MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE

(UGC-AUTONOMOUS INSTITUTION)
Affiliated to JNTUA, Ananthapuramu & Approved by AICTE, New Delhi
NAAC Accredited with A+ Grade
NBA Accredited - B.Tech. (CIVIL, CSE, ECE, EEE, MECH), MBA & MCA

Department of Computer Science & Technology

Date: 08-05-2023

Members of the Program Assessment Committee (PAC)

The PAC has been formed for monitoring of different departmental activities. The PAC consists of HOD and faculty members of the department, who periodically monitor the departmental activities and evaluate different parameters.

Composition and approval of PAC:
The following members are nominated and approved for constitution of Program Assessment Committee for the AY-2023 -24.

S.No.	Name of the member	Designation	Position of PAC
1.	Dr. K. Dinesh	Assoc. Professor	Chairman
2.	Dr. Basabi Chakraborty	Professor & Dean	Member
3.	Dr. M. Sreedevi	Professor & Head	Member
4.	Dr. R. Rajakumar	Assoc. Professor	Member
5.	Dr. S Shanthi	Assoc. Professor	Member
6.	Dr. S. Padma	Assoc. Professor	Member
7.	Dr N. Praveena	Assistant Professor	Member

Functions and Responsibilities:

- Monitoring the attainments of Course Outcomes (COs), Program Outcomes (POs), Program Specific Outcomes (PSOs) and Program Educational Objectives (PEOs).
- Suggesting way and means to reduce the curriculum gaps in achieving PO's and PSO's.
- Evaluating program effectiveness and proposing necessary changes.
- Measuring the extent of adherence to planned activities and calendar of events.
- Preparation of periodic reports, records on program activities, progress and status reports.

HOD

PRINCIPAL

Principal
Madanapalle Institute of
Technology & Science
MADANAPALLE

Copy to:

1. The Principal
2. Vice Principal Academics
3. PAC Members
4. Department File

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Department of Computer Science & Technology

Date: 10/05/2023

DEPARTMENT ORDER

The following faculty members of the department are requested to take up the responsibility by being the **"Department Advisory Board"** and see that things are progressing in the assigned area.

Your cooperation in this regard would be highly appreciated.

Composition and approval of DAB:

The following members are nominated and approved for constitution Department Advisory Board for the AY-2023 -2024.

S.NO	Name of the Faculty	Designation	Position of DAB
1	Dr. M. Sreedevi	Professor & Head	Chairman
2	Dr. K. Dinesh	Associate Professor	Member
3	Dr. S. Padma	Associate Professor	Member
4	Dr. B. Aravind	Assistant Professor	Member
5	Dr. N. Sivakumar	Professor	Academic Expert
6	Prof. T. Sreenivasulu Reddy	Associate Professor	Academic Expert
7	Mr. Venkatakrishnan R	Senior Associate, Cognizant Chennai	Industry Expert
8	Ms. T. Madhuri	Associate Engineer, Carelon Global Solutions	Alumni

Functions and Responsibilities:

- DAB consists of HoD, PC and the representatives of key stake holders.
- DAB receives the report of the PAC and monitors the progress of the programme.
- Develops, recommends and approves new or revised programme goals and objectives.

HOD

Head of the Departme...
Computer Science & Technol...
Madanapalle Institute of Technology & Scien...

PRINCIPAL

Principal
Madanapalle Institute of Technology & Science
MADANAPALLE

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Department of Computer Science & Technology

CIRCULAR

Date: 25/05/2023

The Program Assessment Committee (PAC) meeting will be held on 26/05/2023 in the Scaleup Classroom at 10:00 AM. All the PAC members are requested to attend the meeting.

Agenda:

- Assessment of previous results and analysis of Course Outcomes (Cos), Program Outcomes (Pos) and Program Specific Outcomes (PSOs) for 2019-23 admitted batch.
- Discussion on proposal of R20 Curriculum.
- Any other matter with the permission of the chair.

Dr. K. Dinesh
Associate Professor
(PAC Chair Person)

Copy to:

- Department Office
- PAC Members

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Department of Computer Science & Technology

Date: 26/05/2023

Program Assessment Committee (PAC) Minutes of Meeting

Meeting was held on 26/05/2023 in the Scale-up Classroom at 10:00 AM, with Dr. K. Dinesh, Assistant Professor, serving as the Chair, to discuss and review the assessment method for the attainment of Course Outcomes (COs), Program Outcomes (POs), and Program Specific Outcomes (PSOs), as well as to propose the R20 Curriculum and course content for 4th Year B.Tech. computer-related courses.

Agenda:

- Assessment of previous results and analysis of Course Outcomes (COs), Program Outcomes (POs), and Program Specific Outcomes (PSOs) for the academic year 2021-22 II semester subjects and for the academic year 2022-23 I semester and II semester subjects.
- Analysis of the overall attainment of POs and PSOs for the 2019-23 batches.
- Discussion on comparison of overall attainment of POs and PSOs of R18 Regulation batches.
- Discussion on the department's vision and mission to ensure alignment with the institutional vision and mission.
- Examination of the existing POs, PEOs, and PSOs.
- Discussion on the existing R18 Curriculum.
- Discussion on proposal of R20 Curriculum.
- Any other matter with the permission of the chair.

During the meeting, the following points were discussed:

The Department Advisory Board has set a target value of 2 for all the course outcomes (CO1 through CO5). Based on the discussion, PAC suggested the action plan for improvement in attainment level of COs and it is listed below:

Action Plan for the Academic Year 2021-2022 III Year II Semester

In the course 18CST409 - Principles of Information Security, CO5 did not meet the target value. To attain the target level, the committee members suggested to organize workshops and seminars led by experts in information security and project management.

Action Plan for the Academic Year 2021-2022 II Year II Semester

In the course 20MAT112 - Discrete Mathematical Structures, CO2 did not meet the target value. The committee members suggested to enhance understanding, encourage practical application, and facilitate mastery of these mathematical principles within the context of computer science.

In the course 20CST106 - Object Oriented Programming Using Java, CO1 did not meet the target value. The committee suggested that student must be given more practice question from online platform.

Action Plan for the Academic Year 2022-2023 IV Year I Semester

In the course 18CST114 - Mobile Application Development, CO1 did not meet the target value. To attain the target level the students will be motivated to attend workshops related to Android Studio.

Action Plan for the Academic Year 2022-2023 III Year I Semester

The CO attainment for all the courses has reached the target value and the committee suggested to maintain the same target level as target level of all the POs are not attained.

Action Plan for the Academic Year 2022-2023 II Year I Semester

In the course 20MAT111 - Probability and Statistics for Computer Science, CO2 did not meet the target value. The committee suggested conducting extra classes to enhance student knowledge on engineering problems that can be solved using discrete and continuous probability distributions.

Action Plan for the Academic Year 2022-2023 IV Year II Semester

In the course 18CST427 -Wireless and Sensor Networks (DE VI), Course Outcomes CO2, CO4, and CO5 have not attained the target value. To reach the target attainment, students are motivated to attend the seminar and workshops on wireless sensor networks related concepts.

In the course 18CST428 - Modern Approach to Cyber Security (DE VI), Course Outcomes CO2, CO4, and CO5 have not attained the target value. The committee suggested to organize hands-on workshops where students can implement symmetric encryption and decryption algorithms using programming languages.

The CO attainment for all the courses have reached the target value except the few courses such as Digital Logic Design, Formal Language Automata and Compiler Design, and Wireless and Sensor Networks. The committee members suggested the following action plan to attain the outcomes in the upcoming semester.

Analysis of the overall attainment of POs and PSOs for the 2019-23 batches

The committee members also suggested to follow the target level 2.25 for the 2019-23 batch with the approval of DAB and BoS committee. The Program Assessment Committee (PAC) peruses the attainment levels of POs and PSOs and analyses the gaps between target and obtained attainment levels. They recommend and list the various actions that need to be taken to improve the obtained attainment levels and bring these close to the target levels.

POs & PSOs Attainment Levels and Actions for improvement

PO3, with a target value of 2.25, was not met, attained only 2.11. Improvement is needed in courses such as 18CST101 through 18CST108. To address this, additional classes in Machine Learning and Big Data Analytics were held. Brainstorming sessions

and Smart India Hackathon (SIH) problem statements will be utilized to boost students' algorithmic and design skills.

PO4 target value of 2.25 was not attained, with an actual value of 2.14. Courses like 18CST203, 18CST205, 18CST108, 18CST110, 18CST112, and 18CST206 need improvement. Actions include conducting demonstration classes for better practical knowledge, encouraging students to solve complex problems on Hacker Rank, and adding extra lab experiments to foster research interest.

The PO6 target was not met, with a target value of 2.25 and attained value of 2.01. To improve this, students were encouraged to analyze societal problems and provide solutions. Awareness programs were organized to bridge the gap between societal issues and engineering practices. These efforts aim to motivate students to address real-world challenges.

The Program Outcome 12 (PO12) for Life-long Learning has not reached its target level, with a target value of 2.25 and an attained value of 2.10. After observing students, it is important to motivate them to provide solutions to societal problems. To address this, students should be encouraged to participate in workshops, seminars, and symposiums to expand their knowledge and engage in self-learning for career and personal growth. Additionally, promoting the habit of reading books and journal papers on recent research trends and arranging guest lectures by prominent engineering professionals can help students stay abreast of new technology and foster continuous learning. All the remaining POs have reached the fixed target level.

PSO1 target value is 2.25, but only 2.18 was achieved, indicating the target level was not reached. PSO1 focuses on designing algorithms and implementing them in various programming tools to solve real-world problems. Improvements are needed in courses like 18CST4M09, 18CST113, and 18CST415. Actions include providing assignments for algorithm design knowledge, hosting expert talks, and encouraging mini projects for real-time problem-solving.

The PSO2 and PSO3 attained the target value and the committee suggested Seminars/Workshops on Problem Solving using Data Structures were organized to improve programming skills & logical thinking abilities and Conducted workshops on AI, Machine Learning, IoT, and Microsoft Assure to up-skill their knowledge on emerging technologies.

The committee members suggested that the target level of POs and PSOs can be maintained in the same level and incorporate the suggestion to attain the target level.

Comparison of comparison of overall attainment of POs and PSOs of R18 Regulation batch

The comparison of overall attainment of POs and PSOs of all R18 Regulation batches were discussed in the meeting. The attainment details for all the batches were mentioned as follows.

Batch	POs												PSOs		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
2018-22	2.36	2.21	2.07	2.01	2.37	1.88	2.43	2.36	2.56	2.29	2.56	1.87	2.06	2.26	2.33
2019-23	2.58	2.26	2.11	2.14	2.55	2.01	2.41	2.52	2.85	2.78	2.59	2.10	2.18	2.46	2.42

The committee members observed that the 2019-23 batch demonstrated substantial enhancements in PO9 (Individual and Team Work) and PO10 (Communication), highlighting their ability to work effectively in teams and communicate clearly on complex engineering activities. Additionally, PSO2, which focuses on the application of Software Engineering Principles and Practices, showed a significant improvement, indicating the students' increased proficiency in handling software engineering projects and applying these principles effectively.

The committee chairman suggested to consider the stakeholder suggestions for incorporating real-time projects ensuring a comprehensive understanding of database systems. In Digital Design, there's a need to balance ECE-centric topics with more CSE-oriented. Suggestions for Data Structures and Algorithms include adding topics like asymptotic notations and dynamic programming. In Probability and Statistics, integrating basics of warehouse management can aid in GATE preparation for Data Analysis. To cater to GATE exam perspectives, subjects should be taught with a focus on exam requirements, with additional classes offered for practical skill enhancement. For Operating Systems, increasing training on the Linux environment in laboratory sessions is recommended. In Object-Oriented Programming, incorporating more topics beneficial for placements is advised. Networking and Communication can benefit from demonstrations of IoT applications, while Software Development could include web development classes and real-life projects centered around Java applications. Additional emphasis on Linux environment training, especially in operating system laboratory sessions, is suggested to enhance practical skills. Further, the Software Engineering Laboratory to include more topics and ensure activities go beyond just diagrams, making classes interactive. In Automata Theory and Compiler Design, improve clarity in compiler design concepts. For the Cloud Computing Laboratory, expect a revised syllabus with hands-on experiments and practical tools, along with enhanced teaching methods. In Internet and Web Programming, include with practical examples and projects. Overall, the students requested to increasing practical exercises, offering additional skill-based classes, ensuring thorough explanations of code during experiments, promoting internship opportunities, enhancing interactivity, addressing stage fear through seminars, and providing more open elective options.

The committee members considered the stakeholders feedback and included the following subject areas in the IV year R20 curriculum as follows:

Professional Elective-III:

- Dr. Basabi Chakraborty proposed incorporating Perception and Computer Vision.
- Dr. K. Dinesh suggested including Big Data Analytics theory.
- Dr. R. Manikandan recommended Digital Forensics.
- Dr. S. Shanti and Dr. K. Dinesh proposed subjects related to Simulations, specifically Modeling and Simulation.
- Ms. Poojitha (Alumnus) recommended adding Network Programming to enhance networking knowledge.

Professional Elective-IV:

- Dr.K.Sree Divya suggested adding Image and Video Processing to strengthen Image Processing knowledge.
- Dr. N. Praveena recommended including Advanced Algorithms.
- Dr. K. Dinesh suggested including the Fundamentals of Fog and Edge Computing.

- Mr. N. MageshKumar recommended incorporating Human-Computer Interaction.
- Dr. T. Sreenivasulu Reddy (Academic Expert) proposed including a subject related to Sensors, specifically Sensor and Actuator Devices.

Professional Elective-V:

- Dr. Basabi Chakraborty and Dr. K. Dinesh recommended Multi-Agent Systems.
- Dr. S. Padma suggested adding Deep Learning Techniques.
- Mr. Koppisetti Giridhar recommended including Quantum Computing.
- Mr. Madhu Midhan (Alumnus) proposed including Data Analytics and Visualization in the R20 Syllabus structure.

- The members recommendations to incorporate emerging technologies, theoretical foundations, and practical applications across different professional elective courses. In the upcoming semester whenever it is needed. The proposed additions aim to enrich students' knowledge and skills in relevant and evolving areas in honor and minor.

The committee members discussed that every student should mandatorily register and undergo internship (onsite/virtual) and in parallel should complete the project work. At the end of the semester every student has to submit an internship completion certificate and a project report. The student is permitted to submit project report on the work carried out during Internship as per R20 regulations.

The committee members discussed that the project work submitted to the department shall be evaluated for 200 marks, out of which 80 marks are for internal evaluation and 120 marks for external viva-voce. The detailed Rubrics to validate COs for Project Work and Internship and finalized as mentioned in table given below

Assessment Type		Number of Evaluations	Max Marks	Evidence Collected
Direct Assessment Methods	Review 1	1	30	Review Report
	Review 2	1	30	Review Report
	Review 3	1	20	Review Report
	SEE	ONE (end ofcourse)	120	Project Report
Indirect Assessment Methods	Course End Survey	ONE (end of course)	-	Questionnaire

Review Number	Rubrics
Review 1	• Problem formulation • Scope and objectives • Methodology and expected outcome • Novelty/Innovation • Literature survey & relevance
Review 2	• Project design/ diagram • Methodology/Procedure • Dataset, Input & Outcome • Algorithm Used • Partial Implementation
Review 3	• Project demonstration • Result evaluation • Project Report Submission • Conclusion and Discussion

The committee members recommended that the Internal Department Committee (IDC) monitor the assessment of Project Work-I and Project Work-II using the provided rubrics. Additionally, they proposed that the assigned guide should encourage students to select research projects and publish conferences or journals and patents.

The committee members have suggested that the course content and syllabus should be reviewed by the course coordinator and senior faculties. Furthermore, they recommend that the course objectives and outcomes utilize Bloom's Taxonomy to categorize learning outcomes based on specific, measurable, achievable, relevant, and time-bound (SMART). Additionally, they propose comparing the course outcomes with the program outcomes to identify areas of alignment or gaps.

The committee members have not suggested any modification in the department vision and mission as it is in line with the institutional vision and mission.

The committee members have not suggested any modification to existing PEOs, and PSOs.

The committee suggested conducting industrial visits, skill development program, internships and research publication for bridging the gap between theoretical and industrial practices.

PAC Members:

S.No.	Name of the member	Position of PAC	Signature
1.	Dr. K. Dinesh	Chairman	
2.	Dr. Basabi Chakraborty	Member	
3.	Dr. M. Sreedevi	Member	
4.	Dr. R. Rajakumar	Member	
5.	Dr. S Shanthi	Member	
6.	Dr. S. Padma	Member	
7.	Dr N. Praveena	Member	N. Praveena

The following members of the stakeholder were present:

S.No.	Name of the member	Designation	Signature
1	N. M A GNESHKUMAR	ASST. PROF	
2	Serin V. Simpson	Asst. Prof	
3.	D. Suresh	Asst. Prof	
4	Lakshmi. B	Asst Prof	
5	Y. Ravi Raju	Asst. prof	
6.	K. Girijha	Asst. Professor	

Dr. K. Dinesh
Associate Professor
(PAC Chair Person)

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Department of Computer Science & Technology

CIRCULAR

Date: 25/05/2023

The Department Advisory Board (DAB) meeting will be held on 29/05/2023 in the Scaleup classroom at 10:00 AM. All the DAB members are requested to attend the meeting.

Agenda:

- Assessment of previous results and analysis of Course Outcomes (Cos), Program Outcomes (Pos) and Program Outcomes (PSOs) of 2019-23 admitted batch.
- Discussion on proposal of R20 Curriculum.
- Discussion on department vision, mission and PEOs.
- Any other matter with the permission of the chair.

Dr. M. Sreedevi
Professor & Head

Head of The Departme
Computer Science & Technolo
Madanapalle Institute of Technology & Scien
MADANAPALLE - 517

Copy to:

- Department Office
- DAB Members

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Department of Computer Science & Technology

Date: 29/05/2023

Department Advisory Board Minutes of Meeting

Department Advisory Board (DAB) meeting held on 29/05/2023 in the Scaleup classroom at 10:00 AM with Dr. M. Sreedevi, Professor & Head as Chair to discuss and review the assessment method for the attainment of Course Outcomes (COs), Program Outcomes (POs), and Program Specific Outcomes (PSOs), as well as to propose the R20 Curriculum.

Agenda:

- Assessment of previous results and analysis of Course Outcomes (COs), Program Outcomes (POs) and Program Outcomes (PSOs) of 2019-23 admitted batch.
- Discussion on proposal of R20 Curriculum.
- Discussion on department vision, mission and PEOs.
- Any other matter with the permission of the chair.

During the meeting, the following points were discussed:

- Dr. M. Sreedevi, Professor & Head, welcomed the members of the committee who has assembled for reviewing the assessment method for the attainment of Course Outcomes (COs), Program Outcomes (POs), and Program Specific Outcomes (PSOs), as well as to propose the R20 Curriculum.
- The members discussed the suggestions given by PAC members in terms of attaining Course Outcomes, Program Outcomes, and Program Specific Outcomes during a meeting held on 26/05/2023.
- The members suggested inclusion of project-based learning and case study to improve the problem analysis.
- The members suggestion for improvement in PO3 and PO4 by incorporating internship project and research project to students.
- The committee suggested that students should participate in society-oriented projects during their summer internships.
- The committee recommended that the course coordinator should integrate content focusing on lifelong learning.
- The committee also recommended maintaining the same department vision, mission, and Program Educational Objectives (PEOs).
- The committee also recommended to include following subjects Perception and Computer Vision, Big Data Analytics theory, Digital Forensics, Simulations (specifically Modeling and Simulation), and Network Programming for enhanced networking knowledge in Professional Elective-III.

- The committee suggested pool of subjects include Image and Video Processing for strengthened Image Processing knowledge, Advanced Algorithms, Fundamentals of Fog and Edge Computing, Human-Computer Interaction, and a subject related to Sensors, specifically Sensor and Actuator Devices for Professional Elective-IV.
- In Professional Elective-V, the committee recommended subjects are Multi-Agent Systems, Deep Learning Techniques, Quantum Computing, and Data Analytics and Visualization in the R20 Syllabus structure. These additions aim to provide students with a well-rounded and updated understanding of various specialized areas within the field.

The Department advisory board recommends that course content and syllabi be reviewed by the course coordinator and senior faculty. They advocate for utilizing Bloom's Taxonomy to establish measurable course objectives aligned with program outcomes. Additionally, they endorse the PAC suggestion to compare course outcomes with program outcomes to identify alignment and gaps. Furthermore, the members suggest calculating CO-PO attainment for all courses according to departmental attainment values in all assessments.

The committee members have agreed to maintain the target level of Program Outcomes (POs) and Program Specific Outcomes (PSOs) and have incorporated suggestions to achieve these levels as per PAC recommendations. The draft versions of the R20 curriculum have been submitted for approval by the BOS.

List of Faculty Members in the Department Advisory Committee

S.No.	Name of the Faculty	Position of DAB	Signatures
1	Dr. M. Sreedevi	Chairman	
2	Dr. K. Dinesh	Member	
3	Dr. S. Padma	Member	
4	Dr. B. Aravind	Member	
5	Dr. N. Sivakumar	Academic Expert	
6	Prof. T. Sreenivasulu Reddy	Academic Expert	
7	Mr. Venkatakrishnan R	Industry Expert	
8	Ms. T. Madhuri	Alumni	

- The committee suggested pool of subjects include Image and Video Processing for strengthened Image Processing knowledge, Advanced Algorithms, Fundamentals of Fog and Edge Computing, Human-Computer Interaction, and a subject related to Sensors, specifically Sensor and Actuator Devices for Professional Elective-IV.
- In Professional Elective-V, the committee recommended subjects are Multi-Agent Systems, Deep Learning Techniques, Quantum Computing, and Data Analytics and Visualization in the R20 Syllabus structure. These additions aim to provide students with a well-rounded and updated understanding of various specialized areas within the field.

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