

Syllabus For B.Voc in Physical Education
 Programme Template: B.Voc Course (CBCS) in Physical Education
 Gauhati University

Semester	CORE COURSE (12 papers, 72credits)	Ability Enhancement Compulsory Course(AECC) (2 papers, 8 Credits)	Skill Enhancement Course (SEC) (4 papers, 16 credits)	Discipline Specific Elective(DSE) (6 papers, 36 credits)
I	PED-VC-1016	ENG-AE-1014		
	PED-VC-1026			
	PED-VC-1036			
II	PED-VC-2016	ENV-AE-2014		
	PED-VC-2026			
	PED-VC-2036			
III	PED-VC-3016		PED-SE-3014	
	PED-VC-3026			
	PED-VC-3036			
IV	PED-VC-4016		PED-SE-4014	
	PED-VC-4026			
	PED-VC-4036			
V			PED-SE-5014	PED-VE-5016
				PED-VE-5026
				PED-VE-5036
VI			PED-SE-6014	PED-VE-6016
				PED-VE-6026
				PED-VE-6036

Course Structure for CBCS in B. Voc. in Physical Education as per requirement of UGC & Gauhati University

Semester	Course Type	Paper Code	Paper Name	Paper Type	Credit
I	Core course	PED-VC-1016	Foundation of Physical Education and Sports Science	Theory + Practical	4+2
		PED-VC-1026	Fundamental Exercise, Marching And Rhythmic	Theory + Practical	4+2
		PED-VC-1036	Horizon of Exercise and Sports Science	Theory + Practical	4+2
	Ability Enhancement Compulsory Course	ENG-AE-101	English Communications	Theory	4
II	Core course	PED-VC-2016	Health, Fitness And Wellness	Theory + Practical	4+2
		PED-VC-2026	Anatomy and Exercise Physiology	Theory + Practical	4+2
		PED-VC-2036	Yoga Education	Theory + Practical	4+2
	Ability Enhancement Compulsory Course	ENV-AE-2014	Environmental Science	Theory	4
III	Core course	PED-VC-3016	Methods in Physical Education	Theory + Practical	4+2
		PED-VC-3026	Psycho-Social Aspect of Sports	Theory + Practical	4+2
		PED-VC-3036	Sports Nutrition	Theory + Practical	4+2
	Skill Enhancement Course	PED-SE-3014	Officiating in Games and Sports	Theory + Practical	2+2
IV	Core course	PED-VC-4016	Basics of Sports Training	Theory + Practical	4+2
		PED-VC-4026	Track & Field	Theory + Practical	4+2
		PED-VC-4036	Indigenous Sports	Theory + Practical	4+2
	Skill Enhancement Course	PED-SE-4014	Application of Information and Technology in Sports	Theory + Practical	2+2
V	Skill Enhancement Course	PED-SE-5014	Measurement & Evaluation in Sports	Theory + Practical	2+2
	Discipline Specific Elective	PED-VE-5016	Exercise and Sports Therapy	Theory + Practical	4+2
		PED-VE-5026	Ball Games-I: Football & Volleyball	Theory + Practical	4+2
		PED-VE-5036	Project / Field Work	Practical	6
VI	Skill Enhancement Course	PED-SE-6014	Sports Technology	Theory + Practical	2+2
	Discipline Specific Elective	PED-VE-6016	BALL GAMES-II: BASKET BALL And CRICKET	Theory + Practical	4+2
		PED-VE-6026	Weight Lifting Or Judo	Theory + Practical	4+2
		PED-VE-6036	Internship	Practical	6

DETAILED SYLLABUS
SEMESTER-I
B.Voc in PED, Semester – I

PED-VC-1016: FOUNDATION OF PHYSICAL EDUCATION AND SPORTS SCIENCE

Full Marks-100

Credit Point -06

Theory=60, Practical 20, Internal=20 (Sessional=10, Assignment=6, Attendance=4)

- Objectives:
1. To appraise the knowledge of Foundation of Physical Education.
 2. To appraise the knowledge on basis of life.

Unit 1. Introduction and Historical Foundation

20 marks

- 1.1. Aim, Objectives and Definition of Physical Education and Sports Science.
- 1.2. History of Physical Education and Sports Science in India- with special reference to Ayurveda and Yoga Vayayama.
- 1.3. World History of Physical Education and Sports Science- with special reference to Olympic.
- 1.4. Gurudeva Rabindranath Tagore's Concept of Physical Education and Sports Science.

Unit 2. Physiological Foundation

10 marks

- 2.1. Biological basis of life.
- 2.2. Growth and Development: Stages, Factors and Principles.
- 2.3. Age: Chronological, Anatomical, Physiological, and Mental age.
- 2.4. Modern concept of Inactive to Active life style.

Unit 3. Psychological Foundation

10 marks

- 3.1. Brain and Human Psychology
- 3.2. Learning and Motor Learning
- 3.3. Play and Play Theory
- 3.4. Human Personality factors

Unit 4. Biomechanical Foundation

10 marks

- 4.1. Movement and Locomotion
- 4.2. Concept of Bio-energy
- 4.3. Kinetic and Kinematic: over view
- 4.4. Biomechanics in Daily life and Sports

Unit 5. Sociological Foundation

10 marks

- 5.1. Society and Socialization
- 5.2. Impact of Sports in Society
- 5.3. Traditional and Recreational Game
- 5.4. Cooperation and Competition in Sports: National and International level

PRACTICAL: (20 marks)

1. Traditional Sports of North East India (Any one): Rosi Tona (Rope Pulling), Dor (Running) etc.

RECOMMENDED BOOKS

1. Graham, G. (2001). *Teaching Children Physical Education: Becoming a Master Teacher*. Human Kinetics, Champaign, Illinois, USA.
2. Kamlesh, M.L. & Singh, M.K. (2006) *Physical Education* (Naveen Publication).
3. Lau, S.K. (1999) *Great Indian Players*, New Delhi, Sports.
4. Lumpkin, A. (2007) *Introduction to Physical Education, Exercise Science and Sports Studies*, McGraw Hill, New York, USA.
5. Siedentop, D. (2004) *Introduction to Physical Education, Fitness and Sport*, McGraw Hill Companies Inc., New York, USA.
6. Shaffer, D.R. (2002) *Development Psychology: Childhood and Adolescence*. Thomson, Sydney, Australia.
7. Shukla, (2000) *Mother on Education*, National Council of Teacher Education, New Delhi.
8. Singh, A. et al. (2000) *Essential of Physical Education*, Kalyani Publishers, Ludhiana, Punjab.
9. Wuest, D.A. & C.A. Bucher (2006) *Foundation of Physical Education, Exercise Science, and Sports*. McGraw Hill Companies Inc.; New York, USA.
10. Kansal, D.K. (2012) *A Practical Approach to Test Measurement and Evaluation Sports and Spiritual Science Publication*, New Delhi.

B.Voc in PED, Semester - I

PED-VC-1026: FUNDAMENTAL EXERCISE, MARCHING AND RHYTHMIC

Full Marks-100

Credit Point -06

Theory=60, Practical=20, Internal=20 (Sessional=10, Assignment=6, Attendance=4)

- Objectives:
1. To appraise the knowledge of Fundamental Exercises.
 2. To appraise the knowledge of Marching, Calisthenics & Aerobics.

- Unit 1. Fundamental Exercise 20 marks
1. 1. Head, Neck and Facial Exercises
 1. 2. Shoulder and Chest Exercises
 1. 3. Abdominal, Hip and Trunk Exercises
 1. 4. Upper arm, lower Arm, Wrist and Finger Exercises
 1. 5. Thigh, Knee, Calf, Ankle and Finger Exercises
- Unit 2. Marching 20 marks
2. 1. Fall in, Attention, Stand at Ease, Eyes right – Eyes front (Dressing), Turning right, left & about.
 2. 2. Marching: Arm-Leg coordination, Marching, Mark Time, Quick march, Halt, about turn while marching and marching with Salute.
 2. 3. Dismissal
- Unit 3. Free hand Exercise (CALISTHENICS & AEROBICS) 10 marks
3. 1. Callisthenics – Two count, four count, eight count, sixteen count, thirty-two count
 3. 2. Aerobics- Basic turns, jumps, leaps with Music
- Unit 4. Apparatus Exercise 10 marks
4. 1. Exercise with wands, dumbbell, hoops,
 4. 2. Exercise with flags, clubs, bamboos

PRACTICAL: (20 marks)

1. Fundamental Exercises (Head, Neck and Facial Exercises; Shoulder and Chest Exercises, etc.)
2. Free hand Exercise (CALISTHENICS & AEROBICS)

Books recommended:

1. Singh A et al (2016). Essential of Physical Education. Kalyani Publisher, New Delhi

B.Voc in PED, Semester - I

PED-VC-1036: HORIZON OF EXERCISE AND SPORTS SCIENCE

Full marks: 100

Credit Point: 06

Theory=60, Practical=20, Internal=20 (Sessional=10, Assignment=6, Attendance=4)

Objective: 1. To acquaint students with the historical and contemporary Perspective of Physical Education and Sports Science

2. To acquaint students with history and fundamentals

Unit 1. Historical Perspective of Physical Education 10 marks

1.1. History of physical education in Ancient time. Greek, Rome, Athens, Sparta

1.2. Physical Education in ancient India Vedic epic and Buddhist Periods

1.3. Physical Education during Pre and post-Independence Period in India.

Unit 2. Introductions to Education and Physical Education 10 marks

2.1. Meaning and definition of Education and Physical Education

2.2. Need, importance and scopes of Physical Education

2.3. Aims and objective of Physical education

Unit 3. Introductions to Sports Science and its Branches 10 marks

3.1. Exercise and sports Physiology and practical application

3.2. Exercise and sports Biomechanics and practical application

3.3. Exercise and sports Psychology and practical application.

Unit 4. Introduction to Social Science (Sport and Society) 20 marks

4.1. Meaning and definition of sport sociology;

4.2. Socialization through games and sports;

4.3. Relationship between politics and sports;

4.4. Social Stratification and sports;

Unit 5. Olympic Movement 10 marks

5.1. Ancient Olympic games

5.2. Modern Olympic Games

5.3. Revival of Modern Olympic Games,

PRACTICAL: (20 marks)

1. Organization and conduct of Games and ceremonies (opening and closing ceremonies)

RECOMMENDED BOOKS

1. Kamlesh M.L., "Physical Education, Facts and foundations" Faridabad P.B. Publications.
2. Barrow Harold M., "Man and movements principles of Physical Education" 1978.
3. Ravanes R.S., "Foundation of Physical Education" Houghton Millin Co. Boston USA (1978)
4. Singh Ajmer et.al., "Essentials of Physical Education", Kalyani Publishers Ludhiana Second revised Addition 2008.
5. Deleh V.A., "World History of Physical Education", prentice Hall Inc.
6. Loy, Lohn W. Dr. and Kenyon, Gerald S. Sports Culture and Society (Philadelphia: The MacMillan Co. 1969).
7. Brailsford Dennis Sports and Society, (London- Routledge and Kegan Paul 1969).

SEMESTER-II

B.Voc in PED, Semester - II

PED-VC-2016: HEALTH, FITNESS AND WELLNESS

Full Marks-100

Credit Point -06

Theory=60, Practical=20, Internal=20 (Sessional=10, Assignment=6, Attendance=4)

- Objectives:
1. To appraise the knowledge of Health, fitness & wellness.
 2. To appraise the practical knowledge about games & sports.

Unit 1. Health and its' dimension – Physical, Mental, Social and Spiritual.	10 marks
Unit 2. Health related fitness – Body Composition, Cardiovascular Endurance, Muscular Strength, Muscular Endurance, Flexibility.	20 marks
Unit 3. Performance related fitness – Speed, Power, Balance, Agility, Coordination and Reaction Time.	10 marks
Unit 4. Concept and Components of Wellness.	10 marks
Unit 5. Nutrition and Balanced Diet.	10 marks

Practical: (20 marks)

1. Orientation of fitness centre equipments and wet zone.

Books recommended:

1. David K. Miller & T. Earl Allen, Fitness, A life time commitment, Surjeet Publication Delhi 1989.
2. Dr. A.K. Uppal, Physical Fitness, Friends Publications(India), 1992
3. Ghosh, B.N. "Treaties of Hygiene and Public Health".
4. Terras S. (1994) Stress, How Your Diet can Help: The Practical Guide to Positive Health Using Diet, Vitamins, Minerals, Herbs and Amino Acids, Thorons.
5. Nutrition Encyclopedia, edited by Delores C.S. James, The Gale Group, Inc.
6. Nemir A. 'The School Health Education" (Harber and Brothers, New York).
7. Lawrence, Debbie, Exercise to Music. A & C Black Publishers Ltd. 37, Sohe Square, London 1999
8. Robert Malt. 90 day fitness plan, D.K. publishing, Inc. 95, Madison Avenue, New York 2001
9. Warner W.K. Oeger & Sharon A. Hoeger, Fitness and Wellness, Morton Publishing Company, 1990.

PED-VC-2026: ANATOMY AND EXERCISE PHYSIOLOGY

Full Marks- 100

Credit Point -06

Theory=60, Practical=20, Internal=20 (Sessional=10, Assignment=6, Attendance=4)

- Objectives: 1. To appraise the knowledge of anatomy and physiology.
2. To appraise the knowledge of various organs and systems of the body.
3. To appraise the knowledge about the effect of exercise and training on various systems.

Unit 1. Basic of Anatomy Physiology and Exercise Physiology 10 marks

1. 1. Meaning and definition
1. 2. Brief history
1. 3. Importance
1. 4. Meaning and Concept of cell, tissue, organ and system
1. 5. Microscopic structure and function of cell
1. 6. Types, structure and function of tissues

Unit 2. The Musculo-Skeletal System: 10 marks

- 2.1. Skeletal System
 - a. Meaning, different parts of human skeleton and their functions
 - b. Types of Bones
 - c. Structure and function of Bones
 - d. Skeletal deformities
 - e. Types Structure and function of joints
 - f. Effect of exercise and training on skeletal system
- 2.2. Muscle
 - a. Meaning, Types, Structure and functions
 - b. Types and Mechanism of muscular contraction
 - c. Muscle fiber types
 - d. Effect of exercise and training on muscular system

Unit 3. Cardio-respiratory system: 20 marks

3. 1. Basic anatomy of cardiovascular system
 - a. Structure and function of heart
 - b. Blood vessels – types and functions
 - c. Blood composition and functions
 - d. Blood circulation and cardiac cycle
 - e. Heart rate, Stroke volume, Cardiac output etc
 - f. Effect of exercise and training on Cardiovascular system

3.2. Basic anatomy of respiratory system.

- a. External respiration and cellular respiration
- b. Respiratory muscles
- c. Mechanics of breathing
- d. Vital capacity, Oxygen debt, Second wind, stitch, Lung capacity, tidal volume, Dead space etc.
- e. Effect of Exercise and training on respiratory system

Unit 4. Nervous system and Endocrine system:

20 marks

4. 1. Division- structural -CNS and PNS, functional- SNS and ANS

- a. NMJ, Synapse
- b. Neural control over muscular contraction
- c. Concept of Neuropsychology
- d. Effect of exercise and training on Nervous system

4. 2. Concept of endocrinology, Hormone

- a. Structure and function of various endocrine glands- Pituitary, Thyroid, Adrenal, Pancreas, sex gland etc
- b. Concept of Immune system
- c. Effect of exercise and training on endocrine system

PRACTICAL: (20 marks)

1. Identification of major bones
2. Identification of major muscles
3. Measurement of Blood Pressure
4. Measurement of Vital capacity
5. Estimation of Physical Fitness Index

Recommended Books

1. Pearce Evelyn (1973) Anatomy and Physiology for Nurses, Oxford University Press, Kolkata
2. CC Chatterjee Human Physiology, CBS Publishers & Distributers Pvt Ltd
3. McArdle WD, Katch FI, Katch VL. Essentials of Exercise Physiology 2nd ed. Philadelphia: Lippincott Williams and Wikins: 2000
4. Fax EL. Sports Physiology. Tokyo: Holt Saunders; 1984.

B.Voc in PED, Semester - II
PED-VC-2036: YOGA EDUCATION

Full Marks-100

Credit Point -06

Theory= 60, Practical= 20, Internal= 20 (Sessional= 10, Assignment= 6, Attendance= 4)

Objective: This course will enable students to have physical, mental and emotional stability.

UNIT -1: Introduction and Trends of Yoga 10 marks

- 1.1 Meaning and Definition of Yoga
- 1.2 History and Philosophical aspects of Yoga
- 1.3 Need and Importance of Yoga in Physical Education and Sports Science
- 1.4 Mission and vision of AYUSH System

UNIT -2: Methods of Yoga 10 marks

- 2.1 Karma Yoga, Jnana Yoga, Bhakti Yoga and Raja Yoga
- 2.2 Steps of Hatha Yoga
- 2.3 Steps of Ashtanga Yoga
- 2.4 Yoga Therapy

UNIT –3: Means of Yogic Practices –I 10 marks

- 3.1 Introduction to Prayer and Its Importance
- 3.2 Concept of Sthula and Sukshma Vyama
- 3.3 Concept and Practice of Surya Namaskar
- 3.4 Concept of Kriya, Types and Benefits of Kriya

UNIT–IV: Means of Yogic Practices –II 20 marks

- 4.1 Concept of Asana, Types and Benefits of Asana
- 4.2 Concept of Pranayama, types and benefits of Pranayama
- 4.3 Concept and types of Mudra and Bandha
- 4.4 Concept of Meditation and its benefits

UNIT–V: Application of Yoga 10 marks

- 5.1 Yoga for Health and Wellness
- 5.2 Yoga for Aged Population
- 5.3 Yoga for Elderly able population
- 5.4 Yoga for Elite Sports Persons

PRACTICAL: (20 marks)

1. Demonstration of yogic practices: Surya Namaskar, Asana, Meditation, Mudra, Pranayama etc.

Books recommended:

1. B.K.S. Yengar, "Light and Yog. Yoga Deepika", George Allen of Unwin Ltd., London, 1981.
2. Braj Bilari Nigam, Yoga Power "The Kpath of Personal achievement" Domen and Publishers, New Delhi, 2001.
3. Goswami, S.S. Hathayoga, Fowler, London.
4. Indira Devi, "Yoga for You", Gibbs, Smith Publishers, Salt Lake City, 2002 Domen and Publishers, New Delhi – 2001.
5. Jack Peter, "Yoga Master the Yogic Powers", Abhishek Publications, Chandigarh, 2004.
6. Janice Jerusalem, "A Guide To Yoga" Parragon Bath, Baiihe-2004.
7. T.V.V. Desikachar, "The Heart of Yoga" Huner Traditions International, Rochester, 1995 Janice Jerusalem, A Guide to Yoga".
8. The National Fitness Corps Syllabus for Schools, Ministry of Education, Government of India, 1965.
9. Yoga se Arogya, Indian Yoga Society, Sagar.

SEMESTER-III

B.Voc in PED, Semester – III

PED-VC-3016: METHODS IN PHYSICAL EDUCATION

Full Marks-100

Credit Point -06

Theory=60, Practical=20, Internal=20 (Sessional=10, Assignment=6, Attendance=4)

Objective: This course will help students acquire skill on teaching methods in physical education.

- Unit-I
1. Meaning, scope and importance of teaching methods in physical education. 20 marks
 2. Basic types of teaching methods.
 3. Factors affecting teaching methods.
 4. Command and types of command:
 - a. For beginners
 - b. For advance groups
 - c. For large groups
 - d. For complicated exercises
 5. Techniques of commanding:
 - a. Counting
 - b. Continuous counting
 - c. Counting the beat
 - d. Rhythmic counting
 - e. Counting aloud
 - f. Use of whistle
 - g. Procession instruments and music
- Unit-II
1. Preliminary preparation: 10 marks
 - a. Personal preparation
 - b. Technical preparation
 - c. Steps of preparation
 2. Presentation Techniques:
 - a. Orientation
 - b. Verbal explanation
 - c. Demonstration
 - d. Explanation
 - e. Discussion
 - f. Supervision
 - g. Evaluation
 3. Teaching aids and types of teaching aids
 - a. Motion pictures
 - b. Charts & diagrams
 - c. Models and exhibitions
 - d. Musical instruments and recording

- Unit-III 1. Lesson planning and objectives of lesson planning. 10 marks
2. Parts of lesson planning and their order:
 - a. Introductory part
 - b. Fundamental or main body part
 - c. Concluding part
 3. Types of lesson planning:
 - a. General lesson plan
 - b. Specific lesson plan
 4. Principles of lesson planning.
 5. Lesson plan evaluation and re-planning.

- Unit-IV 1. Class formation, its values and types of class formation: 20 marks
- a. Single line
 - b. Double line
 - c. File formation
 - d. Semi-circle
 - e. Circle formation
 - f. Spoke
 - g. Horse shoe
 - h. L- shape
 - i. Triangular
 - j. Rectangular
 - k. Double sided
 - l. Three sided
 - m. Free formation
2. Supervision and inspection of teaching methods.
 3. Methods of supervision and qualities of a supervisor.
 4. Evaluation of teaching methods.
 5. Need and importance of evaluation.

PRACTICAL: (20 marks)

1. Preparing a lesson plan
2. Demonstration of Techniques of commanding: Counting, Use of whistle, Procession instruments and music Etc.

Recommended Books:

1. Kamalesh M.L. and Sangral M.S., "Methods in Physical Education" Parkash Brothers, 5,6 Books Market Ludhinana 1986.
2. Tirunarayan and Hariharan, "Methods in Physical Education." M/S C.T. and S.H.Allagappa College of Physical Education Karaikudi-4.
3. Kazmer, H.C. and Cassidy, R., "Methods in Physical Education" W.B. Saunders and Co. Philadelphia, London 1958.
4. Charrles, E. Forrythe and Irrn A. Keller, "Administration of High School Athletics." Prentice Hall Inc. Englewood, N.J. 1979.

PED-VC-3026: PSYCHO-SOCIAL ASPECT OF SPORTS

Full Marks-100

Credit Point -06

Theory=60, Practical=20, Internal=20 (Sessional=10, Assignment=6, Attendance=4)

- Objectives:
1. To appraise the knowledge of Psychology and Sociology.
 2. To appraise the knowledge of Learning, PEDrsonality, Motivation, Emotion & Sports.
 3. To appraise the knowledge about the effect of exercise and training on various aspects of Psycho-sociology.

Unit 1. Introduction to Psycho-Social aspects of Sports 20 marks

- a) Meaning and definition of Psychology, Educational Psychology, Sociology.
- b) Meaning, nature and scope of Sports Psychology and Sports Sociology.
- c) Psychological factors effecting sports Performance.
- d) Need and importance of physical activities and sports in the modern society.
- e) Games and sports as man's cultural heritage.

Unit .2 Personality, Motivation and Emotion: 20 marks

2. 1. Personality:
 - a. Meaning, definition and nature.
 - b. Role of Physical activities and games and sports in the development of Personality.
2. 2. Motivation:
 - a. Meaning, definition, types and importance.
 - b. Meaning of motive, need, drive, incentive and achievement.
2. 3. Emotion
 - a. Meaning, definition, nature and types of Emotion.
 - b. Meaning of Anxiety and its effect on sports PEDrformance.

Unit 3. Sports and Society 20 marks

- a) Socialization through games and sports.
- b) Sports as a social occurrence.
- c) Social stratification in sports.
- d) Sports and Women.
- e) Sports Politics and National/International Integration.

PRACTICAL: (20 marks)

1. Badminton: Rules and their interpretations and duties of officials

Recommended Books:

1. Buchar Charles A, "Foundations of Physical Education", 8th Ed., C. V. Mosby Co., St. Luis, 1978.
2. Cox, "Sports Psychology", Human Kinetics Publishers, Champaign, Illinois.
3. Kamlesh M. L, "Psychology in Physical Education and Sports", Metropolitan Book Co., New Delhi 1998.
4. Sharma S. R., "Sociological Foundation in Physical Education and Sports", Friends Publication, New Delhi.
5. Singh Kanwaljeet, "Sociology of Sports", Friends Publication, New Delhi.
6. Singh Bhupinder, "Sports Sociology – An Indian PEDrsPEDctive", Friends Publication, New Delhi.
7. Silva John M and Roberts, "Psychological Foundation of Sports", Human Kinetics Publishers, Champaign, Illinois.
8. Singh A, Gill J S, Bais J, Brar R S. and Rathee N K, "Essentials of Physical Education", Kalyani Publishers, Jalandhar, 2003.
9. Skinner Charles E., "Essentials of Educational Psychology", Asia Publishing House, New Delhi, 1961.
10. Talamini J. T. and Page C. H., "Sports and Society – an Anthology", Little Brown & Co., Boston, 1973.
11. Latest Official Rule Books of International Federations of particular game/sport and Coaching manuals will be utilized.
12. www.bwfbadminton.org
13. <http://www.badminton-information.com/>
14. www.badmintonindia.org

B.Voc in PED, Semester - III

PED-VC-3036: SPORTS NUTRITION

Full Marks-100

Credit Point -06

Theory=60, Practical=20, Internal=20 (Sessional=10, Assignment=6, Attendance=4)

Unit I: Basics of Food and Nutrition 10 marks

1. Meaning and definition of food, nutrition and balanced diet.
2. Classification and functions of food.
3. Nutrients and food groups.
4. Role of nutrition in health.

Unit II: Basics of Sports Nutrition 20 marks

1. Meaning and definition of sports nutrition
2. Significance of nutrition in sports/athletic Performance
3. Concept of Recommended Dietary Allowances (RDA). Factors affecting RDA
4. RDA of different macro and micro nutrients.

Unit III: Macro Nutrients 10 marks

1. Carbohydrates: Definition, source, classification functions and dietary requirements.
2. Protein: Definition, source, classification, functions and dietary requirements.
3. Fat: Definition, source, classification, functions and dietary requirements.
4. Macro nutrients and sports Performance

Unit IV: Micronutrients 10 marks

1. Vitamins: Definition, classification, sources, RDA and functions
2. Minerals: Definition, classification, sources, RDA and functions.
3. Role of Vitamins in Sports Performance.
4. Role of Minerals in Sports Performance.

Unit V: Water 10 marks

1. Water: Source, functions and requirements
2. Water balance and its regulation.
3. Water, electrolyte balance and its regulation.
4. Concept and application of sports drinks.

PRACTICAL: (20 marks)

1. Table tennis: Rules and their interpretations and duties of officials

Recommended books:

1. Terras S. (1994) *Stress, How Your Diet can Help: The Practical Guide to Positive Health Using Diet, Vitamins, Minerals, Herbs and Amino Acids*, Thorons.
2. *Nutrition Encyclopedia*, edited by Delores C.S. James, The Gale Group, Inc
3. Boyd-Eaton S. et al (1989) *The Stone Age Health Programme: Diet and Exercise as Nature Intended*. Angus and Robertson.
4. Latest Official Rule Books of International Federations of particular game/sport and Coaching manuals will be utilized.

B.Voc in PED, Semester - III

PED-SE-3014: OFFICIATING IN GAMES AND SPORTS

Total Marks: 100

Total Credit: 4

Theory=60, Practical=20, Internal=20 (Sessional=10, Assignment=6, Attendance=4)

- Unit 1. History, Organization, Competitions & Awards 10 marks
- a. History: Historical Development of the Game/Sport at the National and International levels.
 - b. Organization: National Bodies controlling the sport and their affiliated units. International bodies controlling the sport and their affiliated units.
 - c. Major National and International competitions / Tournaments.
 - d. National and International Awards
- Unit 2. Rules & Regulations 20 marks
- a. Rules, Officiating
 - b. Procedures and their interpretations.
 - c. Officiating Techniques.
 - d. Layout and marking of play areas
- Unit 3. Technique & Tactics 20 marks
- a. Techniques / Skills. Classification of Techniques/Skills.
 - b. Technical/Skill Training. Preparatory Exercise. Basic Exercise. Supplementary Exercise.
 - c. Tactics and Strategy.
 - d. Different tactical concepts applicable to the game/sport. Tactical Training
- Unit 4. Competition and Fitness 10 marks
- a. Competition. Meaning, type and merits of competition.
 - b. Main and build up competitions. Preparation for competition.
 - c. Evaluation General Fitness Tests.

PRACTICAL: (20 marks)

1. Specific Fitness Tests, Performance & Skill Tests etc.
2. Officiating any one game

RECOMMENDED BOOKS:

1. Singh Hardayal - Science of Sports Training, DVS Publications, 1997.
2. Manilal K.P Planning in Sports, Sports Publication, 2008.
3. Bumpa Tudor O - PEDriodization: Theory and Methods of Training, Human Kinetics, 1999
4. A. K - Principles of Sports Training, Friends Publication (India), 2001.

B.Voc in PED, Semester - IV
PED-VC-4016: BASICS OF SPORTS TRAINING

Full Marks-100 Credit Point -06
Theory=60, Practical=20, Internal=20 (Sessional=10, Assignment=6, Attendance=4)

UNIT-I	1. Introduction 1.1 Meaning and Definitions of terms: Sports Training, Coaching, Conditioning, Training Load, Adapted. 1.2 Aim and Tasks of Sports Training. 1.3 Principles of Sports Training.	10 marks
UNIT - II	2.1 Training Load 2.1.1 Types of Training Load. 2.1.2 Features / Factors of Training Load. 2.2 Phases and means of Recovery 2.3 Over Load 2.3.1 Meaning of over load. 2.3.2 Causes of Symptoms of over load. 2.3.3 Tracking of over load.	10 marks
UNIT - III	3.1 Strength 3.1.1 Concept and types of Strength. 3.1.2 Methods of strength training. 3.2 Endurance 3.2.1 Concept and types of endurance. 3.2.2 Methods of endurance training. 3.3 Speed 3.3.1 Concept and Classification of Speed. 3.3.2 Methods of developing speed abilities : Reaction speed, Speed of Movement speed, Acceleration speed, Sprinting speed / Locomotion Speed, Speed endurance	20 marks
UNIT - IV	4.1 Technical Training 4.1.1 Definition of terms : Technique and Skill. 4.1.2 Process of Skill Learning. 4.2 Planning 4.2.1 Principles of Planning. 4.2.2 Types of Training Plan. 4.3. Periodization 4.3.1 Meaning of Periodization. 4.3.2 Aim and Contents of Periods. 4.3.3 Types of Periodization.	20 marks

PRACTICAL: (20 marks)

1. Arm wrestling: Rules and their interpretations and duties of officials

RECOMMENDED BOOKS:

1. Dick W. Frank, Sports Training Principles 4th ed. (London : A & C Black Ltd.), 2002.
2. Eane, D. Principles of Sports Training (Berlin : Sport Veulag), 1982.
3. Matveyev, L.P. Fundamentals of Sports Training (Moscow : Progress Publishers), 1977.
4. Singh, Hardayal, Science of Sports Training (New Delhi : DVS Publications), 1991.
5. Tudor B. Bompa & Mihal C. Carera, Periodiation Training for Sports, Human Kinetics, 2005 (IInd Edition).
6. Uppal, A.K. Principles of Sports Training (Delhi : Friends Publication) 2001.
7. Yograj Thani, Sports Training, Sports Publication - 2003.

B.Voc in PED, Semester - IV

PED-VC-4026: Track & Field

Full Marks-100

Credit Point -06

Theory=60, Practical=20, Internal=20 (Sessional=10, Assignment=6, Attendance=4)

Objective: This course will help students to gain knowledge and develop skill on basic throwing and jumping events.

Unit 1. Historical development of the throwing events at national and international levels. 20 marks

1.1 Shot Put

- 1.1.1 O'Brien Techniques: Grip, Stance, Glide, Release and Reserve.
- 1.1.2 Ground Marking, Rules and Officiating.

1.2 Discus Throw

- 1.2.1 Grip
- 1.2.2 Stance
- 1.2.3 Release
- 1.2.4 Reserve

1.3 Javelin Throw

- 1.3.1 Grip, Stance, release and Reserve
- 1.3.2 Ground Marking

Unit 2. FUNDAMENTAL SKILLS 20 marks

2.1 Running :

- 2.1.1. Starting techniques: Standing start, Crouch start and its variations, Proper use of blocks.
- 2.1.2. Finishing Techniques: Run, Through, Forward lunging, Shoulder Shrug
- 2.1.3. Ground Marking, Rules and Officiating

2.2 Hurdles:

- 2.2.1. Fundamental Skills- Starting, Clearance and Landing Techniques.
- 2.2.2. Types of Hurdles
- 2.2.3. Ground Marking and Officiating

2.3 Relays:

- 2.3.1 Fundamental Skills
- 2.3.2 Various patterns of Baton Exchange
- 2.3.3 Understanding of Relay Zones

Unit 3. Historical development of the jumping events at national and international levels. 20 marks

3.1 Long Jump

- 3.1.1 Hang Style: Approach Run, Take off, Flight in the air and Landing,
- 3.1.2 Ground Marking, Rules and Officiating

3.2 High Jump (Straddle Roll)

- 3.2.1 Approach Run,
- 3.2.2 Take off
- 3.2.3 Clearance over the bar.
- 3.2.4 Landing

3.3 Triple Jump:

- 3.3.1 Basic Skills
- 3.3.2 Ground Marking
- 3.3.3 Interpretation of Rules and Officiating

PRACTICAL: (20 marks)

1. Skill Proficiency, Officiating

Books recommended:

1. Latest Official Rule Books of International Federations of particular game/sport and Coaching manuals will be utilized.

B.Voc in PED, Semester – IV

PED-VC-4036: INDIGENOUS SPORTS

KABADDI

Or

KHO KHO

Full Marks-100

Credit Point -06

Theory=60, Practical=20, Internal=20 (Sessional=10, Assignment=6, Attendance=4)

Objectives: This course will enable students to learn our indigenous game and develop their proficiency on these games.

KABADDI

- | | | |
|---------|--|----------|
| Unit 1. | Introduction of the game and historical development with special reference to India. | 20 marks |
| Unit 2. | Important tournaments held at National and International levels and distinguished Personalities related to the game. | 10 marks |
| Unit 3. | Fundamental skills | 30 marks |
- 3.1. Skill in raiding –
 - 3.1.1. Touching with hand
 - 3.1.2. Various kicks
 - 3.1.3. Crossing of Baulk line
 - 3.1.4. Crossing of Bonus line
 - 3.1.5. Luring the opponent to Catch
 - 3.1.6. Pursuing
 - 3.2. Skill of Holding the raider –
 - 3.2.1. Various formations
 - 3.2.2. Catching from particular position
 - 3.2.3. Different catches
 - 3.2.4. Luring the raider to take particular position so as to facilitate catching
 - 3.2.5. Chain formation and techniques
 - 3.3. Additional skill in raiding
 - 3.3.1. Bringing the Antis into particular position
 - 3.3.2. Escaping from various holds
 - 3.3.3. Techniques escaping from various chain formation
 - 3.3.4. Combined formations in offence
 - 3.3.5. Combined formations in defence

PRACTICAL: (20 marks)

1. The Game: Rules and their interpretations and duties of officials

KHO-KHO

- Unit 1. Introduction of the game and historical development with special reference to India. Important tournaments held at National and International levels and distinguished personalities related to the game. 20 marks
- Unit 2. Skills in chasing correct Kho-Kho, moving on the lanes, pursuing the runner, trapping the inactive runner, trapping the runner on heels, trapping on the pole, diving judgement in giving kho, rectification of foul. 20 marks
- Unit 3. Skills in running zig zag, single and double chain, ring play, rolling in the sides, dodging while facing and on the back fakes on the pole fake legs, body arm etc. combination of different skills. 20 marks

PRACTICAL: (20 marks)

1. The Game: Rules and their interpretations and duties of officials

Books recommended:

1. Latest Official Rule Books of International Federations of particular game/sport and Coaching manuals will be utilized.

B.Voc in PED, Semester – IV

PED-SE-4014: APPLICATION OF INFORMATION AND TECHNOLOGY IN SPORTS

Total Marks: 100

Total Credit: 04

Theory=60, Practical=20, Internal=20 (Sessional=10, Assignment=6, Attendance=4)

Objective: This course will enable students to acquire computer skill and apply it in sports technology.

Unit 1. Introduction to Information Technology 20 marks

- a. Meaning and importance of information and communication technology (ICT).
- b. Application of computer in Sports Technology
- c. Fundamental components of computers (input, memory, output device etc.)
- d. Definition of hardware, software
- e. Concept of Internet
- f. Uses of internet in sports science
- g. Concept of e-mail and Google search engine

Unit 2. Application of MS Word 15 marks

- a. Introduction to MS Word
- b. Creating file-folder, saving and opening new and old documents
- c. Introduce Page layout, Insert and home menu bar
- d. Concept of Page set up, paragraph alignment, inserting page number, graph footnote and notes, spelling and grammar check, printing option, Formatting, Editing features
- e. Understanding table & graph
- f. Application of Excel Programme in Sport Science

Unit 3. Application of MS Excel 15 marks

- a. Introduction to MS Excel
- b. Creating, saving and opening spreadsheet
- c. Fundamental formulas and function
- d. Understanding graph and Chart
- e. Application of Excel Programme in Sports Science

Unit 4. Application of MS Power Point 10 marks

- a. Introduction to MS Power point
- b. Application of Power Point in Sport Science
- c. Creating, saving and opening a ppt. file
- d. Understanding design, formatting editing, inserting, and slide show features

PRACTICAL: (20 marks)

1. Design various types of graph, Table and Pictures in MS Excel.

Recommended books:

1. Computer fundamentals, Sinha and Sinha- BPB Publication
2. Glister, R: PC Hardware A Beginners, Tata McGraw Hills
3. Sudhaka, V, Varanasi &Mrunalini: Computer Education, Neelkamal Publication, Hyderabad.

B.Voc in PED, Semester – V

PED-VE-5016: EXERCISE AND SPORTS THERAPY

Total Marks: 100

Total Credit: 06

Theory=60, Practical=20, Internal=20 (Sessional=10, Assignment=6, Attendance=4)

Objective: This course will help students to know the importance of sports therapy in healing stress and anxiety.

Unit 1.	Exercise, Sport and Quality of Sleep.	10 marks
Unit 2.	Exercise, Sport and Stress Relief: Anxiety, Depression, Conflicts, Frustration etc.	20 marks
Unit 3.	Exercise, Sport and Life Style Diseases: Obesity, Diabetes, Hyper Tension etc.	20 marks
Unit 4.	Sports as a Socializing Force.	10 marks

PRACTICAL: (20 marks)

1. Handball: Rules and their interpretations and duties of officials

Books recommended:

1. Latest Official Rule Books of International Federations of particular game/sport and Coaching manuals will be utilized.
2. Shaffer, D.R. (2002) Development Psychology: Childhood and Adolescence. Thomson, Sydney, Australia.
3. Kansal, D.K. (2012) A Practical Approach to Test Measurement and Evaluation Sports and Spiritual Science Publication, New Delhi.
4. Clanton Reita and Dwight Mary Phyl, Team Handball Steps to Success, Human Kinetics Publications, 1997.
5. Sykes and Pennycook, Olympic Handball, Stanley Publications, London, 1991.

B.Voc in PED, Semester – V
PED-VE-5026: BALL GAMES-I: FOOTBALL & VOLLEYBALL

Total Marks: 100
Theory=60, Practical=20, Internal=20 (Sessional=10, Assignment=6, Attendance=4)

Total Credit: 06

FOOTBALL

1. Introduction of the game and historical development with special reference to India. 10 marks
2. Important tournaments held at National and International levels and distinguished Personalities related to the game. 10 marks
3. Fundamental skills: 20 marks
 - 3.1. Kicks
 - 3.1.1. Kicking with the inside of the foot
 - 3.1.2. Kicking with the instep of the foot
 - 3.1.3. Kicking with the outer instep of the foot
 - 3.1.4. Lifted kick
 - 3.2. Trapping
 - 3.2.1. Trapping rolling ball – with the inside, sole and instep of the foot
 - 3.2.2. Trapping bouncing ball with the sole
 - 3.3. Dribbling
 - 3.3.1. With the instep of the foot
 - 3.3.2. With the inside of the foot
 - 3.3.3. With the outer instep of the foot
 - 3.4. Heading
 - 3.4.1. From standing
 - 3.4.2. From running
 - 3.4.3. From jumping
 - 3.7. Tackling
 - 3.7.1. Simple tackling
 - 3.7.2. Slide tackling
 - 3.8. Goal keeping
 - 3.8.1. Collection of balls
 - 3.8.2. Ball clearance – Kicking, throwing and deflecting
 - 3.9. Receiving
 - 3.9.1. Receiving the bowling ball with the inside and outside of the foot and changing direction
 - 3.9.2. Receiving a flying ball with the inside, thy, chest and head.
4. Dribbling 10 marks
 - 4.1. Controlled dribbling
 - 4.2. Fast dribbling
 - 4.3. Straight dribbling
 - 4.4. Zig-Zag dribbling
 - 4.5. Dribbling
5. Heading 10 marks
 - 5.1. From running and jumping
 - 5.2. Heading for long clearance
 - 5.3. Downward heading

PRACTICAL: (20 marks)

1. The Game: Rules and their interpretations and duties of officials.

VOLLEYBALL

1. Introduction of the game and historical development with special reference to India. 10 marks
2. Important tournaments held at National and International levels and distinguished Personalities related to the game. 10 marks
3. Fundamental skills: 20 marks
 - 3.1. Player's stance – Receiving the ball & passing to the team mates
 - 3.1.1. The volley (Overhead pass)
 - 3.1.2. The Dig (Under hand pass)
 - 3.2. Service
 - 3.2.1. Under Arm service
 - 3.2.2. Side arm service
 - 3.2.3. Tennis service
 - 3.2.4. Round arm service
 - 3.3. Spike
 - 3.3.1. Straight arm spike
 - 3.3.2. Round arm spike
 - 3.4. Block
 - 3.4.1. Single block
4. Advanced Skills 20 marks
 - 4.1. Pass
 - 4.1.1. Back pass
 - 4.1.2. Back roll volley
 - 4.1.3. Back roll dig
 - 4.1.4. Jump and pass
 - 4.1.5. Side roll dig
 - 4.2. Service
 - 4.2.1. Side arm floater
 - 4.2.2. Overhead floater
 - 4.3. Spike
 - 4.3.1. Spiking cross court
 - 4.3.2. Spiking down the line
 - 4.4. Block
 - 4.4.1. Double block
 - 4.4.2. Triple block
 - 4.5. Dive
 - 4.5.1. Dive combined with dig (two handed)
 - 4.5.2. Dive combined with dig (one handed)

PRACTICAL: (20 marks)

1. The Game: Rules and their interpretations and duties of officials.

Books recommended:

1. Latest Official Rule Books of International Federations of particular game/sport and Coaching manuals will be utilized.

B.Voc in PED, Semester – V
PED-VE-5036: PROJECT / FIELD WORK

Total Marks: 100

Total Credit: 06

Objective: This paper will help gain on-field experiences while conducting and organizing assigned games. They have to submit a report about the same for about 80 pages.

Project Work on an Assigned Game/topic	4 Credit (60 marks)
Report Submission	1 Credit (20 marks)
Viva	1 Credit (20 marks)

B.Voc in PED, Semester - V
PED-SE-5014: MEASUREMENT & EVALUATION IN SPORTS
Total Marks: 100 Total Credit: 4

Theory=60, Practical=20, Internal=20 (Sessional=10, Assignment=6, Attendance=4)

Objective: This course will enable students to understand the concept of test, measurement & evaluation in Physical Education

Unit 1. Introduction 10 marks

- a. Concept of Test, Measurement & Evaluation.
- b. Classification of Test.
- c. Principles of Evaluation.
- d. Importance of Test, Measurement and Evaluation in Physical Education and Sports.

Unit 2. Criteria of selecting Good Test 10 marks

- a. Scientific Authenticity
- b. Administrative Feasibility
- c. Educational Application
- d. Norms

Unit 3. Measurements of Body Compositions and Somatotype Assessment 20 marks

- a. Body Mass Index (BMI)- Concept and method of measurement.
- b. Body Fat- Concept and method of measurement.
- c. Lean Body Mass (LBM)- Concept and method of measurement.
- d. Somatotype- Concept and method of measurement.

Unit 4. Fitness Test 10 marks

- a. Kraus-Weber Muscular Strength Test
- b. AAHPEDR Youth Fitness Test
- c. Queens College Step Test
- d. Harvard Step Test

Unit 5. Sports Skill Test 10 marks

- a. Lockhart and McPherson Badminton Skill Test.
- b. Johnson Basketball Test
- c. McDonald Soccer Test.
- d. Rustle Lange Volleyball Test

PRACTICAL: (20 marks)

1. Measurements of Body Compositions: Body Mass Index (BMI), Lean Body Mass (LBM) and submitting a report

REFERENCES

1. Authors Guide (2013) ACSM's Health Related Physical Fitness Assessment Manual, USA: ACSM Publications.
2. Collins, R.D., & Hodges P.B. (2001) A Comprehensive Guide to Sports Skills Tests and Measurement (2nd edition) Lanham: Scarecrow Press.
3. Cureton T.K. (1947) Physical Fitness Appraisal and Guidance, St. Louis: The C. Mosby Company.

4. Getchell B (1979) Physical Fitness A Way of Life, 2nd Edition New York.
5. John Wiley and Sons, Inc Jenson, Clayne R and Cynt ha, C. Hirst (1980) Measurement in Physical Education and Athletics, New York, Macmillan Publising Co. Inc.
6. Kansal D.K. (1996), "Test and Measurement in Sports and Physical Education, New Delhi: DVS Publications.
7. Krishnamurthy (2007) Evaluation in Physical Education and Sports, New Delhi; Ajay Verma Publication.
8. Vivian H. Heyward (2005) Advance Fitness Assessment and Exercise Prescription, 3rd Edition, Dallas TX: The Cooper Institute for Aerobics Research.
9. Wilmore JH and Costill DL. (2005) Physiology of Sport and Exercise: 3rd Edition. Champaign IL: Human Kinetics.
10. Yobu, A (2010), Test, Measurement and Evaluation in Physical Education in Physical Education and Sports. New Delhi; Friends Publications

B.Voc in PED, Semester – VI
PED-VE-6016: BALL GAMES-II: BASKET BALL and CRICKET

Total Marks: 100

Total Credit: 06

Theory=60, Practical=20, Internal=20 (Sessional=10, Assignment=6, Attendance=4)

- Objectives:
1. To provide information about history, rules and regulation of the game of basketball and Cricket
 2. To prepare the subjects sound in technically and tactically.
 3. To provide information about the fitness components their tests and skill test in basketball and Cricket.

BASKETBALL

- | | |
|--|----------|
| Unit-I | 10 marks |
| 1.1. Introduction and History of the Game of Basketball. | |
| 1.2. International, National, State Bodies controlling the game. | |
| 1.3. International and National Competitions/Tournaments. | |
| 1.4. National and International Awards. | |
| Unit-II | 10 marks |
| 2.1. Rules and Regulation of the Game. | |
| 2.2. Officiating Techniques. | |
| 2.3. Layout and update marking of play area. | |
| Unit-III | 20 marks |
| 3.1. Basic techniques- Players Stance and Ball Handling. Passing and Receiving- Two & One Hand Chest Pass, Two & One Hand Bounce pass, Two handed Over head pass, Baseball Pass & Hook Pass. Two & One Hand Receiving, Receiving in Stationary, jumping and Running. | |
| 3.2. Dribbling- Stationary Dribble, Moving Dribble, Start and Stop Dribble, High & Low Dribble, Reverse Dribble. | |
| 3.3. Shooting- Set Shot, Jump Shot, Lay-up shot. Pivoting, Rebounding, Screening & Cutting. | |
| 3.4. Defense- Defense the offensive player with ball and without ball. | |
| Unit-IV | 10 marks |
| 4.1. Tactics- Offensive tactics- Individual, group and team offence- Fast break, Set play, Motion Offence, Free-lance offence. | |
| 4.2. Defensive Tactics- On the ball defense and off the ball defense. Zone defense, Man-to-man defense and match up defense. | |
| Unit-V | 10 marks |
| 5.1. General fitness components and test. | |
| 5.2. Specific fitness components and tests. | |
| 5.3. Basketball skill test and Performance test. | |

PRACTICAL: (20 marks)

1. The Game: Rules and their interpretations and duties of officials.

Recommended Books

1. Lindeburg FA (1967). How to Play and Tech Basketball. Association Press. New York.
2. Brittenham G (1996). Complete Conditioning for Basketball. Human Kinetics. USA.
3. D.K. Kansal (1996). Test and Measurement in Sports and Physical Education. D.V.S. Publications, New Delhi.
4. Hardyal Singh (1993). Science of Sports Training. D.V.S. Publications, New Delhi.
5. Latest Official Rule Books of International Federations of particular game/sport and Coaching manuals will be utilized.

CRICKET

1. Introduction 10 marks
 - a) Introduction of the game and historical development with special reference to India.
 - b) Important tournaments held at National and International levels and distinguished Personalities related to the game.

2. Generic topics 20 marks
 - a) The role of the coach, coaching philosophy, coaching styles and the process of teaching skills
 - b) The Laws and Spirit of Cricket
 - c) The relationship between the coach, player and his/her parents
 - d) Safety and first aid for cricket-related injuries
 - e) Introduction to fitness and the parameters of fitness
 - f) Warm up, stretching and warm down procedures
 - g) Goal setting in sport
 - h) Effective management of a cricket practice session
 - i) The process of learning sports skills - games versus traditional method

3. Cricket-specific topics 30 marks
 - 3.1 Batting basics with Specific Drills:
 - 3.1.1 Grip
 - a) Stance
 - b) Back-lift
 - c) Downswing
 - d) Vertical and horizontal defensive and attacking shots
 - e) Running between the wickets
 - 3.1.2 Bowling basics with Specific Drills:
 - a) Basic bowling action
 - b) Pace bowling
 - c) Spin bowling
 - 3.2 Fielding basics:
 - a) Catching
 - b) Attacking and defensive fielding
 - c) Throwing
 - d) Wicket-keeping
 - 3.3 Captaincy and Leadership
 - a) Responsibility of the captain
 - b) Players' conduct
 - c) Fair and unfair play

PRACTICAL: (20 marks)

1. The Game: Rules, their interpretations and duties of officials.

Books recommended:

1. Aneja, O.P. How to Play Cricket, Prerna Prakashan, 2012.
2. Arora, Monika. Cricket Coaching Manual, Sports Publication, 2005.
3. Bharadwaj, Arun. Coaching Batting Skills, Royal Colour Cartons, 2008.
4. Kutty, Suresh. Fielding Drills in Cricket, Sports Publication, 2003.
5. Rachna. Play Better Cricket, Sports Publication, 2001.
6. Srivastava, Vijay Kumar. Analysis of Cricket Skills, Sports Publication, 2007.
7. Syal, Meenu. Teach Yourself Cricket, Prerna Prakashan, 2004.
8. Tyagi, Arun Kumar, Cricket Skills & Rules, Khel Sahitya Kendra, 2012.
9. Woolmer, Bob. Noakes, Time. Moffett, Helen. Bob Woolmer on Batting, New Holland Publishers, 2010.
10. Woolmer, Bob. The Art and Science of Cricket, Firefly Book Limited, 2009.
11. Latest Official Rule Books of International Federations of particular game/sport and Coaching manuals will be utilized.

B.Voc in PED, Semester – VI
PED-VE-6026: WEIGHT LIFTING OR JUDO

Total Marks: 100

Total Credit: 06

Theory=60, Practical=20, Internal=20 (Sessional=10, Assignment=6, Attendance=4)

- Objectives: 1. To appraise the knowledge of Weight training or Judo.
2. To appraise the knowledge about fundamental movement.

WEIGHT LIFTING:

Unit 1. WEIGHT TRAINING:

40 marks

- 1.1 Introduction of the game and historical development with special reference to India.
- 1.2 Difference between weight training, weight lifting and power lifting. Safety principle of weight training and introduction of the muscular system of the body.
- 1.3 Orientation of students to weight lifting, Power lifting and best physique

Unit 2. FUNDAMENTAL SKILLS: The following exercise covering the major groups of muscles are to be taught and Performed using different types of muscle contraction, i.e. isometric and isotonic. 20 marks

2.1 Two arms curls	2.6 Rise on toes (Heel Raise)	2.10 Leg press	2.15 Sit ups with weight
2.2 Front press	2.7 Straight arm pullover	2.11 Wrist rolling	2.16 Alternate press
2.3 Pres behind the neck	2.8 Bent over, rowing	2.12 Pronation and supination	2.17 Sport running with weight
2.4 Dead lift	2.9 Bench press	2.13 Trunk twisting	2.18 Stepping on bench
2.5 Quarter squat, Half squat and full squat		2.14 Good morning exercise	

PRACTICAL: (20 marks)

1. Demonstration of exercise covering the major groups of muscles using different types of muscle contraction, i.e. isometric and isotonic.
2. Gym Exercises

Books recommended:

1. Kumar N. Play and learn weight lifting, 2003.
2. Lear John, Skillful weight lifting, 1991.
3. Narang Priyanka, Teach yourself weight lifting, 2004.
4. Pullam W.A. Weight Lifting made easy and interesting 8th edition, 2004.
5. Sinhasane Madhura, Weight Lifting reaches your Zenith, Digvijay Sanstha, 2008.
6. Thomas R. Baechle Roger W. Earle Weight Training Steps to Success. "Human Kinetics, 2006.
7. Latest Official Rule Books of International Federations of particular game/sport and Coaching manuals will be utilized.

JUDO:

1. Introduction of the game and historical development with special reference to India. 10 marks
2. Important tournaments held at National and International levels and distinguished Personalities related to the game. 10 marks
3. Fundamental skills 40 marks
 - 3.1. Rej (Salutation)
 - 3.1.1. Ritsurei (Salutation in standing position)
 - 3.1.2. Zarai (Salutation in the sitting position)
 - 3.2. How to wear Judo costume
 - 3.3. Kumi Kata (Methods of holding Judo costume)
 - 3.4. Shisei (Posture in Judo)
 - 3.5. Kuzushi (Act of disturbing the opponent posture)
 - 3.6. Tsukuri and kake(Preparatory action for attack)
 - 3.7. Ukemi (Break fall)
 - 3.7.1. Urhiro Ukemi (Rear break fall)
 - 3.7.2. Yoko Ukemi (Side break fall)
 - 3.7.3. Mae Ukemi (Front break fall)
 - 3.7.4. Mae mawari Ukemi (Front rolling break fall)
 - 3.8. Shin Tai (Advance or Retreat foot movement)
 - 3.8.1. Suri-ashi (Gliding foot)
 - 3.8.2. Tsugi-ashi (Following foot steps)
 - 3.8.3. Ayumi-ashi (Walking footsteps)
 - 3.9. Tai Sabaki (Management of the Body)
 - 3.10. Nage-waze (Throwing Techniques)
 - 3.10.1. Hiza Guruma (knee wheel)
 - 3.10.2. Sesae Tsurikomi-ashi (Drawing ankle throw)
 - 3.10.3. De-ashi-hari (Advance foot sweep)
 - 3.10.4. O Goshi (Major loin)
 - 3.10.5. Seoi-nage (Shoulder throw) – Ippon scionage and Morote Scionag.
 - 3.11. Katama waze (Grappling Techniques)
 - 3.11.1. Kesa gatame (Scaff hold)
 - 3.11.2. Kata-gatame (Shoulder hold)
 - 3.11.3. Kami-shiho gatama (Locking of upPEDr four quarters).
 - 3.11.4. Method of escaping from each hold
 - 3.12. Lead up games
 - 3.12.1. Break fall relay (maximum number of falls from standing position in one-minute duration)
 - 3.12.2. Mae – mawriukemi relay relay (maximum number of falls in one-minute duration)
 - 3.12.3. Maximum number of shoulder throw in one minute.
 - 3.12.4. Maximum number of obstacles jumped while doing mae-mawri-ukemi.

PRACTICAL: (20 marks)

1. The Game: Rules and their interpretations and duties of officials.

Books recommended:

1. Latest Official Rule Books of International Federations of particular game/sport and Coaching manuals will be utilized.

PED-VE-6036: INTERNSHIP

Total Marks: 100

Total Credit: 06

Objective: This paper is aimed at providing the students with an opportunity to work in a professional Environment and develop skills related to the relevant course components. Internships are done under a recognized sports association.

Internship on any game of choice	4 Credit (60 marks)
Report Submission	1 Credit (20 marks)
Viva	1 Credit (20 marks)

PED-SE-6014: SPORTS TECHNOLOGY

Total Marks: 100

Total Credit: 04

Theory=60, Practical=20, Internal=20 (Sessional=10, Assignment=6, Attendance=4)

Objectives : This course will give knowledge about the latest equipment, gadgets and latest trend in sports technology.

- Unit 1. Introduction to Sports Technology 20 marks
a. History of Technology in Sports and its advancement, meaning, definition, advantages and principles of Sports Technology, purpose and applications of sports technology in different sports.
- Unit 2. Instrumentation technology 10 marks
a. Definition and Principles of Instrumentation, Types of instrumentation in Sports, Sensor selection and application, Placement of sensors. Hawk eye Technology in Sports.
- Unit 3. Sports Surfaces and Facilities 10 marks
a. Characteristics of Sports Surfaces, Specific Sports Surfaces for playfields, construction and installation of sports surfaces. Types of materials – synthetic, wood, polyurethane. Use of computer and software in human motion detection, Match Analysis and Coaching.
- Unit 4. Apparel, Protection Equipment and Sports Implements 10 marks
a. Design and Mechanics of Sports Apparel, Running Shoes, Helmets and Mountaineering Equipment,
b. Playing Equipment: Balls: Types, Materials and Advantages, Bat/Stick/ Racquets: Types, Materials and Advantages. Sports equipment with Nano technology, Advantages.
- Unit 5. Training Gadgets 10 marks
a. Mechanism and Advantages of Cricket Bowling Machine, Basketball ball Feeder, Tennis Serving Machine and Volleyball Serving Machine
b. Video Coverage: Types, Size, Capacity, Place and Position of Camera in Live coverage of sporting events.

Note: Students should be encouraged to visit sports technology factory / sports goods manufacturers.

PRACTICAL: (20 marks)

1. Field study / visit report
2. Identification of Equipments

Recommended Books

1. Franz K. F. et. al., Editor, Routledge Handbook of Sports Technology and Engineering (Routledge, 2013)
2. Steve Hake, Editor, The Engineering of Sport (CRC Press, 1996)
3. Dixon, Sharon. The science and engineering of sport surfaces. Routledge, 2015.
4. Franz K. F. et. al., Editor The Impact of Technology on Sports II (CRC Press, 2007)
5. John Mongilo, (2001), "Nano Technology 101 "New York: Green wood publishing group.
6. Magdalinski, Tara. Sport, technology and the body: The nature of PEDrformance. Routledge, 2009.