

VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)

(Sponsored by Vasavi Academy of Education)

(Affiliated to Osmania University & approved by AICTE)

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MINUTE OF THE MEETING OF BOS IN PHYSICS HELD ON 26 JUNE 2023

Members Present:

S.NO	Name and Designation of the Member	Role
1.	Prof. D. Karuna Sagar, Chairman, BoS in Physics Department of Physics, Osmania university	Osmania university Nominee
2.	Prof. M. Srinivas, Head, Department of Physics, Osmania university,Hyderabad	Subject Expert
3.	Prof. S. Srinath School of Physics, University of Hyderabad	Subject Expert
4.	Dr. S.V. Manorama Chief Scientist, IICT, Hyderabad	Subject Expert
5.	Prof. A. S. Sai Prasad. Head and Chairman, BoS in Physics, Department of Physics, Vasavi College of Engineering (Autonomous)	Chairman, BoS in Physics
6.	Dr. P. V. Rao, Associate Professor Department of Physics, Vasavi College of Engineering (Autonomous)	Member
7.	Dr. G. Ramadevudu, Asst. Professor (Sr) Department of Physics, Vasavi College of Engineering (Autonomous)	Member
8.	Dr. R. Naga Raju, Asst. Professor Department of Physics, Vasavi College of Engineering (Autonomous)	Member
9.	Dr. Vanita Thakur, Asst. Professor Department of Physics, Vasavi College of Engineering (Autonomous)	Member

Prof. A.S. Sai Prasad, Head and Chairman in BoS, Department of Physics, Vasavi College of Engineering (Autonomous), welcomed the members and taken up the following agenda items for discussion:

1. To Confirm the Minutes of the meeting of BoS in Physics, held on 4th June 2022

The minutes of the meeting of BOS meeting held on 04.06.2023 have been circulated to the members through email soliciting their suggestion and comments. The members approved the minutes of the BoS Meeting of held on 04.06.2023.

2. Action taken report on the resolutions of BoS meeting in Physics, held on 4th June 2022

Action Taken Report:

Item No	Members Suggestions	Action Taken report
6	More assignments to Civil, Mechanical Engineering Branch students	The faculty members conducted special tests and assignments to slow learners belonging to Mechanical and Civil engineering branches.
7	Collaborative Research Work	<ul style="list-style-type: none">• The faculty members are trying to establish research collaborations with other universities/institutions/colleges.• They are also publishing research papers in peer reviewed /Scopus/ Web of science indexed journals.• Dr. Vanita Thakur applied for POWER research project of SERB.

3. To discuss and approve theory syllabi of courses offered in I and II semesters of B.E program by the Department of Physics w.e.f 2023-2024 academic year.

The draft syllabi designed for CSE and IT, ECE and EEE, Civil and Mechanical Engineering have been made ready. The experts discussed the contents of the syllabi of the following courses thoroughly.

S.No	Title of the Course	Year and Semester	Branch
1	Physics of Semiconductors and Optoelectronic devices(PSOD)	I B.E I Semester	CSE and IT
2	Optics and Acoustics and Sensors	I B.E II Semester	Civil Engineering
3	Quantum Mechanics and Materials Science(QMMS)	I B.E II Semester	ECE and EEE
4	Engineering Physics	I B.E II Semester	Mech. Engineering

It is informed by Prof. A.S. Sai Prasad to the members that feedback has been collected from the Heads of various Engineering Departments of Vasavi College of Engineering (Autonomous) on the proposed syllabi. The Department of Information Technology informed to add derivation for diode current in their syllabus and all other Heads agreed to the proposed syllabi.

Prof. A.S. Sai Prasad also informed that the previously syllabi are slightly tweaked as the number of classes per week were decreased. Only very few topics are deleted, and certain topics are added. The following changes are made in the theory syllabi:

S.No	Branch	Name of the Course	Modifications	
1	CSE CSE (AIML) IT	Semiconductors and Optoelectronic Devices	Delated Topics	
			Unit-I: <ul style="list-style-type: none"> rotating crystal method Diamond crystal Structure Unit-II: <ul style="list-style-type: none"> group velocity and phase velocity quantum mechanical operators Unit-III: <ul style="list-style-type: none"> introduction to origin of band gap law of mass action 	Unit-IV: <ul style="list-style-type: none"> differences between homo and hetero junctions types of solar cells Unit-V: <ul style="list-style-type: none"> Construction and working of Ruby laser interconnects. broad band communications
			New topics Added	
			Unit-III: <ul style="list-style-type: none"> Expression for diode current equation 	Unit-V: <ul style="list-style-type: none"> Construction and working of He-Ne laser
2	<ul style="list-style-type: none"> ECE EEE 	Quantum Mechanics And Materials Science	Delated Topics	
			Unit-I: <ul style="list-style-type: none"> rotating crystal method Diamond crystal Structure Unit-II: <ul style="list-style-type: none"> group velocity and phase velocity quantum mechanical operators Unit-III: <ul style="list-style-type: none"> law of mass action 	Unit-IV: <ul style="list-style-type: none"> Construction and working of Ruby laser optoelectronic applications of lasers broad band communications Unit-V: <ul style="list-style-type: none"> electronic applications electro-magnetic shielding Applications of superconductors in communications
			New topics Added	
			Unit-V: Construction and working of He-Ne laser	

			Delated Topics	
3.	Mech	Engineering Physics	Unit-I: <ul style="list-style-type: none"> resolving power Unit-II: <ul style="list-style-type: none"> construction and working of Ruby laser and He-Ne laser Laser Marking, Laser Drilling, Laser Cutting, Laser Welding 	Unit-III: <ul style="list-style-type: none"> Phon and Sone Kundt's tube and flame test Unit-IV: <ul style="list-style-type: none"> applications in electro-magnetic shielding. Unit-V: <ul style="list-style-type: none"> liquefaction of helium
4.	CIVIL	Optics, Acoustics and Sensors	Unit-I: <ul style="list-style-type: none"> energy of damped oscillator Real life applications mechanical oscillators Unit-II: <ul style="list-style-type: none"> resolving power Relevant applications in civil engineering such as stress management. Unit-III: <ul style="list-style-type: none"> construction and working of Ruby laser applications of lasers in highway engineering. 	Unit-IV: <ul style="list-style-type: none"> Phon and Sone, Kundt's tube flame test Unit-V: <ul style="list-style-type: none"> Vibrating Wire Traducers Inclinometer

The members made the following suggestions

1. Revise the first Course objective of the course "Semiconductors and Optoelectronic Devices". As per the suggestion it is revised.
2. Since resolving power has been deleted in theory form Mechanical and Civil engineering branches, it is suggested that this topic should be explained to the students in the lab as they have got diffraction grating experiment.
3. It is suggested that where the topics are reduced, they can be taught as prerequisites, if necessary.

The members approved the syllabi of theory courses as listed above, offered in I and II semesters of B.E program.

- 4. To discuss and approve laboratory courses syllabi offered in I and II semesters of B.E program by the Department of Physics w.e.f 2023-2024 academic year.**

The members deliberated on the proposed list of experiments of laboratory courses for CSE and IT, ECE and EEE, Civil and Mechanical Engineering. The labs courses are:

Prof. A.S. Sai Prasad briefed the members that there are no changes in the experiment when compared to previous syllabi.

S.No	Title of the Course	Year and Semester	Branch
1	Semiconductor Physics and Optoelectronics Lab	I B.E I Semester	CSE and IT
2	Applied Physics lab	I B.E II Semester	Civil & Mechanical Engineering
3	Engineering Physics lab	I B.E II Semester	ECE and EEE

The following suggestion are given by the experts:

- Some topics which are deleted in theory shall be covered in lab courses.
- Encourage the students to do the practicals by their own and teachers should be facilitators in the lab.

The members approved the syllabi of laboratory courses as listed above, offered in I and II semesters of B.E program.

5. To discuss and approve open elective theory courses syllabi offered to B.E students by the Department of Physics w.e.f 2023-2024 academic year.

Prof. A.S. Sai Prasad informed aim and objectives of proposed stream based open electives to the external members. The following streamed based open electives are proposed by the Department of Physics to offer w.e.f 2023-24.

S.No	Title of the Course	Year and Semester	Credits
General pool Open electives			
1	Smart Materials and Applications	II B.E III Sem	02
2	Thin Film Technology and Applications	III B.E V Sem	03
Stream based Physics Open Electives			
A	Materials Science for Engineers(MSE)		
1	Fundamentals of materials Science	II B.E III Sem	02
2	Synthesis and Properties of Materials	II B.E IV Sem	03
3	Material characterization techniques	III B.E V Sem	03
4	Functional Materials and applications	III B.E VI Sem	03
B	Semiconductor Physics and Device Applications(SPDA)		
1	Essentials of Semiconductor Physics	II B.E III Sem	02
2	Basic Semiconductor Devices	II B.E IV Sem	03
3	Advanced Semiconductor Devices	III B.E V Sem	03
4	Optoelectronic Devices	III B.E VI Sem	03

The members approved the syllabi of general pool open electives as there is no change in the syllabi from the previously approved one.

The experts are in an opinion that the stream based open elective courses should be run on pilot basis initially and after getting feedback from various stake holders, the syllabi can be refined suit the needs of the students.

The members approved proposed streams and the courses offered under stream based open electives.

The members also approved the syllabi of stream based open electives offered in II B.E III Semester and III B.E V Semester.

6. Publications and other research details etc.

Prof. Sai Prasad briefed the publication and research work details of faculty members of Department of Physics, Vasavi College of Engineering (Autonomous).


Prof. A.S. Sai Prasad informed that one of the faculty members. Dr R Naga Raju obtained his Ph.D from JNTU-H.

Faculty members publications for the academic year 2022-23 are given below:

S.No	Name of the Faculty & Designation	Publications	
		Journal	Conference
1	Dr AS Sai Prasad, Professor	01+01 (Submitted-March 2023)	01
2	Dr P V Rao, Assoc Prof.	06	02
3	Dr G Ramadevudu, A.P (Sr)	03	02
4	Dr R Nagaraju, A.P	01 (Submitted-April 2023)	-
5	Dr Vanita Thakur, A.P	02	-

External Members advised the faculty members to plan for sending research proposal to funding agencies.

The meeting is ended with vote of thanks.


Prof. A. S. Sai Prasad
Chairman, BoS in Physics