3. The SPFU had conducted a **departmental audit** on **19.02.2014** for the preliminary audit of accounts. The following officers, **Mrs. Lindsey Thomas, Finance Officer, Sri. SathyaRaj D, Head Accountant and Sri Rajeev Kumar N M, Senior Clerk** from SPFU visited.

4. The **Performance Auditor Mr. Suresh Dattatraya Khare**, Rtd. Deputy Director of. Technical Education. , Govt. of Maharashtra and **Data Auditor Dr R. Ajith**, Asso. Prof, SCT College of Engg. , Thiruvananthapuram visited the campus on **17th to 19th March 2014** for the **First auditing of the institution**. He interacted with the TEQIP Coordinators, faculty, technical and office staff and UG and PG students.

5. The firm **M/s Mohan & Mohan Associates, Chartered Accountants**, had conducted an **internal audit** for the financial statements of the College of Engineering Adoor for the two quarters of the financial year 2013-2014.

6. The firm **M/s K. Venkatachalam Aiyer & Co., Chartered Accountants**, had conducted a **statutory audit** for the financial statements of the College of Engineering Adoor for the financial year 2013-2014.

B. BOG MEETINGS

Sl. No	BOG meeting	Date & Time	Venue
1	I	22.06.13 11:00 AM	Conference Hall, College of Engineering Adoor
2	II	30.12.13 2:00 PM	Conference Hall, College of Engineering Adoor
3	III	22.02.14 11.15 AM	Conference Hall, College of Engineering Adoor

C. *FACULTY DEVELOPMENT PROGRAMMES*

i. *FDP–Training Programmes organized in this institution*

Faculty Development Programmes have been conducted in the Institution by all the departments to train the faculty from our college and from the colleges in and around Kerala. The resource persons for the FDP were eminent personalities from Industries and reputed Institutions who have shared their knowledge and practical sessions. The faculty members were able to enhance their technical skills and also to equip themselves for enhancing the quality of students.

TEQIP- II Sponsored 5 days FDP on "Recent trends in Renewable Energy Systems" from 10th to 14th June 2013.

TEQIP- II Sponsored 3 days FDP on "Information and Communication System Security" from 26th to 28th June 2013.

TEQIP- II
Sponsored 5 days FDP on
"Productivity and Energy
Efficiency for Sustainable
Development" from 22nd
to 26th July 2013.

TEQIP- II Sponsored 3 days
FDP on "Linux Kernel
Programming" from 12th to
14th August 2013.

TEQIP- II Sponsored 2 days Workshop on "Reinventing Engineering Mechanics – I" from 23rd to 24th August 2013

TEQIP- II Sponsored one day Workshop on "Introduction to Numerical Methods" on 6th September 2013

TEQIP- II Sponsored 3 days FDP on "Industrial Machinery Vibration Analysis and Machine Availability" from 09th to 11th October 2013.

TEQIP- II   Sponsored one day Workshop on "VHDL &VLSI fundamentals" on 23rd October 2013

TEQIP- II Sponsored one day Workshop on "Programming in PYTHON" on 04th November 2013

TEQIP- II Sponsored one day FSD on "Modern Display devices based on Nanotechnology" on 07th November 2013.

TEQIP- II   Sponsored five days FSD on "Industrial automation using PLC & SCADA" from 25th to 29th November 2013.

TEQIP- II Sponsored three days   FSD on "Application of Electromagnetic theory in transmission lines & antennas" from 04th to 06th December 2013.

TEQIP- II Sponsored one day Workshop on "Essentials of Cloud Computing" on 12th December 2013

TEQIP- II Sponsored three days FSD on "Fundamentals in Finite Element Methods" from 29th to 31th January 2014.

TEQIP- II sponsored one day workshop on "ORCAD & PSPICE" on 30th January 2014.

TEQIP- II sponsored one day Workshop on "Lab view" on 20th February2014.

TEQIP- II sponsored
one day
Workshop on
"Management of
Information Systems" on
26th February2014

ii. *FDP–Training Programmes attended outside this institution*

The faculty members from College of Engineering, Adoor were able to participate in many of the training programmes outside the institution through TEQIP-II. The training programmes include technical training, management capacity enhancement training, pedagogical training and personality development training.

Sl no.	Title of activity with date	Name of the Beneficiaries	Name of the organization
1	PMSS Training 23rd to 24th May 2013	Prof. John George (EEE) Prof. Ventikaraj K P(ME)	JNTU, Hyderabad
2	STTP -Intelligent methods towards computational linguistics 22th to 27th July 2013	Prof. Santhy S R (CSE) Prof. Jaseena A (CSE)	College of Engineering, Cherthala
3	STTP -VLSI Design 23rd to 28th July 2013	Prof. Sarojini S Potti (ECE)	College of Engineering, Karunagapally
4	STTP - Engine Testing and Certification	Prof. Anver Sadath A(ME)	ARAI, Pune

	18th to 22nd August 2013		
5	STTP - Energy management and Recent Trends in Power 25th to 28th August 2013.	Prof. Renjith Kumar D(EEE)	College of Engineering, Karunagapally
6	Workshop- Random process and applications 09th to 11th September 2013	Prof.Haseena A(EEE) Prof. Jalaja M B (AS)	College of Engineering, Karunagapally
7	TEQIP Project Review – Presentation Meeting 23rd September 2013	Prof. Manu M John (ME) Prof. Madhu A K (ME) Prof. Anver Sadath A (ME)	SPFU Bangalore
8	MIS Training 9th to 10th October 2013	Prof. Sanchu S (ME)	Institute of Chemical Technology (Computer Centre) , Mumbai
9	Training in Quality Initiatives in Technical & higher Education- in compliance with NBA & NACC Accreditation 22th to 24th October 2013	Prof. Krishnadas G (AS) Prof. Rajesh M S(ECE) Prof. Jayan M C (ME)	Engineering Staff College of India, Hyderabad
10	STTP -Recent Trends in Nanotechnology 28th October to 1st November 2013	Prof. Ajeesh S(CSE) Prof. Syama S R(CSE) Prof. Shan N(ECE) Prof. Vibesh V Panicker(ECE) Prof. Bini B(ECE)	TKM College of Engineering, Kollam
11	Introductory meeting on Pilot Implementation of QEEE 18th November 2013	Prof. Manu M John (ME)	NPIU, India Habitat Centre, New Delhi
12	Workshop – Timeless Leadership 27th to 29th November 2013	Prof. Madhu A K (ME)	Indian Institute of Management, Kozhikode
13	STTP - Linear Algebra 9th to 13th December 2013	Prof. Jalaja M B (AS)	LBS Institute of Technology, Thiruvananthapuram
14	Quality Enhancement in Engineering Education (QEEE) training workshop 17th to 18th December 2013	Prof. Madhu A K (ME) Sri. Biji Varghese (System Analyst, CSE)	Indian Institute of Technology, Madras
15	STTP - Advanced Computational Fluid Dynamics 22th to 24th December 2013	Prof. Anver Sadath A(ME)	Indian Institute of Technology, Madras
16	Workshop – Leadership	Prof. Manu M John (ME)	Indian Institute of

	Clinic 13th to 15th February 2014		Management, Kozhikode
17	STTP - Cryogenic technology : Materials, Processes and Equipment 17th to 21th February 2014	Prof. Sanchu S (ME)	Indian Institute of Technology, Kharagpur
18	Review meeting for QEEE Pilot project 13th March 2014	Prof. Madhu A K (ME), QEEE Coordinator	Lecture Room II, India International Centre, New Delhi
19	Workshop – Cloud Computing 15th to 16th March 2014	Prof. Manju S Nair (CSE)	IIIT & M, Kerala
20	Workshop - Strategic planning and good governance 17th to 18th March 2014	Prof. John George (EEE) Prof. Lasithan L G (ME)	College of Engineering, Thiruvananthapuram

D STAFF DEVELOPMENT PROGRAMMES

iii. Staff –Training Programmes organized inside this institution

Staff Development Programmes have been conducted inside the institution for the benefit of non-teaching staff and office administrative staff. Staffs from our college and from outside have participated and enhanced their knowledge, skills and personality.

> **TEQIP- II Sponsored 2 days Workshop on "Library Automation using KOHA" from 15th to 16th July 2013.**

iv. Staff –Training Programmes attended outside this institution

The non-teaching staff and office administrative staff from our institution have taken part in many of the staff development programmes conducted outside the institution

Sl no.	Title of activity with date	Name of the Beneficiaries	Name of the organization
1	STTP - Study and Maintenance of Modernized Electronics Lab 12th to 17th August 2013	Sri. Balachandran S (ECE) Sri. Prasannakumar P K (ECE)	College of Engineering, Karunagapally

2	STTP - Mastering time management and developing Inter personal relationship 26th to 28th September 2013	Sri. Baby John (Administrative Ofiice)	College of Engineering, Karunagapally
3	Workshop - Personality development and Capacity building 30th to 31st January 2014	Sri. Balachandran S (ECE) Sri. Baby John (Administrative Ofiice)	ISTE – WPLP Cochin
4	STTP - Open Source Software for Research 11th to 13th March 2014.	Sri. Joseph Chandy (CSE)	RIT, Kottayam
5	STTP - Cyber Security 25th to 29th March 2014	Sri. Joseph Chandy (CSE)	RIT, Kottayam

E IIIC CELL ACTIVITIES

Expert Talks

Expert Lecture	• "**Industrial aspects of Gas Turbines"** delivered by **Mr. Rajith**, DGM (Gas Turbine division), and **Mr. Ramesh**, Manager (Maintenance) of **RGCCP, NTPC, Kayamkulam** on 17.07.2013.
Expert Lecture	• "**Gearing up for placements"** delivered **by Ms.Anushree, Software Engineer, CTS Coimbatore and Mr. Vivek, Software Engineer CTS Cochin** on 20.07.2013.
Expert Lecture	• "**Fundamentals of Communication Engineering for Freshers in Telecommunication Industry"** delivered **by Mr. Kannan, JTO, BSNL, Trivandrum** on 19.08.2013.
Expert Lecture	• "**Job prospects in Public Sector undertakings & Intoduction to Steel Industry"** delivered by **Mr George Varkey & Mayank Aggarwal, SAIL** on 19.12.2013.
Expert Lecture	• "**Server Administration and Virtualization"** delivered by **Mr Shyamlal T Pushpan, Founder, Corona Institute of Technology, Kottayam and Mr. Sajan Pappachan, Co-founder & CEO Crevelabs, Kottayam** on 25.02.2014

Industrial Visits

- ➢ Semester five students of EEE visited KEL Kochi and BSES Kochi on 20.08.2013.

- ➢ Semester Eight Students (B Batch) of ECE visited TELK, Angamaly on 22.02.2014.

- ➢ Semester four students (A batch) of ECE visited Doordarshan Kendra and Akashawani Thiruvananthapuram on 24.02.2014.

- ➢ Semester four students of EEE visited KEL Kundara and Keltron Thiruvananthapuram on 12.02.2014

MOU with Industry

Sl no	Name of the firm	Date	Validity in years
1	INFOSYS	03.04.2013	2
2	TECQUE SOLUTIONS PVT LTD	20.12.2013	5
3	NRI-TBI	20.12.2013	5
4	INNOVATION LAB	20.12.2013	5
5	RAYCAST TECHNOLOGIES	20.12.2013	5
6	SMARTGURUJI EDUCATIONAL SOLUTIONS	20.12.2013	5
7	MOBME PVT LTD	20.12.2013	5
8	FWD MEDIA PVT LTD	20.12.2013	5
9	SECTORQUBE TECHNOLABS PVT LTD	20.12.2013	5
10	WALRUS MARINE ENGINEERING PVT LTD	10.01.2014	5
11	FOUNDINGMINDS SOFTWARE PVT LTD	14.03.2014	5

F STUDENT DEVELOPMENT ACTIVITIES

Through TEQIP-II, many Training Programmes have been conducted for the benefit of students to enhance their subject knowledge, practical knowledge. Many programmes have been conducted to improve the skills needed for company placements

which include aptitude based trainings, communication skills and personality development programmes.

❀ An **Induction Programme** was conducted for *first year BTech students* on 12.08.2013. The BOG Chairman, Prof. T I Eldho addressed.

❀ An **Expert Talk** about "**Higher Education after B.Tech**" conducted by *Mr. John Jose, Asst. Prof., Rajagiri Institute of Technology, Kochi* to introduce the final year students to various career options on 23.07.2013.

❀ An **Expert Lecture** about "**Quantitative Aptitude**" was conducted to make the Final year students of Electronics & Communication Engineering confident on aptitude tests in placement drives from 27.08.2013 to 28.08.2013. The sessions were handled by *Joseph Jeejo Joseph, Surendra Kumar, Jinu Ephrem Jacob and Krishnakumar H (Aptitude Trainers with IMS Learning Resources).*

❀ An **Expert Lecture** *about "***Group Discussion & Interview***"* was conducted to impart training in basic techniques in GD & interview on 01.09.2013. The sessions were handled by Sangeetha *Elizabeth Panicker, and Praveen Kumar (Soft Skill Trainer, SHARP SKILLS, Trivandrum).*

❀ A **Training programme** named "**Soft Skill Training**" was conducted to improve soft skills for the final year students of all departments for the placement drives on 09.03.2014. The sessions were handled by *Sangeetha Elizabeth Panicker, Sreekala Narendranath and Praveen Kumar (Trainer, SHARP SKILLS, Trivandrum)*

G ACADEMIC SUPPORT PROGRAMMES

Weak students were identified and the subjects that the students feel difficult both in the current semester and the arrear subjects were identified and remedial classes were arranged through TEQIP-II as part of Academic Support Programmes for the benefit of students. This arrangement is done to improve the academic results and the list of such programmes is listed.

	Dept	Name of the Subject	Total No of Beneficiaries	No of Hours Engaged
REMEDIAL TUTORIAL/ BRIDGE COURSES CONDUCTED	CSE	CS 703 Advanced Computer Networking	7	5
		CS 505 Database Management System	9	4
		CS 502 System Programming	17	6
		CS 1404 Automata Languages & Computation	20	9
	EEE	EE 503 Field Theory	12	6
		EE 403 Electrical Machines I	15	10
		EE 1104 Engineering Mechanics	30	10
	ECE	EC 1303 Network Theory	14	9
		EC 1104 Engineering Mechanics	22	13
		EC 1107 Basic Electrical Engineering & Electronics	16	6
	ME	ME 1403 Mechatronics	75	10
		ME 1303 Mechanics of Solids	9	5
		ME 1104 Engineering Mechanics	56	15
	Combined for first year all branches	1109 Technical Communication	222	18
		1108 Computer programming	120	18

H EQUIPMENTS PURCHASED THROUGH TEQIP

| Sl.No	Name of the equipment(qty)	Location	Price (Rs)
1	3D Solid Modeling CAD software(1)	ME	2,75,000
2	ANSYS finite element analysis software(1)	ME	4,22,000
3	Microwave Simulation software(1)	ECE	7,00,000
4	OrCAD & PSPICE(1)	ECE	5,25,000
5	Tally software(1)	Institution	14,400
6	Currency Counting Machine(1)	Office	9,250
7	Multimedia Projector(21)	Institution	9,59,555
8	Diesel Generator Set(1)	ME	7,95,000
9	Digital Copier(9)	Institution	4,28,725
10	Air Conditioners(15)	Institution	5,97,976
11	Video Conferencing System(1)	Institution	5,03,107
12	BARCODE READER(2)	Library	7,100
13	Workstations(10)	ME	9,45,000
14	Peristaltic Pump(1)	ME	44,426
15	Ultrasonic Shaker(1)	ME	44,835
16	Electronic Weighing Machine(2)	Office & ME	39,949
17	Rotational Viscometer(1)	ME	5,71,320
18	Measurement Gadgets for FM & HM lab(17)	ME	30,457
19	Vernier Caliper with Fine Adjustment(12)	ME	52,556
20	Inverter(2)	Institution	50,632
21	Experimental Test rigs of Hydraulic Machines(3)	ME	3,70,400
22	Online UPS(5)	Institution	6,20,370
23	Power Quality Analyzer(2)	EEE	8,44,000

24	Portable Surface Roughness tester(1)	ME	9,73,250
25	Transformers(36)	EEE	3,06,294
26	Power Supply(33)	ECE	1,31,681
27	Cathode ray Oscilloscope(18)	ECE& EEE	3,45,870
28	High Frequency Digital Storage Oscilloscope(12)	ECE& EEE	8,16,428
29	Function Generator(26)	ECE& EEE	3,60,570
30	Communication Trainer Kits(7)	ECE	98,775
31	Sliding Surface & Screw Cutting Lathe and Accessories(17)	ME	7,64,091
32	Spectrum Analyzer(1)	ECE	8,09,974
33	Hand Tools for Mechanical Workshop(39)	ME	1,16,835
34	8086 Microprocessor and Interfacing cards(27)	ECE	77,931
35	Insulation Tester(3)	EEE	2,10,376
36	DC – Motor Generator Set(1)	EEE	1,52,250
37	Heat and Mass Transfer Lab setups(6)	ME	3,42,255
38	IC Engine Setup for UG Thermal Lab(1)	ME	6,59,186
39	Flash and fire Point Apparatus(1)	ME	13,225
40	Induction Generator Setup(1)	EEE	1,18,448
41	Tool & Cutter Grinder(1)	ME	4,19,790
42	Microwave Test benches(4)	ECE	2,76,613
43	DC Regulated Power Supply(10)	EEE	6,21,699
44	Programmable Function Generator(5)	ECE& EEE	6,92,490
45	Smart Board(16)	Institution	4,93,416
46	J-gate e-journal package(1)	Library	67,416
47	ASTM e-journal package(1)	Library	71,500
48	Springer e-journal package (1)	Library	2,04,470

49	*ASME e-journal package(1)*	*Library*	*1,60,644*
50	*Elsevier e-journal package(1)*	*Library*	*4,52,498*
51	*IEEE e-journal package (1)*	*Library*	*3,76,200*
52	*MCGRAW HILL'S ACCESS Engineering(1)*	*Library*	*1,41,050*
53	*Office Furnitures(25)*	*Office*	*1,23,030*
54	*Furniture for Library(13)*	*Library*	*3,71,552*
55	*Drawing Board with stand(100)*	*Institution*	*1,42,500*
56	*Training Room Chairs(70)*	*Institution*	*5,06,100*

I PLACEMENT PERCENTAGE
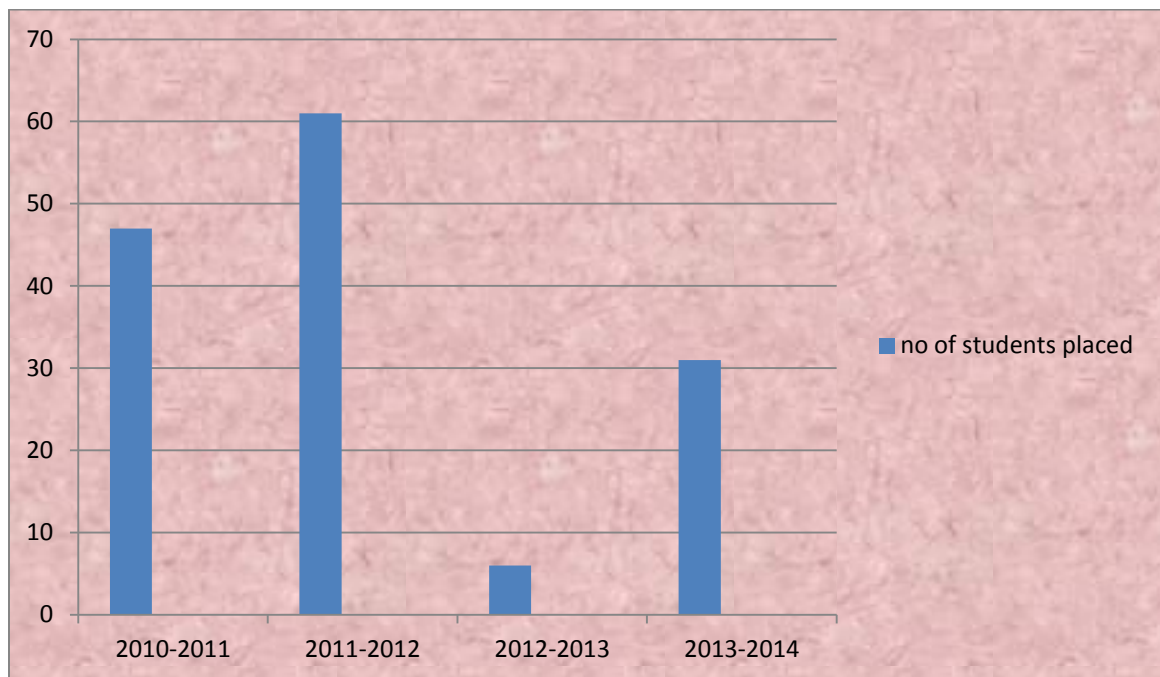
J   TRANSITION RATE
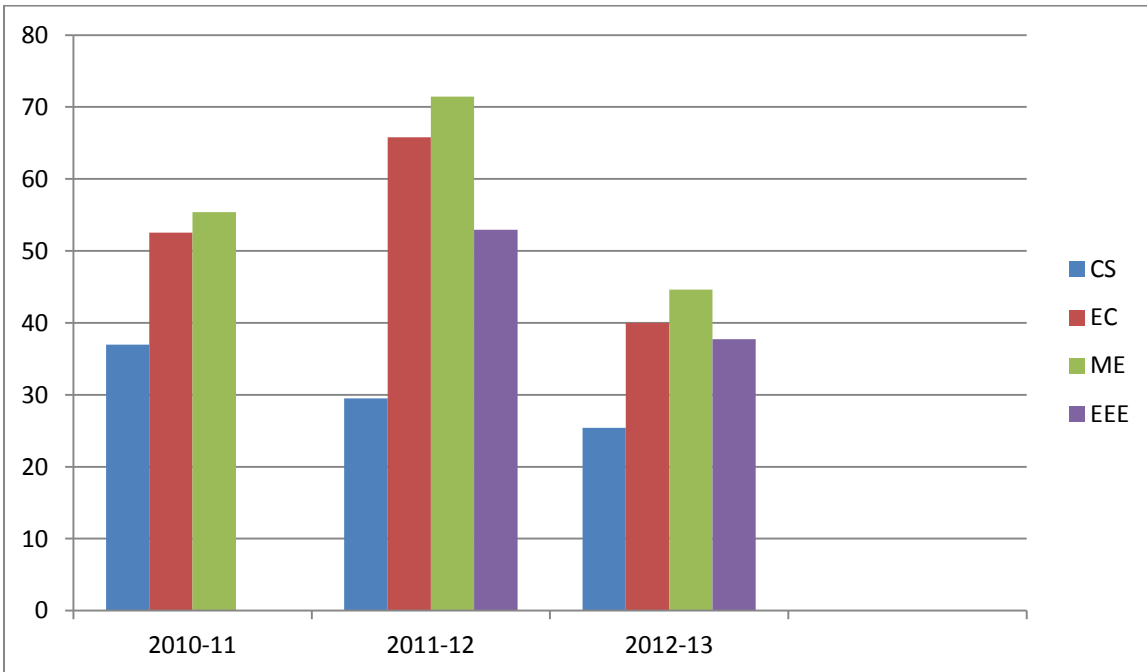
I RESULT ANALYSIS

➢ *Mr. RENJI KRISHNAN secured Second rank in CUSAT B.Tech Degree Examination 2014 in ME.*

% of final years passed in april-2014