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#### NANDHA Engineering College, Erode -638 052

(An Autonomous Institution, Affiliated to Anna University Chennai and Approved by AICTE New Delhi)

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Name of the Body	Board of Studies
Name of the Board	Computer Science and Engineering
Meeting No.	12
Date & Time	01.06.2024, 10.00 am
Mode	Offline Mode (Board Room)
Academic year	2023-24

#### MINUTES OF THE 12th BOARD OF STUDIES MEETING





(An Autonomous Institution, Affiliated to Anna University Chennai and Approved by AICTE New Delhi)

#### NANDHA ENGINEERING COLLEGE, ERODE - 638 052

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#### Minutes of 12th Board of Studies Meeting (BoS) held on 01.06.2024

The 12<sup>th</sup> Board of Studies (BoS) meeting was held on 01.06.2024 by 10.00 am at Board room, Nandha Engineering College. The members attended the meeting are given in **Annexure I.** 

**Dr.Vanathi D**, Chairman CSE, CSE (CS) & CSE (IoT) and HoD / CSE, chaired the meeting, welcomed all the members to the 12<sup>th</sup> BoS meeting followed by introduction of the members. After the brief introduction, the agenda items listed below were taken up for discussion and the following resolutions were passed.

	AGENDA							
Item 12.01	Welcome address and Introduction of members.							
Item 12.02	Approval of 11th BoS Meeting Minutes and Action taken report (ATR)							
Item 12.03	eview of the PAC and DAB meeting minutes.							
Item 12.04	Review of Institute Vision & Mission.							
Item 12.05	Review of Department Vision, Mission, PEOs and PSOs.							
Item 12.06	U.G-B.E., Computer Science and Engineering							
	Regulation-22-Curriculum & Syllabus Review/Approval and Updates -							
	Discussion on Curriculum changes, Additions, or Deletions and Approval.							
	Semester -5							
	Course-1: Principles of Compiler Design							
	Course-2: Internet of Things and its Applications (Theory + Lab)							
	Course-3: Web Technology (Theory + Lab)							
	Course-4: Elective(PEC)							
	Course-5: Elective(PEC)							
	Course-6: Elective(OEC/PEC)							
	Semester -6							
	<ul> <li>Course-1: Agile Methodology (Theory + Lab)</li> <li>Course-2: Mobile Application Development (Theory + Lab)</li> </ul>							
	<ul> <li>Course-2: Mobile Application Development (Theory + Lab)</li> <li>Course-3: Elective(PEC)</li> </ul>							
	<ul> <li>Course-4: Elective(PEC)</li> </ul>							
	<ul> <li>Course-5: Elective(OEC)</li> </ul>							
	Course-6: Elective(OEC/PEC)							
	Semester -7							
	Course-1: Universal Human Values							
	<ul> <li>Course-2: Elective (Management)</li> </ul>							
	Course-3: Elective(PEC)							
	Course-4: Elective(OEC/PEC)							
	Course-5: Elective(OEC)							
	Course-6: Internship /Industrial Training							
	Semester -8							
	Course-1: Project Work							



Item 12.07	Review of R22 ratifications.							
Item 12.08	Review on attainment of 2023 passed out students and target attainment fixed							
	or next batch.							
Item 12.09	Review of Ratification in R17 (If any).							
Item 12.10	Review of Value added courses and Certification Courses.							
Item 12.11	Review of Panel of Examiners.							
Item 12.12	Any other matter							
	Teaching Learning pedagogy							
	Effectiveness of Hackathon							
	• Department Specific best practices followed and details of best							
	practices followed in the experts institutions							
	Changes in assessment patterns							
	• Flexibility provided to fast learners in the experts Institutions.							
	Flexibility in working hours							
	Project Based Learning							
	Industry Collaboration							
	• Up skilling and outreach Activities							
	Students Industrial Visits							
	• Inputs for Placement, Higher Studies and Entrepreneurship							
	Faculty Capacity Building							
	International connect							



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The proceedings of BoS started. The discussions and resolutions are recorded as follows:

	Welcome note and introduction of members								
Item 12.01	Dr.Vanathi D, Chairman BoS introduced the members and welcomed all followed by a brief note on functioning of BoS.								
Item- 12.02	Review and approval of the 11 <sup>th</sup> BoS meeting minutes and ATR								
	The salient decisions taken in the 11 <sup>th</sup> BoS meeting and action taken on the following point were presented.         SNO       Suggestions       Action taken         1       The members suggested to check the correlation mapping between PEO and PSO       ✓       Verified         2       2 <sup>nd</sup> Semester:       ✓       Verified								
Discussion	<ul> <li>Dr.Karthika Renuka D, said that naming of course title has to be modified and recommended the title "Data Structures using C"</li> <li>Dr. Jothi K R, suggested to combine pointers and function as one unit. He also stated the 9 hours is too long for stack and queue given as two different units.</li> <li>Mr. Santhosh Kumar A P, recommended to include Tree concept till AVL tree here.</li> <li>Digital Principles and Computer Organization</li> <li>Or.Karthika Renuka D and Dr. Jothi K R, recommended to include some concepts related to Digital Principles.</li> <li>3 <u>4<sup>th</sup> Semester</u></li> </ul>								
	<ul> <li>Artificial Intelligence &amp; Machine Learning</li> <li>Dr. Jothi K R, suggested to reduce Unit -V: Neural √ Reduced Networks and include case studies</li> <li><u>5<sup>th</sup> &amp; 6<sup>th</sup> Semester</u></li> </ul>								
	<ul> <li>Advanced Java Programming         <ul> <li>✓ Changed</li> </ul> </li> <li>Dr.Karthika Renuka D, suggested to change the title of             UNIT II as Database connectivity and to bring socket             programming to UNIT I</li> </ul>								



	<u>3<sup>rd</sup> Semester</u>
	<b>Fundamentals of Java Programming</b> Mr. Santhosh Kumar A P, recommended to include Swing alone and modify the unit title instead of GUI ✓ Included Programming and Applet.
	4 Dr.Karthika Renuka D, suggested to reduce the elective buckets from 7 to at most 4 different bucket of electives and fit in all the courses in anyone of these buckets. ✓ Reduced and put forth to next BOS
	5 Board members recommended not to include tools for one credit and advised to offer new technologies. ✓ Modified and the list will be put forth to SCAA
	The members have appreciated the efforts taken to implement the suggestions.
Resolution	Resolved to approve the Action Taken Report of 11 <sup>th</sup> BoS meeting.
Item - 12.03	Review and approval of the PAC and DAB meeting minutes.
Discussion	<ul> <li>Along with the important suggestions given by the members.</li> <li>✓ PAC meeting-1 held on 28.07.23</li> <li>✓ PAC meeting-2 held on 05.10.23</li> <li>✓ PAC meeting-3 held on 27.03.24</li> <li>✓ PAC meeting-4 held on 18.04.24</li> <li>✓ DAB meeting-1 held on 26.12.23</li> <li>✓ DAB meeting-2 held on 23.04.24</li> </ul>
Resolution	All members have noted the MoM of PAC and DAB meeting. Resolved to record the proceeding.
Item- 12.04	Presentation of Institute Vision & Mission
Discussion	Dr. D. Vanathi presented the Institute Vision, Mission.
	<ul> <li><u>VISION</u></li> <li>To be an Institute of excellence providing quality Engineering, Technology and Management education to meet the ever changing needs of the society.</li> <li><u>MISSION</u></li> <li>To provide quality education to produce ethical and competent professionals with social Despensibility.</li> </ul>
	<ul> <li>social Responsibility</li> <li>To excel in the thrust areas of Engineering, Technology and Entrepreneurship by solving real- world problems.</li> <li>To create a learner centric environment and improve continually to meet the changing global needs.</li> </ul>
Resolution	Resolved to record.

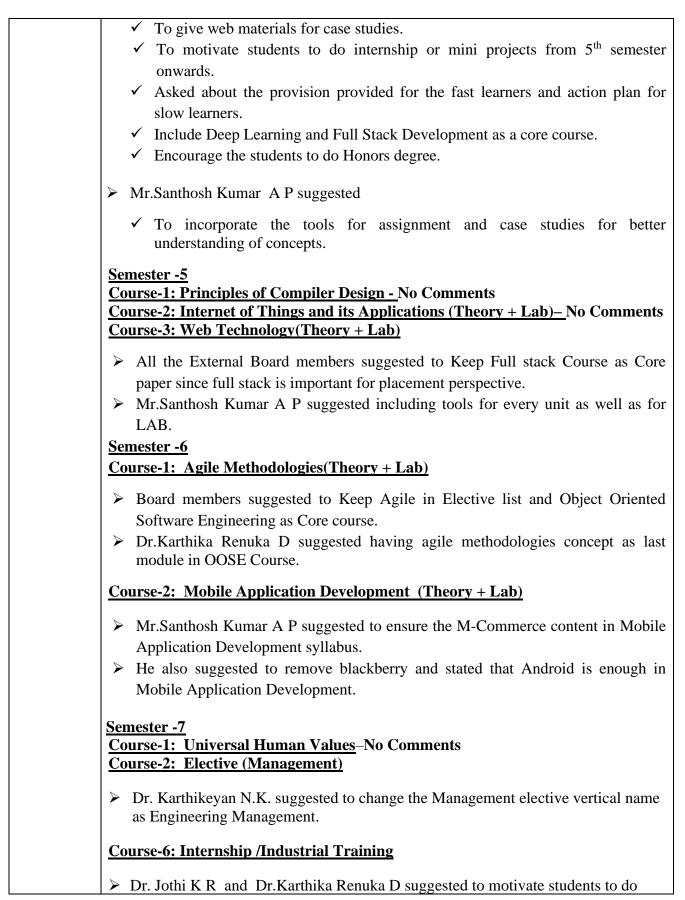


Item-12.05	Presentation of Department Vision, Mission, PEOs and PSOs.							
Discussion	Dr.D.Vanathi presented the Department Vision, Mission, PEOs and PSOs statements.							
	VISION (UG)							
	• To emerge as an eminent department in providing quality professionals, researchers, entrepreneurs with software skills and ethical values to cater to the changing needs of the industry and society. <u>MISSION (UG)</u>							
	<ul> <li>To provide quality education to produce ethically strong Computer Science professionals with social responsibility</li> <li>To impart the necessary domain skills to excel in solving real world problems.</li> <li>To create a learner centric platform with ongoing development to fulfill the global computing demands.</li> <li><b>PROGRAMME EDUCATIONAL OBJECTIVES (PEO) -UG</b></li> </ul>							
	<ul> <li>PEO1: Core Competency: Utilize and keep abreast of the latest trends in computer technology as professionals to satisfy the needs of the core industry and society.</li> <li>PEO2: Research, Innovation and Entrepreneurship: Apply recent tools, technologies and innovative ideas for leading successful careers in research/ entrepreneurship and to excel in solving real world problems.</li> <li>PEO3: Ethics, Human values and Life-long learning: Exhibit professional ethics in the industry and possess the necessary skills for working in multi-disciplinary areas with focus on life-long learning.</li> <li>PROGRAMME SPECIFIC OUTCOMES (PSO) - UG</li> </ul>							
	<ul> <li>Theoretical Foundation: Conceptualize and use mathematical and algorithmic knowledge to find optimal solutions for engineering problems.</li> <li>Software development: Apply preeminent industry practices, techniques and tools for designing, developing and testing software systems.</li> <li>PROGRAMME EDUCATIONAL OBJECTIVES (PEO) -PG</li> </ul>							
	<ul> <li>PEO1: Demonstrate an exceptional involvement in adopting advanced techniques and tools to build solutions for the problems identified</li> <li>PEO2: Exhibit leadership skills as an individual or in a team through demonstration of good analytical research, design and implementation skills and contribute towards societal growth.</li> <li>PEO3: Pursue life-long learning to fulfill career goals and upgrade knowledge on the recent technologies for attaining professional and entrepreneurship excellence.</li> <li>PROGRAMME SPECIFIC OUTCOMES (PSO) - PG</li> </ul>							
Resolution	<ul> <li><b>PSO 1:</b> Ability to be a technically competent employee, researcher, entrepreneur and excel in providing socially acceptable solutions to real world problems by applying emerging technology in the area of computer science and engineering.</li> <li><b>PSO 2:</b> Ability to work as part of teams on multidisciplinary projects and diverse environments and pursue lifelong professional development in computer domain.</li> <li>Resolved to record.</li> </ul>							
I								



Item 12.06	Regulation-22-Curriculum & Syllabus Review/Approval and Updates -         Discussion on Curriculum changes, Additions, or Deletions and Approval         Syllabus –5 <sup>th</sup> to 8 <sup>th</sup> semesters with CO–PO / PSO Mapping.         Semester -5         > Course-1: Principles of Compiler Design         > Course-2: Internet of Things and its Applications (Theory + Lab)         > Course-3: Web Technology (Theory + Lab)         > Course-3: Web Technology (Theory + Lab)         > Course-4: Elective(PEC)         > Course-5: Elective(OEC/PEC)         Semester -6         > Course-1: Agile Methodology (Theory + Lab)         > Course-2: Mobile Application Development (Theory + Lab)         > Course-3: Elective(PEC)         > Course-4: Elective(PEC)         > Course-3: Elective(PEC)         > Course-4: Elective(PEC)         > Course-5: Elective(PEC)         > Course-5: Elective(OEC)         > Course-6: Elective(OEC)         > Course-1: Universal Human Values         > Course-3: Elective(OEC/PEC)         > Course-3: Elective(OEC)         > Course-3: Elective(OEC)         > Course-4: Elective(OEC/PEC)         > Course-5: Elective(OEC)         > Course-5: Elective(OEC)         > Course-5: Elective(OEC)         > Course-5: Elective(OEC)         > Course-5: Elective(O
Discussion	<ul> <li>Course-1: Project work</li> <li>BoS Chairman presented R22 curriculum, Semester – (5 to 8) syllabi of courses and Electives offered as Honours degree and minor degree courses developed based on AICTE model curriculum, Parent University and other leading universities / institutions.</li> <li>Dr.KarthikaRenuka D suggested</li> <li>✓ To motivate students to do internship or mini projects from 5<sup>th</sup> semester onwards.</li> <li>✓ To ensured that no repetition of content in OOSE and Agile Methodologies courses.</li> <li>✓ To follow uniform format for text book and reference books content.</li> <li>✓ Include LLM, AR/VR, XR as an elective course.</li> <li>✓ Include Deep Learning and Full Stack Development as a core course.</li> <li>&gt; Dr. Jothi K R , DrKarthikeyan N.K , Dr. Vijendra Babu D , Dr.Uma Maheswari suggested</li> <li>✓ To have at most two text books and at least three reference books for every course if applicable.</li> </ul>







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	internship or mini projects from 5 <sup>th</sup> semester onwards.
	Course-4-6(Semester 5), 3-6(Semester 6) and 3-5(Semester 7):Elective(PEC/OEC)
	Dr.Karthika Renuka D, Dr. Jothi K R and Mr.Santhosh Kumar A P suggested to move Full stack course to Core course paper since it is mandatory for placement perspective.
	Mr.Santhosh Kumar A P suggested to reduce the syllabus of Agile Methodologies content and asked to add SPRINTS and SCRUM concepts.
	Also suggested to include more content in SCRUM
	Dr.KarthikaRenuka D suggested to change the unit 2, 3,4 title of Software Testing course as Black box testing, White box Testing and Software testing tools respectively.
	<ul> <li>Dr.Uma Maheswari suggested making Allen C Gilles as text book for software quality assurance.</li> </ul>
	<ul> <li>Dr.Vijendra Babu D. suggested including tools in unit 5 for Product Lifecycle Management.</li> </ul>
	➢ He also suggested to include Green computing as Elective course.
	> Dr. Jothi K R suggested including LLM, AR/VR, XR as an elective course.
	Dr. Dr. Jothi K R asked to ensure the mapping of Service Oriented Architecture. He also suggested ensuring the mapping of all courses.
	Mr.Elangovan K P suggested to add Multimedia and Animation course in Elective list since this Course will help the students those who are interested in that field.
	Mr.Santhosh Kumar A P suggested to add tools in IT Operations course for better understanding the concepts.
	Dr.Karthika Renuka D suggested to include Deep learning course in elective vertical.
	<u>Semester -8</u> <u>Course- 1: Project Work</u> - No Comments
Resolution	Resolved to approve the changes suggested by the members.
Item 12.07	Review of R22 ratifications.
Discussion	<ul> <li>✓ ADVANCED JAVA PROGRAMMING –No Comments</li> <li>✓ ADVANCED JAVA PROGRAMMING LABORATORY–No Comments</li> </ul>
Resolution	Resolved to approve the ratification.
Item 12.08	Review on attainment of 2023 passed out students and target attainment fixed for next batch.



	Survey	PO1	PO <sub>2</sub>	PO <sub>3</sub>	PO <sub>4</sub>	PO <sub>5</sub>	PO <sub>6</sub>	<b>PO</b> <sub>7</sub>	PO <sub>8</sub>	PO9	PO <sub>10</sub>	PO <sub>11</sub>	PO <sub>12</sub>	PSO <sub>1</sub>	PSO <sub>2</sub>	PSO <sub>3</sub>	PSO <sub>4</sub>
	Alumni Survey	2.65	2.66	2.64	2.72	2.37	2.38	2.19	2.35	2.17	2.44	2.75	2.34	2.86	2.84	2.79	2.95
	Employer Survey	2.41	2.55	2.72	2.35	2.2	2.13	2.2	2.27	2.2	2.27	2.89	2.25	2.65	2.69	2.53	2.92
	Student Exit Survey	2.57	2.46	2.48	2.39	2.45	2.50	2.56	2.52	2.56	2.50	2.56	2.59	2.65	2.53	2.55	2.56
	Indirect Attainmen	2.54 t	2.56	2.61	2.49	2.34	2.34	2.32	2.38	2.31	2.40	2.73	2.39	2.72	2.69	2.62	2.81
Discussion	Direct Attainment	2.64 t	2.32	2.46	2.25	2.32	1.72	1.94	1.86	2.11	2.13	2.35	2.41	2.34	2.51	2.37	2.32
	Overall Attainmen	2.59 t	2.44	2.54	2.37	2.33	2.03	2.13	2.12	2.21	2.27	2.54	2.40	2.53	2.60	2.50	2.57
	Percentage	86.41	81.24	84.60	78.99	77.59	67.58	71.03	70.74	73.67	75.55	84.66	80.07	84.37	86.56	83.28	85.53
	<ul> <li>PSOs that attained target level: All PSO's</li> <li>PO and PSO needed improvement: PO6 -The Engineer and Society</li> <li>✓ Members suggested to map PO6 for the courses like Project, PBL Courses.</li> <li>Torrest Attainment is fixed as 70% for the Lucer 2024 28 batch</li> </ul>																
Resolution	<ul> <li>Target Attainment is fixed as 70% for the I year 2024-28 batch.</li> <li>Resolved to approve.</li> </ul>																
Item 12.09	Review of Ratification in R17 (If any).																
Discussion	<ul> <li>✓ 17ITX17 – Building Enterprise Applications</li> <li>✓ 17ITX37 – Problem Solving Using JAVA</li> <li>✓ 17ITX38 – Product Life Cycle Management</li> </ul>																
Resolution	Resol			-													
Item 12.10						ourse											
										00	ested	to ha	ve fi	ve or	six c	ourse	es and
						t JS a							0	<b>.</b> . –			
Discussion	<ul> <li>Board Members approved the Suggested Certification courses from DAB Members.</li> <li>Cloud services domain - AWS, Azure, GCP, Snowflake.</li> <li>Business Intelligence sector - Power BI, Tableau, QlikView, QuickSight,</li> <li>CoPilot, and Prompt Engineering.</li> <li>Members suggested to have a validation plan for certification courses is indeed a prudent</li> </ul>																
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Item 12.11	Approval of Panel of Examiners (UG & PG)
Discussion	BoS members clarified about minimum eligibility fixed for becoming a panel of examiner. Dr. Vanathi D explained the process of preparing panel of examiner for question paper setting, valuation and laboratory examinations based on the examiner specialization. The minimum experience of 5 years is fixed for being an examiner.
Resolution	Resolved to approve the panel of Examiners for question paper setting, valuation and laboratory examinations
Item 12.12	<ul> <li>Any other matter</li> <li>Dr. Jothi K R Asked to set benchmarking two international and national universities for framing syllabus.</li> <li>Asked to include internal assessments for NPTEL courses.</li> <li>Dr. Jothi K R suggested for Credit transfer can be made when students participate and won in international Hackathon to improve the Effectiveness of Hackathon</li> <li>Dr.Jothi K R stated that in VIT, attendance is not mandatory for 9 CGPA pointers. He suggested to follow this to motivate the fast learners in doing projects, events participation and many more activities.</li> <li>Dr. Karthikeyan N.K. suggested using the fast learners as teaching assist and encouraging them by giving certificates.</li> <li>Dr. Karthikeyan N.K. suggested to motivate slow learners for PBL, many of the slow learners may good at doing projects.</li> <li>Members suggested to give credits for certification courses to motivate students for doing certification course.</li> <li>Dr. Karthikeyan N.K. suggested Industries for internship Hawaii technologies, Samsung Prism, Jumpstart Ninja for Internship and mackathon</li> </ul>

#### Summary of approvals

- 11<sup>th</sup> BoS meeting minutes and ATR are approved
- MoM of PAC meeting-1 held on 28.07.2023, PAC meeting-2 held on 05.10.2023, PAC meeting-3 held on 27.03.2024, PAC meeting-4 held on 18.04.2024, DAB meeting-1 held on 26.12.2023 & DAB meeting-2 held on 23.04.2024 are approved
- Semester: 5 to 8 syllabi of courses under R22 regulations and courses of Honors degree and minor degree (Electives) were approved.
- Ratifications of R17 -17ITX17–Building Enterprise Applications, 17ITX37–Problem Solving Using JAVA,17ITX38-Product Life Cycle Management and R22 -22CSC12- Advanced JAVA Programming, 22CSP08 -Advanced JAVA Programming Laboratory were approved.



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• Panel of Examiners for question paper setting, valuation and laboratory examinations are approved

Finally, Dr.Vanathi D HoD/CSE thanked all the members for their active participation.





Date: 01.06.2024



bra (Signature)

Dr. Vanathi D

(Chairman, BoS – Computer Science and Engineering) Dr.D. VANATHI M.E., Ph.D., Professor & Head Department of Computer Science and Engineering Nandha Engineering College (Autonomous) Erode - 638 052.



# NANDHA Engineering College (Autonomous), Erode -638 052

	ANNEXURE-	<u>·II</u>
Name of the Board	Meeting No.	Academic year
Computer Science and Engineering	12	2023-24

Meeting Attendance						
S.No	Members	Representation	Signature with date			
1	Dr. Vanathi D Professor &Head Computer Science and Engineering	Chairman	116/24			
2	Dr. Karthika Renuka D Professor, Department of Information Technology, PSG College of Technology, Coimbatore- 641 004.	University Nominee	BN 16/24			
3	Dr. Jothi K R Associate Professor, Senior Department of Computational Intelligence, School of Computer Science and Engineering, Vellore Institute of Technology, Vellore.	Expert Nominee (Nominated by Academic Council)	Ju			
4	Dr. Jayanthi G Assistant Professor Faculty of Engineering and Technology Sri Ramachandra Institute of Higher Education and Research University, Chennai.	Expert Nominee (Nominated by Academic Council)	AB			
5	Mr. Santhosh Kumar A P Lead - Product Management, ZOHO Corporation Pvt Ltd, Chennai	Member (Expert from Industry)	210 BBBDrugbrang			
6	Mr. Elangovan K P Head of Technology, Hedonova United States.	Alumni	Apapose.			
7	Dr.Vijendra Babu D Assistant Professor, Sr.Grade 2, Department of Embedded Technology, School of Electronics Engineering, Vellore Institute of Technology, Vellore.	Academic Expert Special Invities(CSE/IOT)	D. K. 116/24.			
8	Dr.Karthikeyan N K Professor & Head, Department of Information Technology, Coimbatore Institute of Technology, Coimbatore - 14	Academic Expert Special Invities(CSE/CS)	N.L.M			

BoS\_Form-7



# NANDHA Engineering College (Autonomous), Erode -638 052

Meeting Attendance- Internal members			
S.No	Members	Representation	Signature with date
۱	Dr. Thirumoorthy P Professor Computer Science and Engineering	Member	At the m
2	Dr.Sukumar P Professor Computer Science and Engineering	Member	Alexand
3	Dr.Karuppusamy S Associate Professor Computer Science and Engineering	Member	2.10 51/21-27
4	Dr.Prabhu S Head Computer Science and Engineering(Cyber Security)	Member	g. Male Ani
5	Ms.Maheswari S Head/Computer Science and Engineering(Internet of Things)	Member	g. Malegni
6	Ms.Padma E Assistant Professor Computer Science and Engineering	Member	87 1/6/24
7	Ms.Kavitha.S Assistant Professor Computer Science and Engineering	Member	Sur 116/24
8	Ms.Uma.P Assistant Professor Computer Science and Engineering	Member	Seceme 0116124
9	Ms.Raja Rajeswari B Assistant Professor Computer Science and Engineering(CS)	Member	B. Rai [06/2024 P. Mat 1.6.24
10	Ms.Manothini P Assistant Professor Computer Science and Engineering(IOT)	Member	P. Mat 1.6-24

6127 Chairman BoS