Annexure – IV

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

DEPARTMENT OF PHYSICS

CIRCULAR

Date: 22-11-2025

The Department of Physics is going to conduct a Board of Studies (BoS) meeting for the B.Tech. program on **29.11.2025** from 9.00 AM online mode. The virtual meeting link is given below. https://teams.microsoft.com/l/meetup-join/19%3ameeting_ZjVlOGNiM2EtMGQzNC00YWEyLWE2MmMtOWY4NjgzMjRiZThi%40thread.v2/0?context=%7b%22Tid%22%3a%223b0993d8-31db-4db6-b617-64ac193c7ace%22%2c%22Oid%22%3a%22b1fc73ea-2d4b-483a-8898-d282a804058a%22%7d.
All the members are requested to make it convenient to attend the meeting.

Sl. No	Name of the member	Designation and Address	Role
1	Dr. K. V Madhuri	Professor and Head of the Department	Chairperson
2	Prof. G. Hema Chandra	Professor, Department of Physics, VNIT Nagpur,	External member (Academia)
3	Dr. Y. Bharath Kumar Reddy	Director (Techno Commercial) ABC Cleantech. Pvt.Ltd	External member (Industry)
4	Dr. Neeraj Dwivedi	Principal Scientist, CSIR-Advanced Materials and Processes Research Institute (CSIR-AMPRI)	Invited member (Research)
5	Dr. S. Surendra Babu	Scientist- 'F', Directorate of laser systems, Research Centre Imarat (DRDO Lab), Vignana Kancha, Hyderabad.	Invited member
6	Prof. J. N. Kiran	Professor, Dept. of Physics, VFSTR.	Internal member
7	Prof. M. Sreenivasulu	Professor, Dept. of Physics, VFSTR.	Internal member
8	Dr. M L N Madhu Mohan	Associate Professor, Dept. of Physics, VFSTR.	Internal member (R&D nominee)
9	Dr. Ch. Tirupataiah	Associate Professor, Dept. of Physics, VFSTR.	Internal member
10	Dr. Shaik Habibuddin	Associate Professor, Dept. of Physics, VFSTR.	Internal member
11	Dr. Ashutosh Upadhyay	Assistant Professor, Dept. of Physics, VFSTR	Internal member (School nominee)
12	Dr. B. Nageswara Rao	Assistant Professor, Dept. of Physics, VFSTR.	Internal member
13	Dr. P. Srinivasa Rao	Assistant Professor, Dept. of Physics, VFSTR.	Internal member
14	Dr. K. Ramesh Babu	Assistant Professor, Dept. of Physics, VFSTR.	Internal member (off-campus)

14	Dr. M. Ramanjaneyulu	Associate Professor, (BoA) Dept. of Physics, VFSTR.	Member Secretary

Agenda of the BoS Meeting:

1. **Discussion on the necessity of regulation and assessment changes,** for R25 @ R22 (C22 & C24).
2. **Revision of the Engineering Physics syllabus** – Proposal for the removal of *Tunnelling Diode* from Module 1 or need of defining a clear scope to teach in Module1 and module 2 as well.
3. **Review of laboratory practices** in Engineering Physics and Applied Physics, with an emphasis on **enhancing student skills, analytical thinking, and hands-on learning**.
4. **Revision of Agricultural Engineering Physics syllabus** in alignment with the L-T-P-SL structure, (maximum of 10 percent changes)
5. **Approval of a new Minor programme on Quantum Technologies and open elective on QT** (R22 C24) (Approval was taken principally through online)
6. **Approval of newly admitted research scholars**, their DRC members, course work details, and related matters (if needed)
7. **Discussion on results** – FA, SA, grades, and result correlations based on the previous BoS recommendations.
8. **Approval of modifications in L-T-P-SL structure**, number of credits, or course content of existing courses, if any.
9. **Discussion on attainments** – process, rubrics, CO/PO/PSO mapping, and SO values.
10. **Discussion on** best practices followed and to be followed in Formative Assessment (Pre-T1, T1, T2, T3, and T5).
11. **Analysis of feedback** collected from stakeholders (alumni, employers, faculty, parents, and students) during AY 2024-25 , suggestions to be taken for the improvement.
12. **Planning and execution of guest lectures** by industry personnel for EP/AP/ emerging research areas.
13. **Discussion on workshops and conferences** to be organized by the department with the collaboration of INIs.
14. **Any other points**, if required, as raised by committee members.
15. **ATR (Action Taken Report)** for the previous BoS.
16. **Any other points with the permission of the Chair.**

M. Ramanjaneyulu

Member Secretary

Chairperson

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)
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Annexure – V

VIGNAN'S
FOUNDATION FOR SCIENCE, TECHNOLOGY & RESEARCH
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DEPARTMENT OF PHYSICS

Date: 29-11-2025

Minutes of Board of Studies Meeting

Department of Physics has conducted the Board of Studies (BoS) meeting for the B.Tech. program on 29.11.2025 in online mode from 09.00 AM to 01.00 PM under the Chairmanship of the Head, Department of Physics along with the committee and external members with external invitees using the virtual link given below.

https://teams.microsoft.com/l/meetup-join/19%3ameeting_ZjVlOGNiM2EtMGQzNC00YWEyLWE2MmMtOWY4NjgzMjRiZThi%40thread.v2/0?context=%7b%22Tid%22%3a%223b0993d8-31db-4db6-b617-64ac193c7ace%22%2c%22Oid%22%3a%22b1fc73ea-2d4b-483a-8898-d282a804058a%22%7d.

Agenda of the BoS Meeting:

1. **Discussion on the necessity of regulation and assessment changes,** for R25 @ R22 (C22 & C24).
2. **Revision of the Engineering Physics syllabus** – Proposal for the removal of *Tunnelling Diode* from Module 1 or need of defining a clear scope to teach in Module1 and module 2 as well.
3. **Review of laboratory practices** in Engineering Physics and Applied Physics, with an emphasis on **enhancing student skills, analytical thinking, and hands-on learning**.
4. **Revision of Agricultural Engineering Physics syllabus** in alignment with the L-T-P-SL structure, (maximum of 10 percent changes)
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6. **Approval of newly admitted research scholars**, their DRC members, course work details, and related matters (if needed)
7. **Discussion on results** – FA, SA, grades, and result correlations based on the previous BoS recommendations.
8. **Approval of modifications in L-T-P-SL structure**, number of credits, or course content of existing courses, if any.
9. **Discussion on attainments** – process, rubrics, CO/PO/PSO mapping, and SO values.
10. **Discussion on** best practices followed and to be followed in Formative Assessment (Pre-T1, T1, T2, T3, and T5).

11. **Analysis of feedback** collected from stakeholders (alumni, employers, faculty, parents, and students) during AY 2024-25, suggestions to be taken for the improvement.
12. **Planning and execution of guest lectures** by industry personnel for EP/AP/ emerging research areas.
13. **Discussion on workshops and conferences** to be organized by the department with the collaboration of INIs.
14. **Any other points**, if required, as raised by committee members.
15. **ATR (Action Taken Report)** for the previous BoS.
16. ***Any other points with the permission of the Chair.***

The following members were present either thorough offline or online.

S.No.	Name of the Member	Designation and address	Signature
1.	Dr. K. V Madhuri	Chairperson & Professor and Head of the Department	
2.	Prof. G. Hema Chandra	External Member (Academic), Professor, Department of Physics, VNIT Nagpur	Online
3.	Dr. Y. Bharath Kumar Reddy	External Member (Industry), Director (Techno Commercial), ABC Cleantech Pvt Ltd.	Online
4.	Dr. S. Surendra Babu	External Member (Research), Scientist-F, Directorate of Laser Systems, Research center Imarat (DRDO Lab)	Online
5.	Prof. J. N. Kiran	Internal Member, Professor, Dept. of Physics, VFSTR	Online
6.	Prof. M. Sreenivasulu	Internal Member, Professor, Dept. of Physics, VFSTR	Online
7.	Dr. M L N Madhu Mohan	Internal Member, Officiating Professor, Dept. of Physics, VFSTR	
8.	Dr. Ch. Tirupataiah	Internal Member, Associate Professor, Dept. of Physics, VFSTR	
9.	Dr. Shaik Habibuddin	Internal Member, Associate Professor, Dept. of Physics, VFSTR	
10.	Dr. Ashutosh Upadhyay	Internal Member, Assistant Professor, Dept. of Physics, VFSTR	
11.	Dr. B. Nageswara Rao	Internal Member, Assistant Professor, Dept. of Physics, VFSTR	
12.	Dr. P. Srinivasa Rao	Internal Member, Assistant Professor, Dept. of Physics, VFSTR	
13.	Dr. M. Ramanjaneyulu	Associate Professor, (BoA), Dept. of Physics, VFSTR	

The following members have taken leave of absence:

1. Dr. Neeraj Dwivedi
2. Dr. K. Ramesh Babu

The Chairperson, Dr. K. V. Madhuri, Professor and Head, Department of Physics, VFSTR, initiated the meeting by warmly welcoming the external members and invitees and formally introducing them to the internal members of the Board. She expressed her appreciation for their valuable presence and contributions toward strengthening the academic framework of the department.

The Chairperson then presented the NEP 2020 compliant Regulation – R25-C25, highlighting its emphasis on a learner-centric approach that promotes continuous learning and continuous assessment. The regulation facilitates flexible academic pathways, including the provision of B.Tech., B.Tech. with Honours/Minors, lateral entry options, and honorable exit opportunities in alignment with the National Education Policy 2020. The framework is designed to enhance interdisciplinary learning, skill development, and academic mobility while ensuring academic rigor and outcome-based education.

Further, a detailed discussion was held on the necessity of introducing revisions in regulations and assessment patterns under R25 in comparison with R22 (C22 & C24). The members deliberated on the need to align curriculum structure, credit distribution, evaluation methodologies, and continuous assessment mechanisms with evolving academic standards and industry expectations. Emphasis was placed on strengthening formative assessment, improving transparency in evaluation, incorporating experiential learning components, and ensuring flexibility without compromising academic quality. The committee acknowledged that the proposed changes would enhance student engagement, academic progression, and overall program effectiveness.

The following points were discussed in the BoS meeting:

1. Regulation R25-C25.
2. Curriculum structure with credits, credits distribution (L-T-P-SL).
3. Significance of self-learning (SL)
4. 2 Modules, Module-1 is fundamental with 2 units and Module-2 is fundamental with 3 units.
5. Assessment methods (Formative & Summative).
6. Grading Schemes.
7. Open Elective and Minor courses (streams/pools).
8. SDG Mapping and incorporation of IKS components
9. Consideration of new program outcomes (POs) as prescribed by the NBA
10. Feedback from stakeholders.

The following resolutions are made after the discussions:

1. Dr. M. Ramanjaneyulu presented Engineering Physics course to BoS members and is focused primarily for non-bio branches of 1st year B.Tech students.

   Prof. G. Hema Chandra, Dr. S. Surendra Babu and Dr. Y. Bharath Kumar Reddy suggested to remove tunnelling diode from both module 1and 2. Also the in the optical fibres, total internal reflection numerical aperture and acceptance angle needs to be added in unit 5 of module 2. In the practices, Thermistor experiment needed to be added.
2. Dr. B. Nageswara Rao presented the Applied Physics course to BoS members and is focused mainly for bio branch students of 1st year B. Tech students. BoS members Prof. G. Hema Chandra, Dr. S. Surendra Babu and Dr. Y. Bharath Kumar Reddy suggested the following.

a) To procure the equipment's for Venturimeter and Reynold's number experiments.
b) Suggested to remove See-beck Effect experiment from Module-1 practices.
c) Suggested to think about the possibility of including the Determination of the Viscosity of a give fluid. Determination of the surface tension of a give fluid in Module-1.

3. Dr. Ashutosh Upadhyay presented a minor programme on quantum computing and all BoS members accepted all four courses in its present form along with project.
   The following are four courses
   1. QT-01 Quantum principles, structure and computing.
   2. QT-02 Quantum Computing Theory & Practices
   3. QT-03 Quantum Computation & Applications
   4. QT-04 Quantum Algorithms & Cryptography
   5. Project on QT
4. Dr. Ashutosh Upadhyay presented a course on open elective on quantum technology with the title of Applied quantum physics: concepts to computation. All the BoS members accepted the syllabus in its present form.
5. Dr. M. Ramanjaneyulu has presented the stake holders feedback on curriculum. A total of ~ 570 responses were received from all stakeholders like students, faculty, parents and industry relevant people. From the responses it can be concluded that all the stakeholders are happy with the curriculum. There are minor suggestion are as follows
   a) More practice questions and relevant real life examples must be added.
   b) Add more practices to understand the concepts
   c) May be add more interactive learning aids and videos for easy understanding.
6. Dr. M.L.N Madhu Mohan has presented the newly joined students and assigned guides.
7. Dr. B. Nageswara rao BOE has presented the result analysis to the external BoS members. There is about ~96% pass percentage has been achieved during the AY 2024-2025 2nd semester.
8. BoS members approved to float, two different courses for the 1st B. Tech students and the detailed syllabus and LTP structure are provided in Appendix-I.
9. Three open electives will be offered to 2nd and 3rd year B. Tech students. List of approved open electives are provided in Appendix-I
10. The curriculum is encompassing the courses that enable employability or entrepreneurship or skill development, provided in Appendix- II.
11. The significant changes are made in the content of all courses for group of allied branches and hence the courses are considered as new courses provided in Appendix- III.

12. Total average percentage of syllabus revision/modification was about 30% compared to previous curriculum of R24, C24.

The following are the observations:

1. Minor restructuring has taken place in the curriculum which is oriented towards continuous learning and assessment based on Module structure.
2. R25-C25 curriculum structure including list of open electives, Minor courses of All B.Tech., programme. (**Appendix - I)**
3. The curriculum is encompassing the courses that enable employability or entrepreneurship or skill development, provided in **Appendix - II**.
4. Total average percentage of syllabus revised was 5% compared to previous curriculum provided in **Appendix - III**.
5. **Indian Knowledge System (IKS)** components are incorporated in the relevant courses and the details are mentioned in **Appendix - V**.
6. The courses in the curricula are mapped with the **Sustainable Development Goals (SDG)** and the mapping details are provided in **Appendix - VI**.
7. Feedback from various stakeholders are incorporated appropriately in the R25-C25 curriculum.

The following improvements are suggested: (Action Points)

1. External members were suggested to use various tools like animations and other AI aids to visualize the concepts and practices.
2. May be need to add more relevant practices for better understanding of the concepts.

The following recommendations and approvals are made after the discussion:

1. BoS Members approved the revised regulations, curriculum structure, syllabus, assessment schemes of B.Tech. programmes and it follows based on the NEP 2020.
2. Two common courses for the 1st year B. Tech bio stream (Applied physics) and non-bio streams (Engineering Physics) are approved with minor changes as proposed.

3. Minor program with the title of Quantum Technologies with four courses such as Quantum Principles, Structures and Computing, Quantum Computing Theory & Practices, Quantum Computation & Applications, Quantum Algorithms & Cryptography for Quantum technologies with capstone project of 4 credits are approved for the regulations R22-C24.
4. SDG mapping and incorporation of the IKS components in the syllabus is approved.

There being no further points for discussion, the Chairperson thanks all the external, internal, invited members and announced that the meeting was concluded

Member Secretary

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DEPARTMENT OF PHYSICS

APPENDIX I

B. Tech Program: Curriculum Structure

I Year I/II Semester Structure

S. No.	Course Code	Course Title	L	T	P	SL	C	Remarks	Course Offered By
1.	25PY101	Engineering Physics	3	-	2	3	4	Basic Sciences	S&H-Physics
2.	25PY102	Applied Physics	3	-	2	3	4	Basic Sciences	S&H-Physics
		Total	**6**	**0**	**4**	**6**	**8**		
		Contact Hours	16 Hours						

L=Lecture; T= Tutorial; P= Practical; SL= Self Learning; C=Credits

II. List of Minor Courses

S. No.	Course Code	Course Title	L	T	P	SL	C	Name of the Stream (if available)
1.	24PYxx	Quantum Computing Theory & Practices	2	0	2	2	3	All B.Tech students of 2nd year
2.	24PYxx	Quantum Computation & Applications	2	0	2	2	3	All B.Tech students of 2nd year
3.	24PYxx	Quantum Algorithms & Cryptography for Quantum technologies.	2	0	2	2	3	All B.Tech students of 2nd year

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APPENDIX II

List of Courses that Enables Employability or Entrepreneurship or Skill Development

S. No.	Course Code	Course Title	Year of Introduction	Employability / Entrepreneurship / Skill development
1	25PY101	Engineering Physics	2025	**Skill Development:** To impart adequate knowledge in the domine of basic physics and problem-solving techniques for the program.
2	25PY102	Applied Physics	2025	**Skill Development:** To impart adequate knowledge in the domine of basic physics and problem-solving techniques for the program.
13	24PYxxx	Quantum Principles, Structures and Computing	2025	**Skill Development:** To impart adequate knowledge in the domine of quantum mechanics and problem-solving techniques for the quantum computation.
14	24PYxxx	Quantum Computing Theory & Practices	2025	**Skill Development:** To impart adequate knowledge theoretical concepts and necessary practical knowledge needed for quantum computing.
15	24PYxxx	Quantum Computation & Applications	2025	**Skill Development:** To impart adequate knowledge of theoretical concepts and necessary practical knowledge needed for quantum computation and applications.
16	24PYxxx	Quantum Algorithms & Cryptography	2025	**Employability:** To be able to compute the solutions for various problems in domine of chemical sciences, medicine, banking and financial transactions and cryptography using Quantum computation.

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APPENDIX III

Comparison of Course Contents between R25-C25 and R22-C25 Curriculum 2nd semester

S. No.	Course Code	Course Title	% of Changes	Justification for the changes
1.	25PY101	Engineering Physics	5%	Based on the industrial needs more semiconductor devices are added

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APPENDIX IV

List of New Courses in the R25-C25 Curriculum

S. No.	Course Code	Course Title	% of Change	Justification for the Changes
1.	NIL	NIL		

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DEPARTMENT OF PHYSICS

APPENDIX V

I. Details of IKS Components Incorporated in R25-C25 Curriculum

Course Type	Total number of Courses	Number of Courses Incorporating IKS	Percentage
Basic sciences	4	4	80%
Professional Core			
Department Electives			
Open Electives	3	3	80%
Minors	4	4	80%
Honours			
Total	**11**	**11**	

II. List of Courses in the R25-C25 Curriculum Incorporating IKS

S. No.	Course Code	Course Title	Type of course	Module (Unit)	IKS Components Incorporated
1.		Engineering Physics	Basic sciences	M1 (U1, U2)	Metallurgy in Ancient India – Study of Zinc distillation in Zawar, Iron Pillar of Delhi (rust resistance) and Philosophical parallels from Vedanta and Nyaya schools
				M2 (U1, U2, U3)	Concepts of Panchabhuta (Five elements) and their material properties, Ancient Indian lighting techniques (oil lamps, mirrors) and sunlight-based architecture (temple alignments), Use of light and sound in Vedic rituals (Yajna), mirror systems in temples for illumination
2.		Applied Physics	Basic sciences	M1 (U1, U2)	Ancient Indian knowledge of fluid flow in Ayurveda and hydraulic systems, Philosophical ideas of atomism and wave-particle concepts from Vaisheshika and Nyaya schools
				M2 (U1, U2, U3)	Traditional use of Bhasmas (metallic/mineral powders) in Ayurveda, Use of focused light and heat in ancient Indian surgical practices, Ancient Indian optics — Shulbasutras geometry and temple architecture with natural light management
3.		Semiconductor Physics and Devices	Basic sciences	M1 (U1, U2)	Ancient Indian knowledge of minerals and metallurgy (Rasa Shastra),
				M2 (U1, U2, U3)	Analogies from Indian logic and system thinking (Nyaya philosophy) for control and switching

4.		Analytical Techniques for Characterization of Materials	Open elective	M1 (U1, U2)	Ancient Indian knowledge of light and optics from texts like Siddhanta Shiromani, Vedas
				M2 (U1, U2, U3)	Indian philosophical ideas on atomic nature from Vaisheshika and Nyaya schools, Traditional Indian metallurgy and crystallography knowledge (e.g., wootz steel production),
5.		Green Energy Technologies	Open elective	M1 (U1, U2)	Ancient Indian understanding of earth's heat and energy cycles in texts like *Agni Purana* and *Bhagavad Gita*
				M2 (U1, U2, U3)	*Surya Yantra, Jala Tatva* and elemental concepts
6.		Thin Film Technology	Open elective	M1 (U1, U2)	Ancient Indian use of bellows and airflow control in metallurgy and glass making
				M2 (U1, U2, U3)	Natural deposition processes (e.g., formation of nacre layers in pearls or natural coatings on minerals)
7.		Electromagnetic Theory	Minor	M1 (U1, U2)	Concepts of *Agni, Prana*, and *Tejas* from *Vedic physics* relating to force fields and energy flows, Use of lodestone (natural magnetite) in ancient Indian navigational techniques; *Vaastu Shastra* orientation logic
				M2 (U1, U2, U3)	Ancient Indian *Pancha Mahabhuta* theory for understanding media interaction (earth, water, fire, air, space), Connection to *Shabda Brahma* and *Nadabrahma* concepts in Vedic science about wave and sound propagation
8.		Quantum Mechanics for Engineering	Minor	M1 (U1, U2)	Cosmology and Atomic Philosophy (Shunya, Vaisesika, Logic and Inference (Nyaya-Vaisheshika
				M2 (U1, U2, U3)	Rasayana and Material Science, Vedic Maths & Geometry, Vedantic Metaphysics (Advaita Vedanta)
9.		Laser science & technology	Minor	M1 (U1, U2)	Ancient optics and Vaisheshika Sutras
				M2 (U1, U2, U3)	Traditional metal and gemstone treatment, Ethical frameworks in Indian philosophy
10.		Micro and nanomaterials	Minor	M1 (U1, U2)	Traditional Material Knowledge, Ayurveda and Nanomedicine
				M2 (U1, U2, U3)	Sustainable Use of Natural Resources, Philosophy of 'Anu' and 'Paramanu'

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DEPARTMENT OF PHYSICS

APPENDIX VI

I. Details of SDG Mapped Courses in R25-C25 Curriculum

Course Type	Total number of Courses	Number of Courses Mapped with SDGs	Percentage
Basic Sciences	4	4	80%
Professional Core			
Department Electives			
Open Electives	4	3	80%
Minors	8	4	50%
Honours			
Total	16	11	

II. List of R25-C25 Courses Mapped with SDGs along with Justification

S. No.	Course Code	Course Title	Type of course	SDGs covered	Justification
1.		Engineering Physics	Basic sciences	4	Understanding fundamental physics concepts contributes to strong technical education, enabling students to apply analytical thinking in engineering problems.
				7	Study of solar and LED technologies supports clean and sustainable energy systems
				9	Understanding semiconductor behavior is foundational for electronics and modern industry
				11	Optical fiber communication enables Sustainable Cities and Communities.
				12	Semiconductors are foundational for electronics and modern industry

				13	Practical understanding of energy generation, conversion, and conservation principles leads to clean energy and reduction in climate change.
2.		Applied Physics	Basic sciences	3	Understanding fluid flow relates to biological fluids, blood flow, and water systems vital for health and sanitation.
				4	Understanding fundamental physics concepts contributes to strong technical education, enabling students to apply analytical thinking in engineering problems.
				9	Quantum concepts underpin medical imaging technologies and novel biomedical devices.
				12	Nanomaterials are foundational for modern medical and electronic industry
3.		Semiconductor Physics and Devices	Basic sciences	4	Understanding fundamental physics concepts contributes to strong technical education, enabling students to apply analytical thinking in engineering problems.
				7	Rectifiers and voltage regulators essential for power electronics, supporting clean energy tech
				8	Developing semiconducting based sensors and devices leads to Economic Growth
				9	Semiconductor tech is core to electronics innovation and sustainable technology manufacturing
				12	Semiconductors are foundational for the modern medical and electronic industry
4.		Analytical Techniques For Characterization Of Materials	Open Elective	3	Spectroscopic techniques are vital in medical diagnostics, pharma research, and materials science
				9	Material characterization is key for sustainable industrial processes and innovation
				12	Understanding materials' thermal properties supports efficient design and environmental safety
5.		Green Energy	Open Elective	7	Understanding geothermal energy

		Technologies			contributes to the development of clean and sustainable energy sources, reducing reliance on fossil fuels and mitigating climate change
				9	Analyzing batteries and supercapacitors enhances energy storage solutions, fostering innovation in energy infrastructure and promoting efficient resource use.
				13	Evaluating wind energy systems aids in the adoption of wind power, a clean energy source, thus contributing to climate change mitigation efforts.
6.		Thin Film Technology	Open Elective	7	**Affordable and Clean Energy** – Relevance of photonics and energy devices
				9	Industry, Innovation, and Infrastructure — thin film tech is vital for electronics, sensors, renewable energy, and smart devices
				13	Climate Action — thin films contribute to energy-efficient solar cells and sensors for environmental monitoring
7.		Electromagnetic Theory	Minor	4	Understanding fundamental physics concepts contributes to strong technical education, enabling students to apply analytical thinking in engineering problems.
				7	Magnetostatics is foundational in the design of energy systems (e.g., inductors, transformers), essential for efficient and clean energy technologies.
				9	Mastery of electromagnetic wave behavior supports innovation in green technologies (wireless transmission, smart grids), aligning with infrastructure development and environmental responsibility
				11	Application of EM theory to communication and sensor systems fosters smart cities and sustainable urban planning with efficient energy and communication systems.

8.		Quantum Mechanics for Engineering	Minor	4	Deepens learners' understanding of modern quantum physics and its role in high-tech domains.
				9	Builds foundational knowledge for future engineers working in nanotech, quantum devices, and secure computing.
				16	Quantum cryptography as a foundation for ethical and secure digital systems.
9.		LASER SCIENCE & TECHNOLOGY	Minor	3	Laser applications in medicine (surgery, dermatology) enhance healthcare accessibility.
				4	Gaining foundational knowledge supports lifelong learning in emerging photonic technologies
				7	Semiconductor lasers contribute to efficient lighting and energy-saving technologies.
				9	Understand lasing processes critical for innovative optoelectronics and communication devices.
				12	Emphasis on safety and ethical applications of high-power lasers
10.		MICRO AND NANOMATERIALS	Minor	3	Promotes eco-friendly innovations in healthcare, defence, and environmental sectors
				4	Promotes higher-order thinking and research orientation in quantum and nanoscale systems.
				7	Supports fabrication of advanced materials for energy-efficient technologies
				9	Understanding material science is foundational for innovation in nano/micro technologies.
				12	Promotes efficient use of materials and sustainability in engineering design.

III. Mapping of R25-C25 Courses with individual SDGs

SDG No.	SDG Name	No. of courses mapped	Percentage of courses mapped
1	No Poverty		
2	Zero Hunger		
3	Good Health and Well-Being	4	80%
4	Quality Education	7	80%
5	Gender Equality		
6	Clean Water and Sanitation		
7	Affordable and Clean Energy	5	80%

8	Decent Work and Economic Growth	1	80%
9	Industry, Innovation and Infrastructure	9	80%
10	Reduced Inequalities		
11	Sustainable Cities and Communities	2	80%
12	Responsible Consumption and Production	6	80%
13	Climate Action	2	80%
14	Life Below Water		
15	Life On Land		
16	Peace, Justice and Strong Institutions	1	80%
17	Partnerships for the Goals		

Member Secretary

Chairperson

Prof. K.V. Madhuri
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DEPARTMENT OF PHYSICS

APPENDIX - VII

Action Taken Report (ATR) on the suggestions given in earlier BoS meetings

S.No.	Action Point	Response
1.	External members suggested to create more awareness about IKS to the faculty members by conducting either department workshops or institute level workshops	Awareness programmes on IKS has been conducted by university at different times during the AY 2025-2026.

Member Secretary

Chairperson

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