M.P.Ed.

Syllabus

UNIVERSITY DEPARTMENT

Program Code: PEDA

2023 – 2024 onwards

BHARATHIAR UNIVERSITY

(A State University, Accredited with "A++" Grade by NAAC,
Ranked 21st among Indian Universities by MHRD-NIRF)

Coimbatore - 641 046, Tamil Nadu, India

PROGRAM EDUCATIONAL OBJECTIVES (PEO's)	
The **M.P.Ed.,** Program describe accomplishments that graduates are expected to attain.	
PEO-1	Learning Skills and implementing in the Physical Education Sports
PEO-2	Acquiring the skills in organizing tournaments and conference.
PEO-3	Understand the psychological principals of growth and development individual differences cognitive Psychomotor and attitude is teaching sports activities.
PEO-4	Understanding and role of Physical Education and Sports in Changing the Society.
PEO-5	Ability to undertake investigatory projects and action research to improve Physical Education and sports.
PEO-6	Enabling skills in guiding the leaners in order to enable to solve the personal and academic issues.
PEO-7	Create an awareness on fitness and health among the youth our country.
PEO-8	Familiarize the Fit India movement in the society.
PEO-9	Create avenues to become a Physical Educationist, Coach trainer's technologist and scientist.

Program Specific Objectives (PSOs)	
After the successful completion of **M.P.Ed.,** program, the students are expected to	
PSO-1	Become eligible and qualified (PSO) Physical Education Teacher.
PSO-2	Learn understand and implement various concepts of Physical Education.
PSO-3	Acquire the technical and tactical skills in various games.
PSO-4	Acquire the technical and tactical Skills in various athletic events.
PSO-5	Basic qualification to go for higher education in Physical Education.
PSO-6	Enabling to teach fundamental skills in sports and games to the school children.
PSO-7	Development of organizing skills to conduct various sports competitions in state, national International level.
PSO-8	Development of Skills in lay out and Maintained of Play Fields.
PSO-9	Knowledge to prepare a training study for the development various of sports and games.
PSO-10	Coaches in various sports and games at National and International Level.

Program Outcomes (POs)	
On successful completion of the **M.P.Ed.,** program, the students will be able to	
PS-1	Qualified skillful and competent teachers in Physical Education and Sports.
PS-2	Achieve competency to organize state national and international level tournaments.
PS-3	Officials in various sports and games at National and International Level.
PS-4	Developing research skills for innovations in the methods of training.
PS-5	Knowledge to design training model for the development various of sports and games.
PS-6	Developing different professional life, coach's fitness trainer's yoga trainer's sports administrators, sports technologists.
PS-7	Conducting action and applied research in allied subjects of helps and Physical Education.
PS-8	Designing new equipments in Sports with application of technology and Bio mechanics.

Course Scheme and Scheme of Examinations for M.P.Ed Course

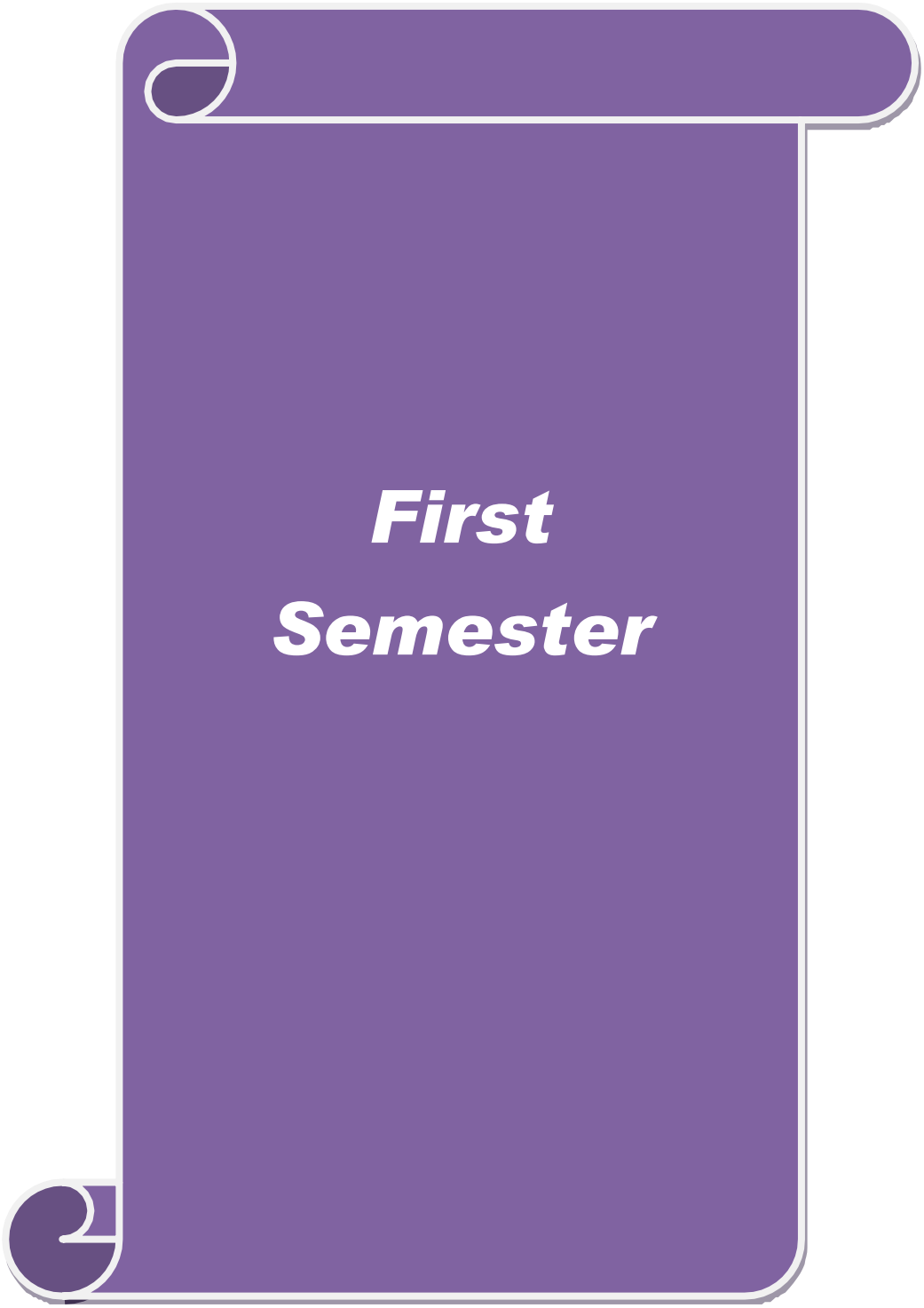
(For those admitted in June 2020-2021 onwards)

Course Code	Title of the Course		Hours		Maximum Marks		
		Credits	Theory	Practical	CIA	ESE	Total
FIRST SEMESTER							
13A	**C - 1** Health Education and Sports Nutrition	4	4	-	25	75	100
13B	**C- 2** Tests, Measurement and evaluation in Physical Education	4	4	-	25	75	100
13C	**C - 3** Sports Management and Curriculum Design in Physical Education	4	4	-	25	75	100
1EA	**E – 1** Sports Technology	4	4	-	25	75	100
1EB	**E – 2** Value and Environmental Education						
	Supportive	2	2	-	12	38	50
13P	**P – 1** Track and Field I: Running Events	4	2	4	25	75	100
13Q	**P – 2** Games of Specialization I : Skills	4	2	4	25	75	100
13R	**P–3** Laboratory Practical: Test and Measurement	4	2	4	50	-	50
13S	**P – 4** Yoga	4	2	4	50	-	50
	Total	**34**	**26**	**16**	**262**	**488**	**750**
SECOND SEMESTER							
23A	**C – 1** Scientific Principles of Sports Training	4	4	-	25	75	100
23B	**C –2** Exercise Physiology	4	4	-	25	75	100
23C	**C – 3** Theories of Sports and Games	4	4	-	25	75	100
2EA	**E – 1** Athletic Care and Rehabilitation	4	4	-	25	75	100
2EB	**E – 2** Physical Fitness and Wellness						
	Supportive	2	2	-	12	38	50

23P	**P – 1**Track and Field II: Jumping events and Hurdles	4	2	4	25	75	100
23Q	**P – 2** Gamesof specialization-ITeachingand Coaching	4	2	4	25	75	100
23R	**P –31**Laboratory Practical: Exercise Physiology	4	2	4	50	-	50
23S	**P – 4** Class room Teaching lessons on theory of different sports and Games-5 Lessons (4internal & 1 External)	4	2	4	50	-	50
	Total	**34**	**26**	**16**	**262**	**488**	**750**
THIRD SEMESTER							
33A	**C – 1** Research process in Physical Education	4	4	-	25	75	100
33B	**C – 2** Applied statistics in Physical Education	4	4	-	25	75	100
33C	**C – 3** Sports Medicine and Sports	4	4	-	25	75	100
3EA	**E – 1** Sports Journalism and Mass Media	4	4	-	25	75	100
3EB	**E – 2** Data Analysis in Sports						
	Supportive	2	2	-	12	38	50
33P	**P - 1**Track and Field III: Throwing Events	4	2	4	25	75	100
33Q	**P – 2** Games of Specialization – II: Skills	**4**	**2**	**4**	25	75	100
33R	**P -3** Laboratory Practical: Sports Medicine	**4**	**2**	**4**	50	-	50
33S	**P – 4** Internship: Project Meet, Inter Department Tournament, Industrial Visit	**4**	**2**	**4**	50	-	50
	Total	**34**	**26**	**16**	**262**	**488**	**750**

FOURTH SEMESTER							
43A	**C – 1** Sports Biomechanics and Kinesiology	4	4	-	25	75	100
43B	**C – 2** Sports Psychology and Sports Sociology	4	4	-	25	75	100
43C	**C – 3** Yogic sciences	4	4	-	25	75	100
43D	**C – 4** Dissertation	4	4	-	25	75	100
4EA	**E – 1** Education Technology in Physical Education						
4EB	**E – 2** Sports Engineering	2	2	-	25	75	50
43P	**P – 1**Track and Field IV: Combined Events	4	2	4	25	75	100
43Q	**P – 1**Games of specialization –II Teachingand Coaching	**4**	**2**	**4**	25	75	100
43R	**P – 1**Laboratory Practical: Sports Psychology and Biomechanics Kinesiology	**4**	**2**	**4**	50	-	50
43S	**P – 1** Officiating lessons of Sports & Game Specialization	**4**	**2**	**4**	50	-	50
	Total	**34**	**26**	**16**	**275**	**525**	**750**
	Grand Total						

Note: Total number of hours required to earn 4 credits for each Theory Course are 51- 60 hours per semester whereas 102-120 hours for each Practicum Course.


First
Semester

Course code	13A	TITLE OF THE COURSE	L	T	P	C
Core		HEALTH EDUCATION AND SPORTS NURTITION	4	-	-	4
Pre-requisite		Learners must have basic knowledge, awareness and interest about health.	Syllabus Version		20-21	

COURSE OBJECTIVES

- To enable the physical education students to understand the basic knowledge of health education and sports nutrition.
- To understand the basic concept of health education.
- To understand the health problems in India.
- To learn about personal hygiene and management.
- To understand the concept of sports nutrition.

EXPECTED COURSE OUTCOMES		
On the successful completion of the course, student will be able to:		
CO1	identity the communicable diseases, and give first aid.	K6
CO2	know the hygiene and life style management for various metabolic syndrome.	K4
CO3	understand importance of nutrition for better performance.	K2
CO4	maintain proper weight management to control the obesity.	K3
CO5	gain the knowledge of health education and it services and guidance.	K2

K1-Remember	K2-Understand	K3-Apply	K4-Analyze	K5-Evaluate	K6-Create

Unit-I	Health Education	- (10 hours)

Concept, Dimensions, Spectrum and Determinants of Health. Definition of Health, Health Education, Health Instruction, Health Supervision Aim, Objective and Principles of Health Education. Health Service and Guidance Instruction in Personal Hygiene.

Unit-II	Health Problems in India	- (12 hours)

Communicable and Non Communicable Diseases Obesity, Malnutrition, Adulteration in food, Environmental sanitation, Explosive, Population, Personal and Environmental Hygiene for schools Objective of school health service, Role of health education in schools. Health Services - Care of skin, Nails, Eye health service, Nutritional service, Health appraisal, Health record, Healthful school environment, first- aid and emergency care etc.

Unit- III	Hygiene and Health	- (12 hours)

Meaning of Hygiene, Type of Hygiene, Dental Hygiene, Effect of Alcohol on Health, Effect of Tobacco on Health, Life Style Management, Management of Hypertension, Management of Obesity, Management of Stress

Unit- IV	Introduction to Sports Nutrition	- (12 hours)

Meaning and Definition of Sports Nutrition, Role of nutrition in sports, Basic Nutrition guidelines, Nutrients: Ingestion to energy metabolism (Carbohydrate, Protein and Fat), Role of carbohydrates, Fat and protein during exercise, Vitamins, minerals and water		
Unit-V	**Nutrition and Weight Management**	**- (12 hours)**
Concept of BMI (Body mass index), Obesity and its hazard, Dieting versus exercise for weight control Maintaining a Healthy Lifestyle**,** Weight management program for sporty child**,** Role diet and exercise in weight management**,** Design diet plan and exercise schedule for weight gain and loss.		
Unit-VI	**Contemporary Issues**	**- (2 hours)**
Expert lectures, Seminars, Webinars, Group discussion, Quiz.		

References

1. Rieck, G. (2018). *Health Education*. California: College of the Canyonsh.
2. Ban, M. A. (2004). *Health education and health promotion*. Netherland : Wageningen Academic Publisher.
3. William, M. H. (1995). *Nutrition for health Fitness and Sports*. New York: McGraw-Hill Company.
4. Eaton, S. ,. (1989). *The Stone Age Health Programme: Diet and Exercise as Nature Intended.* India: Harper Collins Publishers.
5. Bucher, C. A. (1975). *Administration of Health and Physical Education Programme*. Saint Louis: The C.V. Mosby Company

Mapping with Programme Outcomes

COs	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10
CO1	M	S	S	S	S	S	L	S	L	S
CO3	S	M	L	M	M	M	M	M	M	M
CO3	M	S	S	S	M	M	L	S	L	S
CO4	S	M	M	M	M	M	L	M	L	M
CO5	S	M	M	M	M	M	S	M	S	M

*S-Strong; M-Medium; L-Low

Course code	13B	TITLE OF THE COURSE	L	T	P	C
Core		TEST, MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION	4	-	-	4
Pre-requisite		Learners must have basic knowledge about test in sport skill and assessment.	Syllabus Version		20-21	

COURSE OBJECTIVES

- To impact the knowledge of assessment of skill in the sports and games.
- To enable the physical educationist to become a good researcher in physical education.
- To understand the fundamentals of measurement and evaluation.
- To be familiar with methods of motor fitness evaluation.
- To learn the methods of physical fitness evaluation.
- To learn the methods of physiological testing.
- To learn the various of skill tests.

EXPECTED COURSE OUTCOMES		
On the successful completion of the course, student will be able to:		
CO1	know about test, measurement and evaluation.	K2
CO2	learn to conduct the tests on motor fitness components.	K3
CO3	learn to conduct the tests on physical fitness components.	K3
CO4	learn to conduct the tests on anthropometric, aerobic and anaerobic variables.	K3
CO5	learn to conduct the tests on various skill test on different games.	K3

K1-Remember	K2-Understand	K3-Apply	K4-Analyze	K5-Evaluate	K6-Create

Unit-I	Introduction	- (10 hours)
Meaning and Definition of Test, Measurement and Evaluation. Need and Importance of Measurement and Evaluation. Criteria for Test Selection – Scientific Authenticity. Meaning, Definition and establishing Validity, Reliability, Objectivity, Norms – Administrative Considerations.		
Unit-II	**Motor Fitness Tests**	**- (12 hours)**
Meaning and Definition of Motor Fitness. Test for Motor Fitness; Indiana Motor Fitness Test (for elementary and high school boys, girls and College Men) Oregon Motor Fitness Test (Separately for boys and girls) - JCR test. Motor Ability; Barrow Motor Ability Test – Newton Motor Ability Test – Muscular Fitness – Kraus Weber Minimum Muscular Fitness Test.		
Unit- III	**Physical Fitness Tests**	**- (12 hours)**

Physical Fitness Test: AAHPERD Health Related Fitness Battery (revised in 1984), ACSM Health Related Physical Fitness Test, Rogers' physical fitness Index. Cardio vascular test; Harvard step test, 12 minutes run / walk test, Multi-stage fitness test (Beep test)		
Unit- IV	**Anthropometric and Aerobic-Anaerobic Tests**	**- (12 hours)**
Physiological Testing: Aerobic Capacity: The Bruce Treadmill Test Protocol, 1.5 Mile Run test for college age males and females. Anaerobic Capacity: Margaria - Kalamen test, Anthropometric Measurements: Method of Measuring Height: Standing Height, Sitting Height. Method of measuring Circumference: Arm, Waist, Hip, Thigh. Method of Measuring Skin folds: Triceps, Sub scapular, Suprailiac		
Unit-V	**Skill Tests**	**- (2 hours)**
Basketball: Johnson basketball Test, Harrison Basketball Ability Test. • Included leilich basketball test. **Cricket:** Sutcliff Cricket test. **Hockey:** Friendel Field Hockey Test, Harban"s Hockey Test. • Included French filed hockey test. **Volleyball:** Russel Lange Volleyball Test, Brady Volleyball Test. **Football:** Johnson Soccer Test, Mc-Donald Volley Soccer Test. **Tennis**: Dyer Tennis Test. Handball: **Included ZINC handball test.** **Specific Sports Skill Test:** **Badminton:** Miller Wall Volley Test .		
Unit –VI	**Contemporary Issues**	
Expert lectures, Seminars, Webinars, Group discussion,Quiz		

References

1 Mackenzie, B. (2015). *101* ***Performance Evaluation Test.*** London: Electric Worldplc.

2 Authors Guide (2013). ***ACSM"s Health Related Physical Fitness Assessment Manual***. USA: ACSMPublications

3 Collins, R. D., & Hodges P.B., (2001*).* ***A Comprehensive Guide to Sports Skills Tests and Measurement (2nd edition)*** **Lanham: ScarecrowPress**

4 Edmund O. Acevedo & Michael A. Starks., (2003). ***Exercise Testing and Prescription lab Manual***. USA: Human KineticsPublishers.

5 James R. Morrow., Allen Jackson, James G. Disch& Dale Mood. (2011). ***Measurement and Evaluation in Human Performance (4th Ed.,).*** USA:Human Kinetics Publishers.

6 Krishnamurthy, (2007). ***Evaluation in Physical Education and Sports***. New Delhi: Ajay VermaPublication.

7 Yobu, A. (2010). ***Test Measurement and Evaluation in Physical Education and Sports.***

8 New Delhi: Friends Publications.

9 Harrison, H. and Clarke, David H. (1987). ***Application of Measurement to Physical.***

10 ***Education 6th Ed***. Englewood Cliffs, New Jersey: Prentice Hall, Inc.

11 Barry, L. Johnson and Jack, K. Nelson. (1986*). **Practical Measurement for Evaluation in***

12 ***Physical Education***. Minneapolis: Burges Publishing company

Mapping with Programme Outcomes										
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**P10**
CO1	S	S	S	S	S	S	M	M	M	M
CO3	M	M	M	M	M	M	L	M	L	M
CO3	M	S	S	S	M	M	L	S	L	S
CO4	M	M	M	M	M	M	M	M	M	M
CO5	S	M	M	M	M	M	L	M	L	M

*S-Strong; M-Medium; L-Low

Course code	13C	TITLE OF THE COURSE	L	T	P	C
Core		SPORTS MANAGEMENT AND CURRICULUM DESIGN IN PHYSICAL EDUCATION	4	-	-	4
Pre-requisite		Learners must have basic knowledge and interest in the management skills.	Syllabus Version		20-21	

COURSE OBJECTIVES

- To be familiar with structure of curriculum.
- To make the physical education students to become managers in sports industry.
- Educate to learn about sports management.
- To learn program management.
- To basic knowledge sports equipment and public relation.
- To learn the basic principles of curriculum.
- To understand various source of curriculum.

EXPECTED COURSE OUTCOMES		
On the successful completion of the course, student will be able to:		
CO1	understand about the sports management, its function and its objectives.	K2
CO2	develop the facilities to conduct the sports programmes and to manage the programme.	K3
CO3	develop public relation and marketing the sports products	K3
CO4	analyze and prepare the budget to conduct the sports and games.	K4
CO5	gain knowledge to design curriculum according to the need of the students.	K2

K1-Remember	K2-Understand	K3-Apply	K4-Analyze	K5-Evaluate	K6-Create

Unit-I	Introduction to Sports Management	- (10 hours)
Management- meaning-Basic Principles and Procedures of Sports Management- Functions of Sports Management – Planning-Organizing-Executing-Directing - Controlling. Human Resource Management- Recruiting and Staffing- Compensation and benefits- Training and learning- Labour and Employee relations- Organization development. Personal Management- Objectives of Personnel Management, Personnel Policies.		
Unit-II	**Facilities and Program Management**	**- (12 hours)**
Operational structure - Total quality management -Sports facility operations management – indoor, outdoor, aquatic electrical and electronics devices. Principles of facility management - Planning, design, and construction processes. - Event planning in facility management- Risk assessment in facility management- Security planning for facility management- Creating facility operations manual for sport facilities -Sport facility space allocation and management process- Individual behaviour in the workforce- Group		

behaviour and teamwork-leadership - Decision-making and problem solving- Organizational healing- Promotions and succession management- Termination processes.		
Unit- III	**Marketing and Public Relation**	**- (12 hours)**
Marketing management - Sports Marketing Strategies and Services - Market research Product, Price, Promotion, and Place- Sports marketing mix- Planning, Packaging, Positioning, and Perception. Purchase and Supplies of Equipment. Guidelines for checking, storing, issuing, care and maintenance of equipment's. Public Relations in Sports: Planning the Public Relation Program – Principles of Public Relation – Public Relations in School and Communities – Public Relation and the Media in Sports.		
Unit- IV	**Financial management**	**- (12 hours)**
Financial management; Budgeting- Short-term and Long-term Budgeting- Forecasting- expected in come and expenditure. Financial Management Opportunities and Challenges-Public sport, tourism, and leisure. Sponsorship and Fund Raising- fundraising principles- develop a fundraising plan- identify potential sources of funds- sponsorship–grants –Government, Public and Private sectors- who to approach for fund- Financial Reporting and Auditing.		
Unit-V	**Curriculum**	**- (12 hours)**
Meaning of Curriculum. Principles of Curriculum Construction Students centred, Activity centred, Community centred, Forward looking principle, Principles of integration, Theories of curriculum development, Conservative, Relevance, flexibility, quality, contextually and plurality. Approaches to Curriculum Subject centred, Learner centred and Community centred, Curriculum Framework. Sources of Curriculum materials – text books – Journals – Dictionaries, Encyclopaedias, Magazines, Internet. Integration of Physical Education with other Sports Sciences – Curriculum research, Objectives of Curriculum.		
Unit –VI	**Contemporary Issues**	**- (2 hours)**
Expert lectures, Seminars, Webinars, Group discussion, Quiz.		

Reference

1 Aaron C.T. Smith (2008). ***Introduction to Sport Marketing*. Hungary:** Elsevier Ltd

2 Brigham, E.F., & Houston, J.F. (2012). ***Fundamentals of financial management 13thEd***. Mason, USA: South Western Cengage Learning.

3 Eric C. Schwarz, Stacey A. Hall and Simon Shibli. (2010). ***Sport Facility Operations Management***. Great Britain: Elsevier Ltd.

4 Hoye, R. Smith, A. Westerbeek, H. Stewart, B. & Nicholson, M. (2006). ***Sport Management: Principles and Applications*.** Burlington, MA: Elsevier Ltd.

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9 Johnston, J &Zawawi, C 2004; 'Public Relations', Allen &Unwin, NSW New South

10 Wales Government, Community Engagement and Events Division 2010;' Event

11 Starter Guide': www.events.nsw.gov.au

12 O'Toole, WJ 2010; 'Event Project Management System': www- personal. usyd. edu.au/~ wotoole/epmspage1.html

13 Silvers, JR 2010; 'Event Management Body of Knowledge Project': www.juliasilvers.com.

Mapping with Programme Outcomes										
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**P10**
CO1	S	S	S	S	S	S	L	M	L	M
CO3	S	M	L	M	M	M	L	M	L	M
CO3	S	S	S	L	M	M	L	S	L	S
CO4	S	M	S	M	M	M	L	M	L	M
CO5	S	M	M	M	M	M	L	M	L	M

*S-Strong; M-Medium; L-Low

Course code	1EA	TITLE OF THE COURSE	L	T	P	C
Elective		SPORTS TECHNOLOGY	4	-	-	4
Pre-requisite		Learners must have knowledge about latest technological developments in technology in sports.	Syllabus Version		20-21	

COURSE OBJECTIVES

- To impart concepts of sports technology.
- To establish of instrumentation in sports.
- To identity the different materials involved in sports technology.
- To enlighten the knowledge of modern play field.
- To be familiar the modern equipment.
- To impart the various machines for sports training.

EXPECTED COURSE OUTCOMES		
On the successful completion of the course, student will be able to:		
CO1	create the awareness on sports technology and its impact on sports.	K6
CO2	understand the new sports material that are used for performance development.	K2
CO3	gain knowledge of the different play field surfaces used in different sports.	K2
CO4	acquire knowledge on modern equipments for better performance.	K2
CO5	use the different training gadgets for improve the quality of sports.	K3

K1-Remember	K2-Understand	K3-Apply	K4-Analyze	K5-Evaluate	K6-Create

Unit-I	Sports Technology	- (10 hours)
Meaning, definition, purpose, advantages and applications, General Principles and purpose of instrumentation in sports, Workflow of instrumentation and business aspects, Technological impacts on sports.		
Unit-II	**Science of Sports Materials**	**- (12 hours)**
Adhesives- Nano glue, nanomoulding technology, Nano turf. Foot wear production, Factors and application in sports, constraints. Foams- Polyurethane, Polystyrene, Styrofoam, closed- cell and open-cell foams, Neoprene, Foam. Smart Materials – Shape Memory Alloy (SMA), Thermo chromic film, High-density modelling foam.		
Unit- III	**Surfaces of Playfields**	**- (12 hours)**
Modern surfaces for playfields, construction and installation of sports surfaces. Types of materials – synthetic, wood, polyurethane. Artificial turf. Modern technology in the construction of indoor and outdoor facilities. Technology in manufacture of modern play equipments. Use of computer and software in Match Analysis and Coaching.		
Unit- IV	**Modern equipment**	**- (12 hours)**

Playing Equipments: Balls: Types, Materials and Advantages, Bat/Stick/ Racquets: Types, Materials and Advantages. Clothing and shoes: Types, Materials and Advantages. Measuring equipments: Throwing and Jumping Events. Protective equipments: Types, Materials and Advantages. Sports equipment with nano technology, Advantages.		
Unit-V	**Training Gadgets**	**- (12 hours)**
Basketball: Ball Feeder, Mechanism and Advantages. Cricket: Bowling Machine, Mechanism and Advantages, Tennis: Serving Machine, Mechanism and Advantages, Volleyball: Serving Machine Mechanism and Advantages Lighting Facilities: Method of erecting Flood Light and measuring luminous Video Coverage: Types, Size, Capacity, Place and Position of Camera in Live coverage of sporting events.		
Unit –VI	**Contemporary Issues**	**- (2 hours)**
Expert lectures, Seminars, Webinars, Group discussion, Quiz.		

Note: Students should be encouraged to design and manufacture improvised sports testing equipment in the laboratory/workshop and visit sports technology factory/ sports goods manufacturers.

Reference

1 Ratten, V. (2019). ***Sports Technology and Innovation*. london:** Palgrave Macmillan, Cham.
2 Singh, D. (2017). ***Sports Technology (New Syllabus)*.** New Delhi: KhelSahitya Kendra.
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6 Geoff. (2001). ***Sports Technology*.** UK: Nelson Thornes.
7 Kerr, Roslyn. (2016). ***Sports and Technology. Manchester***, England:Manchester University Press.
8 Mongillo, John F. (2001). ***Nano Technology*** *101*. Westport: Green woodpress.

Mapping with Programme Outcomes										
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**P10**
CO1	S	S	S	S	S	S	L	M	L	M
CO3	S	L	M	M	M	M	S	M	S	M
CO3	S	S	M	S	M	M	M	S	M	S
CO4	S	L	S	M	M	M	M	M	M	M
CO5	S	M	M	M	M	M	L	M	L	M

*S-Strong; M-Medium; L-Low.

Course code	1EB	TITLE OF THE COURSE	L	T	P	C
Elective		VALUE AND ENVIRONMENTAL EDUCATION	4	-	-	4
Pre-requisite		Learners must have interest and involvement with environmental education.	Syllabus Version		20-21	

COURSE OBJECTIVES

- To learn value education and environmental education.
- To acquire the moral values and its theories.
- To educate the system of values.
- To understand the environmental education.
- To restore the rural and urban health.
- To educate the values of natural resources.

EXPECTED COURSE OUTCOMES		
On the successful completion of the course, student will be able to:		
CO1	knowledge about the moral values.	K2
CO2	knowledge on personal and communicable values.	K2
CO3	know about the environmental days and eco free system.	K2
CO4	learn the rural sanitation and urban health, problem's and service.	K3
CO5	understand the natural resources and related environmental pollution.	K2

K1-Remember	K2-Understand	K3-Apply	K4-Analyze	K5-Evaluate	K6-Create

Unit-I	**Introduction to Value Education**	**- (10 hours)**

Values: Meaning, Definition, Concepts of Values. Value Education: Need, Importance and Objectives. Moral Values: Need and Theories of Values. Classification of Values: Basic Values of Religion, Classification of Values

Unit-II	**Value Systems**	**- (12 hours)**

Meaning and Definition, Personal and Communal Values, Consistency, Internally consistent, internally inconsistent, Judging Value System, Commitment, Commitment to values.

Unit- III	**Environmental Education**	**- (12 hours)**

Definition, Scope, Need and Importance of environmental studies., Concept of environmental education, Historical background of environmental education, Celebration of various days in relation with environment, Plastic recycling & prohibition of plastic bag / cover, Role of school in environmental conservation and sustainable development, Pollution free eco-system.

Unit- IV	**Rural Sanitation And Urban Health**	**- (12 hours)**

Rural Health Problems, Causes of Rural Health Problems, Points to be kept in Mind for improvement of Rural Sanitation, Urban Health Problems, Process of Urban Health,

Services of Urban Area, Suggested Education Activity, Services on Urban Slum Area, Sanitation at Fairs & Festivals, Mass Education		
Unit-V	**Natural Resources And Related Environmental**	**- (12 hours)**
ISSUES: Water resources, food resources and Land resources, Definition, effects and control measures of: Air Pollution, Water Pollution, Soil Pollution, Noise Pollution, Thermal Pollution Management of environment and Govt. policies, Role of pollution control board.		
Unit –VI		**- (2 hours)**
Expert lectures, Seminars, Webinars, Group discussion, Quiz.		

Reference

1. Ingle, D. V. (2017). ***Value and Environment Education*** *(New Syllabus*) .Ernakulam:
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Mapping with Programme Outcomes										
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**P10**
CO1	S	S	S	S	S	S	L	M	L	M
CO3	S	M	M	M	M	M	L	M	L	M
CO3	S	S	M	S	M	M	L	S	L	S
CO4	S	M	M	S	M	M	L	M	L	M
CO5	S	L	M	M	L	M	L	M	L	M

*S-Strong; M-Medium; L-Low

Course code	13P	TITLE OF THE COURSE	L	T	P	C
Practical		TRACK AND FIELD RUNNING EVENTS	30	24	50	4
Pre-requisite		Learners must have basic fitness components.	Syllabus Version		4.0	

- Fundamental skills –Short and Middle-distance.
- Use of Starting blocks- stance on the blocks.
- Body position at the start- starting technique, change in body position during running, movements of the arms, stride length and frequency, position of torso while running and at finish.
- Advanced Skills
- Various techniques of sprint start: Bullet start, standing start,
- Active game practice

Course code	13Q	TITLE OF THE COURSE	L	T	P	C
Practical		GAME OF SPECIALIZATION – 1 SKILLS	30	24	50	4
Pre-requisite		Should have knowledge of fundamental skills in the games	Syllabus Version		4.0	

The Candidate has choice to select any one of the following games as the Specialization – I (Second best) in 2nd Semester.

(Kabaddi, Kho-kho, Badminton/ Table Tennis/ Tennis/ Squash/ Baseball/ Volleyball/ Basketball/ Cricket/ football/ Handball/ Hockey/ Netball/ Softball)

Course code	13R	TITLE OF THE COURSE	L	T	P	C
Practical		LABORATORY PRACTICAL TEST AND MEASUREMENT	30	24	50	4
Pre-requisite		Knowledge about sports skill test and assessment.	Syllabus Version		4.0	

Oregon motor fitness test, JCR test , Barrow motor test, Krus weber test AAHPERD health related test ,Rogers test, Harvard step test , copper 12 minutes test Johnson basketball test, RussalLaunge volley ball test , Friendel field hockey test, Dyer tennis test, MC-Donald soccer test.

Course code	13S	TITLE OF THE COURSE	L	T	P	C
Practical		YOGA	30	24	50	4
Pre-requisite		Should have optimum flexibility	Syllabus Version		4.0	

Yoga, Asanas prescribed by Maharshi Patanjali, Shudhi Kriyas, jalneti, sutraneti, dugdhaneti, kunjal, Nauli, Bhastika, shatkriya, Pranayams, Anulom- vilom, Kapalbhati.

Second Semester

Course code	23A	TITLE OF THE COURSE	L	T	P	C
Core		SCIENTIFIC PRINCIPLES OF SPORTS TRAINING	4	-	-	4
Pre-requisite		Should have required fitness and involvement in the sports training	Syllabus Version		20-21	

COURSE OBJECTIVES

- To enable to understand concepts of sports training methods.
- To educate the fundamentals of sports training.
- To learn the components of strength and its developments.
- To educate the components of flexibility.
- To study the procedure of planning in sports training.
- To learn the harmful effects of doping

EXPECTED COURSE OUTCOMES		
On the successful completion of the course, student will be able to:		
CO1	acquire fundamental skills in games and sports.	K2
CO2	analyze origin and development of sports and games.	K4
CO3	implement tactics and system in various games.	K5
CO4	learn training plan and periodization for different training levels.	K3
CO5	understand doping problems ,detection and Control drugs in sports in sports performance	K2

K1-Remember	K2-Understand	K3-Apply	K4-Analyze	K5-Evaluate	K6-Create

Unit-I	Introduction	- (10 hours)

Sports training: Definition – Aim, Characteristics, Principles of Sports Training, Over Load: Definition, Causes of Over Load, Symptoms of Overload, Remedial Measures – Super Compensation – Altitude Training – Cross Training

Unit-II	Components of Physical Fitness	- (12 hours)

Strength: Methods to improve Strength: Weight Training, Isometric, Isotonic, Circuit Training, Speed: Methods to Develop Speed: Repetition Method, Downhill Run, Parachute Running, Wind Sprints, Endurance, Methods to Improve Endurance: Continuous Method, Interval Method, Repetition Method, Cross Country, Fartlek Training

Unit- III	Flexibility	- (12 hours)

Flexibility: Methods to Improve the Flexibility- Stretch and Hold Method, Ballistic Method, Special Type Training: Plyometric Training. Training for Coordinative abilities: Methods to improve Coordinative abilities: Sensory Method, Variation in Movement Execution Method, Variation in External Condition Method, Combination of Movement Method, Types of Stretching Exercises.

Unit- IV	Training Plan	- (12 hours)

Training Plan: Macro Cycle, Meso-Cycle. Short Term Plan and Long Term Plans - Periodisation: Meaning, Single, Double and Multiple Periodisation, Preparatory Period, Competition Period and Transition Period.		
Unit-V	**Doping**	**- (12 hours)**
Definition of Doping – Side effects of drugs – Dietary supplements – IOC list of doping classes and methods. Blood Doping – The use of erythropoietin in blood boosting – Blood doping control – The testing programmes – Problems in drug detection – Blood testing in doping control – Problems with the supply of medicines Subject to IOC regulations: over- the- counter drugs (OTC) – prescription only medicines (POMs) – Controlled drugs (CDs). Reporting test results –Education		
Unit –VI	**Contemporary Issues**	**- (2 hours)**
Expert lectures, Seminars, Webinars, Group discussion, Quiz.		

References

1. Lewindon, D. J. (2014). ***High-Performance Training for Sports.*** USA: HumanKinetics.
2. Knopf, K. (2008). ***Total Sports Conditioning for Athletes 50+:*** *Workouts for Staying atthe Top of Your Game Paperback.* Berkeley. California. USA: UlyssesPress.
3. Newton, H. (2006). ***Explosive Lifting for Sports***. USA: HumanKinetics.
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5. Bompa, Tudor O. (2010). ***Periodization training for sports***. USA: Kendall/Hunt publishing Company
6. Singh, H. (1991). ***Science of Sports Training***. New Delhi: DVS Publications.
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Mapping with Programme Outcomes										
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**P10**
CO1	S	S	S	S	S	S	L	M	L	M
CO3	S	M	M	M	M	M	L	M	L	M
CO3	S	S	S	S	M	M	L	S	L	S
CO4	S	M	M	M	M	M	L	M	L	M
CO5	S	M	M	M	M	M	L	M	L	M

*S-Strong; M-Medium; L-Low

Course code	23B	TITLE OF THE COURSE	L	T	P	C
Core		EXERCISE PHYSIOLOGY	4	-	-	4
Pre-requisite		Should have basic knowledge about structure and functions of human body and exercise.	Syllabus Version		20-21	

COURSE OBJECTIVES

- To acquire knowledge regarding effect of exercise on physiology for physical education students.
- To study the function of muscular system.
- To study the physiology of cardiovascular system.
- To study the physiology respiratory system.
- To learn the process of metabolism.
- To understand the effects of various climates on sports performance.

EXPECTED COURSE OUTCOMES		
On the successful completion of the course, student will be able to:		
CO1	acquire knowledge on functions of muscles in the human body	K2
CO2	analyze the role of exercise in the human body	K4
CO3	know the improvement of respiratory function due to exercise protocol.	K2
CO4	learn various metabolic pathways for functioning of energy supply to the exercise	K3
CO5	understand influence of climate condition on training and performance	K2

K1-Remember	K2-Understand	K3-Apply	K4-Analyze	K5-Evaluate	K6-Create

Unit-I	Skeletal Muscles and Exercise	- (10 hours)
Structure of the Skeletal Muscle, Chemical Composition. Sliding Filament theory of Muscular Contraction. Types of Muscle fibre. Muscle Tone, Chemistry of Muscular Contraction – Heat Production in the Muscle, Effect of exercises and training on the muscular system.		
Unit-II	**Cardiovascular System and Exercise**	**- (12 hours)**
Heart Valves and Direction of the Blood Flow – Conduction System of the Heart – Blood Supply to the Heart – Cardiac Cycle – Stroke Volume – Cardiac Output – Heart Rate – Factors Affecting Heart Rate – Cardiac Hypertrophy – Structural Properties of the heart – Microscopic Structure of the heart muscles – Effect of exercises and training on the Cardio vascular system		

Unit- III	**Respiratory System and Exercise**	**- (12 hours)**
Mechanics of Breathing –Respiratory Muscles, Minute Ventilation– Ventilation at Rest and During Exercise. Diffusion of Gases – Exchange of Gases in the Lungs – Exchange of Gases in the Tissues – Control of Ventilation – Ventilation and the Anaerobic Threshold. Oxygen Debt – Lung Volumes and Capacities – Effect of exercises and		
Unit- IV	**Metabolism and Energy Transfer**	**- (12 hours)**
Metabolism – ATP – PC or Phosphagen System–Anaerobic Metabolism – Aerobic Metabolism – Aerobic and Anaerobic Systems during Rest and Exercise. Short Duration High Intensity Exercises –High Intensity Exercise Lasting Several Minutes – Long Duration Exercises.		
Unit-V	**Climatic conditions and sports performance and ergogenic aids**	**- (12 hours)**
Variation in Temperature and Humidity – Thermoregulation – Sports performance in hot climate, Cool Climate, high altitude. Influence of: Amphetamine, Anabolic steroids, And rostenedione, Beta Blocker, Choline, Creatine, Human growth hormone on sports performance. Narcotic, Stimulants: Amphetamines, Caffeine, Ephedrine, Sympathomimetic a mines. Stimulants and sports performance.		
Unit –VI	**Contemporary Issues**	**- (2 hours)**
Expert lectures, Seminars, Webinars, Group discussion, Quiz.		

References

1. Victor L. Katch, William D. McArdle, Frank I. Katch (2011). ***Essentials ofexercise physiology.*** USA: Lippincott Williams & Wilkins.
2. AmritKumar Moses, R. (1995). ***Introduction to Exercise Physiology***. Madras: Poompugar Pathipagam.
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4. David, L Costill. (2004).***Physiology of Sports and Exercise*** USA: HumanKinetics.
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Mapping with Programme Outcomes										
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**P10**
CO1	S	S	S	S	S	S	L	M	L	M
CO3	S	M	M	M	M	M	L	M	L	M
CO3	S	S	S	S	M	M	L	S	L	S
CO4	S	M	M	M	M	M	L	M	L	M
CO5	S	M	M	M	M	M	L	M	L	M

*S-Strong; M-Medium; L-Low

Course code	23C	TITLE OF THE COURSE	L	T	P	C
Core		THEORIES OF SPORTS AND GAMES (Specialization of Major Games and Track & Field)	4	-	-	4
Pre-requisite		Should have required fitness and skills in the games and sports.	Syllabus Version		20-21	

COURSE OBJECTIVES

- To learn fundamental skills and regulation of games and sports.
- To trace the origin and development of major games and track and field events.
- To learn fundamental skills in major games and athletics.
- To familiar the team tactics and system of play.
- To educate the rules and regulation of major games.
- To enforce the rules of athletics events and evaluation of performance.

EXPECTED COURSE OUTCOMES		
On the successful completion of the course, student will be able to:		
CO1	acquire knowledge on fundamental skills in games and sports	K2
CO2	understand origin and development of sports and games	K2
CO3	implement tactics and training methods to develop term tactics	K3
CO4	learn rules of the Field events and preparation & Coaching for Athletic events.	K3
CO5	assess and evaluate the performance of the athletes.	K5

K1-Remember	K2-Understand	K3-Apply	K4-Analyze	K5-Evaluate	K6-Create

Unit-I	- (10 hours)
Introduction - Origin and development of the game - Recent status of the game in India - comparative study of Techniques adopted by Nations leading in the game, various Tournaments -Inter - National – National - State - District level-Development of the rules of the games.	
Unit-II	**- (12 hours)**
Fundamental skills -List of skills related to attack and defense - teaching procedure for each skill - thorough analysis of each skill in relation to Mechanical Principles. Specific exercises for each skill various drills related to the fundamental skills Lead – up games.	
Unit- III	**- (12 hours)**
Team Tactics - Different system of play related to attack and defense – Training methods to develop term tactics. Coaching plan - preparation of Training schedules. Warm - up and conditioning exercise – skill Training.	
Unit- IV	**- (12 hours)**

Rules of the game - current interpretations - new changes in the game. Evaluation of skills of the players - skill tests - Evaluation of the performance of the players- Judges rating - Preparation of profiles for Players.		
Unit-V		**- (12 hours)**
Rules of the Field events - combined, new changes in the Field events. Evaluation of skills of the Athletes - skill tests - Evaluation of the performance of the Athletes - Selection - Preparation & Coaching for Athletic events.		
Unit –VI	**Contemporary Issues**	**- (2 hours)**
Expert lectures, Seminars, Webinars, Group discussion, Quiz.		

Reference

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2. Gerry, Carr. (1999) ***fundamentals of track and field,* 2nd Edition**. USA: HumanKinetics.
3. William, J. Bowerman& William' H. Freeman.(1991). ***High-Performance Training for Track and Field***. USA: Human Kinetics.
4. Larry Greene & Russell Pate (June 2004), ***Training for Young Distance Runners 2nd Edition*.** USA: Human Kinetics.
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9. Becky, Schmidt. (2016). *Volleyball steps to success* .USA: Human Kinetics.
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Mapping with Programme Outcomes										
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**P10**
CO1	S	S	S	S	S	S	L	M	L	M
CO3	S	M	L	M	M	M	L	S	L	S
CO3	S	S	S	M	M	M	S	S	S	S
CO4	S	M	L	M	M	M	L	M	L	M
CO5	S	M	M	M	M	M	L	M	L	M

*S-Strong; M-Medium; L-Low

Course code	2EA	TITLE OF THE COURSE	L	T	P	C
Elective		ATHLETIC CARE AND REHABILITATION	4	-	-	4
Pre-requisite		Should have knowledge about types injury etiology, sign and symptoms of injury.	Syllabus Version		20-21	

COURSE OBJECTIVES

- To obtain knowledge of athletic care and rehabilitation process.
- To understand the posture and body mechanics
- To identify the body deformities.
- To learn the exercise for rehabilitation.
- To learn the producers of manage.
- To learn the care and treatment of sports injuries.

EXPECTED COURSE OUTCOMES		
On the successful completion of the course, student will be able to:		
CO1	gain knowledge about value of good posture.	K2
CO2	understand the postural deformities and body Mechanics,	K2
CO3	learn the techniques and principles of rehabilitation exercise	K3
CO4	learn about massage techniques.	K3
CO5	learn care and treatment of exposed and unexposed injuries in sports	K3

K1-Remember	K2-Understand	K3-Apply	K4-Analyze	K5-Evaluate	K6-Create

Unit-I	**Corrective Physical Education**	**- (10 hours)**

Definition and objectives of corrective physical Education. Posture and body Mechanics, Standards of Standing Posture. Value of good posture, Drawbacks and causes of bed posture. Posture test – Examination of the spine.

Unit-II	**Posture**	**- (12 hours)**

Normal curve of the spine and its utility, Deviations in posture: Hypnosis, lordosis, flat back, Scoliosis, round shoulders, Knock Knee, Bow leg, Flat foot. Causes for deviations and treatment including exercises.

Unit- III	**Rehabilitation Exercises**	**- (12 hours)**

Active, Assisted, Resisted exercise for Rehabilitation, Stretching, PNF Techniques and principles.

Unit- IV	**Massage**	**- (12 hours)**

Brief history of massage– Massage as an aid for relaxation – Points to be considered in giving massage – Physiological , effects of massage – Indication / Contra indication of Massage – Classification of the manipulation used in massage and their specific uses in the human body – Stroking manipulation: Effleurage – Pressure manipulation: Petri sage Kneading (Finger, Kneading, Circular) ironing Skin Rolling – Percussion

manipulation: Tapotement, Hacking, Clapping, Beating, Pounding, Slapping, Cupping, Poking, Shaking Manipulation, Deep massage.		
Unit-V	**Sports Injuries Care, Treatment and Support**	**- (12 hours)**
Principles pertaining to the prevention of Sports injuries – care and treatment of exposed and unexposed injuries in sports – Principles of applying cold and heat, infrared rays – Ultrasonic, Therapy – Short wave diathermy therapy. Principles and techniques of Strapping and Bandages.		
Unit –VI	**Contemporary Issues**	**- (2 hours)**
Expert lectures, Seminars, Webinars, Group discussion, Quiz.		

Note: Each student shall submit Physiotherapy record of attending the Clinic and observing the cases of athletic injuries and their treatment procedure. (To be assessed internally*)*

References

1. Giancarlo, Puddu. Arrigo, Giombini. Alberto, Selvanetti. (2001). ***Rehabilitation of Sports Injuries.***Berlin, Heidelberg:Springer
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Mapping with Programme Outcomes										
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**P10**
CO1	S	S	S	S	S	S	L	M	L	M
CO3	L	M	M	M	S	M	S	S	S	S
CO3	S	S	S	M	M	S	M	M	M	M
CO4	M	M	M	S	M	M	S	L	S	L
CO5	S	M	M	M	M	M	L	M	L	M

*S-Strong; M-Medium; L-Low

Course code	2EB	TITLE OF THE COURSE	L	T	P	C
Elective		PHYSICAL FITNESS AND WELLNESS	4	-	-	4
Pre-requisite		Should have knowledge about types injury etiology, sign and symptoms of injury.	Syllabus Version		20-21	

COURSE OBJECTIVES

- To understand importance of fitness and wellness.
- To be familiar with components of physical fitness.
- To learn the concepts of nutrition and its influence.
- To understand the values of cardio respiratory fitness.
- To implement the resistance training for strength development.
- To learn the various training on flexibility.

EXPECTED COURSE OUTCOMES		
On the successful completion of the course, student will be able to:		
CO1	become fitness trainer	K3
CO2	familiarize with component of physical fitness	K4
CO3	analyze the relationship between physical activities and fitness.	K4
CO4	knowledge about co current treads in physical fitness	K2
CO5	realize important of yoga and flexibility	K2

K1-Remember	K2-Understand	K3-Apply	K4-Analyze	K5-Evaluate	K6-Create

Unit-I	Introduction	- (10 hours)

Meaning and Definition" of Physical Fitness, Physical Fitness Concepts and Techniques, Principles of physical fitness, Physiological principles involved in human movement. Components of Physical Fitness. Leisure time physical activity and identify opportunities in the community to participate in this activity. Current trends infitness and conditioning, components of total health fitness and the relationship between physical activity and lifelong wellness.

Unit-II	Nutrition	- (12 hours)

Nutrients; Nutrition labelling in formation, Food Choices, Food Guide Pyramid, Influences on food choices-social, economic, cultural, food sources, Comparison of food values. Weight Management - proper practices to maintain, lose and gain. Eating Disorders, Proper hydration, the effects of performance enhancement drugs, Carbohydrates, fats, minerals, proteins.

Unit- III	Aerobic Exercise	- (12 hours)

Cardio respiratory Endurance Training; proper movement forms, i.e., correct stride, arm movements, body alignment; proper warm-up, cool down, and stretching, monitoring heart rates during activity. Assessment of cardio respiratory fitness and set goals to

maintain or improve fitness levels. Cardio respiratory activities including i.e. power walking, pacer test, interval training, incline running, distance running, aerobics and circuits.		
Unit- IV	**Anaerobic Exercise**	**- (12 hours)**
Resistance Training for Muscular Strength and Endurance; principles of resistance training, Safety techniques (spotting, proper body alignment, lifting techniques, spatial, awareness. and proper breathing techniques). Weight training principles and concepts; basic resistance exercises (including free hand exercise, free-weight exercise, weight machines, exercise bands and tubing. medicine balls, fit balls) Advanced techniques of weight training		
Unit-V	**Flexibility Exercise**	**- (12 hours)**
Flexibility Training, Relaxation Techniques and Core Training. Safety techniques (stretching protocol; breathing and relaxation techniques) types of flexibility exercises (i.e. dynamic, static), Develop basic competency in relaxation and breathing techniques. Pilates, Yoga, PNF		
Unit –VI	**Contemporary Issues**	**- (2 hours)**
Expert lectures, Seminars, Webinars, Group discussion, Quiz.		

Reference

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Mapping with Programme Outcomes										
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**P10**
CO1	S	S	M	S	S	S	L	M	L	M
CO3	S	L	M	M	M	S	L	M	L	M
CO3	S	L	S	S	L	M	S	S	S	S
CO4	S	M	M	M	M	M	M	M	M	M
CO5	S	M	S	M	S	M	L	M	L	M

*S-Strong; M-Medium; L-Low

Course code	23P	TITLE OF THE COURSE	L	T	P	C
Practical		TRACK AND FIELD II: JUMPING EVENTS AND HURDLES	30	24	50	4
Pre-requisite		Learners must have basic fitness components	Syllabus Version		4.0	

(Course contents in jumping events and hurdles should be chalked out internally considering advance level of students and suitable to their age and gender).

Course code	23Q	TITLE OF THE COURSE	L	T	P	C
Practical		GAMES OF SPECIALIZATION-I TEACHING AND COACHING	30	24	50	4
Pre-requisite		Learners must have acquired the basic fundamental skills in the games.	Syllabus Version		4.0	

Teaching and Coaching

The Candidate has choice to select any one of the following games as the Specialization – I (Second best) in 2nd Semester. (Kabaddi, Kho-kho, Badminton/ Table Tennis/ Tennis/ Squash/ Baseball/ Volleyball/ Basketball/ Cricket/ football/ Handball/ Hockey/ Netball/ Softball).

Course code	23R	TITLE OF THE COURSE	L	T	P	C
Practical		LABORATORY PRACTICAL EXERCISE PHYSIOLOGY	30	24	50	4
Pre-requisite		Learners must have acquired the basic fundamental skills in the games.	Syllabus Version		4.0	

Physiological parameters

Pulse rate, systolic Blood Pressure, Diastolic Blood Pressure, Rate of Breathing, Peak expiratory Rate, Vital capacity, Maximal Oxygen Consumption, Anaerobic Capacity, Aerobic Capacity, Basal Metabolic Rate (B.M.R), Percent of Body Fat, Weight of the Fat, Learn Body Mass, Bone Density.

Course code	23S	TITLE OF THE COURSE	L	T	P	C
Practical		CLASS ROOM TEACHING (LESSONS ON THEORY OF DIFFERENT SPORTS & GAMES-5)	30	24	50	4
Pre-requisite		Learners must have acquired the fundamental skills in the games.	Syllabus Version		4.0	

Lessons (4 internal & 1 External)

The students of M.P.Ed – II Semester need to develop proficiency in taking teaching Lessons as per selected games and sport or game specialization. In view of this, the students shall be provided with selected or specialized game teaching experience. The duration of the lesson to be conducted by these students shall be in the range of 30 to 40 minutes depending on the class time they are going to handle at school and college level.

Each student teacher is expected to take at least five lessons during the course of the second semester. The lessons will be supervised by the faculty members and experts who would discuss the merits and demerits of the concerned lesson and guide them for the future. In these teaching lessons, the duration should slowly increase and all the parts of the lesson covered progressively.

Third Semester

Course code	33A	TITLE OF THE COURSE	L	T	P	C
Core		RESEARCH PROCESS IN PHYSICAL EDUCATION AND SPORTS SCIENCES	4	-	-	4
Pre-requisite		Learners must have basic knowledge and research	Syllabus Version		20-21	

COURSE OBJECTIVES

- To impart basic knowledge on research and statistics.
- To teach basic information of research related with physical education.
- To understand the various methods of research.
- To learn about experimental research.
- To learn about sampling.
- To prepare research proposal and report.

EXPECTED COURSE OUTCOMES		
On the successful completion of the course, student will be able to:		
CO1	learn the historical review of physical education and sports activities of Indian heritage	K3
CO2	understand the basic principles and foundation of physical education.	K2
CO3	realize the role of biological, psychological and sociological foundation.	K4
CO4	know the awards and honors present in sports area.	K2
CO5	learn the historical development of physical education in India.	K3

K1-Remember	K2-Understand	K3-Apply	K4-Analyze	K5-Evaluate	K6-Create

Unit-I	Introduction	- (10 hours)
Meaning and Definition of Research – Need, Nature and Scope of research in Physical Education. Classification of Research, Location of Research Problem, Criteria for selection of a problem, Qualities of a good researcher.		
Unit-II	**Methods of Research**	**- (12 hours)**
Descriptive Methods of Research; Survey Study, Case study, Introduction of Historical Research, Steps in Historical Research, Sources of Historical Research: Primary Data and Secondary Data, Historical Criticism: Internal Criticism and External Criticism.		
Unit- III	**Experimental Research**	**- (12 hours)**
Research – Meaning, Nature and Importance, Meaning of Variable, Types of Variables. Experimental Design - Single Group Design, Reverse Group Design, Repeated Measure Design, Static Group Comparison Design, Equated Group Design, Factorial Design.		
Unit- IV	**Sampling**	**- (12 hours)**
Meaning and Definition of Sample and Population. Types of Sampling; Probability Methods; Systematic Sampling, Cluster sampling, Stratified Sampling. Area Sampling		

– Multistage Sampling. Non- Probability Methods; Convenience Sample, Judgement Sampling, Quota Sampling.		
Unit-V	**Research Proposal and Report**	**- (12 hours)**
Chapterization of Thesis/ Dissertation, Front Materials, Body of Thesis – Back materials. Method of Writing Research proposal, Thesis / Dissertation; Method of writing abstract and full paper for presenting in a conference and to publish in journals ,Mechanics of writing Research Report, Footnote and Bibliography writing.		
Unit –VI	**Contemporary Issues**	**- (2 hours)**
Expert lectures, Seminars, Webinars, Group discussion, Quiz.		

Reference

1. Craig, Williams. &Chris, Wragg. (2006). ***Data Analysis and Research for Sport and Exercise Science***. London: RoutledgeTaylor &FrancisGroup.
2. Chris, Gratton. &Ian, Jones. (2004). ***Research Methods for Sports Studies***. London: RoutledgeTaylor &FrancisGroup.
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4. Yogesh, Kumar Singh. (2006**). *Fundamental of Research Methodology and Statistics***. New Delhi: New Age InternationalPvt.
5. Best,J.W.(1971).***Research in Education.*** New Jersey:PrenticeHallInc.
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8. Kamlesh, M. L. (1999). ***Research Methodology in Physical Education and Sports***. New Delhi: Friends Publications.
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10. Clarke, David H. &Clarke, H Harrison. (1984).Research Processes in Physical Education.
11. New Jersey: Prentice HallInc.
12. Moses, A. K. (1995). *Thesis Writing Format*. Chennai: Poompugar Pathippagam.

Mapping with Programme Outcomes										
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**P10**
CO1	S	M	S	L	S	M	L	M	L	M
CO3	S	M	S	M	L	M	L	M	L	M
CO3	S	S	L	S	M	L	L	S	L	S
CO4	S	M	L	M	S	M	L	M	L	M
CO5	S	L	M	M	L	S	L	M	L	M

*S-Strong; M-Medium; L-Low

Course code	33B	TITLE OF THE COURSE	L	T	P	C
Core		APPLIED STATICTICS IN PHYSICAL EDUCATION AND SPORTS	4	-	-	4
Pre-requisite		Learners must have mathematical background and interpretation skills	Syllabus Version		4.0	

COURSE OBJECTIVES

- To enable the learners to obtain statistical knowledge.
- To impart fundamentals of statistics.
- To learn the measures of central tendency.
- To learn the measures of dispersions and scales.
- To prepare learner for data presentation.
- To familiar with types of statistics.

EXPECTED COURSE OUTCOMES		
On the successful completion of the course, student will be able to:		
CO1	acquire knowledge the role of statistics in physical education and sports	K2
CO2	understand different tools in statistics	K2
CO3	analyzes the suitable statistics tool to be applied in sports research	K4
CO4	analyze the data interpretation and finding	K4
CO5	teach statistics to the physical education and sports students	K6

K1-Remember	K2-Understand	K3-Apply	K4-Analyze	K5-Evaluate	K6-Create

Unit-I	**Introduction**	**- (10 hours)**
Meaning and Definition of Statistics. Function, need and importance of Statistics. Types of Statistics. Meaning of the terms, Population, Sample, Data, types of data. Variables; Discrete, Continuous. Parametric and non- parametric statistics.		
Unit-II	**Data Classification, Tabulation and Measures of Central Tendency**	**- (12 hours)**
Meaning, uses and construction of frequency table. Meaning, Purpose, Calculation and advantages of Measures of central tendency – Mean, median and mode.		
Unit- III	**Measures of Dispersions and Scales**	**- (12 hours)**
Meaning, Purpose, Calculation and advances of Range, Quartile, Deviation, Mean Deviation, Standard Deviation, probable Error. Meaning, purpose, calculation and advantages of scoring scales; Sigma scale, Z Scale, Hullscale		
Unit- IV	**Probability Distributions and Graphs**	**- (12 hours)**
Normal Curve. Meaning of probability- Principles of normal curve – Properties of normal curve. Divergence form normality – Skewness and Kurtosis. Graphical Representation in Statistics; Line diagram, Bardiagram, Histogram, Frequency Polygon, Ogive Curve.		

Unit-V	**Inferential and Comparative Statistics**	**- (12 hours)**
Tests of significance; Independent "t" test, Dependent "t" test – chi – square test, level of confidence and interpretation of data. Meaning of correlation – co-efficient of correlation – calculation of co-efficient of correlation by the product moment method and rank difference method. Concept of ANOVA and ANCOVA – Chi-square and contingent co-efficient – Two way factorial design –Partial and multiple correction – Post hoc- test.		
Unit –VI	**Contemporary Issues**	**- (2 hours)**
Expert lectures, Seminars, Webinars, Group discussion, Quiz.		

Note: It is recommended that the theory topics be accompanied with practical, based on computer software of statistics.

Reference

1. Jerry, R. Thomas. & Jack, K. Nelson. (2000). ***Research Methods in Physical Activities.***
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3. Subramanian, R. Thirumalaikumar, S. &Arumugam, C.(2010). ***Research Methods in Health, Physical Education and Sports*****.** New Delhi:Friends Publication.
4. Moorthy, A.M.(2010).***Research Processes in Physical Education***. New Delhi:
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10. Andy, Field. (2005). ***Discovering Statistics Using SPSS (2nd Edition).*** New Delhi: Sage Publications.
11. Eric, L. Einspruch. (2005). ***An Introductory guide to SPSS® for Windows***. *(2nd Edition)*. New Delhi: Sage Publications.
12. Sabine, Landau. & Brian, S. Everitt.(2004). ***A Handbook of Statistical Analyses using*** *SPSS*. New York: Chapman & Hall/CRC PressLLC.

Mapping with Programme Outcomes										
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**P10**
CO1	S	S	S	S	S	S	L	M	L	M
CO3	S	M	S	M	M	S	S	M	S	M
CO3	S	S	S	S	M	M	L	S	L	S
CO4	S	L	M	S	M	L	M	M	M	M
CO5	S	M	M	M	M	M	L	M	L	M

*S-Strong; M-Medium; L-Low

Course code	33C	TITLE OF THE COURSE	L	T	P	C
Core		SPORTS MEDICINE	4	-	-	4
Pre-requisite		Should have knowledge about location of body parts and types of injuries in sports	Syllabus Version		20-21	

COURSE OBJECTIVES

- To enable them to deal with injuries, therapeutic modes.
- To educate the importance and principles of sports medicine.
- To understand the knowledge of basic rehabilitation.
- To identify the head, neck, and spine injuries and its exercise.
- To learn the upper extremity injuries and exercise.
- To learn the lower extremity injuries and exercise.

EXPECTED COURSE OUTCOMES		
On the successful completion of the course, student will be able to:		
CO1	gain knowledge to deal with common sports injuries.	K2
CO2	trace the sign and symptoms of injury.	K4
CO3	apply different therapeutic modalities for rehabilitation	K3
CO4	understand various methods of progressive resisted exercise.	K4
CO5	apply massage technique for rehabilitation.	K3

K1-Remember	K2-Understand	K3-Apply	K4-Analyze	K5-Evaluate	K6-Create

Unit-I	Sports Injuries Diagnosis & Management	- (10 hours)

Meaning, of Sports Medicine -Pre-participation examination. Causes & Mechanism of Sports Injuries, Prevention of Sports Injuries. Types of injuries – Soft issue injuries– skin– muscle- tendon- ligament injuries. Hard tissue injuries-bone injuries - dislocation. Common acute and chronic injuries- Shoulder girdle, Arm, Elbow, Forearm, Wrist & hand Pelvis, hip, thigh, knee, leg, ankle & foot - Spine - Head Injuries to Athletes.

Unit-II	Rehabilitation and Therapeutic Exercises	- (12 hours)

Define Rehabilitation, Goals and Objectives of Rehabilitation in Sports. Cryotherapy - Physiologicaleffects-Useofcoldtherapyinacutephase-rehabilitativephase-preventive phase of athletic injury- Methods of application- Indications and contraindications. Heat Therapy- Production-Physiological-effects-indications, contraindications and specific uses. Electrotherapy- Infrared rays – Parafine Wax Bath-Steam Bath-Sauna Bath-Moist Heat Pack-Fluid therapy-Mud Bath and Peloids. Therapeutic exercises- passive-assisted active-resisted exercise.

Unit- III	Mobilization and Strengthening Techniques for Rehabilitation	- (12 hours)

Factors affecting the joint range of motion -prevention of stiffness- methods of joint mobilization- Techniques of mobilizing the various joints of the body. Types of Muscle Contractions and Muscle work- Strength of Muscle Contraction in terms of Motor units- Group action of muscles and its implication in designing an exercise program- Causes of muscle weakness. Prevention of disuse atrophy- Principles of treatment to increase muscle strength and function. Various methods of progressive resisted exercise.		
Unit- IV	**Stretching and Massage**	**- (12 hours)**
Definition massage - Principles and application of Passive Stretching -Active or Self Stretching – PNF- Ballistic Stretching – Dynamic Stretching–Isometric stretching. And classification of massage techniques- Effleurage - Petrissage - Friction - Tapotement - Vibration - Physiological effects of massage- Description of the techniques of the classical massage. Connective tissue massage and myofascial release- physiological basis of sports massage and various categories- underwater massage- mechanical devices of massage- therapeutic applications- different shapes - indication and contraindications of massage.		
Unit-V	**Bandages**	**- (12 hours)**
Functional Bandages and Orthotic Aids & Protective Equipment in Sports History and uses of functional bandages, classification according to the time of application, types of bandages, Bandaging techniques and bandaging material, Indications, contraindications, Taping Techniques, athletic shoes and modifications, common orthotic aid and protective equipment's in Sports.		
Unit –VI	**Contemporary Issues**	**- (2 hours)**
Expert lectures, Seminars, Webinars, Group discussion, Quiz.		

References

1. Richard, B. Birrer. Francis, G. O'Connor. (2004). ***Sports Medicine for the Primary Care Physician 3rd Edition***. UK: CRCPress.
2. Joseph, S. Torg. Peter, R. Welsh. & Roy, J. Shephard. (1989). ***Current Therapy Sports Medicine 2nd Edition***. New York, USA: B CDecker.
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10. James, A. Nicholas. Elliott, B. Hershman. (1994). **L*ower Extremity & Spine in Sports Medicine 2nd Edition***. Missouri, US: C.V. Mosby, Inc.
11. Park, K. (2007). ***Preventive and Social Medicine.*** **Jabalpur**, India: Banarsi Dass Bhanot Publisher.
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14. Lars, Peterson. And Per Renstrom. (2001). ***Sports Injuries: Their Prevention and Treatment 3rd Edition***. London: Martin DunitzLtd.
15. Marcia, K. Anderson. Susan, J. Hall. Donna, Balado.(1995).***Sports Injury Management Hardcover*****. Haryana, India:** Lippincott Williams &Wilkins.

Mapping with Programme Outcomes										
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**P10**
CO1	S	M	S	S	L	S	L	M	L	M
CO3	S	M	S	M	L	M	L	M	L	M
CO3	S	M	S	S	M	L	L	S	L	S
CO4	S	M	S	M	S	M	S	M	S	M
CO5	S	M	M	S	M	S	L	M	L	M

*S-Strong; M-Medium; L-Low

Course code	3EA	TITLE OF THE COURSE	L	T	P	C
Elective		SPORTS JOURNALISM AND MASS MEDIA	4	-	-	4
Pre-requisite		Learners should have communication skills in writing and information regarding events in sports	Syllabus Version		20-21	

COURSE OBJECTIVES

- To impart the skills in the journalism and media.
- To provide the education of journalism to enable the learners to become sports journalist.
- To provide knowledge of journalism.
- To learn the procedure to write sports bulletin.
- To acquire the knowledge of mass media.
- To provide the procedure of report writing in sports.
- To enable the methods and procedure to adopt in sports field.

EXPECTED COURSE OUTCOMES		
On the successful completion of the course, student will be able to:		
CO1	become sports journalist	K6
CO2	develop skills in journalism and mass media.	K5
CO3	acquire knowledge of writing sports report.	K4
CO4	analyze and evaluate sports news.	K3
CO5	learn to interview the elite Player and Coach.	K3

K1-Remember	K2-Understand	K3-Apply	K4-Analyze	K5-Evaluate	K6-Create

Unit-I	Introduction	- (10 hours)
Meaning and Definition of Journalism, Ethics of Journalism – Canons of journalism- Sports Ethics and Sportsmanship – Reporting Sports Events. National and International Sports News Agencies.		
Unit-II	**Sports Bulletin**	**- (12 hours)**
Concept of Sports Bulletin: Journalism and sports education – Structure of sports bulletin – Compiling a bulletin – Types of bulletin – Role of Journalism in the Field of Physical Education: Sports as an integral part of Physical Education – Sports organization and sports journalism – General news reporting and sports reporting.		
Unit- III	**Mass Media**	**- (12 hours)**

Mass Media in Journalism: Radio and T.V. Commentary – Running commentary on the radio – Sport sexperts comments. Role of Advertisement in Journalism. Sports Photography: Equipment- Editing –Publishing.		
Unit- IV	**Report Writing on Sports**	**- (12 hours)**
Brief review of Olympic Games, Asian Games, Common Wealth Games World Cup, National Games and Indian Traditional Games. Preparing report of an Annual Sports Meet for Publication in Newspaper. Organization of Press Meet.		
Unit-V	**Journalism**	**- (12 hours)**
Sports organization and Sports Journalism – General news reporting and sports reporting. Methods of editing a Sports report. Evaluation of Reported News. Interview with and elite Player and Coach. Practical assignments to observe the matches and prepare report and news of the same; visit to News Paper office and TV Centre to know various departments and their working. Collection of Album of newspaper cuttings of sports news.		
Unit –VI	**Contemporary Issues**	**- (2 hours)**
Expert lectures, Seminars, Webinars, Group discussion, Quiz.		

Reference

1. Kathryn, T. Stofer. James, R. Schaffer. Brian, A. Rosenthal. (2010). ***Sports Journalism - An Introduction to Reporting and Writing.*** New York: Rowman& Littlefield Publishers,Inc.
2. Phil, Andrews. (2005).***Sports Journalism - A Practical Guide.*** **London**: SAGE
3. Publications.
4. Bhatt, S.C. (2011). ***Broadcast Journalism: Basic Principles Paperback***. NewDelhi:
5. HarAnand Publications.
6. Charanjit, Ahuja. Bharat, Hiteshi. (2016). ***Print Journalism: A Complete Bookof Journalism.*** India: PartridgePublishing.
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8. Delhi: CBS Publishers and Distributors Pvt Ltd
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Mapping with Programme Outcomes										
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**P10**
CO1	S	L	S	S	M	S	L	M	L	M
CO3	S	M	S	M	M	S	L	M	L	M
CO3	S	M	S	S	M	S	L	S	L	S
CO4	S	M	L	M	L	M	L	M	L	M
CO5	S	M	M	L	M	M	L	M	L	M

*S-Strong; M-Medium; L-Low

Course code	3EB	TITLE OF THE COURSE	L	T	P	C
Elective		DATA ANALYSIS IN SPORTS	4	-	-	4
Pre-requisite		Learners Should have computer background and information about sports events and performance in the state, national and international	Syllabus Version		20-21	

COURSE OBJECTIVES

- To understand basic concept of data analysis and its role in sports.
- To identify level of data sourcing and map sports performance, performance predication and optimization.
- To understand use of machine learning and artificial intelligence in sports both for appraisal of performance and to understand fantasy sports.
- To learn use of tools to measure sports performance, visualize and interpret sports data for predicting player and team performance.
- To analyze incidence of decision making strategy in sports through case study of rarest sports happenings.

EXPECTED COURSE OUTCOMES		
On the successful completion of the course, student will be able to:		
CO1	analyze the role of data analysis in sports.	K3
CO2	know the method of data collection of national and international level sportsmen.	K2
CO3	conduct research on improvement of sports performance.	K3
CO4	apply recent technologies in sports and games s	K3
CO5	create a profile of sports persons.	K6

K1-Remember	K2-Understand	K3-Apply	K4-Analyze	K5-Evaluate	K6-Create

Unit-I	Introduction to data analytics and sports data analysis	- (10 hours)

Meaning and definition and concept of data analytics -Meaning and definition of sports data analytics - Aims and objectives of sports analytics - Scope, needs and importance of sports analytics- Power of sports data & career in sports analysis - Sports analysis in the changing world, data analysis-a game changer, future of data analytics in sports - Importance of sports analytics in India, career in sports analytics in Indian games

Unit-II	Data Sources For Sports Performance	- (12 hours)

Components of data in sports, collecting data online, recording performance, play field data, personal data of athletes, coaches, officials, organizers, sponsors and audience - Play filed level data - Equipment level data- personal equipment, game related competition equipment, training equipments and assessment equipments - Athlete level

data including current performance analysis, error identification, ranking, future performance predication and training status - Data sources on audience and predicting type, quality and quantity of viewers		
Unit- III	**Sports Data Analytics And Application**	**- (12 hours)**
Historical analysis, status analysis, Predictive analysis, Player record analysis, Team analysis - Sports data analysis, Applying Statistical analysis to sports, on field and off field analytical application, predictive models on which athlete, teams, winning probability- Enhancing performance of athletes through sport analytics, using rating models to simulate future performance- Emergence of Data driven decisions, sport analytics, Evaluation of player and team performance - Utilization of resources and date to ensure the performance during practice/training and during competition.		
Unit- IV	**Tools Used For Sports Data Analysis**	**- (12 hours)**
Recent technologies and applications used in field of sports to make spectators a lively view- Player evaluation and game strategies, Machine learning analytics in sports - software used in Data Analysis Model of Wearable Devices in Physical Education Big data & Software tools used in sports analytics - Application for Fan management analysis, views analysis, visualization methods, visualization tools, interpretation of visualization - Big data mining to technical sports prediction		
Unit-V	**Case Study On Popular Models**	**- (12 hours)**
Understanding sports gambling and betting to prevent athlete exploitation - Discuss the following cases and create a analysis on your own specialization - Solutions-Workbook-Dynamically-Track-Assets-Across-Organization - Solutions-Workbook-Evaluate-Scouting-Reports-And-Compare-Player-TraitsVisually - Learn-Whitepapers-7-Ways-Sports-Teams-Win-Analytics- Create a portfolio of your favourite player and analyse next 5 year performance.		
Unit –VI	**Contemporary Issues**	**- (2 hours)**
Expert lectures, Seminars, Webinars, Group discussion, Quiz.		

Reference

Books

1. Benjamin C. Alamar (2013), *Sports Analytics:* ***A Guide for Coaches,Managers, and Other Decision Makers***, Columbia University Press,India.
2. Gil Fried, Ceyda Mumcu (2016), ***Sports Analytics: A data-driven approach to sport business and management***, Routledge Publisher,India.
3. J.Richard Polidoro (2000), ***Sport and Physical Activity in the Modern World***, Allyn and Bacoon publisher,USA.
4. Mark Conrad (2017), ***The Business of Sports: Off the Field, in the Office, on the News***, Taylor and Francis Publisher,USA.
5. Mark Nesti, Chris Sulley (2014), ***Youth Development in Football: Lessons from the world's best academies,*** Routledge Publisher,India.

6. Tim McGarry (2013), ***Routledge Handbook of Sports Performance Analysis***,Routledge Publisher,India.
7. Wayne L. Winston (2009) Mathletics: **How Gamblers, Managers, and Sports Enthusiasts Use Mathematics in Baseball, Basketball, and Football**
https://www.tableau.com

Mapping with Programme Outcomes										
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**P10**
CO1	S	S	S	M	S	S	L	M	L	M
CO3	S	M	L	M	M	M	M	M	M	M
CO3	S	S	M	S	M	M	S	S	S	S
CO4	S	M	L	M	M	S	L	M	L	M
CO5	S	M	L	M	S	M	L	M	L	M

*S-Strong; M-Medium; L-Low

Course code	33P	TITLE OF THE COURSE	L	T	P	C
Practical		TRACK AND FIELD III THROWING EVENTS	30	24	50	4
Pre-requisite		Learners Should have developed the required fitness and acquired fundamental skills in athletics	Syllabus Version		4.0	

(Course contents inthrowing events should be chalked out internally considering advance level of students and suitable to their age andgender).

Course code	33Q	TITLE OF THE COURSE	L	T	P	C
Practical		GAMES OF SPECIALIZATION- II (Any one of game)	30	24	50	4
Pre-requisite		Learners Should have developed the required fitness and acquired fundamental skills in games	Syllabus Version		4.0	

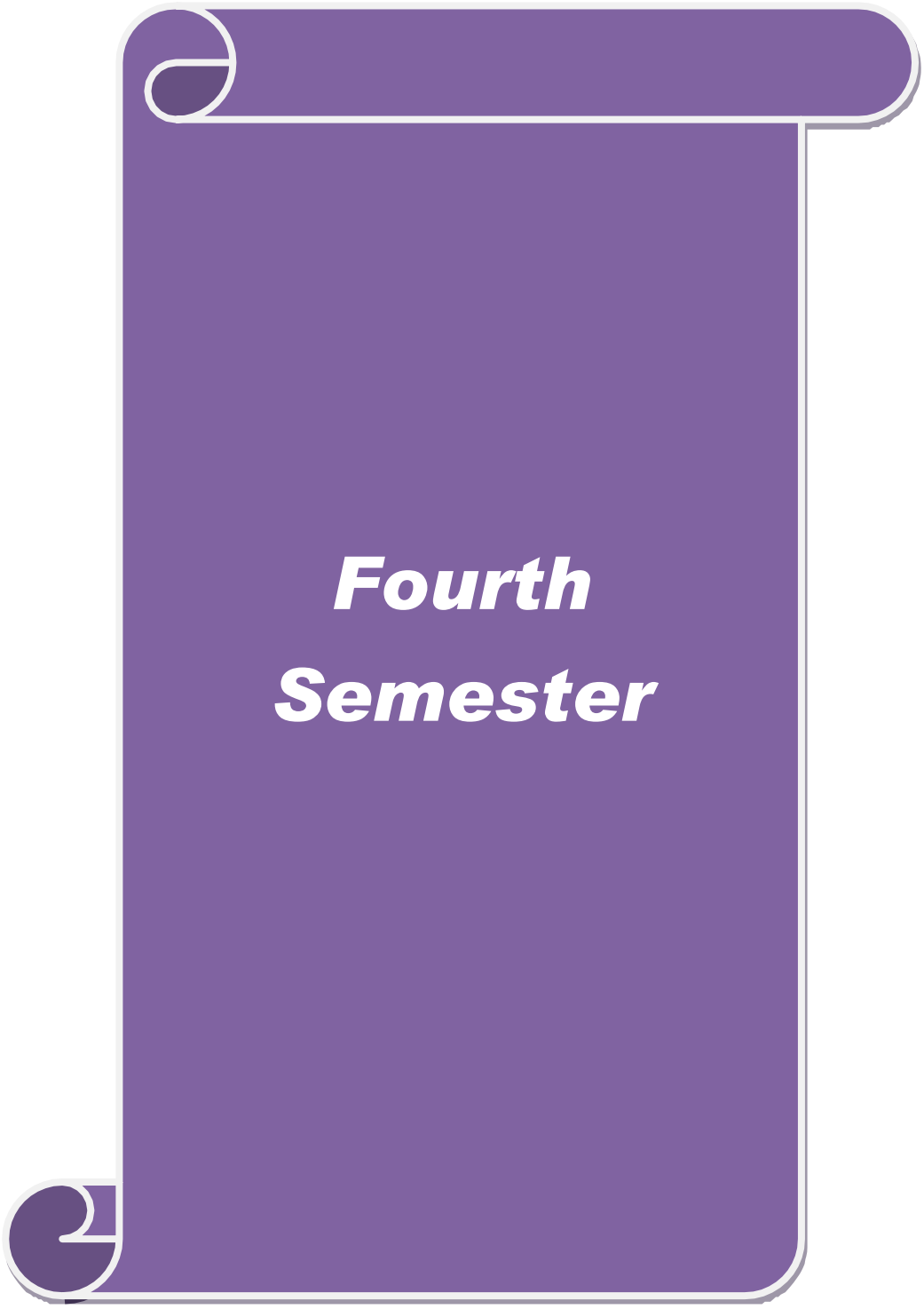
(Course contents in the game of specialization should be chalked out internally considering advance level of students and suitable to their age andgender).

Course code	33R	TITLE OF THE COURSE	L	T	P	C
Practical		LABORATORY PRACTICAL SPORTS MEDICINE	30	24	50	4
Pre-requisite		Learners Should have knowledge about injuries and various modalities of rehabilitation.	Syllabus Version		4.0	

- Submit the practical note for injuries–
  - Soft tissue injuries–skin injuries –muscle injuries -tendon injuries –ligament injuries.
  - Hard tissue injuries-bone injuries– dislocation-Types of bandages-Types of baths-Cryotherapy-Thermo therapy and Electrotherapy.
- Types of bandages, Types of baths, Types of massage, any two in – (Cryotheraphy, Hydro theraphy, Electrotheraphy)
- First aid treatment for basic sports injuries.
- Demonstration for–Therapeutic exercise - Massages – Bandages – Cryotherapy Thermo therapy and Electrotherapy-First aid treatments.
- Lab. Practicals and visit to Physiotherapy Centre to observe treatment procedure of sports injuries; data collection of sports injury incidences.

Course code	33S	TITLE OF THE COURSE	L	T	P	C
Practical		INTERNSHIP: PROJECT, INTER DEPARTMENT, INDUSTRIAL VISIT	30	24	50	4
Pre-requisite		Learners Should be able to communicate with industries and origination skills.	Syllabus Version		4.0	

- Project Meet will be conducted with various athletic events with in campus or by invitation and organizing ability, officiating ability and track and field marking will be observed and evaluated.
- For inter department competition all the students will be evaluated in their organizing skills, officiate skills and ground preparation.
- For industrial visit the student will be evaluated in their leadership skill and organizing ability


Fourth
Semester

Course code	43A	TITLE OF THE COURSE	L	T	P	C
Core		SPORTS BIOMECHANICS AND KINSESIOLOGY	60	-	-	4
Pre-requisite		Learners Should have understanding about body mechanics and functions of the muscles.	Syllabus Version		4.0	

COURSE OBJECTIVES

- To understand the application of mechanics in sports.
- To educate the fundamental knowledge of biomechanics and kinesiology.
- To learn the origin and insertion of an action of muscles.
- To learn the principles of motion and force.
- To learn the knowledge of projectiles lever.
- To analyse the body movement scientifically.

EXPECTED COURSE OUTCOMES		
On the successful completion of the course, student will be able to:		
CO1	understand the role biomechanics and kinesiology in sports	K2
CO2	analyze body Mechanics.	K4
CO3	use modern technology to design equipments	K3
CO4	learn scientific method of movement for improvement of sports performance.	K3
CO5	implement cinematographic movement analysis.	K3

K1-Remember	K2-Understand	K3-Apply	K4-Analyze	K5-Evaluate	K6-Create

Unit-I	Introduction	- (10 hours)
Meaning, nature, role and scope of Applied kinesiology and Sports Biomechanics. Meaning of Axis and Planes, Dynamics, Kinematics, Kinetics, Statics Centre of gravity Line of gravity plane of the body and axis of motion, Vectors and Scalars.		
Unit-II	**Muscle Action**	**- (12 hours)**
Insertion and action of muscles: Pectoralis major and minor, Deltoid, Biceps, Triceps (Anterior and Posterior), Trapezius, serratus, Sartorius, Rectus femoris, Abdominis, Quadriceps, Hamstring, Gastrocnemius.		
Unit- III	**Motion and Force**	**- (12 hours)**
Meaning and definition of Motion. Types of Motion: Linear motion, angular motion, circular motion, uniform motion. Principals related to the law of Inertia, Law of acceleration, and law of counter force. Meaning and definition of force- Sources of force – Force components. Force applied at an angle - pressure -friction -Buoyancy, Spin - Cen tripetal force – Centrifugal force.		
Unit- IV	**Projectile and Lever**	**- (12 hours)**

Freely falling bodies -Projectiles-Equation of projectiles stability Factors influencing equilibrium - Guiding principles for stability -static and dynamic stability. Meaning of work, power, energy, kinetic energy and potential energy. Leverage -classes of lever - practical application. Water re sistance- Air re sistance-Aerodynamics.		
Unit-V	**Movement Analysis**	**- (12 hours)**
Analysis of Movement: Types of analysis: Kinesiological, Biomechanical. Cinematographic. Methods of analysis – Qualitative, Quantitative, Predictive		
Unit –VI	**Contemporary Issues**	**- (2 hours)**
Expert lectures, Seminars, Webinars, Group discussion, Quiz.		

Note: Laboratory practical's should be designed and arranged for students internally.

Reference

1. Peter, M. McGinnis. (2013). ***Biomechanics of Sport and Exercise Third Edition***. USA: HumanKinetics.
2. Carl, J. Payton. and Roger, M. (2008). **Bartlett.** ***Biomechanical Evaluation of Movement in Sport and Exercise***. New York: Routledge, Taylor &Francis.
3. Roger, Bartlett.(2007).***Introduction to Sports Biomechanics- Analyzing Human Movement Patterns Second Edition***. New York: Routledge, Taylor &Francis.
4. Uppal, A.(2004). ***Kinesiology in Physical Education and Exercise Science***. New Delhi: Friends Publications.
5. Hoffman, S.J. (2009). ***Introduction to Kinesiology Studying Physical Activity 3rd Edition.*** USA: Human Kinetics.
6. Shirl, J. Hoffman. Duane, V. Knudson. (2017). ***Introduction to Kinesiology: Studying Physical Activity 5th Edition***. USA: HumanKinetics.
7. Floyd, R. T. (2015). **Manual of Structural Kinesiology, 9th Edition**. New York: McGraw- Hill Education.

Mapping with Programme Outcomes										
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**P10**
CO1	S	S	S	S	S	S	L	M	L	M
CO3	S	M	L	M	M	L	S	M	S	M
CO3	S	L	S	S	M	M	L	S	L	S
CO4	S	M	S	M	M	S	L	M	L	M
CO5	S	M	M	L	M	S	L	M	L	M

*S-Strong; M-Medium; L-Low

Course code	43B	TITLE OF THE COURSE	L	T	P	C
Core		SPORTS PSYCHOLOGY AND SPORTS SOCIOLOGY	4	-	-	4
Pre-requisite		Learners Should have knowledge about psychological principles of growth and development and sports activityu.	Syllabus Version		20-21	

COURSE OBJECTIVES

- To enrich the psychological and sociological knowledge to physical education.
- To educate the importance of psychology for physical education.
- To implement the various motivational technique.
- To educate the process of goal setting in physical education.
- To educate the importance of sociology for physical education.
- To enable the students to become extravert and to understand the socio economic status of sports man.

EXPECTED COURSE OUTCOMES		
On the successful completion of the course, student will be able to:		
CO1	understand the role of psychology and sociology in physical education and sports	K2
CO2	learn motivational technique for higher performance.	K3
CO3	understand the social issues in sports	K2
CO4	learn leadership qualities in the society.	K3
CO5	understand current problems in sports and future directions.	K2

K1-Remember	K2-Understand	K3-Apply	K4-Analyze	K5-Evaluate	K6-Create

Unit-I	Introduction	- (10 hours)

Meaning, Definition, History, Need and Importance of Sports Psychology. Present Status of Sports Psychology in India. Motor Learning: Basic Considerations in Motor Learning– Motor Perception – Factors Affecting Perception – Perceptual Mechanism. Personality: Meaning, Definition, Structure–Measuring Personality Traits. Effects of Personality on Sports Performance.

Unit-II	Motivation	- (12 hours)

Meaning and Definition, Types of Motivation: Intrinsic, Extrinsic. Achievement Motivation: Meaning, Measuring of Achievement Motivation. Anxiety: Meaning and Definition, Nature, Causes, M e t h o d o f Measuring Anxiety. Competitive Anxiety and Sports Performance. Stress: Meaning and Definition, Causes. Stress and Sports Performance. Aggression: Meaning and Definition, Method of Measurement. Aggression and Sports Performance. Self- Concept: Meaning and Definition, Method of Measurement.		
Unit- III	**Goal Setting**	**- (12 hours)**
Meaning and Definition, Process of Goal Setting in Physical Education and Sports. Relaxation: Meaning and Definition, types and methods of psychological relaxation. Psychological Tests: Types of Psychological Test : Instrument based tests: Pass-along test – Tachistoscope– Reaction timer – Finger dexterity board – Depth perception box – Kinesthesiometer board. Questionnaire: Sports Achievement Motivation, Sports Competition Anxiety.		
Unit- IV	**Sports Sociology**	**- (12 hours)**
Sociology Meaning and Definition – Sports sociology: Meaning and Definition- Need and nature - importance sport sociology - Sociability-socialization - Social institutions: sports- family-school. Social significance of sport. National Integration through Sports. Fans and Spectators: Meaning and definition, Advantages and disadvantages on Sports Performance. Leadership: Meaning, Definition, types. Leadership and Sports Performance.		
Unit-V	**Group Cohesion**	**- (12 hours)**
Group: Definition and Meaning, Group size, Types of groups-Cohesion. Group Cohesion, Group Interaction, Group Dynamics. Current Problems in Sports and Future Directions– Sports Social Crisis in sport: socio economic status - race-class- gender. Sociability and sport. Women in Sports: Women sports Participation in India. Gender inequalities in Sports. Sports mass media: Sociological measure: Sociability cohesiveness-leadership-socio economic status.		
Unit –VI	**Contemporary Issues**	**- (2 hours)**
Expert lectures, Seminars, Webinars, Group discussion, Quiz. **Practicals**: *Atleastfive experiments related to the topics listed in the Units above should be conducted by the students in laboratory. (Internalassessment.)*		

References

1. Britton, W. Brewer.(2009).*Handbook of Sports Medicine and Science Sport Psychology*.UK: Wiley-Blackwell ,A John Wiley &Sons, Ltd., Publication.
2. Richard, J. Crisp and Rhiannon, Turner. (2014). *Essential Social Psychology 3rd Edition*. London: Sage Publications
3. Matt, Jarvis. (2006). *Sport Psychology A Student's Handbook*. New York: Routledge, Taylor &Francis.
4. Thelma, S. Horn. (2008). *Advances in Sports Psychology*. U S A: Human Kinetics.

5. John, D Lauther. (2000). *Psychology of Coaching*. New Jersey: Prentice HallInc.
6. Richard, J. Crisp. (2000). Essential Social Psychology. London : Sage Publications.
7. Robert, N. Singer. (2001). *Motor Learning and Human Performance.* New York: The MacmillanCo.
8. Whiting, K. Karman. Hendry, L.B. &Jones, M.G. (1999) *Personality and Performance in Physical Education and Sports*. London: Hendry Kimpton Publishers.
9. Robert, N.Singer. (1989). *The Psychology Domain Movement Behaviour*. Philadelphia: Lea and Febiger.
10. Authors Guide. (2013). *National Library y of Educational and Psychological Test (NLEPT) Catalogue of Tests.* New Delhi: National Council of Educational Research and Training Publication.

Mapping with Programme Outcomes										
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**P10**
CO1	S	S	S	S	S	S	L	M	L	M
CO3	L	S	M	S	M	M	S	M	S	M
CO3	M	S	S	M	M	S	M	S	M	S
CO4	S	M	L	M	L	M	L	M	L	M
CO5	S	M	L	M	M	L	L	M	L	M

*S-Strong; M-Medium; L-Low

Course code	43C	TITLE OF THE COURSE	L	T	P	C
Core		YOGIC SCIENCES	4	-	-	4
Pre-requisite		Learners Should have knowledge about the importance of health and fitness in the life.	Syllabus Version		20-21	

COURSE OBJECTIVES

- To understand the role of yoga on health and sports.
- To educate the astanga yoga and principles.
- To learn the procedure and benefits of asana and pranayama.
- To be familiar the kriyas.
- To educate the importance of mudras.
- To understand the importance of yoga for sports.

EXPECTED COURSE OUTCOMES		
On the successful completion of the course, student will be able to:		
CO1	understand the role of yoga on health and sports	K2
CO2	learn techniques and benefits of surya-namaskar.	K3
CO3	learn cleansing technique of internal organs by kriyas.	K3
CO4	learn to transform energy to physical body by mudras.	K3
CO5	understand the importance of yoga on physiological systems.	K2

K1-Remember	K2-Understand	K3-Apply	K4-Analyze	K5-Evaluate	K6-Create

Unit-I	**Introduction**	**- (10 hours)**

Meaning and Definition of Yoga.Astanga Yoga: Yama, Niyama, Aasna, Pranayama, Prathyahara, Dharana, Dhyana, Samadhi, Concept of Yogic Practices; Principles of Breathing– Awareness – Relaxation, Sequence – Counter pose – Time – Place – Clothes – Bathing – Emptying the bowels – Stomach – Diet – No Straining – Age – Contra-Indication – Inverted asana – Sunbathing.

Unit-II	**Aasanas and Pranayam**	**- (12 hours)**

Loosening exercise: Techniques and benefits. Asanas: Types- Techniques and Benefits, Surya Namaskar: Methods and benefits. Pranayama: T ypes-Methods and benefits. Nadis: Meaning, methods and benefits, Chakras: Major Chakaras- Benefits of clearing and balancing Chakras.

Unit- III	**Kriyas**	**- (12 hours)**

Shat Kriyas- Meaning, Techniques and Benefits of Neti – Dhati – Kapalapathi- Trataka – Nauli – Basti, Bandhas: Meaning, Techniques and Benefits of Jalendra Bandha, Jihva Bandha, Uddiyana Bandha, MulaBandha		
Unit- IV	**Mudras**	**- (12 hours)**
Meaning, Techniques and Benefits of Hasta Mudras, Asamyuktahastam, Samyuktahastam, Mana Mudra, Kaya Mudra, Banda Mudra, Adhara Mudra. Meditation: Meaning, Techiques and Benefits of Meditation – Passive and active, Saguna Meditation and Nirguna Meditation.		
Unit-V	**Yoga and Sports**	**- (12 hours)**
Yoga Supplemental Exercise – Yoga Compensation Exercise – Yoga Regeneration Exercise- Power Yoga. Role of Yoga in Psychological Preparation of athelete: Mental Welbeing, Anxiety, Depression Concentration, Self Actualization. Effect ofYoga on Physiological System: Circulatory, Skeletal, Digestive, Nervous, Respiratory, Excretory Syste.		
Unit –VI	**Contemporary Issues**	**- (2 hours)**
Expert lectures, Seminars, Webinars, Group discussion, Quiz. *Note: Laboratory Practicals be designed and arranged internally.*\		

Reference

1. Sri Swami Vishnu Devananda H.H.(2010).Yoga-Your Home Practice Companion. New York: DK Publications.
2. Swami, Sivananda.(1971).*The Science of Pranayama*. Chennai: A Divine Life Society Publication.
3. Thirumalaikumar, S. and Indira, S. (2011).*Yoga in Your Life*. Chennai: The Parkar Publication.
4. Moorthy, A.M. &Alagesan, S.(2004). *Yoga Therapy*. Coimbatore: Teachers Publication House.
5. Iyengar, B.K.S. (2000). *Light on Yoga.* New Delhi: Harper Collins Publishers.
6. Helen, Purperhart. (2004). *The Yoga Adventure for Children*. Netherlands: A Hunter Housebook.
7. Tiwari, O.P. (1998).*Asanas-Why and How*. Lonavala: Kaivalyadham.
8. George, Feuerstein. (1975). *Text Book of Yoga.* London: Motilal Bansaridas Publishers (P)Ltd.

Mapping with Programme Outcomes										
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**P10**
CO1	S	S	S	S	S	S	L	M	L	M
CO3	S	M	M	M	M	M	L	M	L	M
CO3	S	S	S	S	M	M	L	S	L	S
CO4	S	M	M	M	M	M	L	M	L	M
CO5	S	M	M	M	M	M	L	M	L	M

*S-Strong; M-Medium; L-Low

Course code	43D	TITLE OF THE COURSE	L	T	P	C
Core		DISSERTATION	30	30	30	4
Pre-requisite		Learners Should have basic knowledge about the research and parts of the dissertation.	Syllabus Version		4.0	

1. A candidate shall have dissertation for M.P.Ed. – IV Semester and must submit his/her S ynopsis and get it approved by the Head of Department on the recommendation of D.R.C. (Departmental Research Committee).
2. A candidate selecting dissertation must submit his/her dissertation not less than one week before the beginning of the IVth Semester Examination.
3. The candidate has to face the Viva-Voce conducted by DRC.

Course code	4EA	TITLE OF THE COURSE	L	T	P	C
Elective		EDUCATION TECHNOLOGY IN PHYSICAL EDUCATION	4	-	-	4
Pre-requisite		Learners Should have acquired recent technology in education, physical education and sports.	Syllabus Version		20-21	

COURSE OBJECTIVES

- To educate the concept, nature and scope of education technology.
- To learn about process of communication in physical education.
- To understand the instructional design in educational technology.
- To educate the knowledge of audio visual media in physical education.
- To learn about the knowledge of new horizons of educational technology.

EXPECTED COURSE OUTCOMES		
On the successful completion of the course, student will be able to:		
CO1	understand different technology in education.	K2
CO2	learn effectiveness of communication in instructional system.	K3
CO3	understand models for development of self- learner's material.	K2
CO4	know the use of animation films for the development of children's.	K4
CO5	learn about the new horizons of education technology.	K3

K1-Remember	K2-Understand	K3-Apply	K4-Analyze	K5-Evaluate	K6-Create

Unit-I	Nature and Scope	- (10 hours)
Educational technology-concept, Nature and Scope. Forms of educational technology: teaching technology, instructional technology, and behaviour technology; Transactional usage of educational technology: integrated, complementary, supplementary stand-alone (independent); programmed learning stage; media application stage and computer application stage.		
Unit-II	**Systems Approach to Physical Education and Communication**	**- (12 hours)**
Systems Approach to Education and its Components: Goal Setting, Task Analysis, Content Analysis, Context Analysis and Evaluation Strategies; Instructional Strategies and Media for Instruction. Effectiveness of Communication in instructional system; Communication - Modes, Barriers and Process of Communication.		
Unit- III	**Instructional Design**	**- (12 hours)**

Instructional Design: Concept, Views. Process and stages of Development of Instructional Design. Overview of Models of Instructional Design; Instructional Design for Competency Based Teaching: Models for Development of Self Learning Material.		
Unit- IV	**Audio Visual Media in Physical Education**	**- (12 hours)**
Audio-visual media - meaning, importance and various forms Audio/Radio: Broadcast and audio recordings - strengths and Limitations, criteria for selection of instructional units, script writing, pre-production, post-production process and practices, Audio Conferencing and Interactive Radio Conference. Video/Educational Television: Telecast and Video recordings Strengths and limitations, Use of Television and CCTV in instruction and Training, Video Conferencing, SITE experiment, countrywide classroom project and Satellite based instructions. Use of animation films for the development of children's imagination.		
Unit-V	**New Horizons of Educational Technology**	**- (12 hours)**
Recent innovations in the area of ET interactive video - Hypertext, video-texts, optical fiber technology - laser disk, computer conferencing. etc. Procedure and organization of Teleconferencing/Interactive video-experiences of institutions, schools and universities. Recent experiments in the third world countries and pointers for, India with reference to Physical education. Recent trends of Research in Educational Technology and its future with reference to education.		
Unit –VI	**Contemporary Issues**	**- (2 hours)**
Expert lectures, Seminars, Webinars, Group discussion, Quiz.		

Reference

1. Singh, D. (2017). *Education Technology in Physical Education (New Syllabus).* New Delhi: Khel Sahitya Kendra.
2. Ann, Kovalchick. & Kara, Dawson. (2004). *Education and Technology an Encyclopedia.* Santa Barbara, California: ABC-CLIO, Inc
3. Darren, L. Pullen. & David, R. Cole.(2010).*Multiliteracies and Technology Enhanced Education: Social Practice and the Global Classroom*. New York: Information science reference.
4. Lawrence, Tomei. (2009). *Information Communication Technologies for Enhanced Education and Learning: Advanced Applications and Developments*. New York: Information science reference.
5. Amita, Bhardwaj. (2003). New Media of Educational Planning. New Delhi: Sarup of Sons.
6. Bhatia and Bhatia. (1959.). The Principles and Methods of Teaching. New Delhi: Doaba House.

Mapping with Programme Outcomes										
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**P10**
CO1	S	S	S	S	S	S	L	M	L	M
CO3	S	M	M	M	M	M	L	M	L	M
CO3	S	S	S	S	M	M	L	S	L	S
CO4	S	M	M	M	M	M	L	M	L	M
CO5	S	M	M	M	M	M	L	M	L	M

*S-Strong; M-Medium; L-Low

Course code	4EB	TITLE OF THE COURSE	L	T	P	C
Elective		SPORTS ENGINEERING	4	-	-	4
Pre-requisite		Learners Should have knowledge about the importance of health and fitness in the life.	Syllabus Version		20-21	

COURSE OBJECTIVES

- To deal with sports engineering and technology.
- To acquire the knowledge of mechanics of engineering materials.
- To deal with sports dynamics.
- To learn the knowledge related with building and maintenance.
- To understand the knowledge of facility life cycle coasting.

EXPECTED COURSE OUTCOMES		
On the successful completion of the course, student will be able to:		
CO1	analyze the role of engineering principles in sports.	K4
CO2	train the sports scientifically based on the body movement.	K3
CO3	layout and maintain sports infrastructure facilities.	K3
CO4	design a training protocol with incorporating the engineering principles.	K3
CO5	identify and prevent of sports injuries.	K4

K1-Remember	K2-Understand	K3-Apply	K4-Analyze	K5-Evaluate	K6-Create

Unit-I	Introduction to sports engineering and Technology	- (10 hours)
Meaning of sports engineering, human motion detection and recording, human performance, assessment, equipment and facility designing and sports related instrumentation and measurement.		
Unit-II	**Mechanics of engineering materials**	**- (12 hours)**
Concept of internal force, axial force, shear force, bending movement, torsion, energy method to find displacement of structure, strain energy. Biomechanics of daily and common activities –Gait, Posture, Body levers, ergonomics, Mechanical principles in movements such as lifting, walking, running, throwing, jumping, pulling, pushing etc.		
Unit- III	**Sports Dynamics**	**- (12 hours)**
Introduction to Dynamics, Kinematics to particles – rectilinear and plane curvilinear motion coordinate system. Kinetics of particles – Newton‟s laws of Motion, Work, Energy, Impulse and momentum.		
Unit- IV	**Building and Maintenance**	**- (12 hours)**

Sports Infrastructure- Gymnasium, Pavilion, Swimming Pool, Indoor Stadium, Out-door Stadium, Play Park, Academic Block, Administrative Block, Research Block, Library, Sports Hostels, etc. Requirements: Air ventilation, Day light, Lighting arrangement, Galleries, Store rooms, Office, Toilet Blocks (M/F), Drinking Water, Sewage and Waste Water disposal system, Changing Rooms (M/F), Sound System (echo-free), Internal arrangement according to need and nature of activity to be performed, Corridors and Gates for free movement of people, Emergency provisions of lighting, fire and exits, Eco-friendly outer surrounding. Maintenance staff, financial consideration. **Building process**:- design phase (including brief documentation), construction phase functional (occupational) life, Re-evaluation, refurnish, demolish. **Maintenance policy**, preventive maintenance, corrective maintenance, record and register for maintenance.		
Unit-V	**Facility life cycle costing**	**- (12 hours)**
Basics of theoretical analysis of cost, total life cost concepts, maintenance e costs, energy cost, capital cost and taxation		
Unit –VI	**Contemporary Issues**	**- (2 hours)**
Expert lectures, Seminars, Webinars, Group discussion, Quiz		

Reference

1. Hoshiyar, Singh. (2017). *Sport Engineering*. New Delhi: Khel Sahitya Kendra.
2. Aleksandar, Subic. (2013). *Routledge Handbook of Sports Technology and Engineering*. New York: Routledge, Taylor &Francis.
3. Moritz, E.& Haake, S. (2006).*TheEngineeringofSport6*.NewYork:Springer.
4. Colin, White. (2010). *Projectile Dynamics in Sport: Principles and Applications*. New York: Routledge, Taylor &Francis.
5. Eric, C. Schwarz. Stacey, A. Hall. Simon, Shibli. (2015). *Sport Facility Operations Management: A Global Perspective 2nd Edition.* New York: Routledge, Taylor & Francis.

Mapping with Programme Outcomes										
COs	**PO1**	**PO2**	**PO3**	**PO4**	**PO5**	**PO6**	**PO7**	**PO8**	**PO9**	**P10**
CO1	S	S	S	S	S	S	L	M	L	M
CO3	L	M	M	S	M	S	L	M	L	M
CO3	S	M	S	L	M	M	L	S	L	S
CO4	S	L	S	M	M	S	L	M	L	M
CO5	S	M	L	M	M	M	L	M	L	M

*S-Strong; M-Medium; L-Low.

Course code	43P	TITLE OF THE COURSE	L	T	P	C
Practical		TRACK AND FIELD IV COMBINED EVENTS	30	24	50	4
Pre-requisite		Learners Should have required fitness and skills in athletics.	Syllabus Version		4.0	

(Course contents in combined events should be chalked out internally considering advance level of students and suitable to their age and gender. Practical Skill Test any one out of these after completion of syllabus)

Course code	43Q	TITLE OF THE COURSE	L	T	P	C
Practical		GAMES OF SPECIALIZATION-II TEACHING AND COACHING	30	24	50	4
Pre-requisite		Learners Should have required fitness and skills in games.	Syllabus Version		4.0	

(Course contents in game or sport of specialization should be chalked out internally considering advance level of students and suitable to their age and gender. Practical skill test- any two)

Course code	43R	TITLE OF THE COURSE	L	T	P	C
Practical		LABORATORY PRACTICAL: SPORTS PSYCHOLOGY AND BIOMECHANICS KINESIOLOGY	30	24	50	4
Pre-requisite		Learners Should have knowledge about body mechanics and muscular movements and application psychological principles in preparation of sportsmen.	Syllabus Version		4.0	

Cognitive Skill- Muller lyer illusion board- measuring- optical illusion, Tachistoscope- Span of attention, Memory dream- Memory capacity, Division of attention board- attention, Revised Batie battery of performance intelligence test- Intelligence.

Psychomotor Skill- Kinesthetic meter board- Kinesthetic sense, Herman moze- Learning conditioning, Depth Perception Box- Depth Perception, Chronoscope- Reaction time, Mirror Drawing apparatus- Eye hand coordination, Steadiness- Hand steadiness, T-maze- Learning conditioning.

Psychological Tools- Flow state scale- Jackson &marsh (1996), Mental Toughness Questionnaires- Loehretal(1992), Sport Imagery Questionnaires- Rodger and Barr (1990), Athletic coping skills inventory- Smith R.E, Smoll, F.C (1996), Exercise motwastioninventory- EMI-2- Markland D and Hardy (1993), The performance failure appraisal inventory- (PFAI)- David E. Conroy, Sports Anxiety scale- Frank L. Soml and Robert W. Schutz, Competitive state anxiety inventory- form-2- Rainers Martens, Sports achievement motivation- M.C. Kamlesh, 16 perfonality factor- R.B. Cattell, Eysenck
personality inventory- ESI- H.J. Eysenck, Socio- Economic status scale- R.C. Bharadwaj.

Course code	43S	TITLE OF THE COURSE	L	T	P	C
Practical		OFFICIATING LESSONS OF SPORTS & GAME SPECIALIZATIONS	30	24	50	4
Pre-requisite		Learners Should have knowledge about parts of the lessons plan and fundamental and advance skills in the games and sports.	Syllabus Version		4.0	

The students of M.P.Ed – IV Semester need to be develop proficiency in taking officiating lesson on selected game specialization. In view of this, the students shall be provided with advance mechanism of officiating in selected game specialization. The duration of the lesson to be conducted by these students shall be in the range of 30 to 40 minutes depending on the class time they are going to handle at school and college level.

Each student teacher is expected to take at least five lessons during the course of the fourth semester. The lessons will be supervised by the faculty members and experts who would discuss the merits and demerits of the concerned lesson and guide them for the future. In these officiating lessons, the duration should slowly increase and all the parts of the lesson covered progressively.

Note: Where ever details of any activities are not mentioned, it is expected to elaborate skills by the competent bodies of local Universities/ Autonomous Colleges.

Annexure

BHARATHIAR UNIVERSITY: COIMBATORE 641 046
UNIVERSITY DEPARTMENT

Regulations, Scheme of Examination and Syllabus for the Master of Physical Education Course (M.P.Ed., 2023-24 onwards)
(FOUR SEMESTERS) (CBCS)

MISSION

- To attain whole some development through Physical Education and Sports by the way of innovative, inclusive international University, Committed excellence teaching research and knowledge to serve the sports, social, cultural and economic needs of the nation. To Equip the skillful and knowledgeable teachers in Physical Education and to develop health habits and social integration though sports for the country. The students should be familiar with rules and regulation and their participation in officiating sports and games and make the learners competent for post graduate programme and to produce outstanding sports persons at state, National and international levels.

Preamble

The Master of Physical Education (M.P.Ed) two years (Four Semesters, Choice Based Credit System) programme is a professional programme meant for preparing Physical Education Teachers for senior secondary (Class XI and XII) level as well as Assistant Professor/Directors/Sports Officers in Colleges/Universities and teacher educators in College of Physical Education.

1. Intake, Eligibility and Admission Procedure:

The Intake, Eligibility and Admission Procedure is as per the NCTE norms and standards.

Eligibility

1). Bachelor of Physical Education (B.P.Ed.,) or equivalent with at least 50 % of marks. (up to 2015-16 one year B.P.Ed)

(a) The reservation in seats and relaxation in the qualifying marks for SC/ST/OBC/PWD and other categories shall be as per the rules of the Central Government/State Government, whichever is applicable.

Admission Procedure

Admission shall be made on merit on the basis of marks obtained in the entrance examination (written test, skill test, interview and percentage in qualifying examination) or any other selection process as per the policy of the State Government/ Affiliating University.

Scheme of selection

The selection of candidates for the M.P.Ed degree course is based on the following criteria for a grand total of 150 marks.

Marks obtained in the Qualifying Examinations **40 Marks**

a) Games proficiency test in any one game(Badminton,

Ball Badminton, Basketball, Cricket, Football, Handball, Hockey, Kabaddi, Kho – Kho & Volleyball, Athletics) and the games approved by AIU **60 Marks c)** For Previous participation / Representation certificates **20 Marks d)** Entrance written examination – objective type – **30 Marks** Multiple choices

Grand Total **150 Marks**

Guidelines Followed For Allotting Marks for Games / Sports Participation Certificates Norms for Sports Certificate

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Sl. No	Sports Achievement	Marks
01.	Winning I, II, III place in National /State/ All India University Tournaments	**20**
02.	Winning I, II, III place in National sub Jr./Junior	**19**
03.	Winning I, II, III place in Open Rural National	**18**
04.	Winning I, II, III place in south zone Nationals / S.Z Inter University	**17**
05.	Representing south Zone in inter zone nationals All India inter university	**16**
06.	Representing state team Jr./ Sr./ University	**15**
07.	Winning I, II, III place in Senior State championship	**14**
08.	Winning I, II, III place in SDAT / open state championship	**13**
09.	Winning I, II, III place in sub Jr. / Junior state championship	**12**
10.	Representing District in senior state championship	**11**
11.	Representing district team Jr. in state championship / SDAT open championship	**10**
12.	Wining I, II, III place in open Inter Collegiate Physical education tournament	**9**
13.	Wining I, II, III place in open Inter Collegiate	**8**
14.	Wining I, II, III place in zone / Division Inter collegiate tournament	**7**
15.	Representing zone / Division Inter Collegiate tournament	**6**
16.	Representing College team in University Inter Collegiate / open	**5**

2. Duration

The M.P.Ed programme is of a duration of two academic years, that is, Four semesters. However, the students shall be permitted to complete the programme requirements within a maximum of three years from the date of admission to the programme.

3. The CBCS System

All programmes shall run on Choice Based Credit System (CBCS). It is a n

instructional package developed to suit the needs of students, to keep pace with the developments in higher education and the quality assurance expected of it in the light of liberalization and globalization in higher education.

4. Course

The term course usually referred to, as „papers‟ is a component of a programme. All courses need not carry the same weight. The courses should define learning objectives and learning outcomes. A course may be designed to comprise Lectures/Tutorials/Laboratory Work/ Field Work/ Outreach Activities/ Project Work/ Vocational Training/VIVA/ Seminars/ Term Papers/Assignments/ Presentations/ Self Study etc. or a combination of some of these.

5. Courses of Programme

The M.P.Ed. Programme consists of a number of courses, the term Course‟ applied to indicate a logical part of subject matter of the programme and is invariably equivalent to the subject matter of a “paper” in the conventional sense. The following are the various categories of courses suggested for the M.P.Ed. Programme.

- Theory
- Core Course
- Elective Course
- Practicum
- Compulsory Course (Track and Field)
- Dissertation
- Teaching / Coaching Practices

6. Semesters

An academic year is divided into two semesters. Each semester will consist of 17-20 weeks of academic work equivalent to 100 actual teaching days. The odd semester may be scheduled from July to December and even semester from December to May. The institution shall work for a minimum of 36 working hours in a week (five or six days a week).

7. Working days

There shall be at least 200 working da ys per year exclusive of admission and examination processes etc.

8. Credits

The term 'Credit' refers to a unit by which the programme is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of teaching (lecture or tutorial) or one and half / two hours of practical work/field work per week. The term Credit‟ refers to the weight given to a course, usually in relation to the instructional h o u r s assigned to it. The total minimum credits required for completing M.P.Ed. Programme is 90 credits and for each semester 20 credits.

9. Evaluation

The performance of a student in each course is evaluated in terms of percentage of marks with a provision for conversion to grade point. Evaluation for each course shall be

done b y a continuous internal assessment (CIA) by the concerned course teacher as well as by end semester examination and will be consolidated at the end of course. The components for continuous internal assessment are;

The students should have minimum 75% attendance in each course. In addition to continuous evaluation component, the end semester examination, which will be written type examination of at least 3 hours duration, would also form an integral component of the evaluation. The ratio of marks to be allotted to continuous internal assessment and to end semester examination is 25:75. The evaluation of practical work, wherever applicable, will also be based on continuous internal assessment and on an end-semester practical examination.

10. Condonation

Student must have 75% of attendance in each course for appearing the examination. Students who have 74% to 65% of attendance shall apply for condonation in the prescribed form with the prescribed fee. Students who have 64% to 50% of attendance shall apply forcondonation in prescribed form with the prescribed fee along with the medical certificate. Students who have below 50% of attendance are not eligible to appear for the examination.

11. Grading

As per Bharathiar University grading system.

12. Classification of Final Results

For the purpose of declaring a candidate to have qualified for the Degree of Master of Physical Education in the First class / Second Class / Pass Class or First Class with Distinction, the marks and the corresponding CGPA earned by the candidate in Core Courses will be the criterion. It is further provided that the candidate should have scored the First / Second Class separately in both the grand total and end Semester (External) examinations.

13. Grievance Redressal Committee

The department shall form a Grievance Redressal Committee for each course in each department with the course teacher / Director and the HOD of the faculty as the members. This Committee shall solve all grievances of the students.

14. Revision of syllabi

Syllabi of every course will be revised according to the regulation of the NCTE.

15. Award of the M.P.Ed Degree

A candidate shall be eligible for the award of the degree of M.P.Ed. Only if he/she has earned the minimum required credit including bonus 90 credits of the programme prescribed above. i.e. not less than 50% of mark.