



Since 1962

Vivekanand Education Society's Institute of Technology

(Affiliated to University of Mumbai, Approved by AICTE & Recognised by Govt. of Maharashtra)

Dr. (Mrs.) J. M. Nair

M. Tech., Ph.D. (IIT-B)
Principal

Ref. No.: VESIT/ JMN/1325/2023-24

Date: 26/10/2023

TO WHOM SO IT MAY CONCERN

I, Dr. (Mrs.) Jayalekshmi M Nair, Principal (HOI), Vivekanand Education Society's Institute of Technology, do hereby state that the documents uploaded on NAAC portal are duly signed by Principal (HOI).

The additional documents uploaded on Institute's website (<https://vesit.ves.ac.in/>) are also authentic and does not need any extra validation.

Dr. (Mrs.) Jayalekshmi M Nair
Principal

Vivekanand Education Society's Institute of Technology
Hashu Advani Memorial Complex,
Collector's Colony
Chembur, Mumbai, Maharashtra 400074



Key Indicator 6.5 - Internal Quality Assurance System

6.5.1 Internal Quality Assurance Cell (IQAC) has contributed significantly to institutionalizing the quality assurance strategies and processes.

Question: Describe two practices institutionalized as a result of IQAC initiatives within a maximum of 200 words

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Internal Quality Assurance Cell (IQAC)

❖ Introduction:

V.E.S.I.T, has been imparting quality education in the field of technology under the aegis of **University of Mumbai** for the last thirty-three years, and is deemed to be one of the most preferred engineering colleges in Mumbai. Its programs have been accredited thrice by National Board of Accreditation (NBA) in the academic years 2006-07, 2016-17 and 2018-19 respectively with emphasis on outcome based quality education and various teaching learning Programmes. In order to meet the increasing demand for a variety of courses, VESIT is perpetually in the process of developing and augmenting its infrastructure and facilities; at the same time upgrading and enhancing its technology. It aims to continuously provide a challenging and vibrant educational atmosphere for its students.

VESIT-IQAC was constituted on 9th January 2020 in accordance with the guidelines provided by National Assessment and Accreditation Council (NAAC), as the college decided to apply for the assessment and accreditation of NAAC-1st cycle.

❖ IQAC-Vision:

To ensure quality culture as the prime concern through institutionalizing and internalizing all the initiatives taken with internal and external support.

❖ IQAC- Mission:

Strive to enhance quality of the institution and all concerned through continuous and consistent methods that are participative, interactive and facilitative; initiating timely and necessary change thereby affirming academic and institutional excellence by arranging for periodic assessment and accreditation.

❖ IQAC - Objective :

The primary aim of IQAC is:

- To develop a system for conscious, consistent and catalytic action to improve the academic and administrative performance of the institution.
- To promote measures for institutional functioning towards quality enhancement through internalization of quality culture and institutionalization of best practices.



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❖ Strategies:

IQAC shall evolve mechanisms and procedures for:

- Ensuring timely, efficient and progressive performance of academic, administrative and financial tasks.
- Relevant and quality academic/ research programmes.
- Equitable access to and affordability of academic programmes for various sections of society.
- Optimization and integration of modern methods of teaching and learning.
- The credibility of the assessment and evaluation process.
- Ensuring the adequacy, maintenance and proper allocation of support structure and services.
- Sharing of research findings and networking with other institutions in India and abroad.

❖ Functions:

- A. Development and application of quality benchmarks.
- B. Parameters for various academic and administrative activities of the institution.
- C. Facilitating the creation of a learner-centric environment conducive to quality education and faculty maturation to adopt the required knowledge and technology for participatory teaching and learning process.
- D. Collection and analysis of feedback from all stakeholders on quality-related institutional processes.
- E. Dissemination of information on various quality parameters to all stakeholders. Organization of inter and intra institutional workshops, seminars on quality related themes and promotion of quality circles.
- F. Documentation of the various programmes/activities leading to quality improvement.
- G. Acting as a nodal agency of the institution for coordinating quality-related activities, including adoption and dissemination of best practices.
- H. Development and maintenance of institutional databases through MIS for the purpose of maintaining /enhancing the institutional quality.
- I. Periodical conduct of Academic and Administrative Audit and its follow-up.
- J. Preparation and submission of the Annual Quality Assurance Report (AQAR) as per guidelines and parameters of NAAC



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❖ Benefits:

IQAC will facilitate / contribute to:

- A. Ensure clarity and focus in institutional functioning towards quality enhancement.
- B. Ensure internalization of the quality culture.
- C. Ensure enhancement and coordination among various activities of the institution and institutionalize all good practices.
- D. Guidelines of IQAC and submission of AQAR for Affiliated/Constituent Colleges.
- E. Provide a sound basis for decision-making to improve institutional functioning.
- F. Act as a dynamic system for quality changes in HEIs.
- G. Build an organized methodology of documentation and internal communication.

❖ IQAC Members:

1. Chairperson: Head of the Institution

Sr. No.	Name of the Member Position
1	Dr. (Mrs.) J.M. Nair PRINCIPAL - VESIT

2. Teachers to represent all level (Three to eight)

Sr. No.	Name of the Member Position
1	Mrs. Kavita Tewari H.O.D.-Electronics Engineering
2.	Dr. (Mrs.) Nupur Giri H.O.D.-Computer Engineering
3.	Dr. P.P. Vaidya H.O.D.-Instrumentation Engineering
4.	Mrs. Shobha Krishnan H.O.D.-Electronics & Telecommunication Engineering



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5.	Dr. (Mrs.) Shalu Chopra H.O.D.-Information Technology
6.	Dr. Shiv kumar Goel H.O.D.-MCA
7.	Mr. Vivek Umrikar H.O.D.-Humanities & applied sciences

3. One member from the Management

Sr. No.	Name of the Member Position
1	Shri. B. L. Boolani Managing Trustee– VESIT

4. Few Senior administrative officers

Sr. No.	Name of the Member Position
1	Dr. (Mrs.) Saylee Gharge Controller of Examination
2.	Mrs. Smita Jangale Academic Coordinator
3.	Mr. A. Nagananda Training & Placement Officer
4.	Dr. Nadir Charniya In charge – Research Forum
5.	Dr. Anjali Yeole Member -VESIT Renaissance Cell
6.	Dr. Gresha Bhatia Member



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5. One nominee each from local society, Students and Alumni

Sr. No.	Name of the Member	Position
1	Dr. Prakash Lulla	Local Society
2.	Mr. Somesh Sidhwani	Student (GS)
3.	Mr. Dilip Khandelwal	Alumni

6. One nominee each from Employers /Industrialists/Stakeholders

Sr. No.	Name of the Member Position
1.	Mr. Manoj Bhojwani Senior Director at Capgemini India Pvt. Ltd. Employer
2.	Mr. Amit Rambhiya MD, Panache DigiLife Limited Industrialists
3.	Dr. Deven Shah Vice Principal, TCET Stakeholders

7. One of the senior teachers as the coordinator/Director of the IQAC

Sr. No.	Name of the Member	Position
1.	Dr. M. Vijayalakshmi	Senior Teacher



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Quality Improvement Initiative

(A) Internal Academic Audit :

A1:Internal Audit through Group Advisors

Objective: The concept of Subject Mentoring through Group Advisors represent the courses of similar domain that are brought together at Institute or department level.The main objective of this system is towards enrichment of curriculum by identifying gaps and accordingly, design various beyond syllabus activities for strengthening the Academic Audit Plan(AAP).

Formation: Each mentoring has respective course teachers, one or two internal senior faculty mentors who provide their inputs for smooth conduction of the course contents.

Process:

- 1.Every faculty prepares a draft AAP for their respective courses. During meetings with group advisors, the AAP is strengthened in terms of various Gap Mitigation, quality enhancement in lab work, field trips for students and faculty etc.
- 2.The senior and the junior faculty members together form the IA question paper;thus ensuring quality and standard of the paper along with the preparation of the Model Solution.
- 3.During Semester, Internal senior faculty members facilitate teachers for improvising and design problem based learning experiments with new tools & technologies.
4. Senior faculty members also identify appropriate STTPs/Industry Training Opportunities and suggest the same to faculty for their overall up-gradation.

Outcome: The practice of mentoring has resulted in the effective Gap Mitigation for course delivery and to achieve course outcomes.



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A2:Internal Audit through Programme Assessment committee(PAC)

The Program Assessment Committee (PAC) has been formed for evaluating the progress of Departmental activities. It consists of senior faculty members of the department who periodically assess various aspects of teaching learning processes, examination, etc for the smooth functioning and improvements in the department.

The objective for developing the framework for the Internal Academic Audit was to enhance cohesive working of the departments, team building and inbuilt mechanism for continuous reflection on its performance and outcomes.

The internal academic audit is performed at various levels by combining the courses of similar domain and their respective faculties are mentored through their group advisors at Institute or department level for the smooth conduction of the subject. The main objective of this system is towards enrichment of curriculum by identifying gaps and accordingly, design various beyond syllabus activities for strengthening the course.

Formation: PAC comprises head and deputy head of department, DAB incharge, PAC incharge, programme assessment team, and other senior faculty members of the department..

Roles and responsibilities of PAC:

- 1)Monitoring the achievements of Program Outcomes (POs), Program Specific Outcomes (PSO), Program Educational Objectives (PEOs).
- 2)Evaluating program effectiveness and proposing necessary changes.
- 3)Preparing periodic reports on program activities, progress, status or other special reports for quality improvements.
- 4)Motivating the faculty and students towards attending workshops, developing projects, working models, paper publications and engaging in research activities.



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Process:

1. Every faculty prepares a content delivery form for their respective subject and gets it approved by their group advisors.
2. The senior and the junior faculty members together form the IA question paper, thus ensuring quality and standard of the paper along with the preparation of the Model Solution.
3. During Semester, Internal senior faculty members facilitate teachers for improvising and design problem based learning experiments with new tools & technologies.
4. Senior faculty members also identify appropriate STTPs/Industry Training Opportunities and suggest the same to faculty for their overall up-gradation.

Outcome: The practice of mentoring has resulted in the effective teaching learning process through its course delivery.

(B) External Academic Audit :

B1: External Audit through Departmental Advisory Board (DAB):

The Department Advisory Board interacts and maintains liaison with key stakeholders. It is chaired by HOD who receives the report of DAB and monitors the progress of the program. The committee develops and recommends new or revised goals and objectives of the program, reviews and analysis the gap between curriculum and Industry requirement and gives necessary feedback.

The evaluation of the course is also done by taking valuable feedback of faculty members from various colleges under University of Mumbai through external academic audit form during the end semester Oral exam. Efforts are undertaken to implement the recommendations made in the audit report.

Formation: DAB comprises head and deputy head of department, DAB incharge and various stakeholders representatives including parents, faculty, students, alumni and industry.

Roles and responsibilities(DAB):



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- 1) Suggest improvement in academic plans and recommend standard practices/systems for attainment of PEOs &
- 2) Encourage for industry-institute interactions to bridge the curriculum/industry gap and suggest quality improvement initiatives to enhance employability.
- 3) Redefine existing PEO's, aligning PEO's to the mission statements and defining program specific outcomes.
- 4) To propose a necessary action plan for skill development of students, required for entrepreneurship development and quality improvement.
- 5) To identify and suggest thrust areas to conduct various activities like final year projects and training.

Consolidated DAB PAC Link :

Sr No	Department	DAB Link
1	Electronics	https://vesit.ves.ac.in/departments/etrx/dab_pac
2	Electronics & Telecommunication	https://vesit.ves.ac.in/departments/extc/dab_pac
3	Computer	https://vesit.ves.ac.in/departments/cmpn/dab_pac
4	Information Technology	https://vesit.ves.ac.in/departments/it/dab_pac
5	Instrumentation	https://vesit.ves.ac.in/departments/inst/dab_pac
6	Master of computer Applications	https://vesit.ves.ac.in/departments/mca/dab_pac

DEPARTMENT ADVISORY BOARD (DAB) MEET

Department of Instrumentation

Minutes of the Meeting

Date: 09/04/22

Time: 11.30 am to 1.00 pm

Venue: Lab No. 101

Members of Meeting:

1. Dr. Mrs. J. M. Nair, Principal, VESIT
2. Mr. Sandeep Rathi, CEO, Sierra Instrumentation & Controls (Alumni Stakeholder)
3. Mr. Prakash Pujare Director – Design, IMA PG (Industry Stakeholder)
4. Mrs. Sangeetha Prasanna Ram, HOD, Instrumentation Department
5. Mrs. Deepti Kheemani, Dy. HOD, Instrumentation Department
6. Mrs. Nilima Warke, Program Coordinator, Instrumentation Department
7. Mrs. Amudha Senthilkumar, Faculty, Instrumentation Department(Faculty Stakeholder)
8. Mr. Gaurav Govilkar, Third year student (Student Stakeholder)

Following were discussed in the Meeting:

1. A follow up of previous DAB meeting and the Action Plan that was decided for the following 6 months was brought to the notice of the DAB members.
2. Also, how the action plan was executed along with documents and photos was presented
3. Mr. Prakash Pujare suggested industry experts can be included for orientation of students
4. DAB in-charge, Sangeetha Prasanna Ram presented details of achievements and activities for the academic year 2020-21. The achievements and activities presented were:
 - i. Instrumentation department in association with VESIT-IIC and VESIT-IQAC conducted One-week online Faculty Development Program (FDP) – Electric Vehicles from 5th – 9th July 2021 – Total of 15 sessions (3 sessions/day)
 - ii. Industry collaborated training and project mentorship on latest topics by B&R Automation - Machine Centric Robotics and Digital twin
 - iii. Instrumentation faculty Mr. Gopalakrishnan, conducted the “New 8051 Embedded C Programming Workshop” for students for 30 hours – sponsored by our alumni Mr. Ashwin Pillay and Mr. Asif Mulla.
 - iv. VESIT Instrumentation department in association with B&R Automation conducted a 4-day workshop for unplaced students on “Hands-on training in Automation (HOTA)” from 4th – 7th April 2022.



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v. Achievements of Faculty members and students.

5. PAC in-charge Dr. Nilima Warke, presented the PO attainment calculation to the DAB members and their suggestions were welcomed.
6. HOD Dr. Sangeetha Prasanna Ram explained about the proposal for name change of the department to Automation and Robotics engineering (due to the reduction in student admission), which was approved by the DAB members.
7. Mr. Sandeep Rathi suggested Second hand Hooka robots are available in nominal price in the market which can be used to set up the new Robotics Laboratory
8. Mr. Prakash Pujare suggested to see TAAL tech robotics which will help to develop robotics lab in the college
9. The whole team discussed about the new syllabus setting and weightage of topics in the syllabus

Action Plan for the next 6 months:

1. Setting of new syllabus for 'Automation and Robotics' programme, with proper weightage given to automation, robotics and instrumentation topics.
2. Development of Robotics Lab in the college premises.

(Prepared by Mrs. Amudha Senthilkumar)





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DEPARTMENT OF Instrumentation ENGINEERING

Minutes of the Program Assessment Committee (PAC)

The Program Assessment Committee meeting was held on 23 rd Aug, 2021. The following points were discussed in the meeting:

1. The Agenda of the meeting was to discuss the CO attainment and the Result Analysis which contains course wise, semester wise results of the department for the academic year 2020-21 (odd semester).
2. CO attainment for even sem of Second Year, Third Year, and Final Year was discussed in the meeting.
3. CO attainment calculations are based on the dynamic target for each course where the minimum target for theory is 60% and for labs 70%.
4. The following tables show subject-wise comments for CO attainment by PAC members:

Sem III (R2019)		
Sr. No.	Name of the course	Suggestions to be implemented in AY 2021-22
1	Applied Mathematics III	All COs attained. More real life based problems to be solved
2	Electrical Network and machines	All COs attained., NPTEL/Video lectures
3	Analog Electronics	NPTEL/Video lectures on power supply
4	Digital Electronics	Case study on applications/Design of digital systems
5	Transducer I	All COs attained. Increase the target (threshold)
6	Object Oriented programming and Methodology-Lab	Improve attainment through case study/mini project
7	Transducer I lab practice	Virtual labs on measuring instruments and techniques
8	Analog Electronics Lab Practice	Case study/mini project on analog components
9	Digital Electronics- Lab Practice	All COs attained
Sem V (R2019)		
Sr. No.	Name of the course	Suggestions to be implemented in AY 2021-22



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1	Electrical Machines and Drives	All COs attained. Increase the target (threshold)
2	Application of Microcontroller	Case study on interfacing of various I/O devices and application development
3	Control System Design	Case study/SEL on compensators
4	Process Instrumentation System	
5	Data structures and algorithms	case study/miniproject
6	Analytical Instrumentation	Case study on applications of AI (new subject)
7	Professional communication and Ethics	Presentations/ mock interview
8	Electrical Machines and Drives-Lab Practice	Mock viva
9	Application of Microcontroller -Lab Practice	hands-on embedded kits
10	Process Instrumentation Systems and Control System Design Lab	Virtual lab

Sem VII(R2016)

Sr. No.	Name of the course	Suggestions to be implemented in AY 2021-22
1	Industrial Process control	Expert lecture on batch process industries
2	Biomedical Instrumentation	poster/assignment on significance of electrical safety in biomedical measurements
3	Industrial Automation	Expert lecture on database management and SIS
4	Image Processing	NPTEL video lecture for image enhancement and image restoration model
5	Biomedical Instrumentation-Lab Practice	case study on life support instruments and their applications
6	Industrial Process control-Lab Practice	All COs attained. Increase the target (threshold)
7	Industrial Automation-Lab Practice	Mock viva
8	Image Processing -Lab Practice	case study on image enhancement case study on image restoration

PAC In-charge:

Mrs. Nilima Warke

PAC Members:

Mrs Sangeetha P.Ram

Mrs Deepti Khimani

Mrs. Amudha S

