

DEPARTMENT OF PHYSICAL EDUCATION AND SPORTSSCIENCES

B.SC. (HONS.) IN PHYSICAL EDUCATION, HEALTH EDUCATION AND SPORTS

SEMESTER 1

BSc-PE-DSC-1 (4): HISTORY AND FOUNDATIONS OF PHYSICAL EDUCATION

Course title & Code	Credits	Credit distribution of the Course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
HISTORY AND FOUNDATIONS OF PHYSICAL EDUCATION	4	3	1	0	Pass in XII	NIL

Learning Objectives

To provide the knowledge of historical development of Physical Education & Sports and to familiarize the students with foundations of Physical Education & Sports in reference to biological, psychological, sociological and other foundations

Learning outcomes

At the end of the course student will be able to::

- acquire the knowledge of history & foundations of Physical Education and understand the purpose & development of physical education & sports.
- develop the understanding and knowledge regarding meaning, definitions, scope, importance of physical education in society, Aim and Objectives of Physical

Education and their relation with education.

- learn Biological, Psychological and Sociological Foundation of Physical Education.
- learn to assess the body types by Heath&Carter method.
- develop the understanding and knowledge of meaning& concepts of movement, qualities of the movements, fundamentals movements, Need and importance of movement in educational programs, Concept and role of wellness movement.
- knowledge of the Modern and Ancient Historical development of Olympic movement and Olympic Games.

THEORY SYLLABUS (45 HOURS)

UNIT-I

(10hours)

- (i) Meaning, Definitions, Scope, importance of physical education in society.
- (ii) Aim and Objectives of Physical Education and their relation with education.

Unit-II

(15hours)

- (i) Foundations of Physical Education
 - (a) Biological foundation– Introduction, Growth and Development and Body types.
 - (b) Psychological Foundation– Introduction, Learning process and theories.
 - (c) Sociological Foundation– Introduction, Socialization process.

Unit-III

(10hours)

- (i) Meaning & concepts of movement, qualities of the movements, fundamentals of movements, Need and importance of movement in educational programs
- (ii) Concept and role of wellness movement.

Unit-IV

(10hours)

- (i) Modern and Ancient Historical perspectives of Physical Education: Greece, Rome and India.
- (ii) Olympic movement and Olympic Games (Ancient and Modern)
- (iii) National Sports awards and Honors.

SUGGESTED READINGS:

1. Gupta,Rakesh(2013),HealthandPhysicalEducation,PinnacleIndiaEducation Publisher, New Delhi.
2. KamleshML(2013).PhysicalEducationandExerciseSciences:AnObjective

Approach. Friends Publication. Delhi.

3. Lumpkin, A. (2007). Introduction to Physical Education, Exercise Science and Sports Studies, McGraw Hill. New York, USA.

4. Uppal AK & Gautam GP (2008). Health and Physical Education. Friends Publication. New Delhi.

5. Vanaik A. & Tyagi, Sarita (2018). Encyclopedia of Olympic Movement, Friends Publication. New Delhi

6. Vanaik A. (2005) Sharirik Shiksha ke Maulik Adhar, Friends Publication. New Delhi

7. Wuest DA and Bucher CA (2003). Foundations of Physical Education Exercise Science and Sports. McGraw Hill Companies, Inc., New York, USA

8. Zeigler EF (2007). History and Status of Physical Education and Educational Sports. Sports Education. New Delhi.

Note: Examination scheme and mode shall be as prescribed by the Examination Branch, University of Delhi, from time to time.

SEMESTER 1

BSc-PE-DSC-2 (4): ANATOMY AND PHYSIOLOGY

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
ANATOMY AND PHYSIOLOGY	4	3	0	1	Pass in XII	NIL

Learning Objectives

To provide students with the basic knowledge of anatomical structures & functions of human body.

Learning Outcomes

At the end of the course student will be able to::

- acquire the basic knowledge of the anatomy of the human body.
- develop understanding about the functions of each system of the body.
- acquire knowledge and skill will help to create a strong foundation to engage human subject of all ages, sex, abilities.

THEORY SYLLABUS (45 HOURS)

Unit-I

(10hrs.)

- Definition of Anatomy & Physiology, Cell-microscopic structure & functions of its organelle.
- Tissue-classification & functions.
- Organs, systems of the body, Bone-classification and structure, joints-classification, Structure of synovial joints. Movements at various joints.

Unit-II

(15hrs.)

- Muscular System-Classification, Structure, functions & properties of Skeletal Muscle, Smooth Muscle & Cardiac Muscle.
- Types of muscular contractions, Name of various muscles acting on various joints.
- Cardio-vascular system-Structure of heart, cardiac cycle, blood pressure, cardiac output, composition & function of blood

Unit-III

(10hrs.)

- Respiratory system-structure and function, second wind, oxygen debt.
- Digestive system-structure & function, balanced diet, metabolism & maintenance of body temperature.

Unit-IV

(10hrs.)

- Nervous system-structure of brain, spinal cord, Autonomic nervous system, reflex action.
- Endocrine system-role of various endocrine glands, Structure & function of human eye & ear.
- Excretory system-structure & function, including structure & function of skin.
- Reproductive system-structure & function of male & female Reproductive system.

Practical:- (30 HOURS)

1. Counting of pulse rate
2. Measurement of blood pressure
3. Study of various bones of human body
- 4.

4. Study of different body system with the help of models
5. Study of various movements of the joints.

SUGGESTED READINGS:

1. Jain AK (2002). Anatomy & Physiology for Nurses. Arya Publishers, Delhi.
2. Moried EN (2007). Essential of Human Anatomy & Physiology. Ed. 8th Dorling Kindersley, India.
3. Prives M and Others (2004). Human Anatomy Vol. I & II Paragon, Delhi.
4. Seeley & Others (2008). Anatomy & Physiology. McGraw Hill, Boston.
5. Tortora (2003). Principles of Anatomy & Physiology, New York: John Willy & Sons,
6. William CS (2000). Essential of Human Anatomy & Physiology, Benjamin
7. Wilson and Waugh (1996). Anatomy & Physiology in Health & Illness. Churchill Livingstone

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SEMESTER 1

BSc-PE-DSC-3(4): FUNDAMENTAL OF GAME 1 (CHOOSE ANY ONE FROM THE LIST : 13 GAMES)

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/Practice		
BSc-PE-DSC-3(4): FUNDAMENTAL OF GAME 1	4	2	0	2	Class XII pass	Nil

Learning Objective: - The Students will acquire knowledge and understanding of a specific sport in which an individual wishes to excel.

Learning Outcome:-The student will attain knowledge, understanding, interpreting and analyzing proficiency in a game of one's choice.

THEORY SYLLABUS (30 hrs lectures)

Unit-I (07 hrs lectures)

- Historical Development and Modern Trends in the game(National and International Level)
- Organisational Structure (State, National and International Level)
- Introduction to Playfield/arena of the game/ athletic Track& field events/ Yogic arena

Unit-II (08 hrs lectures)

- Rules and their interpretation of the chosen sports/ Track & field events/ Yogic Asanas
- Basis of Warming up and cooling down and its effect
- Role of coach for preparing players/Teams

Unit-III (08 hrs lectures)

- Basic skills and techniques of the chosen Game/ Yogic Asanas/Athletic Events (short, middle and long distance races, hurdles races, jumping event- long jump & High Jump, throwing events- shot put, discuss & Javelin)
- Developmental Drills to improve skills of the Game/event/Asanas

Unit-IV (07 hrs lectures)

- Introduction to Fitness components related to sport / athletic events/yoga
- Role of Fitness & skill related fitness components of the chosen game in improving performance

Practical -

(60 hrs.)

1. Learning and demonstrating various skills/techniques of chosen Game
2. Drills to improve Fundamental skills of the chosen game (for athletics/Gymnastics any three events)
3. Marking of Playfield/ arena of chosen game ((for athletics/Gymnastics any three events)

Practical (60 Hours)

4. Learning and demonstrating various skills/techniques of chosen Game
5. Drills to improve Fundamental skills of the chosen game (for athletics/Gymnastics any three events)
6. Marking of Playfield/ arena of chosen game ((for athletics/Gymnastics any three events)

SUGGESTED READINGS:

- Chauhan VS (1999). Khel Jagat Mein Athletics. A.P. Pub, Jalandhar.
- Evans DA (1984). Teaching Athletics. Hodder, London.
- Fox EL (1998). Physiological Basis of Physical Education and Athletics Brown Pub.
- Gothi E (2004). Teaching & Coaching Athletics. Sport Pub., New Delhi.
- Gupta R. (2004). Layout & Marking of Track & Field. Friends Publications. India. New Delhi.
- Handbook-Rules and Regulation. International Athletic Federation (2010).
- Herb Amato, DA ATC et al (2002). Practical Exam Preparation Guide of Clinical Skills of Athletic Training. Slack Incorporated. 1st ed., USA.
- Kumar, Pardeep. (2008). Historical Development of Track & Field. Friends Publication. New Delhi
- Maughan, R. and Gluson, M. (2004). The Biomechanical Basics of Athletic Performance. Oxford University Press, U.K.
- Prentice, W. and Arnhem, D. (2005). Arnhem " s Principles of Athletic Training 12th Ed. McGraw Hill. in place of Knight (1988).
- Renwick GR (2001). Play Better Athletics. Sports Pub, Delhi.
- Singh, Hardayal. (1919). Science of Sports Training. DVS Publication, N. Delhi.
- Vanaik A. (2017). Officiating and Coaching, Friends Publication. New Delhi.

SEMESTER-II

DEPARTMENT OF PHYSICAL EDUCATION AND SPORTS SCIENCES

B.Sc.(Hons.) in Physical Education, Health Education and Sports

BSc-PE-DSC-4(4): Health Education

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/Practice		
HEALTH EDUCATION	4	3	1	0	Class XII pass	Nil

Learning Objective:-The learner will acquire knowledge and understanding with applications and skills (field and laboratory) in health education in real life situation.

Learning Outcome:- At the end of the course student will be able to::

- Understand the concepts of the health and related terminologies.
- Acquire knowledge about communicable and non-communicable diseases.
- differentiate between communicable and non-communicable diseases.
- understand the effect of Substance abuse and its management
- acquire the knowledge of first aid, CPR, first aid for, hemorrhage, fractures, sprain and strain (PRICER), Drowning, snakebite, poisoning, heat stroke and heat exhaustion.
- acquire the knowledge about International health agencies- WHO, UNICEF,

Red Cross-their constitution and role in promoting health.

THEORY SYLLABUS (45 HOURS)

UNIT I (11 HOURS)

- (i) Health-meaning, dimensions of health and their interrelationships, importance of health for individual, family, community and nation; factors influencing health, spectrum of health
- (ii) Health Education- meaning, scope, aims and objectives, principles, methods and media used in health education.
- (iii) Hygiene-personal hygiene, food hygiene, environmental hygiene-meaning, need and importance; associated practices related to maintenance and promotion of health

UNIT -II (11 HOURS)

- i. Communicable and Non-communicable diseases-Distinction between communicable and non-communicable diseases.
- ii. Communicable diseases-Definition, mode of spread and prevention,
- iii. Non-communicable diseases--Meaning, causes and preventive measures

UNIT-III (11HOURS)

- (i) Contemporary health problems of college youth
- (ii) Substance abuse management-Alcohol, drugs, tobacco (chewing, sniffing, smoking)-their harmful effects
- (iii) Population education importance of small family, methods of controlling conception
- (iv) Care of the infant, importance of breastfeeding, immunization, oral rehydration therapy

UNIT-IV (12 HOURS)

- (i) Definition of first aid, DRABCH of first aid, CPR, first aid for, hemorrhage, fractures, sprain and strain (PRICER), Drowning, snakebite, poisoning, heat stroke and heat exhaustion.
- (ii) International health agencies- WHO, UNICEF, Red Cross-their constitution and role in promoting health.

SUGGESTED READINGS-

1. Anspaugh DJ, Ezell G and Goodman KN (2006). Teaching Today's Health. Mosby Publishers. Chicago. USA.
2. Balayan D (2007). Swasthya Shiksha Evam Prathmik Chikitsa. Khe Sahitya. Delhi.
3. Chopra D and D Simon (2001). Grow Younger, Live Longer: 10 Steps to Reverse Aging. Three Rivers Press. New York. USA.
4. Dewan AP (1996). School Health Manual. Nature Cure and Yoga Health Centre. New Delhi.
5. Dixit Suresh (2006). Swasthya Shiksha. Sports Publication. Delhi.
6. Donatelle RJ (2005). Health the Basics. Sixth Edition. Oregon State University.
7. Floyd P, ASE Mimm and CY eilding (2003). Personal Health: Perspectives and Lifestyles. Thomson Wadsworth. Belmont. California. USA.
8. Hales D (2005). An Invitation to Health. Thomson-Wadsworth, Belmont. California. USA.
9. Park K (2017). Park's Text Book of Preventive & Social Medicine. Banarsi Das Bhanot & Company. Delhi.
10. Snehlata (2006). Shareer, Vigyan Evam Swasthya Raksha. Discovery Pub. Houses. New Delhi.
11. Uppal AK & Gautam GP (2008). Health & Physical Education. Friends Publication. New Delhi.

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SEMESTER II
BSc-PE-DSC-5(4): EXERCISEPHYSIOLOGY

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/Practice		
EXERCISE PHYSIOLOGY	4	3	0	1	Class XII pass	NIL

Learning Objective:- The learner will acquire knowledge and understanding with applications and skills (field and laboratory) in exercise physiology.

Learning Outcome:-

At the end of the course student will be able to:

- understand the concepts of Exercise Physiology & its Significance in the field of Physical Education & Sports.
- acquire the knowledge about Gross & Microscopic Structure of Skeletal Muscle, fiber types, Acute Response & Chronic Adaptation and the muscular system.
- understand the overview of Energy Metabolism-Fuels of exercise, Exercise Duration and Fuel utilization. energy
- differentiate between Aerobic & Anaerobic Systems
- understand the cardiovascular Function during Exercise and Training.
- examine resting heart rate, blood pressure and vital capacity using spiro-meter.

THEORY SYLLABUS (45 Hours)

UNIT 1: Fundamentals and Neuromuscular Function (10 HOURS)

- i. Exercise Physiology: Definition, Concept & its Significance in the field of Physical Education & Sports
- ii. Meaning of Acute Physiological Response and Chronic Physiological Adaptations
- iii. Skeletal Muscles: Gross & Microscopic Structure of Skeletal Muscle,, Sliding Filament Theory, Muscle fiber types, Acute Response & Chronic Adaptation and the muscular system.

UNIT 2: Energy & Hormonal Regulation (10 HOURS)

- i. Overview of Energy Metabolism-Fuels of exercise, Exercise Duration and Fuel utilization
- ii. Energy Systems- Aerobic & Anaerobic Systems
- iii. Hormones responsible for the anabolic and catabolic effects of exercise on muscle , Hormonal Regulations in Exercise & Training: The Endocrine Glands and their hormones,-Acute Response and Chronic Adaptation

UNIT3: Cardio-respiratory System and Training Adaptations (16 HOURS)

- i. Cardiovascular Function during Exercise and Training: Structure & Function of the Heart, Cardiovascular Response to Exercise and Chronic Adaptations, Athlete' s heart.
- ii. Respiratory Function during Exercise and Training: Respiratory Parameters, Oxygen Debt, Second Wind, Acute Response and Chronic Adaptation.
- iii. Fatigue and Exhaustion

UNIT4: Exercise and the Environment (09 HOURS)

- i. Altitude - Exercise responses and training adaptations at High Altitude
- ii. Environmental Factors -Heat and Cold- Dealing with Hypothermia and Hyperthermia

Practical (30 HOURS)

1. Assessment of Resting Heart Rate
2. Administering the Harvard Step test
3. To measure vital capacity using Spiro-meter
4. To assess/measure and evaluate VO_2 max

Suggested Readings:

1. Camaione, David N.(1993).Fitness Management.WCBBrown&Benchmark.
2. Jakson,AllenWandJamesR.Morrow(1999)PhysicalActivityforHealth&fitness.HumanKineticsPublication.
3. KatchF.LandMcArdleW.D(2010)Nutrition,WeightControlandExercise.Philadelphia,Lea&Febiger.
4. Tiwari,Sandhya,(1999).ExercisePhysiology.SportsPublications,NewDelhi.
5. WilmoreJack.HandDavidL.Costill(1994).PhysiologyofSportandExercise.HumanKinetics.
6. G.GregoryHalf.(2012).LaboratoryManualforExercisePhysiology.USA.HumanKinetics,
7. W.LarryKenney,JackH.Wilmore,DevidL.Costil.(2015).PhysiologyofSportsandExercise,SecondEdition.USA.HumanKinetics.
8. Christophe.Hausswirth,InigoMujika.(2013).RecoveryforPerformanceinSports,USA,HumanKinetics.
9. InigoMujika.(2009).TaperingandPeakingForOptimalPerformance.USA.HumanKinetics
- 10.Per-Olf.Astrand,Kaare.Rodahl.(2003).TextBookofWorkPhysiology:PhysiologicalBasesofExercise.FourthEdition.USA.Human Kinetics.
- 11.JonathanK.Ehrman,DennisKerrigan,et.al.(2017).AdvanceExercisePhysiology:EssentialConceptsandApplications.USA.HumanKinetics.

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**BSc-PE-DSC-6(4): FUNDAMENTAL OF GAME 2 (CHOOSE ANY ONE GAME FROM THE LIST
OTHER THAN CHOSEN IN SEM-I)**

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/Practice		
BSc-PE-DSC-6(4): FUNDAMENTAL OF GAME 2	4	2	0	2	Class XII pass	Nil

Learning Objective: - The Students will acquire knowledge and understanding of a specific sport in which an individual wishes to excel.

Learning Outcome:-The student will attain knowledge, understanding, interpreting and analyzing proficiency in a game of one's choice.

THEORY SYLLABUS (30 hrs lectures)

Unit-I (07 hrs lectures)

- Historical Development and Modern Trends in the game(National and International Level)
- Organisational Structure (State, National and International Level)
- Introduction to Playfield/arena of the game/ athletic Track& field events/ Yogic arena

Unit-II (08 hrs lectures)

- Rules and their interpretation of the chosen sports/ Track & field events/ Yogic Asanas
- Basis of Warming up and cooling down and its effect
- Role of coach for preparing players/Teams

Unit-III (08 hrs lectures)

- Basic skills and techniques of the chosen Game/ Yogic Asanas/Athletic Events (short, middle and long distance races, hurdles races, jumping event- long jump & High Jump, throwing events- shot put, discuss & Javelin)
- Developmental Drills to improve skills of the Game/event/Asanas

Unit-IV (07 hrs lectures)

- Introduction to Fitness components related to sport / athletic events/yoga
- Role of Fitness & skill related fitness components of the chosen game in improving performance

Practical (60 Hours)

7. Learning and demonstrating various skills/techniques of chosen Game
8. Drills to improve Fundamental skills of the chosen game (for athletics/Gymnastics any three events)
9. Marking of Playfield/ arena of chosen game ((for athletics/Gymnastics any three events)

SUGGESTED READINGS:

- Chauhan VS (1999). Khel Jagat Mein Athletics. A.P. Pub, Jalandhar.
- Evans DA (1984). Teaching Athletics. Hodder, London.
- Fox EL (1998). Physiological Basis of Physical Education and Athletics Brown Pub.
- Gothi E (2004). Teaching & Coaching Athletics. Sport Pub., New Delhi.
- Gupta R. (2004). Layout & Marking of Track & Field. Friends Publications. India. New Delhi.
- Handbook-Rules and Regulation. International Athletic Federation (2010).
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- Kumar, Pardeep. (2008). Historical Development of Track & Field. Friends Publication. New Delhi
- Maughan, R. and Gluson, M. (2004). The Biomechanical Basics of Athletic Performance. Oxford University Press, U.K.
- Prentice, W. and Arnhem, D. (2005). Arnhem" s Principles of Athletic Training 12th Ed. McGraw Hill. in place of Knight (1988).
- Renwick GR (2001). Play Better Athletics. Sports Pub, Delhi.
- Singh, Hardayal. (1919). Science of Sports Training. DVS Publication, N. Delhi.
- Vanaik A. (2017). Officiating and Coaching, Friends Publication. New Delhi.