## Accredited with NAAC Carde 12-B Status from UGC

## **TEERTHANKER MAHAVEER UNIVERSITY**

(Established under Govt. of U. P. Act No. 30, 2008)

Delhi Road, Moradabad (U.P.)

## PhD PROGRAMME

## SYLLABUS FOR DISCIPLINE-SPECIFIC COURSE PHYSIOTHERAPY (SPORTS)

PDS240116 Objective:			_	_	C	
Objective:	T 11 ' 11 1 1 1' 1 ' 11 ' 11 ' 11 ' 11	0	0	0	4	
	In this course, one will develop clinical reasoning with evidence that integrates the effect of Physiotherapy into SPORTS INJURIES. They					
	shall also know about the recent advancements in reh					
	sports injuries and related conditions.	aon	11411	OII	101	
Course Outcomes:	On completion of the course, students will be able to:					
CO 1:	Understand and apply the recent advances and	tech	niqı	ies	in	
	rehabilitating sports injuries and related conditions.					
CO 2:	Apply the principles of Exercise Physiology & Electrophysiology.					
CO 3:	Analyze community-based rehabilitation in sports injurconditions.	ies a	ınd 1	rela	ted	
CO 4:	Analyze the exercise performance.					
CO 5:	Create the exercise prescription.					
Course Content:						
Unit 1:	RECENT ADVANCES:					
	Research practiced in Plyometrics Training, High Altitude					
	Training, Anti-gravity treadmill, exoskeletons, bio-h					
	Virtual and Augmented Reality are revolutionizing					
	Visualization (DV) in Sports Performance Analysis	S1S,	Ar	titic	al	
Unit 2:	Intelligence (AI) in Sports Performance Analysis. <b>ELECTROPHYSIOLOGY:</b>					
Jiii 2.	Concepts of bioelectricity and neurophysiology; recen	at ad	lvon	.000	in	
	NCV, EMG, Evoked potential- VEP, SSEP, QST, EEG					
	RNS in relation to physiotherapy; Clinical electrophy					
	with evidence-based principles and practice from case st					
Unit 3:	EXERCISE PHYSIOLOGY:					
	ENERGY PRODUCTION, EXPENDITURE AND TRA	ANS	FEI	2		
	Energy transfer in cells during exercise					
	Oxygen metabolism and transfer during metabolism					
	Oxygen transportation in the blood					
	Oxygen deficit and oxygen debt					
	Oxygen measurements during exercise and recovery					
	Energy release from carbohydrates, lipids, and protein					
	BMR - during rest and activity					
	Energy expenditure during activity  Short term and long term energy system					
	Short-term and long-term energy system EXERCISE PERFORMANCE					
	Lung function & its role in exercise performance					
	Regulation of ventilation and blood pressure during exer	rcise	2			

Muscle fiber, types and its role in exercise performance Ventilation during steady and non-steady rate exercise Energy cost and breaking Blood pressure response to exercise Cardiac output during exercise in trained/untrained Cardiovascular drift  Unit 4:  RECENT ADVANCES AND EVIDENCE-BASED PRACTICES IN SPORTS-RELATED CONDITIONS		Ta. 41. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4.
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