



Department of Physics
KERAL VERMA SUBHARTI COLLEGE OF SCIENCE
SWAMI VIVEKANAND SUBHARTI UNIVERSITY



Subhartipuram, NH-58 Delhi-Haridwar-Meerut Bypass Road, Meerut -250005

Ref./KVSCOS/Physics/2023/BOS- 001

Dated: 31.05.2023

NOTICE

A meeting of Board of Studies will be held on 02 June 2023 at 11:00 AM in the Department of Physics. The following agenda items are:

- 1. Agenda Item No. 1:** To confirm the minutes of the Board of Studies meeting held on 07 January 2023.
- 2. Agenda Item No. 2:** To consider the Action Taken Report on the minutes of Board of Studies in Physics Department held on 07 January 2023.
- 3. Agenda Item No. 3:** To discuss about the revision in Course Curriculum of Mathematical Physics & Newtonian Mechanics (B010101 T) in B.Sc. Physics first semester from the session 2023-24.
- 4. Agenda Item No. 4:** To start new Value Added Course "Progression Energy Harvesting (Code-VAC-Phy-001)" for the session 2023-24.
- 5. Agenda Item No. 5:** To discuss about the interdisciplinary courses in session 2023-24.
- 6.** Any other matter with the permission of the chairman.

Dr. Arvind Kumar Sharma
Chairperson

Copy to:

1. Dean, KVSCOS for kind information
2. Dr. Atul Yadav, Assistant Professor, Department Of Physics, Meerut College, Meerut,
External Expert.
3. Dr. Nirdesh Kumar Singh, Member
4. Dr. Mohd. Israil, Member
5. Dr. Ekta Gupta, Member



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Ref./KVSCOS/Physics/2023/BOS- 002

01 June 2023

A Meeting of Board of Studies has been conducted at 11:00 AM on 01 June 2023. The following Members were present.

S.No.	Name	Designation		Signature
1	Dr. Arvind Kumar Sharma	Professor	Chairperson	
2	Dr. Atul Yadav	Assistant Professor	External Expert	
3	Dr. Nirdesh Kumar Singh	Associate Professor	Member	
4	Dr. Mohd. Israil	Associate Professor	Member	
5	Dr. Ekta Gupta	Assistant Professor	Member	

(Dr. Arvind Kumar Sharma)
Chairperson



Ref./KVSCOS/Physics/2023/BOS - 003

Dated: 02.07.2023

Minutes for Meeting of Board of Studies held on 01 June 2023

A meeting of Board of Studies was held on 01 June 2023, 11 AM in the Department of Physics.

At the onset, the Chairperson BOS welcomed all the members and thanked outside experts for sparing their time. The items were taken up as per agenda.

- 1** **Agenda Item No. 1:** *To confirm the minutes of the Board of Studies meeting held on 07 January 2023.*

Resolution-The Board confirmed the minutes of the meeting.

- 2** **Agenda Item No. 2:** *To consider the Action Taken Report on the minutes of Board of Studies in Physics Department held on 07 January 2023.*

Resolution- The board noted the Action Taken Report

- 3** **Agenda Item No. 3:** *To discuss about the revision in Course Curriculum of Mathematical Physics & Newtonian Mechanics (B010101 T) in B.Sc. Physics first semester from the session 2023-24.*

Resolution-The Board Members agreed to revise the syllabus for B.Sc. Physics in the first semester.

- 4** **Agenda Item No. 4:** *To start new Value Added Course "Progression Energy Harvesting (Code-VAC-Phy-001)" for the session 2023-24.*

Resolution- The Board members discussed and agreed to start new Value added Course for the session 2023-24.

- 5. Agenda Item No. 5:** *To discuss about the interdisciplinary courses in session 2023-24.*

Resolution- The Board members discussed and agreed for the interdisciplinary courses in session 2023-24.

- 6. Agenda Item No. 6:** *Any other matter with the permission of the chairman.*

Since there was no any other matter, the meeting ended with thanks to the chairman.


Dr. Arvind Kumar Sharma

Chairperson



Department of Physics

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Ref./KVSCOS/Physics/2023/BOS- 004

Dated: 11.08.2023

ACTION TAKEN REPORT

The meeting of the BOS of department was held on 01 June 2023 at 11 AM in the presence of external and internal members. Following agenda are discussed in the meeting the actions taken of the agendas are given below.

Agenda Item	Decision/Recommendation	Outcome/ Result
1. Agenda Item No. 1: To confirm the minutes of the Board of Studies meeting held on 07 January 2023	Confirmed	No action required
2. Agenda Item No. 2: To consider the Action Taken Report on the minutes of Board of Studies in Physics Department held 07 January 2023	Noted and action taken	Noted
3. Agenda Item No. 3: To discuss about the revision in Course Curriculum of Mathematical Physics & Newtonian Mechanics (B010101 T) in B.Sc. Physics first semester from the session 2023-24.	Agreed	Implemented for 2023-24
4. Agenda Item No. 4 To start new Value Added Course "Progression Energy Harvesting (Code-VAC-Phy-001)" for the session 2023-24.	Agreed	Implemented for 2023-24
5. Agenda Item No. 5: To discuss about the interdisciplinary courses in session 2023-24.	Agreed	Implemented for 2023-24

(Dr. Arvind Kumar Sharma)
Chairperson

Pse

Programme/Class: Certificate	Year: First	Semester: First
Subject: Physics		
Course Code: B010101T	Course Title: Mathematical Physics & Newtonian Mechanics	
Course Outcomes (COs)		
<ol style="list-style-type: none"> 1. Recognize the difference between scalars, vectors, pseudo-scalars and pseudo-vectors. 2. Understand the physical interpretation of gradient, divergence and curl. 3. Comprehend the difference and connection between Cartesian, spherical and cylindrical coordinate systems. 4. Know the meaning of 4-vectors, Kronecker delta and Epsilon (Levi Civita) tensors. 5. Study the origin of pseudo forces in rotating frame. 6. Study the response of the classical systems to external forces and their elastic deformation. 7. Understand the dynamics of planetary motion and the working of Global Positioning System (GPS). 8. Comprehend the different features of Simple Harmonic Motion (SHM) and wave propagation. 		
Credits: 4	Core Compulsory / Elective	
Max. Marks: 25+75	Min. Passing Marks:	
Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0		
Unit	Topics	No. of Lectures
PART A		
Basic Mathematical Physics		
I	<p style="text-align: center;"><i>Introduction to Indian ancient Physics and contribution of Indian Physicists, in context with the holistic development of modern science and technology, should be included under Continuous Internal Evaluation (CIE).</i></p> <p style="text-align: center;">Vector Algebra</p> <p>Coordinate rotation, reflection and inversion as the basis for defining scalars, vectors, pseudo-scalars and pseudo-vectors (include physical examples). Component form in 2D and 3D. Geometrical and physical interpretation of addition, subtraction, dot product, wedge product, cross product and triple product of vectors. Position, separation and displacement vectors.</p>	7
II	<p style="text-align: center;">Vector Calculus</p> <p>Geometrical and physical interpretation of vector differentiation, Gradient, Divergence and Curl and their significance. Vector integration, Line, Surface (flux) and Volume integrals of vector fields. Gradient theorem, Gauss-divergence theorem, Stoke-curl theorem, Greens theorem and Helmholtz theorem (statement only). Introduction to Dirac delta function.</p>	8
III	<p style="text-align: center;">Coordinate Systems</p> <p>2D & 3D Cartesian, Spherical and Cylindrical coordinate systems, basis vectors, transformation equations. Expressions for displacement vector, arc length, area element, volume element, gradient, divergence and curl in different coordinate systems. Components of velocity and acceleration in different coordinate systems. Examples of non-inertial coordinate system and pseudo-acceleration.</p>	8

Programme/Class: Certificate	Year: First	Semester: First
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Credits: 4	Core Compulsory / Elective	
Max. Marks: 25+75	Min. Passing Marks:	
Total No. of Lectures-Tutorials-Practical (in hours per week): L-T-P: 4-0-0		
Unit	Topics	No. of Lectures
PART A		
Basic Mathematical Physics		
I	<p style="text-align: center;"><i>Introduction to Indian ancient Physics and contribution of Indian Physicists, in context with the holistic development of modern science and technology, should be included under Continuous Internal Evaluation (CIE).</i></p> <p style="text-align: center;">Vector Algebra</p> <p>Introduction of rotational coordinate system, Foundation of reflection and inversion for scalars, vectors (including phenomenal examples), introduction of pseudo- scalars and pseudo-vectors (including phenomenal examples). Component form in 2D and 3D. Geometrical and physical interpretation of addition, subtraction, dot product, wedge product, cross product and triple product of vectors. Position, separation and displacement vectors.</p>	7
II	<p style="text-align: center;">Vector Calculus</p> <p>Geometrical and physical interpretation of vector differentiation, Gradient, Divergence and Curl and their significance. Vector integration, Line, Surface (flux) and Volume integrals of vector fields. Gradient theorem, Gauss-divergence theorem, Stoke-curl theorem, Greens theorem and Helmholtz theorem (statement only). Introduction to Dirac delta function.</p>	8
III	<p style="text-align: center;">Coordinate Systems</p> <p>2D & 3D Cartesian, Spherical and Cylindrical coordinate systems, basis vectors, transformation equations. Expressions for displacement vector, arc length, area element, volume element, gradient, divergence and curl in different coordinate systems. Components of velocity and acceleration in different coordinate systems. Examples of non-inertial coordinate system and pseudo-acceleration.</p>	8