## MAHENDRA ENGINEERING COLLEGE,

(AN AUTONOMOUS INSTITUTION AFFILIATED TO ANNA UNIVERSITY CHENNAI)

**Internal Quality Assurance Cell (IQAC)** 



# Report on Academic Audit & Action Taken (2023-2024)







#### MAHENDRA ENGINEERING COLLEGE

(Autonomous)

Accredited by NAAC 'A' Grade & NBA Tier-I (WA) UG: CSE,ECE,EEE

Mahendhirapuri, Mallasamudram, Namakkal Dt. - 637 503.



# ACADEMIC AUDIT SCHEDULE 2023-2024 (ODD & EVEN SEMESTER)

#### Introduction

The Academic Audit of the Departments was conducted from 12.042024 and 13.04.2024. The purpose of the Audit is to provide the opportunity for a regular strategic overview of the Department's Teaching-Learning and all other activities. The Self Evaluation Document of the Department was presented to the Peer Committee Experts. The Expert Members received different aspects of the Document, and validated them with the supporting evidence. This report consolidates the findings of the Experts and put forth the suggestions and area of improvements possible in future.

#### **Academic Audit Expert Committee members:**

#### 1. Dr.G.Appa Rao

Professor, Department of Civil Engineering

Structural Engineering Division

IIT Madras

#### 2. Dr.V.Anandakrishnan,

Professor,

Department of Production Engineering

NIT-Trichy

#### 3. Dr.P.Parthiban

Professor,

Department of Production Engineering

NIT-Trichy

#### 4. Dr.A.M.Kalpanna

**Professor** 

Department of Computer Science Engineering

GCE, Salem

#### 5. Dr.P.Vikkraman

Associate Professor & Head

Master of Business Administration

Anna University regional Campus

Coimbatore

#### 6. Dr.K.Rajupillai

Asst.Prof (Sr.Grade)

Department of Maths

GCT, Coimbatore

#### 7. Dr.V.R.Vijayakumar

Associate Professor - Department of ECE

Anna University Regional Campus, Coimbatore

### Schedule of External - Academic Audit - Academic year 2023-2024

Dr.G.Appa Rao Professor - Structural Engineering Division IIT, Madras  Dr.A.M.Kalpana Professor - Department of Computer Science GCE, Salem  Dr.P.Parthiban Professor - Department of Production NIT, Trichy  Dr.V.Anandakrishnan Professor - Department of Production NIT, Trichy  Dr.V.R.Vijayakumar Associate Professor - Department of ECE Anna University Regional Campus, Coimbatore  Dr.P.Vikraman Professor - Department of Management Studies Anna University Regional Campus, Coimbatore  Dr. K.Rajupillai Asst. Professor (S.Gr.) - Department of Mathematics GCT, Coimbatore	S. No.	Date of Audit	Name of the Auditor	Departments to be Audited
Dr.A.M.Kalpana Professor - Department of Computer Science GCE, Salem  Dr.P.Parthiban Professor - Department of Production NIT, Trichy  Dr.V.Anandakrishnan Professor - Department of Production NIT, Trichy  Dr.V.R.Vijayakumar Associate Professor - Department of ECE Anna University Regional Campus, Coimbatore  Dr.P.Vikraman Professor - Department of Management Studies Anna University Regional Campus, Coimbatore  Dr. K.Rajupillai Asst. Professor (S.Gr.) - Department of Mathematics  CSE, IT & Cyber Chemical			Dr.G.Appa Rao	
Dr.A.M.Kalpana Professor - Department of Computer Science GCE, Salem  Dr.P.Parthiban Professor - Department of Production NIT, Trichy  Dr.V.Anandakrishnan Professor - Department of Production NIT, Trichy  Dr.V.R.Vijayakumar Associate Professor - Department of ECE Anna University Regional Campus, Coimbatore  Dr.P.Vikraman Professor - Department of Management Studies Anna University Regional Campus, Coimbatore  Dr. K.Rajupillai Asst. Professor (S.Gr.) - Department of Mathematics  CSE, IT & Cyber  Chemical	1	12.04.2024	Professor - Structural Engineering Division	Civil & Agri
2 12.04.2024 Professor - Department of Computer Science GCE, Salem  Dr.P.Parthiban Professor - Department of Production NIT, Trichy  Dr.V.Anandakrishnan Professor - Department of Production NIT, Trichy  Dr.V.R.Vijayakumar Associate Professor - Department of ECE Anna University Regional Campus, Coimbatore  Dr.P.Vikraman Professor - Department of Management Studies Anna University Regional Campus, Coimbatore  Dr. K.Rajupillai Asst. Professor (S.Gr.) - Department of Mathematics  CSE, IT & Cyber  CSE, IT & Cyber  CSE, IT & Cyber  CSE, IT & Cyber  Mech, Mechatronics & Chemical  Mech, Mechatronics & Chemical  EEE, ECE & AIDS Examination Cell  MBA & MCA, Food  S & H			IIT, Madras	
GCE, Salem  Dr.P.Parthiban Professor - Department of Production NIT, Trichy  Dr.V.Anandakrishnan Professor - Department of Production NIT, Trichy  Dr.V.Anandakrishnan Professor - Department of Production NIT, Trichy  Dr.V.R.Vijayakumar Associate Professor - Department of ECE Anna University Regional Campus, Coimbatore  Dr.P.Vikraman Professor - Department of Management Studies Anna University Regional Campus, Coimbatore  Dr. K.Rajupillai Asst. Professor (S.Gr.) - Department of Mathematics  Mech, Mechatronics & Chemical  Mech, Mech, Mechatronics & Chemical  EEE, ECE & AIDS Examination Cell  MBA & MCA, Food  S & H			Dr.A.M.Kalpana	
13.04.2024   Dr.P.Parthiban   Professor - Department of Production   NIT, Trichy	2	12.04.2024	Professor - Department of Computer Science	CSE, IT & Cyber
3 13.04.2024 Professor - Department of Production NIT, Trichy  Dr.V.Anandakrishnan Professor - Department of Production NIT, Trichy  Dr.V.R.Vijayakumar Associate Professor - Department of ECE Anna University Regional Campus, Coimbatore  Dr.P.Vikraman Professor - Department of Management Studies Anna University Regional Campus, Coimbatore  Dr. K.Rajupillai Asst. Professor (S.Gr.) - Department of Mech, Mechatronics & Chemical  Mechatron			GCE, Salem	
13.04.2024 Professor - Department of Production NIT, Trichy  Dr.V.Anandakrishnan Professor - Department of Production NIT, Trichy  Dr.V.R.Vijayakumar Associate Professor - Department of ECE Anna University Regional Campus, Coimbatore  Dr.P.Vikraman Professor - Department of Management Studies Anna University Regional Campus, Coimbatore  Dr. K.Rajupillai Asst. Professor (S.Gr.) - Department of Mathematics  Chemical  Chemical  Chemical  Chemical  Chemical  Asero, Aerospace & Pharm  EEE, ECE & AIDS Examination Cell  MBA & MCA, Food  S & H			Dr.P.Parthiban	Mach Machetusuias C
NIT, Trichy  Dr.V.Anandakrishnan  Professor - Department of Production NIT, Trichy  Dr.V.R.Vijayakumar  Associate Professor - Department of ECE Anna University Regional Campus, Coimbatore  Dr.P.Vikraman  Professor - Department of Management Studies Anna University Regional Campus, Coimbatore  Dr. K.Rajupillai  Asst. Professor (S.Gr.) - Department of Mathematics  NIT, Trichy  Aero, Aerospace & Pharm  MEE, ECE & AIDS  Examination Cell  MBA & MCA, Food  S & H	3	13.04.2024	Professor - Department of Production	,
4 13.04.2024 Professor - Department of Production NIT, Trichy  Dr.V.R.Vijayakumar Associate Professor - Department of ECE Anna University Regional Campus, Coimbatore  Dr.P.Vikraman Professor - Department of Management Studies Anna University Regional Campus, Coimbatore  Dr. K.Rajupillai Asst. Professor (S.Gr.) - Department of Mathematics  Aero, Aerospace & Pharm EEE, ECE & AIDS Examination Cell  MBA & MCA, Food  S & H			NIT, Trichy	
NIT, Trichy  Dr.V.R.Vijayakumar Associate Professor - Department of ECE Anna University Regional Campus, Coimbatore  Dr.P.Vikraman Professor - Department of Management Studies Anna University Regional Campus, Coimbatore  Dr. K.Rajupillai Asst. Professor (S.Gr.) - Department of Mathematics  NIT, Trichy  EEE, ECE & AIDS Examination Cell  MBA & MCA, Food S & H Mathematics	4	13.04.2024	Dr.V.Anandakrishnan	
Dr.V.R.Vijayakumar Associate Professor - Department of ECE Anna University Regional Campus, Coimbatore  Dr.P.Vikraman Professor - Department of Management Studies Anna University Regional Campus, Coimbatore  Dr. K.Rajupillai Asst. Professor (S.Gr.) - Department of Mathematics  Dr. V.R.Vijayakumar EEE, ECE & AIDS Examination Cell  MBA & MCA, Food S & H Mathematics			Professor - Department of Production	Aero, Aerospace & Pharma
Associate Professor - Department of ECE Anna University Regional Campus, Coimbatore  Dr.P.Vikraman Professor - Department of Management Studies Anna University Regional Campus, Coimbatore  Dr. K.Rajupillai Asst. Professor (S.Gr.) - Department of Mathematics  EEE, ECE & AIDS Examination Cell  MBA & MCA, Food  S & H  S & H			NIT, Trichy	
5 12.04.2024 Associate Professor - Department of ECE Anna University Regional Campus, Coimbatore  Dr.P.Vikraman Professor - Department of Management Studies Anna University Regional Campus, Coimbatore  Dr. K.Rajupillai Asst. Professor (S.Gr.) - Department of Mathematics  S & H  Mathematics			Dr.V.R.Vijayakumar	EEE ECE & AIDC
Anna University Regional Campus, Coimbatore  Dr.P.Vikraman  Professor - Department of Management Studies Anna University Regional Campus, Coimbatore  Dr. K.Rajupillai  Asst. Professor (S.Gr.) - Department of Mathematics  S & H	5	12.04.2024	Associate Professor - Department of ECE	·
6 13.04.2024 Professor - Department of Management Studies Anna University Regional Campus, Coimbatore  Dr. K.Rajupillai Asst. Professor (S.Gr.) - Department of Mathematics  S & H			Anna University Regional Campus, Coimbatore	Examination Cell
Anna University Regional Campus, Coimbatore  Dr. K.Rajupillai  Asst. Professor (S.Gr.) - Department of Mathematics  S & H			Dr.P.Vikraman	
7 13.04.2024 Dr. K.Rajupillai Asst. Professor (S.Gr.) - Department of Mathematics	6	13.04.2024	Professor - Department of Management Studies	MBA & MCA, Food
7 Asst. Professor (S.Gr.) - Department of S & H Mathematics			Anna University Regional Campus, Coimbatore	
7 13.04.2024 Mathematics	7	13.04.2024	Dr. K.Rajupillai	
Mathematics			Asst. Professor (S.Gr.) - Department of	S & H
GCT, Coimbatore			Mathematics	
			GCT, Coimbatore	

**List of Files Audited:** Evaluation of each component may be done on 10 point scale (0 to 10) and mention the points awarded in appropriate column

F1.1 Department Vision, Mission, PEOs, POs, PSOs

#### Board of Studies Minutes, Regulations, Curriculum and Syllabus for all Regulations

- 1. Percentage of Programmes where syllabus revision was carried out during the AY 2023-24
- 2. Courses having focus on employability/ entrepreneurship/ skill development offered by the institution during the AY 2023-24
- F 1.2 3. Percentage of new courses introduced of the total number of courses across all programs offered during the AY 2023-24
  - 4. Number of verticals/Domain introduced in R2023
  - 5. Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability, Human Values into the Curriculum
  - 1. Students Admitted in AY 2023-24
  - 2. Seats filled against reserved categories (SC, ST,OBC, Divyangjan, etc. as per applicable
- F2.1 reservation policy ) during the AY 2023-24
  - 2. Student Full time teacher ratio
  - 3. Record of Teaching and Non-Teaching staff profile
- F2.3 CO and PO for all Programmes.
- Attainment of CO and PO are evaluated
- F2.4 Internal Test Analysis for all classes
- End Semester Exam Result Analysis for all classes.
  - Out gone Pass percentage of students (202023-24 passed out )
  - Student centric methods, such as Experiential Learning, Participative Learning, Problem Solving Methodologies, Flipped Teaching and Blended Learning are used for enhancing
- F2.6 Solving Methodologies, Flipped Teaching and Blended Learning are used for enhancing learning experiences (2023-24)
  - Teachers use ICT enabled tools including online resources for effective teaching and learning process
- F2.7 Course file (Theory and laboratory courses) (Please verify Internal Test Note (Theory)
  ,Class note, Assignment) Verify at least one document per semester per year
  Students' attendance
- F2.8 (Please verify the Master attendance)
- F2.9 Preparation and adherence of Department Academic Calendar and Teaching plans by the institution
- F3.1 Institution provides seed money for research projects and consultancy to the teachers ( $Please\ verify\ the\ proof$ )
- F3.2 1.No. of Research Supervisors and Scholar details and Ph.D awarded (*Please verify the proof*)

F3.3	AY 22023-24 Major / Minor / Other research projects (Please verify <i>Ongoing, Completed and Submidetails</i> )	itted
F3.4	1.Research paper publications International / National Journal and Conference ) (Pleaverify No. of Publication and Quality of publication) 2.Books and chapters published by faculty 3. Patent filed/Published/Granted	ise
F3.5	<ol> <li>Department programmes organized AY 2023-24</li> <li>Highlight Number of workshops/seminars conducted on Research Methodology, Intellectual Property Rights (IPR), entrepreneurship and skills development during 2023-24</li> </ol>	g AY
F 3.6	<ol> <li>Record of Consultancy</li> <li>Total amount spent on developing facilities, training teachers and staff for undertakted consultancy during the AY 2023-24</li> </ol>	ing
F3.7	Record of MOU and CoE Files (Please verify the activities)	
F3.8	Students Innovative Projects	
F3.9	Extension Activities  1. NSS students list 2. NCC students list 3. Club activities 4. Subject related extension activity 5. Societal activity	
F3.10	Faculty Awards (Awards received from Professional Bodies and Engineering Society	)
F 4.1	Laboratory Maintenance Record, Calibration file	
F 4.2	ICT – enabled facilities such as smart class, LMS, etc.	
F 4.3	E-Content and You Tube developed by the faculties	
F 5.1	<ol> <li>Students' Bio-Data</li> <li>Students benefited by scholarships and freeships provided by the Government and Management during the AY 2023-24</li> <li>Presence of an active Student Council &amp; representation of students on academic &amp; administrative bodies/committees of the institution.</li> <li>Department Class committee meeting</li> </ol>	
	Department Bos Any other committee	6

 $2.\ Teachers\ awarded\ national\ /\ international\ fellowship\ for\ advanced\ studies/research\ during$ 

F 5.3	Student Participation (Co-Curricular & Extra Curricular) (Please verify Number of participation) Awards and prizes earned by the students
	2. Department Achievers List
F5.4	Students list attending Capacity development and skills enhancement activities Placement training, Yoga and Recent Technologies Placement, Higher Studies and Entrepreneurship
F 5.5	(Please verify No of placement, Higher studies GATE,GRE, TOEFL, etc., score, and Entrepreneur list)
F 5.6	Alumni Interaction (Please verify Alumni Lecture and Alumni mentoring support)
F 6.1	Teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies during the year (please verify the documents)
F 6.2	Record of Staff Meeting
F 6.3	Number of professional development / administrative training programs organized by the Institution for teaching and non teaching staff during AY 2023-24
F 6.4	Average percentage of teachers undergoing online/ face-to-face  Faculty Development Programmes during the AY 2023-24 (Professional Development Programmes, Orientation / Induction
F 6.5	Programmes, Refresher Course, Short Term Course etc.,) Department Budget (Please verify 2023-24 Budget)
F 6.6	Feedback on Teaching Learning process. Remedial coaching class for AY 2023-24
F 7.1	Department Future plan (Strategic plan for 2023-24)

#### Overall assessment and Suggestions for Improvement:

- All Audit Files were maintained properly and All IQAC formats are good and regularly updated.
- Revised action taken report and the outcomes achieved are found to be good.
- Overall observations are good.
- The files are maintained as per IQAC format.
- The files need to be consolidated and presented with summarized details.
- Quality and no. of publications need to be improved.
- Sponsored projects and consultancy work need to be increased.
- MoUs with new industry to be initiated.
- Administrative/Skill development programmes to be done for non teaching staff.
- Faculty members with Ph.D can be encouraged to register as Supervisors.
- Subjects in Emerging Technology are to be included.
- Specific domain mini projects to be improved
- Encourage the faculty members to pursue Ph.D.
- Patents need to be increased

#### Expert Peer Team member's signature

Dr.G.Appa Rao 04/21

Professor

Department of Civil Engineering Structural Engineering Division IIT Madras

1 (h)

Professor

Department of Production Engineering

NIT, Trichy

Dr.V.R.Vijayakumar

Professor
Department of ECE
Anna University Regional Campus,
Coimbatore

A.M.Odu

Dr.A.M.Kalpana

Professor

Department of Computer Science Government College of Engineering Salem

Dr.V.Anandakrishnan

Professor

Department of Production Engineering NIT, Trichy

Dr.P.Vikraman

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