

AC – 28/03/2025
Item No. – 6.2 (N) (6b) Sem. IV

As Per NEP 2020

University of Mumbai



Syllabus for Basket of OE Vertical 3

Faculty of Science

Board of Studies in Physics

Second Year Programme

Semester

IV

Title of Paper

Credits

Physics in Sports – I

2

From the Academic Year

2025-26

Title of Paper - Physics in Sports – I

Sr. No.	Heading	Particulars
1	Description of the course : Including but Not limited to :	Introduction, relevance, Usefulness, Application, interest, connection with other courses, demand in the industry, job prospects etc.
2	Vertical :	Open Elective
3	Type :	Theory / Practical
4	Credit:	2 credits (1 credit = 15 Hours for Theory or 30 Hours of Practical work in a semester)
5	Hours Allotted :	30 Hours
6	Marks Allotted:	50 Marks
7	Course Objectives: (List some of the course objectives) After successful completion of this course students will be able to: 1) Know the basic physics behind sports and games. 2) Know about the laws that applicable in events. 3) Apply the laws in sports equipment's	
8	Course Outcomes: (List some of the course outcomes) After successful completion of this course the learner will be able to: 1) Understand and explain the basic Concept of Physics. 2) Understand the importance of the theory behind the preparation of equipment 3) Explain the conservation of angular momentum and torque, laws of floatation, Archimedes principle.	
9	Modules:- Per credit One module can be created	
	Module 1: Unit-I: Concepts of Physics	(15 Lectures)
	Concept of Velocity, Momentum, Force, Action and Reaction, Damping, Friction. Rotation circular motion, gravitation, projectile -, Catch and Throws, thrust and pressure, Range conservation of angular momentum and torque, laws of floatation, Archimedes principle. Shooting.	
	Module 2: Unit-II: Physics of Instruments	(15 Lectures)
	Bats, Inflated Balls - Tennis, Table Tennis, Basketball, Football. Hard Balls - Cricket Ball, Bowling Ball, Soft (Woollen Ball), Javelin, discus, Carrom and shot put.	

As Per NEP 2020

University of Mumbai



Syllabus for Basket of OE Vertical 3

Faculty of Science and Technology

Board of Studies in Physics

Second Year Programme

Semester

IV

Title of Paper

Credits

Physics in Sports – II

2

From the Academic Year

2025-26

Title of Paper - Physics in Sports – II

Sr. No.	Heading	Particulars
1	Description of the course : Including but Not limited to :	Introduction, relevance, Usefulness, Application, interest, connection with other courses, demand in the industry, job prospects etc.
2	Vertical :	Open Elective
3	Type :	Theory / Practical
4	Credit:	2 credits (1 credit = 15 Hours for Theory or 30 Hours of Practical work in a semester)
5	Hours Allotted :	30 Hours
6	Marks Allotted:	50 Marks
7	Course Objectives: (List some of the course objectives) After successful completion of this course students will be able to: 1) Understand the Physics behind the Instrument and Non-instrument sports. 2) Understand the physics laws in sports equipments. 3) Explain the fitness for particular event.	
8	Course Outcomes: (List some of the course outcomes) After successful completion of this course the learner will be able to: 1) Know the Physics behind the impact sports and ice sports. 2) Understand the importance of the theory behind the preparation of equipment 3) Understand balance of theory and application	
9	Modules:- Per credit One module can be created	
	Module 1: Unit-I: Physics of Instrument Sports (15 Lectures)	
	Impact sports - Cricket & Baseball Batting, Golf putting, Kicking Football, Badminton & Tennis Athletics - Paul Vault, Bowling, Curling-spinning, volley ball, throw ball Ice sports - Skating, Ice Hockey.	
	Module 2: Unit-II: Physics of Non-Instrument Sports (15 Lectures)	
	Throwing, Pulling Pushing and Sliding sports - Cricket Bowling, Baseball throw, Shot put throw. Discus throw and Javelin Throw, carrom game and Ice Skating, Kabaddi. Board games - Carrom, Billiards & Snooker Athletics - Physics of Running, Long jump, high jump, ballet dancer, gymnastics, diving and swimming, cycling track and Boating race, rowing, sailing, water polo, sport climbing and surfing.	

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