



MINUTES OF THE MEETING OF THE BOARD OF STUDIES IN PHYSICS HELD ON 14.11.2022 AT 2.00 P.M. THROUGH ONLINE.

MEMBERS

1. Prof. B. Jayarami Reddy, Director, RGUKT Ongole campus	Chairman
2. Prof. N. Harish Kumar, Professor of Physics, IIT Madras.	Member
3. Prof. K.T. Rama Krishna Reddy, Professor of Physics, Sri Venkateswara University, Tirupati.	Member
4. Prof. V. Venkatramu, Professor of Physics, Krishna University, Machilipatnam.	Member
5. Prof. G. Mohan Rao, Head, Research Cell, RGUKT-AP	Member
6. Dr. P. Tirupathi, Assistant Professor, RGUKT-RKV	Member
7. Mr. S.K. Muni Chandu, Mentor, RGUKT-Nuzvid	Member
8. Mr. P. Veera Raghava Reddy, Head of the Department, RGUKT- RKV	Member
9. Dr. Tilak, Head of the Department, RGUKT-Ongole.	Member
10. Dean of Academics (RGUKT- Nuzvid)	Member
11. Dean of Academics, (RGUKT-RKV)	Member
12. Dean of Academics (RGUKT- Ongole)	Member
13. Dr.A.Satish Kumar, Assistant Professor, Nuzvid	Convener

Prof.B.Jayarami Reddy, Director, RGUKT Ongole Campus & Chairman, Board of Studies in Physics welcomed all the members and in the introductory address, he explained the details of the agenda as mentioned below:

The education, offered by RGUKT-AP consists of a Six Year Integrated Course after 10th class examination leading the award of B.Tech degree. The first part of the Six Year Course is Two Year Pre University Course (equivalent to Board of Intermediate Education, AP) and the second part is Four Year Engineering Program in Civil Engineering, Mechanical Engineering, Electronics and communication Engineering, Metallurgical and Materials Engineering, Chemical Engineering, Computer Science and Engineering and Electrical Engineering branches. In addition to regular degrees, University is offering minor degrees to students. In this connection the course, Physics is divided into the following three parts.

1. Physics for Pre-University students,
2. Physics for Engineering 1st year students
3. Minor degree for Physics aspirants.

The discussion has taken place on the following:

1. The department proposes to adopt N.C.E.R.T syllabus for the Pre University Course along with Boards of Studies syllabuses with effect from the Academic year 2023-24.
2. The present syllabus of Engineering Physics of ECE branch has been adapted for EEE branch.
3. The topics of Semiconductor Physics in sixth unit of the ECE branch have been condensed due to time constraint.
4. Due to time constraint, the topic, Superconductivity in sixth unit of the Mechanical Engineering Branch is being revised.
5. Minor Degree in Physics has been designed with a view to providing basic conceptual knowledge in Semiconductor Physics, working and application of basic devices and fabrication devices to the students of Engineering.

The suggestions made by BoS members have been implemented has mentioned below:

1. The courses in Physics for the Pre-University Course (PUC) are advised to be conducted in such a manner as follows.
 - a. The tutorial classes for the Pre-University Course (PUC-1 and PUC-2) should be engaged effectively. Adequate number of problems are to be worked out by the students in every concept and making the students accessible for quite many assignments (problem-solving and mini-projects) in tutorials.
 - b. Tutorial classes should be conducted with the limited number of students.
 - c. To get thorough knowledge of practical experiments, video lectures have to be arranged with detailed theory.
 - d. The estimation of error calculation has to be introduced in all carry forward practical experiments in the laboratory immediately after the completion of the experimental session.
 - e. Members recommended that the final practical examinations for PUC-1 and PUC-2 laboratory courses are to be conducted at the end of the each semester.
2. The syllabus in Engineering Physics of Electronics and Communication Engineering branch has been adapted for Electrical and Electronics Engineering branch.
3. The topic, Semiconductor Physics in the sixth unit of ECE branch has been condensed due to time constraint.
4. Due to time constraint, the topic, Superconductivity in sixth unit of Mechanical Engineering

Branch is being revised.

5. The syllabus for Minor Degree in Physics degree is designed with a view to providing basic conceptual knowledge in Semiconductor Physics, working and application of basic devices and fabrication devices to the students of Engineering.
6. All the members strongly recommended that Civil Engineering branch should have Engineering Physics and the syllabus will be framed after consulting with the department concerned.
7. To consider and improve the syllabus of Minor Degree in Physics for physics aspirants. The following improvements, modifications, or/and renaming have been suggested.
 - i. Thermal and Statistical Mechanics has to be introduced as a core subject for Physics aspirants.
 - ii. Introduce the suitable elective course in Minor Degree in Physics only if the suitable faculty is available in the respective campuses.
 - iii. Addition of the Crystal Defects to the core subject, "Elementary Solid State Physics" has been suggested.
 - iv. Modification in the core subject, "Quantum mechanics" by introducing the concept of "Relativistic Quantum Mechanics" as a separate unit.
 - v. Addition of the concepts of Pulsar Laser Deposition (PLD), Thermal Evaporation Techniques, Cryogenic Polymer Thin Film Foam Techniques and Charcoal Carbon Foam Film Techniques to the elective subject, Thin Film Technology.
 - vi. The elective courses, Nano-Electronics and MEMS/NEMS, Nano Science and Structures, and Nano-composites design and synthesis are to be merged into a single elective subject "Nanotechnology."
 - vii. The elective subject, entitled "Semiconductors and Optoelectronic" is to be renamed as "Optoelectronics," the corresponding syllabus has to be reframed.
 - viii. The elective subject, entitled "Characterization Techniques" has been renamed as "Material Characterization Techniques," the corresponding syllabus will be reframed. The title Characterization Techniques in Unit 1 will be renamed as "Microstructural characterization techniques" with the contents Atomic force microscope (AFM), SFM, Mossbauer Spectroscopic Techniques, Nuclear Magnetic Resonance, etc.
 - ix. The elective subject "Renewable Energy" is introduced with few more additional topics viz, Hydrogen Fuel Cells, Micro Energy Storage Devices, Magnetic and Ferroelectric Energy Storage Devices.

8. The following three courses are proposed to be offered by the Department of Physics.

- i. B.Sc Honors in Physics
- ii. M.Sc in Nano-Technology
- iii. M.Tech Instrumentation

MEMBERS PRESENT:

Mode of the meeting: Online (Google meet)

Google meet link: <https://meet.google.com/nrw-ocsy-bky>

S.No	Name and designation	Role	Signature
1	Prof. B. Jayarami Reddy, Director, RGUKT Ongole Campus	Chairperson	
2	Prof. N. Harish Kumar, Professor of Physics, IIT Madras	Member	
3	Prof. K.T.Rama Krishna Reddy, Professor of Physics, Sri Venkateswara University, Tirupati.	Member	
4	Prof. G. Mohan Rao, Head, Research Cell, RGUKT-AP.	Member	
5	Dr.P.Tirupathi, Assistant Professor in Physics & Head, RGUKT-RK Valley Campus	Member	
6	Mr.S.K.Muni Chandu, Mentor, Head of the Department, RGUKT Nuzvid	Member	
7	Mr.P.Veera Raghava Reddy, Head of the Department, RGUKT RK Valley.	Member	
8	Dr.B.Tilak, Head of the Department, RGUKT Ongole	Member	
9	Dean of Academics, RGUKT Nuzvid.	Member	
10	Dean of Academics, RGUKT RK Valley	Member	
11	Dean of Academics, RGUKT Ongole.	Member	
12	Dr.A.Satish Kumar, Assistant Professor, RGUKT Nuzvid	Convener	