

# **FACULTY OF PHYSICAL EDUCATION**

## **SYLLABUS**

### **FOR**

## **Pre Ph.D. Course in PHYSICAL EDUCATION**

**Session: 2019-20**



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**GURU NANAK DEV UNIVERSITY  
AMRITSAR**

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*PRE-PH.D. COURSE IN PHYSICAL EDUCATION*Programme Code: **PEZ**

Pre-Ph.D. Course in Physical Education

Department of Physical Education (T)

**Scheme of Course for Pre Ph.D. Course in Physical Education****Semester-I**

Course No.	C/E/I	Course Title	Credits			Total Credits
			L	T	P	

**Core Courses**

<b>PEL-901</b>	C	Research Methodology and Sport Statistics	4	-	-	4
<b>PEL-902</b>	C	Measurement and Evaluation in Human Performance	4	-	-	4
<b>PEL-903</b>	C	Science of Sports Training and Conditioning	4	-	-	4
<b>PEL-904</b>	C	Sport and Exercise Physiology	4	-	-	4

**Interdisciplinary/Optional Course (3 Credits)**

Course No.	C/E/I	Course Title	Credits			Total Credits
			L	T	P	
<b>PEL-905</b>	I	Biomechanics and Human Movements	4	-	-	4
<b>PEL-906</b>	I	Sports Psychology and Mental Toughness	4	-	-	4
<b>PEL-907</b>	I	Sports Sociology and Physical Education	4	-	-	4
<b>PEL-908</b>	I	Sports Management and Administration	4	-	-	4
<b>PEL-909</b>	I	Yoga and Health Education	4	-	-	4

**PEL-901: RESEARCH METHODOLOGY AND SPORT STATISTICS****Credits-4-0-0****Mid Semester Examination: 20% weightage****End Semester Examination: 80% weightage****Instructions for the Paper Setters:**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

Meaning, aims, nature and scope of educational research, Characteristics and prerequisites of educational research, Types of research – Basic, Applied and Action research, Characteristics of a Researcher.

**SECTION-B**

Meaning of research problem, Formulation of research problem, Location and criteria of selecting a research problem, Limitations and delimitations, Meaning and definition of Hypothesis, Significance of Hypothesis, and Types of Hypothesis.

**SECTION-C**

SPSS – Basic Introduction, Statistical processes and their application in research, Degree of freedom, Level of significance, Operating system, Classification of Computers.

**SECTION – D****Recent Trends in Research:**

Indexation (h-index, i10-index, i20-index), Bibliographic Databases and search engines (Scopus, Web of science, Indian Citation Index, Google Scholar, PubMed, Journal citation reports (JCR), Directory of open access journals (DOAJ)), Concept of Citation: Journal Impact factor (Thomson-Reuters), Research Data Repositories (Shodhganga, Researchgate, Zenodo.)

**References:**

1. Aggarwal J.C. (1956) Education Research–An Introduction, New Delhi, Arya Book Depot.
2. Author's Guide: Research Methods Applied to Health Physical and Recreation, Washington, D.C. 1991.
3. Best, J.W., (1971) Research in Education, Englewood Cliffs, Prentice Hall, Inc, New Jersey.
4. Best John & Kahni, J.V. (1992) Research in Education, New Delhi. Prentice Hall of India (Pvt.) Ltd.
5. Clark, D.H., Clark, H.H., (1984) Research Process in Physical Education (2nd Ed.), Englewood Cliffs, Prentice Hall, Inc., New Jersey.
6. C.V. Good: Methods of Research, Appleton Century Crofts Inc., New York, 1954.
7. Kothari, C.R. (1992) Wiley Eastern Limited, New Delhi.
8. Kamlesh, M.L., (1996) Research Methodology in Physical Education & Sports, New Delhi.
9. Thomas Jerry R. and Nelson Jack K., Research Methods, Physical Activity. Human Kinetics Campaign.
10. Weimer, Jon, (1994) Research Techniques in Human Engineering. Prentice Hall: New Jersey.

**PEL-902: MEASUREMENT AND EVALUATION IN HUMAN PERFORMANCE****Credits-4-0-0****Mid Semester Examination: 20% weightage****End Semester Examination: 80% weightage****Instructions for the Paper Setters:**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

- a. Meaning of Measurement and Evaluation
- b. Principle, Need and Importance of Measurement and Evaluation in Physical Education
- c. Inter-Relationship between Test, Measurement and Evaluation

**SECTION-B**

- a. Selection and construction of tests
- b. Criteria of test Selections –Selections authenticity, (Reliability, validity, objective, norms) administrative feasibility and education application.

**SECTION-C**

- a. Classification of tests: Standardized and teacher made tests (Objective and subjective tests)
- b. Construction of test: Knowledge tests (Written test) and skill tests.
- c. Critical evaluation of tests for Physical fitness, motor fitness and sports skill tests, Anthropometric measurement.

**SECTION-D**

- a. Health related physical fitness
- b. Motor fitness tests
- c. Test batteries and Sports skill tests.

**References:**

1. Anspaugh, D.J., M.H. Hamrick and F.D. Rosato. (2001). Wellness Fundamental Concepts and Applications. Mc GrawHill Higher Education Company, Inc. New York, USA.
2. Barrow, H.M., R. McGee and K.A. Tritschler (1989). Practical Measurement in Physical Education and Sports. Lea & Febiger, Philadelphia, U.S.A.
3. Baumgartner, T.A. and A.S. Jackson (1995). Measurement for Evaluation in Physical Education & Exercise Science. WCB-Brown & Enchmark Publishers, Madison, Wisconsin, USA.

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4. Chopra, D. (1993). *Ageless Body, Timeless Mind: A Practical Alternative to Growing Old*. Crown Publishers Inc., New York, USA (Indian Print by Runa & Co. & Gopsons Papers Ltd., Noida, U.P.).
5. Dochery, D. (Ed.) 1996. *Measurement in Pediatric Exercise Science*. Human Kinetics, Champaign, Illinois 61825, USA.
6. Hoeger WWK and S.A. Hoeger (2005). *Principles and Labs. for Physical Fitness and Wellness*. Morton Publishing Company, Englewood, Colorado, USA.
7. Kansal, D.K. (2006). *Test, Measurement and Evaluation in Physical Educational Sports*. Sports and Spiritual Science Publications, New Delhi.
8. Koul, L. (2002). *Methodology of Educational Research*, Vikas Publishing House, Pvt. Ltd.
9. Miller, D.K. (1994). *Measurement by the Physical Educator: Why and How*. WCB. Brown & Benchmark Publishers, Madison, Wisconsin, USA.
10. Safrit, M.J. (1990). *Introduction to Measurement in Physical Education and Exercise Science*. Times Mirror/Mosby College Publishing, St. Louis, USA.

**PEL-903: SCIENCE OF SPORTS TRAINING AND CONDITIONING****Credits-4-0-0****Mid Semester Examination: 20% weightage****End Semester Examination: 80% weightage****Instructions for the Paper Setters:**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

Sports Training: Definition, Meaning, Importance, Aims and Objectives.  
Characteristics of Sports training,  
Principles of Sports training,  
Training load

**SECTION -B**

Psychological/mental training,  
Planning: Definition, need, importance and principles  
Organization & evaluation of training.

**SECTION-C**

Skill, technique and Tactics,  
Competition, Planning & Preparation,  
Organization & evaluation of coaching.

**SECTION-D**

Physical Fitness Components,  
Methods and means of training,  
Periodization, Micro, Meso and Macro training plans.

**References:**

1. Magel, John. (1976). The Scientific Aspects of Sports Training, Medicine & Science in Sports: Volume 8 – Issue 2.
2. Singh, H. (1991). Science of Sports Training. New Delhi: DVS Publication.
3. Uppal. A.K. (2001). Principles of Sports Training. New Delhi: Friends Publication.
4. Rainer Martens (2005). Successful Coaching.
5. Beashel & Taylor. The World of Sports Examines.

**PEL-904: SPORT AND EXERCISE PHYSIOLOGY****Credits-4-0-0****Mid Semester Examination: 20% weightage****End Semester Examination: 80% weightage****Instructions for the Paper Setters:**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

- a. Fuel for muscular work (ATP)
- b. Energy of muscular contraction, various changes during muscular contraction
- c. Aerobic and anaerobic muscular activity.

**SECTION-B**

- a. Physiological changes due to exercise
- b. Effects of exercise/work on various systems of body, cardio respiratory, muscular and thermo-regulatory system.

**SECTION-C**

- a. Effect of conditioning and training: Heart and circulatory training, Respiratory system, Brief discussion on other systems during rest, sub-maximal and maximal work
- b. Oxygen debt, forced expiratory volume.

**SECTION-D**

- a. High Altitude Training and Adaptation
- b. Doping: Definition, Classes and Methods of Doping, Harmful Effects of Doping

**References:**

1. Allen W. Jakson, James R. Morrow (1999) Physical Activity for Health and Fitness. (Human Kinetics).
2. American College of Sports Medicine (1991) Guidelines for Exercise Testing and Prescription (4th ed): (Philadelphia; Lea & Febiger).
3. Ann F. Cowlin (2002) Women's Fitness Program Development. (Human Kinetics).
4. B. Don. Franks, Edward J. Howley. (1995) Fitness Leaders Handbook. (Human Kinetics).
5. Claude Bouchard, Roy J. Shephard, Thomas Stephens (1993) Physical Activity, Fitness and Health Consensus Statement. (Human Kinetics Publishers).

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6. David C. Nieman, *Fitness and Sports Medicine* (2000) A Health Related Approach. 3rd ed. (Mayfield Publicity Company).
7. David N. Camaione (1993) *Fitness Management*. (WCB Brown & Bench Mark).
8. David R. Lamb (1984) *Physiology of Exercise: Responses and Adaptation* 2nd ed. (Mac. Milan Publishing Company).
9. German J. Brisson. (1981) *Lipids in Human Nutrition - An Appraisal of Some Dietary Concepts*. (MTP Press Ltd. International Medicine Publishers)
10. Ira Wolinsky, James F. Hickson (1994), *Nutrition in Exercise and Sport*. (RC Press).
11. Ryan J. Allan & Alhman J.L. Fred (1989) Edited 'Sports Medicine', Academic Press, INC, San Diego California.



**PEL-905: BIOMECHANICS AND HUMAN MOVEMENTS****Credits-4-0-0****Mid Semester Examination: 20% weightage****End Semester Examination: 80% weightage****Instructions for the Paper Setters:**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

Distance and displacement (linear and angular), Speed and velocity (linear and angular), Acceleration for linear and angular motion. Relationship for linear and angular, Centrifugal and centripetal forces, Newton's laws of motion as applicable to linear and angular motion.

**SECTION-B**

Force - Meaning, units of force. Effects of force, Sources of force, Components and Restaurant, Work. Power and energy, Projectiles; (Static momentum and Impulse. Stability (Static and Dynamic), Spin, impact and elasticity.

**SECTION-C**

Analysis of Fundamental Skills: Walking, Running, Jumping, Throwing, Lifting, Pulling, Pushing, Catching, Climbing Method of one fundamental skill will be taught other skill will be given as assignment .

**SECTION-D**

Analysis of sports Skill: Athletics. Gymnastics, Swimming, Football, Hockey, Basketball, Volleyball, Cricket & Judo method of one of the sports skill ,Dill be taught Other skill will be given assignment.

**References:**

1. Basis of 1 Human Motion. 8th Ed, Brown & Bench mark.
2. Gowitzke, B.A. and Milner, M. (1988). Scientific Bases of Human Movement. (3rd. Ed.), Baltimore: Williams and Wilkins.
3. Grimshaw, Paul., Lees, Adrian., Flower, Neil & Burden, Adrian, Sports and Exercise Biomechanics. Taylor & Francies.
4. Groves, R and Camaine, D. (1983). Concepts in Kinesiology. (2nd. Ed.). Philadelphia: Saunders College Publishing.
5. Hall, Susan ,t. Basic Biomechanics. Mosby Year Book
6. Hay, J. (1978). The biomechanics of sport techniques. (2nd. Ed.). Englewood Cliffs: Prentice-Hall.
7. Hay, J. & Reid, J. (1982). The Anatomical and Mechanical Bases of Human Motion. Englewood Cliffs: Prentice-Hall.
8. Lutte-ciis. 'Kadrryn.. Deutscl-, Helga., Hamilton, Nancy. Kinesilogy Scientific

**PEL-906 SPORTS PSYCHOLOGY AND MENTAL TOUGHNESS****Credits-4-0-0****Mid Semester Examination: 20% weightage****End Semester Examination: 80% weightage****Instructions for the Paper Setters:**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION–A**

Meaning of motor learning, Phases of motor Learning, Factors affecting motor learning, motor development in various Periods of childhood and adolescence.

**SECTION –B**

Define competition, Characteristics – pre-competition, and post competition state, Psychological Preparation for competition.

**SECTION –C**

Concept and meaning of Learning, Types of learning, Plateau its causes and remedial measures, Theories of learning

**SECTION –D**

Motivation: Meaning and concept of motivation, Types of Motivation, Dynamics of Motivation  
Anxiety: Definition, Types of Anxiety, Role of Anxiety in sports, Anxiety Coping techniques

**References:**

1. Aggarwal, J.C., Basic Ideas in Educational Psychology, Delhi: Sipra, 2003.
2. Bhatia, Hans Raj, Test Book of Educational Psychology, Delhi: Macmillan, 2003.
3. Cashmore, Ellis, Key Concepts in Sport Psychology, London, Routledge, 2004.
4. Cox, R. H., Sport Psychology Ed 5 Th., London, Mcgraw Hill, 2002.
5. Dewey, John, Psychology, New Delhi: K.S.K., 2003.
6. Jain, D., Introduction to Psychology, New Delhi: K.S.K., 2003.
7. Jain, Piyush and Tomar, C.S., History, Foundation of Physical Education and Educational Psychology, New Delhi, Friends, 2006.
8. Kamlesh, M.L, Educational Sport Psychology, New Delhi, Friends Pub., 2006.
9. Kamlesh, M.L., Key Ideas in Sport Psychology, New Delhi, Friends Pub., 2007.
10. Kutty, S.K., Foundations of Sports & Exercise Psychology, New Delhi: Sports, 2004.
11. Levinthal, Charles F., Introduction to Physiological Psychology, N.D. Prentice Hall, 2005.

**PEL-907: SPORTS SOCIOLOGY AND PHYSICAL EDUCATION****Credits-4-0-0****Mid Semester Examination: 20% weightage****End Semester Examination: 80% weightage****Instructions for the Paper Setters:**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

Defining Sport, Sport in a Social Institution, Sport is a Social & Cultural Product, Sport as a Social Phenomenon and Sport as a form of Social Involvement.

**SECTION-B**

Socialization into Sport, Socialization via Sport and De socialization from Sport, Impact of Sport on Education.

**SECTION-C**

The Law and Sport, Civil Rights & Sport, The Law and Violence in Sports, Sports & Politics, Politics with in Sport, Public Policy & Sports, International Politics & Sports.

**SECTION-D**

Economic Activity associated with Sport, Organizational structure of professional sport, a business Model for professional sport.

**References:**

1. Birrell, Susan & Cheryl L. Cole. Women, Sport & Culture. Champaign Ill: Human Kinetics, 1994.
2. Mc..Pherson, Barry D., Curtis. James E. and Loy, John W. The Social Significance of Sport. Champaign Illinois: Human Kinetics Publishers (1989).
3. Loy,John W., Mc. Pherson, Barry D. & Kenyon, Gerald. Sport & Social Systems. Philippines: Addison –Wesley Publishing Company (1978).
4. Laker, Anthony. The Sociology of Sport and Physical Education. London: Routledge Falmer. 2002.
5. Yiannakis, Andrew & Merrill J. Meluic. Contemporary Issues in Sociology of Sport. Champaign Ill: Human Kinetics. 2001.

**PEL-908: SPORTS MANAGEMENT AND ADMINISTRATION****Credits-4-0-0****Mid Semester Examination: 20% weightage****End Semester Examination: 80% weightage****Instructions for the Paper Setters:**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

Meaning and concept of human resource in sports, Role of sports professionals in developing human resources in society, Public relations.

**SECTION-B**

Meaning and changing concepts of leadership in sports, Need and significance of leadership, Leadership traits and types of leadership.

**SECTION-C**

Management of sports in schools, colleges and Universities, Inter – University, District, State and National levels.

**SECTION-D**

Basic functions in the process of management: Planning, organizing, Controlling, Staffing and directing for the activity based programme

**References:**

1. Allen, L.A. Management & Organization. Kogakusha Co. Tokyo, 1988.
2. Davis, Keith Human Behaviour at work, (New Delhi : Tata Mc Graw-Hill Publishing Compnay Ltd., 1981).
3. Francis, James G, and Millbourn Cane Jr. Human Behaviour in the work Environment, (California : Goodyard Publishing Company, Inc . 1980).
4. Frost, B. and Lockhart, B.D. Marshall Stanley, J. Administration of Physical Education and Atlatics Concepts.
5. Hert, Renis, New Patterns of Management, McGraw Hill, 1961.
6. Horine, LARRY, Administration of Physical Education and Sports Programme, (Boul vand :Won C Brown ublisher 1991), 2nd Ed.
7. Sivia, G.S. Sports Management in Universities, New Delhi: A.I.U. Deen Dayal Upadhyaya Marg, 1991.
8. Sandhu, K. Sports Dynamics: Psychology, Sociology and Management.
9. Railey, Jim H. and Tsauner, Peggy, Railey, Managing Physcial Education fitness and sports performances (London: May fill Pubishig Company, 1988) 2nd Ed. and Practices (New Delhi: University Book Stall , 1992) 2nd Ed.
10. Whitaside, Lynn. Effective Management Techniques for getting things Done (Delhi : Vikas Publication 1971.

**PEL-909: YOGA AND HEALTH EDUCATION****Credits-4-0-0****Mid Semester Examination: 20% weightage****End Semester Examination: 80% weightage****Instructions for the Paper Setters:**

Eight questions of equal marks (Specified in the syllabus) are to be set, two in each of the four Sections (A-D). Questions may be subdivided into parts (not exceeding four). Candidates are required to attempt five questions, selecting at least one question from each Section. The fifth question may be attempted from any Section.

**SECTION-A**

Meaning and Definition of Yoga, Scope of Yoga, Aims and Objectives of Yoga, Systematization of Yoga by sage Patanjali: Eight limbs of Yoga, Yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhayana, and Samadhi.

**SECTION-B**

Pranayama: – Meaning, Objectives and varieties of Pranayama, Techniques and Benefits of Ujjai, Bhastrika, Shita/ Sitkari and Bharamati, Pranayamas.  
Sudhi Kriyas: – Techniques and Effects of Neti (Jal, Sutra) Kapalbhathi, Nauli and Vaman Bhauti.

**SECTION-C**

Meaning and Definition, Importance of Health Education, Need and Scope of Health Education, Meaning, Definition and Dimension of Health, Inter-relationship among various dimensions, Factors effecting health.

**SECTION-D**

Definition, meaning of Fitness & Wellness, Components of wellness, Nutrition – macro & Micronutrients, Role of Nutritional Elements in the Body, Caloric Value of Different Nutrients, Carbohydrates Loading.

**References:**

1. Rajayoga - Swami Vivekananda - Ramakrishna Ashrama Publications.
2. The Science of Yoga - Taimini - Theosophical Publishing House, Adyar, Madras.
3. Even, A Willa Everyday Safety, Chicago lyors & Carnahao, 1990.
4. First Aid to The Injured, New Delhi: St. John Ambulance Association, 1989.
5. Ghosh B.N.A Treatise on Preventive & Social Medicine, Calcutta: Scientific.
6. Hygienic and Public Health and Public Health, 1991.
7. Hanlon John. J., Principles of Public Health Administration, 1992.
8. Jonson, Alth in Action. Halt Bhincment and Winston, 1977.
9. Moss et.al., Health Education, National Education, Education Association of U.T.A.1986.
10. Nemir. A. The School Health Education, New York: Harper and Brother, 1991