ST JOSEPH ENGINEERING COLLEGE

Affiliated to VTU-Belagavi & Recognized by AICTE

NBA-Accredited: BE (CSE, ECE, EEE, & ME)

Action Taken Report 2016-17

Industry Alumni Advisory Board (IAAB) Meeting 2016

"Service and Excellence"

Vision

"To be a global premier Institution of professional education and research"

Mission

- **Provide opportunities to deserving students of all communities, the Christian students in particular, for quality professional education.**
- **Design and deliver curricula to meet the national and global changing needs through student centric learning methodologies.**
- **Attract, nurture and retain the best faculty and technical manpower.**
- **Consolidate the state of art infrastructure and equipment for teaching and research activities.**
- **Promote all round personality development of the students through interaction with alumni, academia and industry.**
- **Strengthen the Educational Social Responsibilities of the institution.**

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1. Review of Minutes of the previous IAAB Meeting dated 26th November 2016.
2. Attainment of Program Outcomes (POs) and Program Specific Outcomes (PSOs) in the five UG programs, MBA & MCA.
3. Continual Improvement Action Items for each of the POs and PSOs.
4. Review of attainment of Vision, Mission, and Program Educational Objectives (PEOs) of all departments.
5. Any other matter.

2. Review of Minutes of the previous IAAB Meeting

Table 1: Actions Items suggest during the previous IAAB meeting for Continual Improvement

Action Item No.	**Action Item**	**Person Responsible to Coordinate**	**Time schedule for completion**	**Status as on (15 Jan 2017)**
I/2016-17/1	More MOUs	Respective Departmental HODs	30 June 2017	Three MOUs: V&GIT, IPR Gujarat, SELCO
I/2016-17/2	Awareness of OBE system among the students	Accreditation Coordinators – College and Department	01 March 2017	Will Start after commencement of Even Sem
I/2016-17/3	Strengthen Alumini network and activities	Dean-SW&AA	30 June 2017	Annual get-together and Decennial Batch get-together
I/2016-17/4	More Entrepreneurship Activities	Coordinator - EDC	30 June 2017	Will Start after commencement of Even Sem
I/2016-17/5	More Career Counselling Programmes	Placement and Training Officer	30 June 2017	Will Start after commencement of Even Sem
I/2016-17/6	Students' Project of social impact	Respective Departmental HOD	01 March 2017	MOU with SELCO

3. Action Taken Report (ATR)

3.1 Action item 1 (More MoU's)

- The Department of Mechanical Engineering at SJEC signed a MoU with **V&G Industrial Testing Laboratories Pvt. Ltd – Mangaluru** on 9th July 2016. The MOU relates to the training and use of Non-Destructive Testing (NDT) techniques among the students and faculty of SJEC.
- Dr Purushothama Chippar was awarded a grant of 13.5 Lakhs by **Institute for Plasma Research, Gujarat** (Department of Atomic Energy, Government of India), May 2016 through an MoU to conduct research in fuel cell development.
- SJEC has entered into an MoU titled "SOCIAL LOCAL" with Ms. Myriam Shankar Krafft, Co-Founder, "**The Anonymous Indian Charitable Trust" (TAICT), Bangalore** and Mr. Wolfram Thurm, Product Designer from Bauhaus University in Weimar, Dresden, Germany during in 2016 with an funding of Rs. 5,00,000/- to take up the work to design and develop two projects namely:
    1. PROJECT 1: "Design and Fabrication of Washing and Shredding Machine for processing of Commingled Waste Plastics".
    2. PROJECT 2: "Design and Development of a Two Stage Extruder-Injection Moulding machine for manufacturing of Plastic Lumber using Commingled Waste Plastics".

Figure 1: MOU with V&G Industrial Testing Laboratories Pvt. Ltd

Figure 2: MOU with The Anonymous Indian Charitable Trust (TAICT), Bangalore

- SJEC and SELCO Foundation India, signed up an MoU on 18th November 2016 to initiate Social Innovations in the field of Renewable Energy. On behalf of SELCO FOUNDATION India, Ms Santhi Devadu, the Programme Manager - Education Lab, exchanged the MOU with Rev. Fr Joseph J Lobo, Director - SJEC. The MOU was initiated by the Department of Electrical and Electronics Engineering at SJEC.

Figure 3: MoU with SELCO Foundation, India

- A MoU was signed between **SJEC and Kanara Small Industries Association (KSIA)** Mangaluru on 31st March 2017 and was initiated by the **Department of Business Administration** at SJEC.

Figure 4: MoU with Kanara Small Industries Association (KSIA) Mangaluru

- **Infosys Campus Connect** MoU Renewed for a period of two years from 03 Nov 2016 to 02 Nov 2018. The Campus Connect MoU was first signed in Nov 2007 and it is anchored by the CSE department. The prestigious Foundation Program is conducted for students every year, under this MoU.
- The Department of Electronics and Communication Engineering has initiated the process of Signing the **MoU with Fr Muller Hospital** and soon it will be materialized.

3.2 Action item 2 (Awareness of OBE system among students)

Following Measures have been taken to strengthen the awareness among the students:

1. Displayed Vision, Mission, POs and PSOs in the class notice boards.
2. Printed POs and PSOs in all the Lab Manuals.
3. Course Instructors discuss the Course plan at the beginning of each Semester which gives students awareness about the Course Outcomes (COs), Topic Learning Outcomes (TLOs), Assessment tools, Course-PO matrix and attainment levels.

4. OBE awareness drive has been arranged to First Year (FY) students during the time of their enrollment to the respective programs by IQAC Cell.

3.3 Action item 3 (Strengthen Alumni networks and activities)

- Regular updates on technical as well as non-technical achievements of our Alumni have been made on the Alumni portal (maintained by Fourth Ambit) and the SJEC Alumni Facebook page.
- A career guidance talk delivered by **Ms Madhura Bharadwaj** on November 04, 2017 was very well received by our student community. **'Daan Utsav 2017'** was very successfully implemented at SJEC from 02nd October to 08th October 2017. Preparations are being made to organize the **Annual alumni meet on December 02, 2017**.

Figure 5: Ms Madhura Bharadwaj – Alumni of Batch 2015 – Computer Science Engineering

- The Department of Mechanical Engineering organized an interaction with **Mr John Rodrigues**, Mechanical Engineering-SJEC Alumnus from the Batch of 2016 on 8th August 2017, who was recently featured in the reputed **New York Times – United States**, for his innovative **CoffeeBot** – a bot that delivers Coffee within office space and controlled via smart phone.

Figure 6: Mr John Rodrigues – Alumnus of Batch 2016 – Mechanical Engineering

- **Mr. Preetham Winston Dsouza**, an Alumnus of the batch of 2009 Electrical and Electronics Engineering, has provided a **fund amount of Rs. 30,000/-** for the winners of the contest - "Best Ideas for Innovative Projects/Business Plans" held on 9th March 2017.
- The Department of E&E in association with IIC organized a technical talk on Electrical & Electronics in Chemical Plants by **Mr B. L. Naveen**, an Alumnus of SJEC & Assistant Manager Electrical Maintenance, MCF Mangaluru on 27th August 2016.

Figure 7: Mr B. L. Naveen – Alumnus of Electrical & Electronics Engineering

- Hands-on Workshop on “PCB Design” was organised by **Mr. Suhas shenoy**, an Alumnus of SJEC & Electrical Engineer on 20th-27th August 2016.

Figure 8: Mr Suhas Shenoy – Alumnus of Electrical & Electronics Engineering

- A seminar on “Lighting technologies and its solutions” was conducted by **Ms Renita pinto**, an Alumnus of SJEC on 4th October 2016.

Figure 9: Ms Renita Pinto – Alumnus of Electrical & Electronics Engineering

- A seminar on “Present scenario in Domestic Wiring” was organized for the Final Year students as a finishing school activity. Entrepreneurs, **Mr Pradeep Rao & Mr Ratheesh**, **Managing Directors of Global Spark Electro Engineers - Mangaluru** (Alumni of EEE - SJEC Batch of 2014) were the resource persons. The programme was conducted in the Electrical Seminar Hall at 3.00 pm on 7th April 2017

Figure 10: Mr Pradeep Rao – Alumnus of Electrical & Electronics Engineering

- Hands-On workshop on “Application of Arduino to Projects” was conducted from 11th -15th April 2017 for the final year students of E&E as a Finishing School activity. **Mr. Claran Martis**, Alumnus of SJEC & Proprietor- CVision trained the students from fundamentals to advanced level of programming.

Figure 11: Mr. Claran Martis – Alumnus of Electronics & Communication Engineering

- A series of various technical events were conducted from 18th to 21st February 2017 by the Electrical and Electronics Engineering departments through their esteemed alumni. Talk on "Bits & Bytes of learning" by **Mr Hithesh Bhat** (Alumnus E&E 2014 Batch) Engineer Jnaapti Private Ltd., Bengaluru held on 18th February 2017. Seminar on "MEMS & Application of Electronics to Control System" by **Ms Nanditha Shenoy** (Alumnus E&E 2015 Batch), M.Tech Research Scholar, IGCAR Chennai held on 18th February 2017. Seminar on "Main frame Computers in Software Industryt" by **Mr Anup Rao** (Alumnus E&E 2015 Batch), System Engineer, TCS, Bengaluru held on 18th February 2017. Motivational talk on "How to apply what you learn" by **Mr Norwin Rego** (Alumnus E&E 2013 Batch), Research Scholar, MIT, Manipal held on 20th February 2017.Seminar on "Effect of Climate Changes on Water Resources" by **Mr Amog Mudbhatkal**, Research Scholar, NITK, Surathkal held on 21st February 2017.

3.4 Action item 4 (More Entrepreneurship activities)

- Industry Interaction Cell and EDC in Department of Mechanical Engineering conducted a Technical talk on 25th April 2017 at 3.30 PM on the topic "**Role of youth in Water Management & Advance in Water Technology**" by **Mr Avin Kajekar**, Management Professional, Genio Management Pvt. Ltd, Mangaluru.
- Department of E&E organized a motivational talk on "**Innovation & Entrepreneurship**" was delivered by Mr. Vinish P, Asst. Prof., Department of MBA, SJEC, Mangaluru on 9th September 2016.
- On the occasion of World Intellectual Property Day, the Department of E&E Engineering organized a workshop to motivate students and provide them vital information on Technical and Financial support available from government agencies like MSME (Micro, Small & Medium Enterprise). The resource person for this seminar was **Mr Kalai Socrates**, Deputy Director of Ministry of MSME - Yeyyadi, Mangaluru.

Figure 12: Mr. Kalai Socrates – Talk on Entrepreneurship

- Workshop on '**Entrepreneurial opportunities'** was conducted by the Department of Business Administration, St. Joseph Engineering College on 27th October 2017 by a team from **Pranava Souharda Sahakari Ltd**.

Figure 13: Talk on Entrepreneurship by Pranava Souharda Sahakari Ltd

3.5 Action item 5 (Career Counseling Programs)

- Placement Cell of the college has organized following activities to strengthen the employability among the students.

Table 2: Career counselling activities by the placement cell

SI. No	Date	Event	Speaker / Institute	Designation / Team details	Audience
1	06.08.16	IGNITIA - A Series of motivational talk	Mr. Pradeep Gopi	VP & Head HR - Robosoft Technologies	Final Year Students
2	1.08.2016	Talk by TCS on Aptitude and preparation	Mr. Kishore / Mr. Rohith	Human Resources Team - TCS	Final Year Students
3	26.09.17	Magnus career orientation program on opportunities for core engineering branches		Marketing Team	3rd & 4th Year Mechanical & Civil Engineering Students
4	27.01.17 to 31.01.17	Aptitude training preparation	JV Global LLP Services	Training team	Final Year Students
5	01.03.17	Higher Studies in USA	The American Consulate – Consular Information Unit - Mr. Krishna Prasanth Dhandapani	Senior Adviser - Education USA	Final Year Students
6	09.03.17	Launch of Brand Ambassador Program	L&T Infotech	Ms. Kavita Raman	Pre-Final & Final

SI. No	Date	Event	Speaker / Institute	Designation / Team details	Audience
					Year Students
7	07.08.16	IGNITIA - A Series of motivational talk	Ms. Ivy Saldhana	Head HR - Tata Power SED	Final Year Students
8	07.08.17	Opportunities through CoCubes - Online assessment partner	Mr. Giridhar	CoCubes Technologies Pvt. Ltd	Final Year students
9	21.09.17 to 05.10.17	Technical Training	Ms. Pavithra & Mr. Vikas	NIIT Bejai	Final Year Students
10	23.09.17	Awareness session on higher education abroad	Planet Education	Mr. Imran / Ms. Priya Kotian	Final Year Students
11	26.09.17	Career Awareness	Mr. Umesh Kamath	VP - HR - Robosoft Technologies	Final Year MBA Students
12	30.09.17	Online Assessment for various job opportunities	AICTE - Wheebox	Team - Wheebox	Final Year Students
13	13.10.17	Awareness session - Opportunities & Mutual Funds	HDFC Assest Managemen t Company	Mr. Vijay Prabhu	Pre Fianl & Final Year MBA Students

- The Department of Mechanical Engineering in association with TORQUE- Mechanical Engineering Students' Association and TIME Institute of Management had organized a "**Career Guidance"** talk on pre-final year students held on 7th March 2017 and 21st March 2017 by **Mr Arun Gundmi**, Regional Manager, TIME Institute of Management.
- TORQUE' Mechanical Engineering Students Association along with TIME Institute of Management has organized a career guidance talk by Mr Ashith Poojary, Manager, TIME Institute of Management on the topic "**Orientation on Aptitude & Career opportunities available after Engineering"** for pre-final year students of Mechanical Engineering Department on 23rd October 2017.

- Department of E&E Engineering arranged "**Career guidance"** program by **Mr. Ganesh Hebbar**, Managing Director, Triumphant institute of Management Education (T.I.M.E) Pvt. Ltd., Mangaluru conducted on 24th September 2016

Figure 14: Mr. Ganesh Hebbar – Seminar on Career Guidance

- **Mr. Hilary Donald D'Souza**, Training Manager, Birla Sun Life Insurance delivered a special lecture on **"Insurance Sector in India and Career Opportunities"** for II MBA students on 17th August 2016.

Figure 15: Mr. Hilary Donald D'Souza – Talk on Insurance Sector in India and Career Opportunities

3.6 Action item 6 (Students Projects having Social Impact)

- SJEC awarded "**Best Performing College in the State of Karnataka"** by Karnataka State Council for Science and Technology (KSCST) – Bengaluru, in the recently held 40th series of Students Projects Programme organized at NMAM Institute of Technology, Nitte on 11th and 12th August 2017. A total of 541 projects were sanctioned for sponsorship this year across the state. A total of 230 projects were shortlisted for exhibition and seminar from 102 Colleges across the state.
- A total of **Six Projects** from St Joseph Engineering College was **sponsored by KSCST** in the academic year 2016-2017.
- Two two projects won the prestigious "**Project of the Year"** award for their technical excellence and innovation. The project on **"Aero-Blending of Ethanol for Internal Combustion Engine"** from the **Department of Mechanical Engineering** carried out by Rohan D'Souza and team and guided by Dr Joseph Gonsalvis, Principal – SJEC, won the Project of the Year award. From the **Department of Electrical and Electronics Engineering**, the project **"Arecanut Tree Climber and Pesticide Sprayer"** by Jnanasagar Kamath and team, guided by Assistant Professor Ms Divya Pai, also won the "**Project of the Year"** award. The above two awards along with the other four sponsored projects helped SJEC secure the Best Performing College in the State.
- The Department of Mechanical Engineering students are participated in "INNOVATA-2K17" held at S.D.M Institute of Technology, Ujire on 20th May 2017 and the project titled **"Effect of copper oxide nano practices on the performance and emission characteristics of CI engine"** has been adjudged as a **Best Engineering Students Innovative Project** in State Level Project and exhibition.

Figure 16: Best Performing College in the State of Karnataka award by KSCST

- **SELCO Foundation India** has selected three projects in the Department of Electrical and Electronics Engineering for a total amount of Rs. 44,019/-. These projects are “Arecanut Tree Climber”, “Sonar Based Rover” and “Anti-Theft Mechanism for PV Panels”.
- **Mr. Preetham Winston Dsouza**, an Alumnus of the batch of 2009, BE-E&E Engineering has provided a **fund amount of Rs. 30,000/-** for the winners of the contest - “Best Ideas for Innovative Projects/Business Plans” held on 9th March 2017. The first place was secured by the project title “Smart Cane for the Blind” and the second place was secured by the project titled “Block Based Home Automation”.
- Department of E&E Engineering organized a workshop on “**Incubating Socially relevant & Innovative Project Ideas**” by **SELCO Foundation** held on 27th February 2017.
- Students of Civil Engineering have studied on **“Water contamination around Vamanjoor Dump yard”** which was a Mini-project for the students of 5th Sem.
- A total of **90 Students from Sixth semester ECE department** have taken projects in teams of size 02-16 members as a part of **Industry Orientation Activity (IOA)** for the academic year 2016-2017.
- To encourage good interface design when building software projects, the Department of Computer Science and Engineering has conducted Peer-to-Peer Learning Sessions on CGV Project Display in Feb/Mar 2017.

Figure 17: Peer-to-Peer Learning Sessions on CGV Project Display

4. Attainment of Program Outcomes (POs) and Program Specific Outcomes (PSOs), and Continual Improvement Action Items for each of the POs and PSOs.

4.1 BE in Mechanical Engineering

Table 3: Attainment Gap Analysis of BE-Mechanical Engineering (I shift)

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
PO1	Apply Knowledge	2	1.31	Moderately	Conduct quiz, Seminars etc. on basic concepts
PO2	Solve Problems	2	1.18	Moderately	An activity can be given to identify real life practical problems and find the solution
PO3	Design/ Development of Solution	2	0.86	Low	Mini projects can be given for certain subjects
PO4	Conduct Investigations	2	0.63	Low	Perform extra experiments in lab other than the ones prescribed in syllabus
PO5	Use Modern Tools	2	0.65	Low	More classes on CATIA, Virtual labs can be conducted
PO6	Engineer and Society	2	0.36	Low	Encourage students to undergo internship programs and industrial projects

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
PO7	Environment and Sustainability	2	0.34	Low	Encourage students to develop more projects to solve contemporary issues in society
PO8	Professional Ethics	2	0.37	Low	Arrange more talks by industrial experts, give case studies from industries as an activity to students, Purchase of plagiarism software
PO9	Individual and Team Work	2	0.63	Low	Encourage students to do mini projects, seminars, assignments in a group.
PO10	Communicate Effectively	2	0.69	Low	Conduct I-Point classes
PO11	Project Management and Finance	2	0.35	Low	Arrange talks on Industrial and financial management
PO12	Lifelong Learning	2	0.26	Low	Arrange talks in various domains
PSO1	Qualify in competitive Exam	2	0.86	Low	Conduct aptitude training classes (Technical and

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
					Non-Technical topics)
PSO2	Conduct Research	2	0.71	Low	Conduct talks or class on research methodology and encourage projects related to research

Table 4: Attainment Gap Analysis BE-Mechanical Engineering (II shift)

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
PO1	Apply Knowledge	2	1.35	Moderately	Conduct quiz, Seminars etc. on basic concepts
PO2	Solve Problems	2	1.21	Moderately	An activity can be given to identify real life practical problems and find the solution
PO3	Design/ Development of Solution	2	0.89	Low	Mini projects can be given for certain subjects
PO4	Conduct Investigations	2	0.56	Low	Perform extra experiments in lab other than the ones prescribed in syllabus
PO5	Use Modern Tools	2	0.67	Low	More classes on CATIA, Virtual labs can be conducted
PO6	Engineer and Society	2	0.36	Low	Encourage students to undergo

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
					internship programs and industrial projects
PO7	Environment and Sustainability	2	0.31	Low	Encourage students to develop more projects to solve contemporary issues in society
PO8	Professional Ethics	2	0.36	Low	Arrange more talks by industrial experts, give case studies from industries as an activity to students
PO9	Individual and Team Work	2	0.59	Low	Encourage students to do mini projects, seminars, assignments in a group.
PO10	Communicate Effectively	2	0.72	Low	Conduct I-Point classes
PO11	Project Management and Finance	2	0.39	Low	Arrange talks on Industrial and financial management
PO12	Lifelong Learning	2	0.25	Low	Arrange talks in various domains
PSO1	Qualify in competitive Exam	2	0.92	Low	Conduct aptitude training classes (Technical and Non-Technical topics)
PSO2	Conduct Research	2	0.65	Low	Conduct talks or class on research

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
					methodology and encourage projects related to research

Table 5: Attainment Gap Analysis BE-Mechanical Engineering (First Year – I shift)

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
PO1	Apply Knowledge	2	0.95	Moderately	Conduct quiz, Seminars etc. on basic concepts
PO2	Solve Problems	2	0.70	Moderately	An activity can be given to identify real life practical problems and find the solution
PO3	Design/ Development of Solution	2	0.68	Low	Mini projects can be given for certain subjects
PO4	Conduct Investigations	2	0.30	Low	Perform extra experiments in lab other than the ones prescribed in syllabus
PO5	Use Modern Tools	2	0.30	Low	More classes on CATIA, Virtual labs can be conducted
PO6	Engineer and Society	2	0.64	Low	Encourage students to undergo internship programs and industrial projects

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
PO7	Environment and Sustainability	2	0.30	Low	Encourage students to develop more projects to solve contemporary issues in society
PO8	Professional Ethics	2	0.30	Low	Arrange more talks by industrial experts, give case studies from industries as an activity to students
PO9	Individual and Team Work	2	0.68	Low	Encourage students to do mini projects, seminars, assignments in a group.
PO10	Communicate Effectively	2	0.65	Low	Conduct I-Point classes
PO11	Project Management and Finance	2	0.30	Low	Arrange talks on Industrial and financial management
PO12	Lifelong Learning	2	0.64	Low	Arrange talks in various domains
PSO1	Qualify in competitive Exam	2	0.08	Low	Conduct aptitude training classes (Technical and Non-Technical topics)
PSO2	Conduct Research	2	0.20	Low	Conduct talks or class on research methodology and encourage projects related to research

Table 6: Attainment Gap Analysis BE-Mechanical Engineering (First Year – II shift)

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
PO1	Apply Knowledge	2	1.30	Moderately	Conduct quiz, Seminars etc. on basic concepts
PO2	Solve Problems	2	1.05	Moderately	An activity can be given to identify real life practical problems and find the solution
PO3	Design/ Development of Solution	2	0.73	Low	Mini projects can be given for certain subjects
PO4	Conduct Investigations	2	0.30	Low	Perform extra experiments in lab other than the ones prescribed in syllabus
PO5	Use Modern Tools	2	0.30	Low	More classes on CATIA, Virtual labs can be conducted
PO6	Engineer and Society	2	0.64	Low	Encourage students to undergo internship programs and industrial projects
PO7	Environment and Sustainability	2	0.30	Low	Encourage students to develop more projects to solve contemporary issues in society
PO8	Professional Ethics	2	0.30	Low	Arrange more talks by industrial experts,

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
					give case studies from industries as an activity to students
PO9	Individual and Team Work	2	0.73	Low	Encourage students to do mini projects, seminars, assignments in a group.
PO10	Communicate Effectively	2	0.67	Low	Conduct I-Point classes
PO11	Project Management and Finance	2	0.30	Low	Arrange talks on Industrial and financial management
PO12	Lifelong Learning	2	0.64	Low	Arrange talks in various domains
PSO1	Qualify in competitive Exam	2	0.13	Low	Conduct aptitude training classes (Technical and Non-Technical topics)
PSO2	Conduct Research	2	0.20	Low	Conduct talks or class on research methodology and encourage projects related to research

4.2 BE in Electrical and Electronics Engineering

Table 7: Attainment Gap Analysis of BE-Electrical and Electronics Engineering

PO/ PSO No.	Keywords	Target Level	Attainment Level	Observations	Action to be taken
PO 1	Apply Knowledge	2	1.1954	Moderately Attained	Create Demo Models
PO 2	Solve Problems	2	0.7536	Not Attained	
PO 3	Design/ Development of Solution	2	1.3056	Moderately Attained	Encouraging creative ideas for innovative projects
PO 4	Conduct Investigations	2	1.3933	Moderately Attained	
PO 5	Use Modern Tools	2	1.2517	Moderately Attained	Arduino and programming languages as Vocational Courses
PO 6	Engineer and Society	2	0.7726	Not Attained	• Problem solving on energy saving and water management. • Safety Practices
PO 7	Environment and Sustainability	2	1.705	Moderately Attained	
PO 8	Professional Ethics	2	1.232	Moderately Attained	
PO 9	Individual and Team work	2	1.9814	Moderately Attained	Creating open ended problem statements for student projects
PO 10	Communicate effectively	2	3	Attained	
PO 11	Project Management and Finance	2	1.36	Moderately Attained	
PO 12	Lifelong Learning	2	1.55	Moderately Attained	Arduino and programming

PO/ PSO No.	Keywords	Target Level	Attainment Level	Observations	Action to be taken
PSO 1	Hardware and Software tools	2	0.87	Not Attained	languages as Vocational Courses
PSO 2	Entrepreneurship and Financial Management	2	0.48	Not Attained	Finishing School Activities

Table 8: Attainment Gap Analysis BE-Electrical and Electronics Engineering (First Year)

PO/ PSO No.	Keywords	Target Level	Attainment Level	Observations	Action to be taken
PO 1	Apply Knowledge	2	2.14	Attained	Create Demo Models and Electrical Wiring Practice
PO 2	Solve Problems	2	2.66	Attained	
PO 3	Design/ Development of Solution	2	2.81	Attained	Assignments on IEEE
PO 4	Conduct Investigations	2	0	Not Attained	
PO 5	Use Modern Tools	2	2.86	Attained	Vocational Courses
PO 6	Engineer and Society	2	3	Attained	Educational seminars on energy saving, water management and Safety Practices
PO 7	Environment and Sustainability	2	0	Not Attained	
PO 8	Professional Ethics	2	0	Not Attained	
PO 9	Individual and Team work	2	3	Attained	Creating open ended problem statements for student projects
PO 10	Communicate effectively	2	3	Attained	
PO 11	Project Management and Finance	2	0	Not Attained	
PO 12	Lifelong Learning	2	3	Attained	Vocational Courses
PSO 1	Hardware and Software tools	2	1.34	Moderately Attained	

PO/ PSO No.	Keywords	Target Level	Attainment Level	Observations	Action to be taken
PSO 2	Entrepreneurship and Financial Management	2	0	Not Attained	Finishing School Activities

4.3 BE in Electronics and Communication Engineering

Table 9: Attainment Gap Analysis of BE-Electronics and Communication Engineering

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
PO 1	Apply Knowledge	2	2.39	Moderately Attained	VACT & Gate Coaching Class
PO 2	Solve problems	2	2.41	Moderately Attained	Students should come up with more mini projects
PO 3	Design / Development of Solutions	2	2.28	Moderately Attained	Students should come up with more mini projects
PO 4	Conduct and analyze experiments	2	2.5	Moderately Attained	-
PO 5	Use Modern tools	2	2.42	Moderately Attained	Students should come up with more mini projects
PO 6	Contemporary Engineering Problems	2	2.39	Moderately Attained	1. Initiate the procedure for MOU's with program specific firms 2. Students must update their domain specific

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
					knowledge by registering to certified online courses
PO 7	Society and Environment	2	2.63	Moderately Attained	1.Students of the department should visit nearby schools to educate them on higher education, career perspective and stimulate interest in engineering by showcasing simple electronic working models/ projects 2.Organize a Talk on engineering solution in societal and environmental context
PO 8	Professional Ethics	2	2.49	Moderately Attained	1.Organize a program to educate students on Plagiarism 2.Organize a Talk on professional ethics

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
PO 9	Multidisciplinary Teams	2	2.39	Moderately Attained	More number of students should be encouraged to take up multidisciplinary projects
PO 10	Communicate Effectively and team work	2	2.49	Moderately Attained	More number of students should be encouraged to take up multidisciplinary projects
PO11	Project Management and Leadership	2	2.09	Moderately Attained	1. More number of students should be encouraged to take up multidisciplinary projects 2. Organize programs to help the graduates to come up with their own startup firms.
PO 12	Lifelong Learning Mode	2	2.27	Moderately Attained	Students must update their domain specific knowledge by registering to certified online courses
PSO 1	Competitive Exams	2	2.11	Moderately Attained	VACT & Gate Coaching Class
PSO-2	Industry Interaction	2	2.53	Moderately Attained	Initiate the procedure for MOU’s with

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
					program specific firms

Table 10: Attainment Gap Analysis BE-Electronics and Communication Engg (First Year)

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
PO 1	Apply Knowledge	2	2.8	Strongly Attained	
PO 2	Solve problems	2	2.75	Strongly Attained	
PO 3	Design / Development of Solutions	2	2.66	Strongly Attained	
PO 4	Conduct and analyze experiments	2	3	Strongly Attained	
PO 5	Use Modern tools	2	2.9	Strongly Attained	
PO 6	Contemporary Engineering Problems	2	3	Strongly Attained	
PO 7	Society and Environment	2	2.28	Moderately Attained	Organize a Talk on engineering solution in societal and environmental context
PO 8	Professional Ethics	2	-	-	Organize a Talk on professional ethics
PO 9	Multidisciplinary Teams	2	2.41	Moderately Attained	

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
PO 10	Communicate Effectively and team work	2	2.77	Moderately Attained	
PO11	Project Management and Leadership	2	-	-	
PO 12	Lifelong Learning Mode	2	3	Strongly Attained	
PSO 1	Competitive Exams	2	2.72	Strongly Attained	
PSO-2	Industry Interaction	2	2.93	Strongly Attained	

4.4 BE in Civil Engineering

Table 11: Attainment Gap Analysis of BE-Civil Engineering

PO/PSO No	Keywords	Target Level	Attainment level	Observations	Action to be taken
PO1	Apply Knowledge	2	1.66	Moderate	Conduct quiz, seminars, assignment on complex engineering problem
PO2	Solve Problems	2	1.14	Moderate	Conduct quiz, seminars, assignment on complex engineering problem
PO3	Design/ Development of Solution	2	0.81	Low	Conduct quiz, seminars, assignment on complex engineering problem
PO4	Conduct Investigations	2	0.68	Low	Conduct classes on Virtual labs
PO5	Use Modern Tools	2	0.08	Low	Classes on Staad Pro, ETabs can be conducted

PO/PSO No	Keywords	Target Level	Attainment level	Observations	Action to be taken
PO6	Engineer and Society	2	0.21	Low	Encouraging students to give awareness program about society issues
PO7	Environment and Sustainability	2	0.22	Low	Encouraging students to give awareness program about society issues
PO8	Professional Ethics	2	0.06	Low	Arrange more talks by industrial experts
PO9	Individual and Team Work	2	0.2	Low	Encourage students to do seminars and assignment in group
PO10	Communicate Effectively	2	0.2	Low	Encourage students to present seminars
PO11	Project Management and Finance	2	0.08	Low	Arrange talks on financial management and material management
PO12	Life-long Learning	2	0	Low	Encouraging students to do mini projects and to arrange talks on various domains.
PSO1	Real field challenges and Conduct research	2	0	Low	Encouraging students to do mini projects related to field challenges.
PSO2	Qualify in competitive exam	2	0	Low	Conduct aptitude classes on technical topics

Table 12: Attainment Gap Analysis BE-Civil Engineering (First Year)

PO/PSO No	Keywords	Target Level	Attainment level	Observations	Action to be taken
PO1	Apply Knowledge	2	2.04	High	Conduct quiz, seminars, assignment on complex engineering problem
PO2	Solve Problems	2	1.89	Moderate	Conduct quiz, seminars, assignment on complex engineering problem
PO3	Design/ Development of Solution	2	0.83	Low	Conduct quiz, seminars, assignment on complex engineering problem
PO4	Conduct Investigations	2	0.00	Low	Perform extra experiments in lab other than the ones prescribed in syllabus
PO5	Use Modern Tools	2	0.57	Low	Conducting classes on Soft skills training
PO6	Engineer and Society	2	0.31	Low	Encouraging students to give awareness program about society issues
PO7	Environment and Sustainability	2	0.31	Low	Encouraging students to give awareness program about society issues
PO8	Professional Ethics	2	0.00	Low	Arrange more talks by industrial experts
PO9	Individual and Team Work	2	0.00	Low	Encourage students to do seminars and assignment in group
PO10	Communicate Effectively	2	0.92	Low	Encourage students to present seminars
PO11	Project Management and Finance	2	0.00	Low	Arrange talks on financial management

PO/PSO No	Keywords	Target Level	Attainment level	Observations	Action to be taken
PO12	Life-long Learning	2	0.00	Low	Arrange talks on various domains.
PO1	Apply Knowledge	2	2.04	High	Conduct quiz, seminars, assignment on complex engineering problem
PO2	Solve Problems	2	1.89	Moderate	Conduct quiz, seminars, assignment on complex engineering problem

4.5 BE in Computer Science and Engineering

Table 13: Attainment Gap Analysis of BE-Computer Science and Engineering

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Action to be taken
PO1	Apply Knowledge	2	1.27	Moderate	Conduct Technical Talks and Seminars
PO2	Solve Problems	2	1.12	Moderate	Mini projects for a subject or a combination of subjects
PO3	Design/ Development of Solution	2	0.92	Low	Perform extra laboratory experiments other than the ones prescribed in syllabus
PO4	Conduct Investigations	2	0.69	Low	Conduct Virtual Labs, Campus Connect Programs
PO5	Use Modern Tools	2	0.83	Low	Encourage students to take up Industry related projects and projects that provide solutions to societal and environmental needs
PO6	Engineer and Society	2	0.53	Low	Talks by Industrial Experts
PO7	Environment and Sustainability	2	0.51	Low	Encourage students to undergo Internship programs
PO8	Professional Ethics	2	0.52	Low	Conduct Spoken Tutorials and I-Point Classes
PO9	Individual and Team Work	2	0.58	Low	Technical Fests

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Action to be taken
PO10	Communicate Effectively	2	0.79	Low	Conduct talks on Industry, Finance Management, Different domains of IT etc.
PO11	Project Management and Finance	2	0.52	Low	Conduct aptitude training classes (Technical and Non-Technical topics)
PO12	Lifelong Learning	2	0.68	Low	Conduct Talks on Research Methodologies to encourage Students publish/present Project or Research work in Conferences and Journal Papers
PSO1	Entrepreneurship and Freelancing	2	0.64	Low	Conduct Technical Talks and Seminars
PSO2	Competitive Exams and Higher Studies	2	0.77	Low	Mini projects for a subject or a combination of subjects

Table 14: Attainment Gap Analysis BE- Computer Science Engineering (First Year)

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Action to be taken
PO1	Apply Knowledge	2	0.63	Low	Mini projects for a subject or a combination of subjects
PO2	Solve Problems	2	0.56	Low	Mini projects for a subject or a combination of subjects
PO3	Design/ Development of Solution	2	0.35	Low	Perform extra laboratory experiments other than the ones prescribed in syllabus
PO4	Conduct Investigations	2	0.50	Low	Conduct Virtual Labs
PO5	Use Modern Tools	2	0.59	Low	Conduct Virtual Labs
PO6	Engineer and Society	2	0.59	Low	Conduct Technical Talks and Seminars
PO7	Environment and Sustainability	2	0.40	Low	Conduct Technical Talks and Seminars
PO8	Professional Ethics	2	0.40	Low	Conduct Technical Talks and Seminars
PO9	Individual and Team Work	2	0.40	Low	Technical Fests
PO10	Communicate Effectively	2	0.43	Low	• Technical Fests • Conduct Spoken Tutorials and I-Point Classes

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Action to be taken
PO11	Project Management and Finance	2	0.54	Low	• Mini projects for a subject or a combination of subjects • Encourage students to undergo Internship programs
PO12	Lifelong Learning	2	0.50	Low	Conduct Spoken Tutorials and I-Point Classes
PSO1	Entrepreneurship and Freelancing	2	0.39	Low	• Encourage students to undergo Internship programs
PSO2	Competitive Exams and Higher Studies	2	0.39	Low	Conduct aptitude training classes (Technical and Non-Technical topics)

4.6 Master of Business Administration

Table 15: Attainment Gap Analysis of Master of Business Administration

PO/PSO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
PO1	Apply Knowledge	2	2.311		
PO2	Analytical and critical thinking	2	2.33		
PO3	Value based Leadership ability	2	1.1	Moderately	Inviting lectures on leadership, Entrepreneurship/Practical component on leadership
PO4	Analyze global, and ethical aspects of business	2	2.45		
PO5	Team environment	2	1.3	Moderately	Team Building activities to be undertaken
PO6	Soft skills	2	1.615	Moderately	Outward Bound Training to enhance soft skills

Note: Attainments exclude 2nd and 4th Sem, as revaluation results are available yet.

4.7 Master of Computer Application

Table 16: Attainment Gap Analysis of Master of Computer Applications

PO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
PO1	Computational Knowledge	50	64.70	Moderate	Hands on sessions through guest lectures/ Assignments based on basic concepts
PO2	Problem Analysis	50	77.18	Moderate	Activity can be given to analyze real life problem
PO3	Design/Development of Solutions	50	55.27	Moderate	Micro project can be given
PO4	Conduct Investigations of Complex Problems	50	51.34	Moderate	Out of box problems/ open ended problems can be given
PO5	Modern Tools Usage	50	36.97	Low	Specific tools can be mentioned while giving assignments or micro project
PO6	Professional Ethics	50	13.23	Low	Talks on ethical issues/ Industrial visits can be arranged
PO7	Life-Long Learning	50	22.87	Low	Guest lectures by subject matter experts can be arranged/ topics for self-study

PO No.	Keywords	Target Level	Attainment Level	Observations	Actions to be taken
PO8	Project Management and Finance	50	5.59	Low	Guest lectures/ Micro project can be given
PO9	Communication Efficacy	50	6.36	Low	Seminars for each course and project presentations can be included
PO10	Societal and Environmental Concern	50	14.89	Low	Outreach programs can be arranged/ Conduct Quiz
PO11	Individual and team work	50	15.17	Low	Seminar/ project / assignments can be given/ technical activity
PO12	Innovation and Entrepreneurship	50	8.40	Low	Encourage students to develop innovative projects/ Entrepreneurship guidance
PO13	Research Environment	50	0.00	Low	Encourage students to take up research oriented projects and publish/ present papers