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

INDEX

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.

Hashu Advani Memorial Complex, Collector's Colony, Chembur, Mumbai – 400 074. INDIA
Tel.: +91 22 61532532/ Fax: +91 22 61532555 | Email: vesit@vsnl.com | Website: www.vesit.edu

1

❖ 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

Hashu Advani Memorial Complex, Collector's Colony, Chembur, Mumbai – 400 074. INDIA
Tel.: +91 22 61532532/ Fax: +91 22 61532555 | Email: vesit@vsnl.com | Website: www.vesit.edu

2

❖ 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

Hashu Advani Memorial Complex, Collector's Colony, Chembur, Mumbai – 400 074. INDIA
Tel.: +91 22 61532532/ Fax: +91 22 61532555 | Email: vesit@vsnl.com | Website: www.vesit.edu

3

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

Hashu Advani Memorial Complex, Collector's Colony, Chembur, Mumbai – 400 074. INDIA
Tel.: +91 22 61532532/ Fax: +91 22 61532555 | Email: vesit@vsnl.com | Website: www.vesit.edu

4

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

Hashu Advani Memorial Complex, Collector's Colony, Chembur, Mumbai – 400 074. INDIA
Tel.: +91 22 61532532/ Fax: +91 22 61532555 | Email: vesit@vsnl.com | Website: www.vesit.edu

5

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.

Hashu Advani Memorial Complex, Collector's Colony, Chembur, Mumbai – 400 074. INDIA
Tel.: +91 22 61532532/ Fax: +91 22 61532555 | Email: vesit@vsnl.com | Website: www.vesit.edu

6

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.

Hashu Advani Memorial Complex, Collector's Colony, Chembur, Mumbai – 400 074. INDIA
Tel.: +91 22 61532532/ Fax: +91 22 61532555 | Email: vesit@vsnl.com | Website: www.vesit.edu

7

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):

Hashu Advani Memorial Complex, Collector's Colony, Chembur, Mumbai – 400 074. INDIA
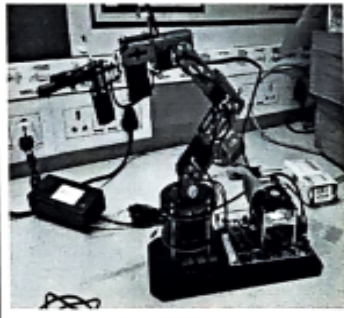Tel.: +91 22 61532532/ Fax: +91 22 61532555 | Email: vesit@vsnl.com | Website: www.vesit.edu

8

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

Hashu Advani Memorial Complex, Collector's Colony, Chembur, Mumbai – 400 074. INDIA
Tel.: +91 22 61532532/ Fax: +91 22 61532555 | Email: vesit@vsnl.com | Website: www.vesit.edu

9

V. E. S. Institute of Technology, Chembur, Mumbai
Department of Instrumentation

DAB suggestions (2021-22) and action taken report for
Academic Year 2022-23

S. No.	Suggestions	Action Taken	Details
1.	Setting of new syllabus for 'Automation and Robotics' programme, with proper weightage given to automation, robotics and instrumentation topics.	New syllabus for SE and TE Automation and Robotics (A&R) programme, was set further to four syllabus revision meetings held with faculty members of VESIT and Jodhale COE. Inputs were also taken from industry experts by subject faculty when the course content was being designed.	Link of SE A&R syllabus: https://drive.google.com/file/d/1zBW4DezddO9OWPNkd2gom2nrJSpBcSy2/view?usp=sharing Link of TE A&R syllabus: https://drive.google.com/file/d/1J51CRwPk1JE83cslh4RSQ9Yqq3_ljGDC/view?usp=sharing
2.	Development of Robotics Lab in the college premises.	Lab No. 107 is being developed as the Specialized Robotics lab of Automation and Robotics department. Few of the robotic facilities has already been procured and assembled in the lab, such as robotic arm manipulator.	Robotic arm manipulator installed in Lab No. 107.

Hashu Advani Memorial Complex, Collector's Colony, Chembur, Mumbai – 400 074. INDIA
Tel.: +91 22 61532532/ Fax: +91 22 61532555 | Email: vesit@vsnl.com | Website: www.vesit.edu

10

Two such arm manipultors have been procured for the student lab facility.

Few other robots developed in the lab through student projects are shown below:

Hashu Advani Memorial Complex, Collector's Colony, Chembur, Mumbai – 400 074. INDIA
Tel.: +91 22 61532532/ Fax: +91 22 61532555 | Email: vesit@vsnl.com | Website: www.vesit.edu

11

DEPARTMENT OF Instrumentation ENGINEERING

Minutes of the Program Assessment Committee (PAC)

The Program Assessment Committee meeting was held on 22nd July 2022. 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, and semester-wise results of the department for the academic year 2021-22 (odd semester).

2. CO attainment for odd 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 (C2019)

Sr. No.	Name of the course	Suggestions to be implemented in AY 2021-22
1	Applied Mathematics III	***
2	Electrical Network and machines	NPTEL lectures on transient analysis
3	Analog Electronics	Design problems on the power supply and power amplifier
4	Digital Electronics	Assignment on Memory and programmable logic devices
5	Transducer I	Case study on transducer applications
6	Object Oriented programming and Methodology-Lab	implement case study/mini project for obtaining CO attainment
7	Transducer I lab	Virtual labs on measuring instruments and techniques
8	Analog Electronics Lab	Case study/mini project on BJT applications
9	Digital Electronics- Lab	Video lectures on sequential logic circuit design

Hashu Advani Memorial Complex, Collector's Colony, Chembur, Mumbai – 400 074. INDIA
Tel.: +91 22 61532532/ Fax: +91 22 61532555 | Email: vesit@vsnl.com | Website: www.vesit.edu

12

Sem V(C2019)

Sr. No.	Name of the course	Suggestions to be implemented in AY 2021-22
1	Electrical Machines and Drives	SEL on drives
2	Application of Microcontroller	Case study on interfacing of various I/O devices and application development
3	Control System Design	Case study/SEL on PID controller Design
4	Process Instrumentation System	***
5	Data structures and algorithms	case study on sorting algorithms
6	Analytical Instrumentation	SEL on Molecular Spectroscopy
7	Professional communication and Ethics	Presentations/ mock interview
8	Electrical Machines and Drives-Lab	Case study on motors and drives
9	Application of Microcontroller -Lab	hands-on embedded kits
10	Process Instrumentation Systems and Control System Design Lab	***

***----Not yet received CO attainment

Sem VII(C2019)

Sr. No.	Name of the course	Suggestions to be implemented in AY 2021-22
1	Process Automation	Expert lecture on database management and SIS
2	Instrumentation project documentation and execution	Expert lecture/case study on System Integration
3	Biomedical Instrumentation	NPTEL/Video lecture/assignment on the significance of electrical safety in biomedical measurements
4	Machine Learning	Case study on applications of Machine learning (NEW subject)
5	Process Automation-Lab	Case study on PLC applications
6	Biomedical Instrumentation-Lab	Design problems on signal conditioning of biosignals
7	Instrumentation project documentation and execution-Lab	Assignment/ demonstration of software packages for documentation
8	Machine Learning-Lab	Mockviva

Hashu Advani Memorial Complex, Collector's Colony, Chembur, Mumbai – 400 074. INDIA
Tel.: +91 22 61532532/ Fax: +91 22 61532555 | Email: vesit@vsnl.com | Website: www.vesit.edu

13

5. Stakeholders' feedback for AY 2022-23 can be taken online as well as in hardcopy format.

6. It was decided to have a separate PAC meeting to draft the Vision and Mission of the Automation and Robotics Department on 23rd July 2022 at 1 pm.

PAC In-charge:

Dr.(Mrs.) Nilima Warke

PAC Members:

Dr.(Mrs.) Sangeetha P.Ram

Mrs. Deepti Khimani

Mrs. Amudha S

Hashu Advani Memorial Complex, Collector's Colony, Chembur, Mumbai – 400 074. INDIA
Tel.: +91 22 61532532/ Fax: +91 22 61532555 | Email: vesit@vsnl.com | Website: www.vesit.edu

14