VIGNAN'S
FOUNDATION FOR SCIENCE, TECHNOLOGY & RESEARCH
(Deemed to be University) - Estd. u/s 3 of UGC Act 1956

DEPARTMENT OF PHYSICS

Minutes of DAAC Meeting

03-03-2025

The Department of Physics is going to conduct a Department Council (DC)/DAAC meeting for finalizing Physics courses related to B.Tech. offered as per R25 & C25 curriculum on **03.03.2025** from **9.00 am to 12.00 pm**. The meeting is being held at the Office of Head, Department of Physics. 3rd Floor, A Block, VFSTR. All the members are requested to make it convenient to attend the meeting.

Agenda of the DAAC Meeting:

1. To analyze feedback collected from various stakeholders including Alumni, Employers, Faculty, Parents, and Students for the academic year 2024–2025.
2. To review and propose necessary modifications to the upcoming R25 & C25 curriculum based on feedback insights.
3. To finalize recommendations for designing and structuring the upcoming R25 & C25 curriculum with enhanced relevance to industry trends and student needs.
4. To analyze results of **formative and summative assessments**, especially the correlation between theory and lab marks, to inform curriculum design.
5. To discuss and finalize the syllabi of various Physics courses offered by the Department of Physics in R25 B.Tech.
6. Approval of two common physics courses, such as Engineering Physics for primarily non-bio branches (majorly MPC students) and Applied Physics for Bio-related branches (majorly BiPC students), with major changes in the contents of the syllabuses.
7. Approval of a special course for 2nd year Biomedical engineering students with the title of Physics for Biomedical Engineering.
8. Approval of a special course for 2nd year CSE IOT students with the title of Physics for Quantum computing.
9. Approval of three open elective courses such as Thin films technology, Analytical Techniques for engineers and Green energy technology.
10. Approval of one minor program with the title of Quantum and nano technologies which contains four courses such as Electromagnetic theory, Quantum Mechanics, Lasers and Micro & Nano materials.
11. Any other things with the permission of chairperson.

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DEPARTMENT OF PHYSICS

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Action taken report

The following actions are taken on the resolutions drawn from the DAAC meeting:

1. Laboratory Practices Enhancement

- **Discussion:** Feedback analysis highlighted the importance of laboratory-based learning in improving students' technical and practical skills.
- **Action Taken:** Steps initiated to revise and expand laboratory practices by incorporating more relevant experiments aligned with current industry and academic standards.

2. Curriculum Reception and Revision

- **Discussion:** The existing curriculum is well-received by both advanced and slow learners; however, revisions are needed to better align with industry and skill requirements.
- **Action Taken:**
  - Major revisions proposed in the R25 syllabus focusing on course outcomes and practical components.
  - C25 curriculum updates to emphasize skill-based electives, multi-disciplinary open electives, and value-added courses incorporating 21st-century skills such as digital literacy and computational thinking for 1st year B.Tech students.

3. Emphasis on Industrial Relevance and Advanced Topics

- **Discussion:** More focus is needed on advanced topics with direct industrial applications and incorporation of current industrial trends.
- **Action Taken:** Curriculum enrichment underway to include advanced topics and industrial trends through elective offerings and updated course content.

4. Support for Slow Learners

- **Discussion:** Special focus needed on supporting slow learners with additional academic assistance.

- **Action Taken:** Implementation of slow learner classes planned starting next academic year. Formative and summative assessments are being structured to identify and support these students effectively.

5. Curriculum Structure and Assessment Schemes

- **Discussion:**
  - Curriculum credit structure needs review; all courses should follow Lecture (L) with Tutorial/Practical (T/P) credit formats.
  - Assessment schemes should include continuous formative and summative assessments with updated grading procedures.
- **Action Taken:**
  - Curriculum credit distribution revised and standardized across courses.
  - Assessment schemes revised to include both formative and summative evaluations ensuring continuous student assessment.
  - Grading procedures updated with considerations for relative grading and revised letter grade assignments.

6. Finalization of Key Courses

- **Discussion:** Finalization required for certain common and special courses for 2nd year students and minor courses:
  - Engineering Physics and Applied Physics courses for 1st year B.Tech.
  - Specialized courses: 'Physics for Biomedical Engineering' (2nd year Biomedical Engineering) and 'Physics for Quantum Computing' (2nd year CSE IOT).
  - Open elective and minor courses for B.Tech programs.
- **Action Taken:** These courses have been finalized with detailed syllabus drafts prepared for BoS review.

7. Forwarding Recommendations to Board of Studies (BoS)

- **Discussion:** All proposed changes and suggestions will be incorporated in curriculum drafts for BoS approval.
- **Action Taken:** Curriculum drafts updated accordingly. The recommendations and detailed stakeholder feedback summary (Annexure-I) have been formally submitted to the BoS for further consideration.

The DAAC recommendations have been duly considered, and necessary actions have been initiated or planned to enhance the curriculum and teaching-learning processes. Implementation will proceed after BoS approval.

Chairperson

Prof. K.V. Madhuri
Head
Department of Physics
School of Applied Sciences & Humanities
...nan's Foundation for Science, Technology and Research
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Vadlamudi, Guntur-522213

Annexure I

Alumni Feedback Summary

The alumni strongly appreciated the curriculum, reporting a high level of satisfaction with its alignment to industry standards and program outcomes.

Feedback Area	Strongly Agree	Agree	Moderate	Disagree	Strongly Disagree
Foundation in Basic Engineering Concepts	97.9%	2.1%	0%	0%	0%
Course Contents aligned with Program Outcomes	98.9%	1.1%	0%	0%	0%
Job-Oriented Skills	96.9%	2.1%	1%	0%	0%
Electives addressed industry needs	96.9%	2.1%	1%	0%	0%
Tools & Technologies improved problem-solving skills	97.9%	1.1%	1%	0%	0%
Ability to compete with peers from other universities	97.9%	1.1%	1%	0%	0%
Curriculum superiority over previous curriculum	97.9%	1.1%	1%	0%	0%

Average Rating (on a scale of 5):
All questions received ratings between 4.895 to 5.0, grading as Excellent.

Suggestions: None provided.

Employer Feedback Summary

Employers provided highly positive feedback, acknowledging the curriculum's alignment with industry demands and its effectiveness in developing student competencies.

Feedback Area	Strongly Agree	Agree	Moderate	Disagree	Strongly Disagree
Curriculum matches Program Outcomes	87.5%	12.5%	0%	0%	0%
Scope for improving IT industry skills	100%	0%	0%	0%	0%
Electives meet IT industry demands	93.8%	6.3%	0%	0%	0%

Tools & Technologies applicable to IT development	100%	0%	0%	0%	0%
Problem-Solving & Soft Skills prepare students for placement	93.8%	6.3%	0%	0%	0%

Average Rating:
Ratings ranged between 4.875 to 5.0, all graded Excellent.

Suggestions: None provided.

Faculty Feedback Summary

Faculty feedback reflected a balanced view, appreciating curriculum structure while suggesting minor improvements.

Feedback Area	Strongly Agree	Agree	Moderate	Disagree	Strongly Disagree
Curriculum aligned with Program Outcomes	25%	50%	25%	0%	0%
Enhances Problem-Solving & Core Skills	62.5%	25%	12.5%	0%	0%
Credit Allocation is Satisfactory	62.5%	25%	12.5%	0%	0%
LTP Distribution is Justifiable	37.5%	50%	12.5%	0%	0%
Electives enable learning in emerging technologies	75%	12.5%	12.5%	0%	0%
Curriculum supports Self-learning	75%	12.5%	12.5%	0%	0%
Course Composition (Science, Engineering, Humanities)	75%	12.5%	12.5%	0%	0%
Laboratory sessions improve technical skills	62.5%	25%	12.5%	0%	0%
Minor Projects enhance leadership and technical competency	62.5%	25%	12.5%	0%	0%

Average Rating:
Ranged between 4.25 to 4.75, all rated Excellent.

Suggestions:

- Include internships

Suggestions:

- Include internships

Student Feedback Summary

Students expressed a generally positive but slightly more critical view, suggesting infrastructural and pedagogical enhancements.

Feedback Area	Strongly Agree	Agree	Moderate	Disagree	Strongly Disagree
Curriculum Content	51.2%	25.6%	11.6%	7%	4.5%
Problem Solving & Core Competencies	51.2%	18.6%	9.3%	7%	14%
Support for Advanced and Slow Learners	51.2%	16.3%	20.9%	7%	4.5%
Contact Hour Distribution	53.5%	18.6%	9.3%	14%	4.5%
Electives for New Technologies	60.5%	11.6%	11.6%	9.3%	7%
Course Composition	58.1%	14%	14%	9.3%	4.5%
Laboratory Sessions	55.8%	18.6%	9.3%	9.3%	7%
Minor Projects	55.8%	18.6%	9.3%	9.3%	7%

Average Rating:
Ranged between 3.817 to 4.019, with most rated Very Good, and some Excellent.

Suggestions:

- Improve smart board and computer training facilities.
- Add more practices which are more likely to understand the concepts
- Clearly define learning outcomes.
- Provide more lab facilities and hands-on practice.
- Improve the timetable with better free class slots.

Annexure II

DAAC Recommendation on Formative Question Paper Standard and CO-PO Attainment Target Fixing

1. Formative Assessment Question Paper Standards

In light of the academic performance and student feedback for the above subject, the DAAC recommends the following for the design and implementation of formative assessments (e.g., class tests, quizzes, assignments, internal exams):

- **Cognitive Level Balance**:
  Adopt Bloom's Taxonomy to balance the cognitive levels of questions:
  - 20–30% of questions at **Remembering and Understanding** levels
  - 40–50% at **Applying and Analyzing** levels
  - 20–30% at **Evaluating and Creating** levels (depending on program level)
- **Coverage of Course Outcomes (COs)**:
  Each assessment must explicitly map questions to Course Outcomes (COs), ensuring:
  - All COs are evaluated at least once across the assessments
  - Each CO is tested through questions at appropriate cognitive levels
- **Difficulty Level Calibration**:
  Based on the recent difficulty experienced by students, the question paper should maintain:
  - 30% **Easy** questions (direct concept-based)
  - 50% **Moderate** questions (application or derivation-based)
  - 20% **Difficult** questions (analytical, case-study, or open-ended)
- **Question Paper Review Process**:
  All formative question papers should undergo internal review to ensure:
  - Alignment with syllabus and COs
  - Reasonable difficulty and time-bound solvability
  - Clear instructions and grading rubrics

2. CO-PO Mapping and Attainment Target Fixing

Based on performance data and the difficulty level experienced by students in the current and previous cycles:

- **Attainment Level Thresholds:**
    - **Target Level 1 (Basic Attainment):** ≥ 50% of students scoring above 40% marks in a CO
    - **Target Level 2 (Moderate Attainment):** ≥ 60% of students scoring above 50% marks in a CO
    - **Target Level 3 (High Attainment):** ≥ 70% of students scoring above 60% marks in a CO
- **Adjustment Based on Subject Difficulty:**
    - If **>50%** of students scored below 40% in a particular CO, re-evaluate the mapping of that CO to the assessments or revise the teaching-learning strategy.
    - For **subjects identified as difficult** based on trend analysis, a **target level reduction by 1** can be considered after discussion and justification.
- **Corrective Actions:**
    - For COs not meeting the target level:
        - Conduct remedial sessions focused on weak COs
        - Include more practice problems in those areas
        - Reassess teaching strategies and content delivery
- **PO Mapping and Aggregation:**
    - Use weighted averages of CO attainment levels to compute PO attainment
    - Ensure clarity and consistency in the mapping logic across courses

3. Recommendations for Future Improvement

- Establish a **question bank repository** categorized by COs, Bloom's level, and difficulty
- Incorporate **student feedback mechanisms** to refine assessment strategies
- Regularly **review attainment targets** based on academic data trends

Approved by:

DAAC Chairperson and HoD

Pro[illegible]adhuri
Dep[illegible] Physics
School of [illegible]ces & Humanities
[illegible]nan's Foundation for Science, Technology and Research
(Deemed to be University)
Vadlamudi, Guntur-522213

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School of Applied Sciences & Humanities
DEAN, SASH
VFSTR-University, Vadlamudi

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Department of Physics
Document on Identification of Slow and Fast Learners
Prepared by: Department Academic Assessment Committee (DAAC)

Date: 03.03.2025

1. Introduction

As part of the continuous academic improvement and student performance monitoring, the Department of Physics has undertaken the task in agreement with the Department Academic Assessment Committee (DAAC) to identify **slow learners** and **advanced learners** based on their academic performance in internal assessments (Formative Assessment) three times a semester.

This initiative is aimed at providing focused support to underperforming student's and enriching opportunities to achiever's par excellence.

2. Criteria for Identification

2.1 Slow Learners

Low performing students are identified based on their marks obtained in **Module-1- Formative Assessment (T1-A+T2+T3, T4+T5)** and **Module- 2- Formative Assessment (T1-A+T2+T3)**. The threshold marks for categorizing a student as a slow learner are as follows:

- Marks ≤ **12** in **Module-1- Formative Assessment (T1-A+T2+T3) out of 30**
- Marks ≤ **15** in **Module-1- Formative Assessment (T4+T5) out of 30**
- Marks ≤ **12** in **Module-2- Formative Assessment (T1-A+T2+T3) out of 30**

A student scoring **less than or equal to the above prescribed norms** is considered a **slow learner**.

2.2 Advanced Learners

Advanced learners are identified based on students active and consistent performance across all assessments in that subject. The threshold marks for identifying fast learners are:

- Marks > **20** in **Module-1- Formative Assessment (T1-A+T2+T3) out of 30**
- Marks > **20** in **Module-1- Formative Assessment (T4+T5) out of 30**
- Marks > **20** in **Module-2- Formative Assessment (T1-A+T2+T3) out of 30**

Students who meet or exceed this benchmark in all their subjects are classified as **advanced learners**.

3. Objective of the Categorization

- **Slow Learners**: To provide additional academic support, mentoring, and remedial sessions.
- **Advanced Learners**: To encourage participation in advanced learning opportunities, research projects, and academic competitions.

4. Implementation and Follow-up

- The list of slow and fast learners was shared with concerned subject faculty.
- Mentoring and support plans will be initiated accordingly.
- Periodic reviews will be conducted to monitor the progress of students in both categories.

Prepared and verified by:
Department Academic Assessment Committee (DAAC)

Approved by, HoD
Department of Physics

Prof. K.V. Madhuri
Head
Department of Physics
School of Applied Sciences & Humanities
Vignan's Foundation for Science, Technology and Research
(Deemed to be University)
Vadlamudi, Guntur-522213

The Department Council members are

S. No.	Faculty name and Designation	Role	Signature
1	Dr. K. Venkata Madhuri, HOD and Professor	Chairman	
2	Dr. M. Ramanjaneyulu, Associate Professor	Convener	
3	Dr. M. Sreenivasulu, Professor	Member	
4	Dr. J. Nitchal Kiran, Professor	Member	
5	Dr. Habibuddin Shaik, Associate Professor	Member	
6	Dr. B. Nageswara Rao, Assistant Professor	Member	
7	Dr. Srinivasa Rao Pathipati, Assistant Professor	Member	
8	Dr. Ashutosh Upadhyay, Assistant Professor	Member	
9	Dr. T. Srinivasa Reddy, Assistant Professor	Member	
10	Dr. Venkaiah Malapati, Assistant Professor	Member	

Invited Faculty members

S. No.	Faculty name and Designation	Signature
1	Dr. Dr. M. L. N. Madhu Mohan, Associate Professor	
2	Dr. Tirupataiah Chereddy, Associate Professor	
3	Dr. Katuri Venkata Prasad, Assistant Professor	
4	Dr. B. Naveen Kumar Reddy, Assistant Professor	Hyderabad off campus
5	Dr. Ramesh Babu Kunchala, Assistant Professor	Hyderabad off campus
6	Dr. Soumita Jana, Assistant Professor	Hyderabad off campus

The following points were discussed in the Department Council meeting:

1. Feedback analysis indicates that laboratory-based learning enhances students' technical and practical skills significantly, there is need to improve laboratory practices more and need to add more relevant practices.
2. The curriculum is generally well-received, catering effectively to both advanced learners and slow learners.

Based on the feedback collected from various stakeholders the following points were discussed:

1. R25 Syllabus: Major revisions in course outcomes and practical components are proposed to better align with industry requirements.
2. C25 Curriculum: Emphasis will be placed on skill-based electives, multi-disciplinary open electives, value added courses to enhance industry relevant needs, and inclusion of 21st-century skills (digital literacy, computational thinking, etc.) for first year students of B.Tech.
3. More emphasis should be given to courses on advanced topics in relevance to Industrial applications such as semiconductors and their applications.
4. Special focus needs to be given to slow learners
5. Curriculum needs to be enriched with current Industrial trends like semiconductors and the basics of quantum mechanics for quantum computation.
6. Curriculum structure with credits, credits distribution
7. All the courses should follow L with T/P credit structure,
8. Assessment Schemes (Formative and Summative assessments to ensure the continuous assessment),
9. Grading Procedures. (Relative grading and change in letter grades),
10. Finalization of Engineering Physis and applied physics courses for 1st year B. Tech program.
11. Finalization of one special course for 2nd year Biomedical engineering students with the title of Physics for Biomedical Engineering and another course for 2nd year CSE IOT students with the title of Physics for Quantum computing.
12. Finalization of open elective courses and two minor courses for B. Tech Program.
13. Formative assessment and summative assessment marks were analyzed and the need for implementation of slow learner classes were discussed for the next academic year.

It was resolved that these changes and suggestions will be incorporated in the curriculum drafts and forwarded to the BoS for review and approval.
The detailed stakeholder feedback summary is appended as Annexure-I.
The recommendations of the DAAC will be formally submitted to the Board of Studies (BoS) for further consideration and implementation.

Chairperson

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