MADANAPALLE INSTITUTE OF TECHNOLOGY & SCIENCE
DEEMED TO BE UNIVERSITY

DEPARTMENT OF PHYSICS
Board of Studies Meeting
Minutes of Meeting

Date: 28.08.2025

The meeting of the Board of Studies is held on 28.08.2025 from 10:30 AM - 12:30 PM for the approval and evaluation of the syllabus of the three Physics and one Physics Practical Courses offered by the Department of Physics, Madanapalle of Institute of Technology & Science (MITS), Deemed to be University.

The following members attended the meeting.

Members Present:

Sl. No.	Name	Position on BoS
1.	Dr. M. Chandra Sekhar	Chairman
2.	Prof. Soma Venugopal Rao	Subject Expert
3.	Dr. Soumyadeep Sinha	Industry Expert
4.	Dr. N. Nanda Kumar Reddy	Member
5.	Dr. P.V. Chandrasekar	Member
6.	Dr. B. Jagadeesh Babu	Member
7.	Dr. Sunku Sreedhar	Member

BoS Chairman & HoD of Physics, Dr. M. Chandra Sekhar explained in detail regarding the syllabus of Physics and Physics Laboratory for B. Tech. Programme to be offered in new regulation R25 from the academic year 2025-2026.

Board members reviewed the following syllabi

1. 25PHY101 Engineering Physics
2. 25PHY102 Semiconductor Physics
3. 25PHY103 Modern Physics for Quantum Technologies
4. 25PHY201 Physics Laboratory

The Members have revised and updated above listed physics syllabus of different courses for B.Tech programme on par with many reputed institutions and according to MITS Deemed to University guidelines to cover fundamental of physics for engineering students to cope up with their core subjects. All physics syllabus of R25 regulations are sent to each BOS Member. All the members were requested to go through the syllabus and thoroughly check for further corrections/modifications /criticisms.

Resolutions:

The BOS committee has gone through the proposed syllabi for "*Engineering Physics* (for CE, EEE & ME)", "*Semiconductor Physics* (for ECE)", "Modern Physics for Quantum Technologies" (for CSE and Allied Branches) and "*Physics Laboratory* (for all branches)", and resolved the necessary changes for the current syllabus.

Engineering Physics (25PHY101)

1. The board suggested including "*applications*" in Unit 1 to enlighten the graduate students about the topics. It was recommended to include at least few applications related to the concepts to fulfil the course outcomes.
2. Regarding Unit-2, the board has suggested to include the "*Half-wave and Quarter-Wave plates*", which will give more understanding about polarization of light.
3. Subject expert suggested to include Laser cavity, and Industry expert suggested to include PN Junction Diode in unit 4.
4. Since additional revision was not required, the committee has chosen to maintain the content of Units-3 and 5 as suggested.
5. However, BoS members suggested add the text book "*Concepts of Modern Physics by Arthur Beiser, 7th Edition, 2017*".

Semiconductor Physics (25PHY102)

6. On the recommendation of committee members, the topic "*Simple harmonic oscillator (qualitative)*" was added to Unit 2. This subject will aid students in comprehending the idea of discrete nature in quantum mechanics.
7. The committee decided to keep the Unit-1, 3 and 4 as proposed.
8. The BOS committee recommended adding "*photonic crystal fiber (speciality fiber)*" to Unit 5, which would educate the students on the new concepts of micro structured cladding.
9. Moreover, the committee suggested to add the text book "*Physics of Semiconductor Devices – S. M. Sze, & Kwok K. Ng, Wiley, 3rd Edition, 2008*".

Modern Physics for Quantum Technologies (25PHY103)

After carefully reviewing the syllabus, the committee has chosen to make the following changes:

10. In unit 1, polarisation and intensity beam splitters are recommended.
11. The title of Unit 3 was suggested to be changed from "Fundamentals of Quantum Computing" to "Foundations of Quantum Computing".
12. BoS members decided to add quantum state and measurement for continuity of the topics in unit 3
13. In Unit 3, the Elementary gate was suggested to be changed to Elementary quantum gates.
14. In Unit-4, the topic "0-, 1-, 2- dimensional quantum materials" was suggested to be added, which will give the basic understanding about various nanomaterials used for quantum technology applications.
15. The committee decided to keep the Unit-2, and 5 as proposed

Physics Laboratory (25PHY201)

16. Regarding Physics laboratory, the BoS committee has discussed about the experiments proposed for I B. Tech., students. The length of time spent on each experiment and the credit given for each experiment were also discussed. Ultimately, though, the BoS committee has chosen to retain the suggested experiments with

inclusion of one or two polarization experiments and only requested to slightly alter the course outcome.

It is resolved that the present syllabi brought before the BoS is thoroughly discussed and can be adopted with the suggested modifications.

Head
Department of Physics
(Dr. M. CHANDRA SEKHAR)
Associate professor

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Head
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(Dr. M. CHANDRA SEKHAR)
(Associate professor)