UNIVERSITY OF DELHI

CNC-II/093/1(23)/2022-23/
Dated: 13.06.2023

N O T I F I C A T I O N

Sub: Amendment to Ordinance V

[E.C Resolution No. 38-1/ (38-1-5) dated 08.12.2022]

Following addition be made to Appendix-II-A to the Ordinance V (2-A) of the Ordinances of the University;

Add the following:

Syllabi of Semester-II of the department of Physical Education and Sports Sciences under Faculty of Interdisciplinary and Applied Sciences based on Under Graduate Curriculum Framework -2022 implemented from the Academic Year 2022-23.

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:-

1. The learner will attain knowledge, understanding, ability of interpreting the concepts and practices in health education.
2. The learner will be able to adopt knowledge and practices to lead a healthy life and promote and maintain healthy practices and assist the practices of preventive medicine. Such core knowledge and skill will help to create a strong foundation to engage human subject of all

ages, sex, and ability.

3. The learner will develop the understanding and knowledge of factors affecting health and importance of health for individual, family, community and nation. The learner will also learn about concept and components of wellness, Health Education and its meaning, scope, aims and objectives, principles and methods and media used. The learner will gain knowledge of meaning and importance of different types of Hygiene. The learner will learn the Prescription of diet and determination of calorie value of foods. The learner will be able to describe, correlate, compare and analyze the concepts for best practices.
4. The learner will learn the basic concepts of Foods and Nutrition, Misconceptions about food, essential body nutrients- functions, food sources, balanced diet and diet prescription. The learner will acquire the knowledge of Communicable and Non- communicable diseases, distinction between them, mode of spread and prevention of communicable diseases and Cause, Mode of spread and prevention of some specific diseases - diarrhea, typhoid, malaria, STD Respiratory disease. The learner will also be acquainted with meaning, causes and prevention of Non-communicable diseases - diabetes, CVD, cancers, renal diseases and respiratory diseases. The learner will be able to demonstrate CPR. The learner will be able to describe, correlate, compare and analyze the concepts for best practices. The learner will be able to prepare (design) diet chart/ program.
5. The learner will gain knowledge of the Contemporary health problems of college youth; Alcohol, drugs, tobacco (chewing, sniffing, and smoking) and their harmful effects substance abuse management. The learner will also learn Population education, importance of small family, methods of controlling conception, signs and symptoms of pregnancy, home and hospital delivery, care of the infant, importance of breast feeding, immunization, oral rehydration therapy. The learner will beable to define first aid, DRABCH of first aid, CPR and will learn first aid for hemorrhage, fractures, sprain and strain (PRICER), Drowning snake bite, poisoning, heat stroke and heat exhaustion. The learner will gain knowledge about international health agencies- WHO, UNICEF, Red Cross- their constitution and role in promoting health, School Health Service, Components Of school health. The learner will learn the Immunization schedule. The learner will be able to describe, correlate, compare and analyze the concepts for best practices. The learner can work better way, give assistance for care, rehabilitation, health and prevention.
6. The learner will gain knowledge of the Rehabilitation (definition, physical and mental rehabilitation) and RehabilitationModalities (cold, heat, water, radiation, Hydrotherapy, cryo therapy, thermotherapy – superficial heat – I R Lamp, Wax bath, deep heat- short wave diathermy, microwave diathermy, u/s therapy, inferential therapy, TENS, nerve muscle stimulator). The learner will learn about the Rehabilitation Modalities. The learner will be able to describe, correlate, compare and analyze the concepts for best practices. The learner can work better way, give assistance for care, rehabilitation, health and prevention.

THEORY SYLLABUS

Unit-I (11 hrs lectures)

Health-meaning, dimensions of health and their interrelationships, importance of health for individual, family,community and nation; factors influencing health, spectrum of health,

Concept and components of wellness.

Health Education- meaning, scope, aims and objectives, principles, methods and media used in health education. Hygiene- personal hygiene, food hygiene, environmental hygiene-meaning, need and importance; associated practices related tomaintenance and promotion of health

Unit-II **(11 hrs lectures)**

Meaning of Nutrition, Function and sources of essential body nutrients, balanced diet, Communicable and Non-communicable diseases-Distinction between communicable and non-communicable diseases.Communicable diseases-Definition, mode of spread and prevention, Non-communicable diseases-- Meaning, causes and prevention

Unit-III **(11 hrs lectures)**

Contemporary health problems of college youth- Substance abuse management, Alcohol, drugs, tobacco (chewing, sniffing,smoking)- their harmful effects

Population education- importance of small family, methods of controlling conception, home and hospital delivery, care of theinfant, importance of breast feeding, immunization, oral rehydration therapy

Unit-IV **(12 hrs lectures)**

Definition of first aid, DRABCH of first aid, CPR, first aid for, hemorrhage, fractures, sprain and strain(PRICER), Drowningsnake bite, poisoning, heat stroke and heat exhaustion.

Internationals health agencies- WHO, UNICEF, Red Cross- their constitution and role in promoting health.Rehabilitation – Definition- physical and mental rehabilitation. Modalities of Physical Rehabilitation

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. Khel Sahitya. Delhi.
3. Chopra D and D Simon (2001). Grow Younger, Live Longer: 10 Steps to Reverse Aging. Three RiversPress. 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 PA SE Mimms and C Yeilding (2003). Personal Health: Perspectives and Lifestyles. ThomsonWads Worth. Belmont. California. USA.
8. Hales D (2005). An Invitation to Health. Thomson-Wadsworth, Belmont. California. USA.
9. Park K (2007). Park‟s Text Book of Preventive & Social Medicine. Banarsi Das Bhanot & Company.Delhi.
10. Snehlata (2006). Shareer, Vigyan Evam Swasthya Raksha. Discovery Pub. House s. New Delhi.
11. Uppal AK & Gautam GP (2008). Health & Physical Education. Friends Publication. New Delhi.

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

Semester-II

BSc-PE-DSC-5(4): EXERCISE PHYSIOLOGY

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	2	0	2	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:-

1. The learner will attain knowledge, understanding, ability of interpreting the concepts and practices in exercise physiology.
2. The learner will learn the changes/adaptations in body systems in response to Exercise & training. Such core knowledge and skill will help to create a strong foundation to engage human subject of all ages, sex for exercise, fitness, sports performance. The learner will be able to correlate, compare and analyze the cause (exercise) and effect (physiological changes) for best practices.
3. The learner will be able to understand the concept of Exercise Physiology and its Significance in the fieldof Physical Education & Sports, Acute Physiological Response, and Chronic Physiological Adaptation. The learner will understand the Nature of Skeletal Muscles: Gross & Microscopic Structure of Skeletal Muscle, Sliding Filament Theory, Muscle fiber types, Acute Response & Chronic Adaptation and the muscular system. The learner will be well acquainted with the practical aspect of assessing Resting Heart Rate and Blood Pressure of the subject and will learn to administer the Harvard Step test. The learner will be able to correlate, compare and analyze the cause (exercise) and effect (physiological changes) for best practices in regard to above.
4. The learner will develop the understanding and knowledge and practices of Bio-energetics : Aerobic & Anaerobic Systems & Energy Production, Fat and Protein Metabolism, Basal Metabolic Rate, Hormonal Regulation in Exercise & Training: The Endocrine Glands and their hormones, Acute Response and Chronic Adaptation. The learner will be able to measure vital capacity using Spirometer and assess the Body Mass Index of the subjects. The learner will be able to correlate, compare and analyze the cause (exercise) and effect (physiological changes) for best practices in regard to above.
5. The learner will gain knowledge of Cardiovascular Function during Exercise and Training: Structure & Function of the Heart, Acute response and Chronic Adaptation, Respiratory Function During Exercise and Training : Respiratory Parameters, Second Wind, Acute

Response and Chronic Adaptation. The learner will be able to correlate, compare and analyze the cause (exercise) and effect (physiological changes) for best practices in regard to above.

6. The learner will understand the fundamentals of Body Composition, Obesity and its causes, WeightManagement, Various methods of Assessing Body Composition, BMI, and WHR. The learner will be able to assess BMR and will revise all the Practicals. The learner will be able to correlate, compare and analyze the cause (exercise) and effect (physiological changes) for best practices in regard to above for fitness management, obesity management, healthy lifestyle and good health.
7. The learner will acquire practical skills (in laboratory and field setup) in regard to assessment of Resting Heart Rate, assessment of Blood Pressure, administering the Harvard Step test, to measure vital capacity using Spirometer, to assess the Body Mass Index of the subjects, to assess the Waist Hip Ratio of the subjects, methods of assessing Body Composition, assessment of BMR of the subjects. The learner will be able to compare, correlate and analyze the above learnings in real life situation.

THEORY SYLLABUS

UNIT 1: Fundamentals and Neuromuscular Function (07 hrs. lectures)

The Focus of Exercise Physiology: Definition, Concept & it Significance in the field of Physical Education& Sports, Acute Physiological Response, Chronic Physiological Adaptation.

The Nature Of Skeletal Muscles: Gross & Microscopic Structure of Skeletal Muscle,, Sliding FilamentTheory , Muscle fiber types, Acute Response & Chronic Adaptation and the muscular system .

UNIT 2: Energy & Hormonal Regulation (07 hrs. lectures)

Bio-energetics: Aerobic & Anaerobic Systems & Energy Production, Fat and Protein Metabolism, BasalMetabolic Rate.

Hormonal Regulation in Exercise & Training: The Endocrine Glands and their hormones, Acute Responseand Chronic Adaptation.

UNIT 3: Cardiorespiratory System and Training Adaptation (08 hrs. lectures)

Cardiovascular Function during Exercise and Training: Structure & Function of the Heart, CardiovascularResponse to Exercise and Chronic Adaptation.

Respiratory Function during Exercise and Training: Respiratory Parameters, Second Wind, Acute Responseand Chronic Adaptation.

UNIT 4: Body Composition (08 hrs. lectures)

Understanding Body Composition, Obesity and its causes.

Weight Management, Various methods of Assessing Body Composition, BMI, and WHR.

Practical (60 hrs.)

1. Assessment of Resting Heart Rate
2. Assessment of Blood Pressure
3. Administering the Harvard Step test

4. To measure vital capacity using Spirometer
5. To assess the Body Mass Index of the subjects
6. To assess the Waist Hip Ratio of the subjects
7. Methods of assessing Body Composition
8. Assessment of BMR of the subjects

Suggested Readings:

1. Camaione, David N. (1993). Fitness Management.WCB Brown & Benchmark.
2. Jakson, Allen W and James R. Morrow (1999) Physical Activity for Health & fitness. HumanKinetics Publication.
3. Katch F.L and Mc Ardle W.D (2010) Nutrition, Weight Control and Exercise .Philadelphia, Lea &Febiger.
4. Tiwari, Sandhya, (1999).Exercise Physiology. Sports Publications, New Delhi.
5. Wilmore Jack. H and David L. Costill (1994).Physiology of Sport and Exercise .Human Kinetics.
6. G.Gregory Half. (2012). Laboratory Manual for Exercise Physiology. USA. Human Kinetics,
7. W.Larry Kenney, Jack H. Wilmore, Devid L.Costil.(2015). Physiology of Sports and Exercise,Second Edition. USA.Human Kinetics.
8. Christophe. Hausswirth, Inigo Mujika. (2013). Recovery for Performance in Sports, USA,Human Kinetics.
9. Inigo Mujika.(2009). Tapering and Peaking For Optimal Performance. USA. Human Kinetics
10. Per-Olf .Astrand, Kaare.Rodahl. (2003). Text Book of Work Physiology: Physiological Basses ofExercise. Fourth Edition.USA.Human Kinetics.
11. Jonathan K.Ehrman, Dennis Kerrigan, et.al. (2017). Advance Exercise Physiology: EssentialConcepts and Applications.USA. Human Kinetics.

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

Semester II

BSc-PE-DSC-6(4): Optional Game 2 (Choose any one from the list otherthan chosen before)

BSc-PE-DSC-6(4)-101: ATHLETICS

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
ATHLETICS	4	2	0	2	Class XII pass	NIL

Learning Objective: - The learner will acquire knowledge, understanding and practices with applications and skills in athletics including performance (psychomotor).

Learning Outcome:-

1. The learner will attain knowledge, understanding, ability to interpret and analyzing proficiency in athletics.
2. The learner will be able to gain knowledge with respect to historical development, organizational structure and playfield technology of athletics. They will be able to perform the marking/ drawing/ material organizing for athletics.
3. The learner will be able to understand, analyze and interpret the rules of game/sport (athletics) as well as game of knowledge in the areas of scientific basis of warming up, cooling down and technical aspects of coaching i.e., methods of coaching and their uses for psychomotor development.
4. The learner will be able to learn and acquire various skills of game/sports (athletics) as psychomotor development/ applications, gain knowledge and practice about different tests of fitness andskill evaluation, application as well as the evaluation and analysis (psychomotor) of player's performance. The technical practice/training of sprint races, middle and long distance races, hurdles races, jumping event- long jump, throwing events- shot put, hammer throw for best performance creation.
5. The learner will learn about various fitness components and its forms including methods of measurements. Further, the learner will be able to practice and improve performance (psychomotor) on the basis of knowledge, application and skill gained in understanding various fitness components. Track marking and marking of different arenas for selected events of athletics.

THEORY SYLLABUS

Unit-I **(08 hrs lectures)**

- Historical Development and Modern Trends (National and International Level)
- Organisational Structure (State, National and International Level)
- Playfield Technology – Marking and Construction of the playfields.

(08 hrs lectures)

- Rules and their interpretation of the sport.

Unit-II

- Warming up and psychological basis of Warming up.
- Cooling down and its effect.
- Techniques of Coaching – Pep talk, Pre, during and Post match competition Coaching.

(07 hrs lectures)

Unit-III

- Basic skills and techniques of the Sports/Game- – sprint races, middle and long distance races, hurdles races, jumping event- long jump, throwing events- shot put, hammer throw.
- Motor Fitness Components Testing
- Skill/Technique Evaluation
- Evaluation of Player's Performance.

(07 hrs lectures)

Unit-IV

- Introduction to Physical and Motor Fitness components related to sport: Strength, Speed, Endurance, Coordinative Abilities and Flexibility.
- Track marking and marking of different arenas for selected events in unit-III.

Practicals (60 hrs.)

1. Learning and demonstrating various skills/techniques of sports- sprint races, middle and long distanceraces, hurdles races, jumping event- long jump, throwing events- shot put.
2. Learning to demonstrate various tests to evaluate motor components as listed in unit IV above.
3. Track marking and marking of different arenas for selected events in unit-III.

Suggested Readings:

1. Chauhan VS (1999). Khel Jagat Mein Athletics. A.P. Pub, Jalandhar.
2. Bompa O. Tudor and Halff G. Gregory. (2009) "Periodization Theory and Methodology of Training"Human kinetics. NY.
3. Evans DA (1984). Teaching Athletics. Hodder, London.
4. Fox EL (1998). Physiological Basis of Physical Education and Athletics Brown Pub.
5. Gothi E (2004). Teaching & Coaching Athletics. Sport Pub., New Delhi.
6. Gupta R. (2004). Layout & Marking of Track & Field. Friends Publications. India. New Delhi.
7. Handbook-Rules and Regulation. International Athletic Federation (2010).
8. Herb Amato, DA ATC et al (2002). Practical Exam Preparation Guide of Clinical Skills of AthleticTraining. Slack Incorporated. 1st ed., USA.
9. Kumar, Pardeep. (2008). Historical Development of Track & Field. Friends Publication. New Delhi
10. Maughan, R. and Gluson, M. (2004). The Biomechanical Basics of Athletic Performance. OxfordUniversity Press, U.K.
11. Prentice, W. and Arnheim, D. (2005). Arnheim"s Principles of Athletic Training 12th Ed. McGrawHill. in place of Knight (1988).
12. Renwick GR (2001). Play Better Athletics. Sports Pub, Delhi.
13. Singh, Hardayal. (1919). Science of Sports Training. DVS Publication, N. Delhi.
14. Vanaik A. (2017). Officiating and Coaching, Friends Publication. New Delhi.

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

Semester II

BSc-PE-DSC-6 (4)-102: BADMINTON

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
BADMINTON	4	2	0	2	Class XII pass	NIL

Learning Objective: - The learner will acquire knowledge, understanding and practices with applications and skills in badminton including performance (psychomotor).

Learning Outcome:-

1. The learner will attain knowledge, understanding, ability to interpret and analyzing proficiency in badminton.
2. The learner will be able to gain knowledge with respect to historical development, organizational structure and playfield technology of badminton. They will be able to perform the marking/ drawing/ material organizing for badminton.
3. The learner will be able to understand, analyze and interpret the rules of game/sport (badminton) as well as game of knowledge in the areas of scientific basis of warming up, cooling down and technical aspects of coaching i.e., methods of coaching and their uses for psychomotor development.
4. The learner will be able to learn and acquire various skills of game/sports (badminton) as psychomotor development/ applications, gain knowledge and practice about different tests of fitness and skill evaluation, application as well as the evaluation and analysis (psychomotor) of player's performance.
5. The learner will learn about various fitness components and its forms including methods of measurements. Further, the learner will be able to practice and improve performance (psychomotor) on the basis of knowledge, application and skill gained in understanding various fitness components. Court marking and marking of different arenas for selected events of badminton.

SYLLABUS

Unit-I **(08 hrs lectures)**

- Historical Development and Modern Trends (National and International Level)
- Organisational Structure (State, National and International Level)
- Playfield Technology – Marking and Construction of the playfields.

Unit -II **(08 hrs lectures)**

- Rules and their interpretation.
- Warming up and physiological basis of Warming up and its effect on performance.
- Cooling down and its effect.
- Techniques of Coaching – Pep talk, Pre, during and Post match coaching.

UNIT-III (07 hrs lectures)

- Basic skills and techniques of the Sports/Game.
- Skill/Technique Evaluation

- Evaluation of Player‟s Performance.

UNIT-IV (07 hrs lectures)

- Introduction to Physical and Motor Fitness components: Strength, Speed, Endurance, Coordinative Abilities and Flexibility.
- Motor Fitness Components Testing of above components.

Practicals (60 hrs.)

- Learning and demonstrating various skills/techniques of sports.
- Learning to demonstrate various tests to evaluate motor components as listed in unit IV above.

Suggesting Readings :

1. Bloss, M.V. et al (2000). Badminton. McGraw Hill,USA.
2. Bompa O Tudor and Halff G. Gregory. (2009) “Periodization Theory and Methodology of Training” Human kinetics. NY.
3. Brahms Bernd-Voler. (2010). Badmnton Handbook. Mayer & Mayer Sports: UK. Unt-II, III &IV-p-9-14.
4. Daris Pal. (1988). Badminton-The complete practical guide. Dairs & Charles Inc.: USA. Unit-IIp-1-28 III- p-29-88, 109-152 & IV-p-97-108
5. Downey J (1990). How to Coach Badminton. Collins Pub.London.
6. Golds, M. (2002). Badminton: Skills of the Game. Growood Press,USA.
7. Grice, T. (2007). Badminton: Steps to Success. 2nd Ed. Human Kinetics,USA.
8. GuptaR.KumarP.andTyagiS.(2008).TextbookonTeachingSkillandProwess(Part-I&II). Friends Publication. New Delhi.
9. Hoeger, W.W. Kand & Hoeger, S.A. (1997). Principles and Labs for physical fitness. (2nd Edi.). Morton Publishing Company. USA. Unit- II- p-127, 178-187, Unit- p-10-194.
10. Singh, Hardayal. (1991). Science of Sport Training. D.V.S Pub. Delhi.
11. Singh, MK. (2007). Comprehensive Badminton. Friends Pub. New Delhi.
12. Vanaik A. (2005). Playfield Manual, Friends Publication. New Delhi.
13. Vanaik A. (2017). Officiating and Coaching, Friends Publication. New Delhi.

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

Semester II

BSc-PE-DSC-6 (4)-103: BASKETBALL

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
BASKETBALL	4	2	0	2	Class XII pass	NIL

Learning Objective: - The learner will acquire knowledge, understanding and practices with applications and skills in basketball including performance (psychomotor).

Learning Outcome:-

1. The learner will attain knowledge, understanding, ability to interpret and analyzing proficiency in basketball.
2. The learner will be able to gain knowledge with respect to historical development, organizational structure and playfield technology of basketball. They will be able to perform the marking/ drawing/ material organizing for basketball.
3. The learner will be able to understand, analyze and interpret the rules of game/sport (basketball) as well as game of knowledge in the areas of scientific basis of warming up, cooling down and technical aspects of coaching i.e., methods of coaching and their uses for psychomotor development.
4. The learner will be able to learn and acquire various skills of game/sports (basketball) as psychomotor development/ applications, gain knowledge and practice about different tests of fitness andskill evaluation, application as well as the evaluation and analysis (psychomotor) of player's performance.
5. The learner will learn about various fitness components and its forms including methods of measurements. Further, the learner will be able to practice and improve performance (psychomotor) on the basis of knowledge, application and skill gained in understanding various fitness components. Court marking and marking of different arenas for selected events of basketball.

THEORY SYLLABUS

Unit-I **(07 hrs lectures)**

- Historical Development and Modern Trends (National and International Level)
- Organisational Structure (State, National and International Level)
- Playfield Technology – Marking and Construction of the playfields.

UNIT-II **(08 hrs lectures)**

- Rules and their interpretation.
- Warming up and physiological basis of Warming up and its effect on performance.
- Cooling down and its effect.
- Techniques of Coaching – Pep talk, Pre, during and Post match coaching.

(07 hrs lectures)

Unit-III

- Basic skills and techniques of the Sports/Game.
- Skill/Technique Evaluation
- Evaluation of Player‟s Performance.

ength, Speed, Endurance, Coordinative Abilities and Flexibility.

Unit-IV **(08 hrs lectures)**

- Motor Fitness Components Testing of above components.

- Introduction to Physical and Motor Fitness components: Str

Practical (60 hrs.)

Learning and demonstrating various skills/techniques of sports.

Learning to demonstrate various tests to evaluate motor components as listed in unit IV above.

SUGGESTED READINGS

- Bompa O. Tudor and Halff G. Gregory. (2009) "Periodization Theory and Methodology of Training" Human kinetics. NY.
- Drewett, J. (2007). How to Improve at Basketball. Crabtree Publishing Co., USA.
- Goldstein, S. (1998). Basketball Fundamentals. 2nd Ed. Golden Aura Publishing,USA.
- Jain Naveen (2003). Play and Learn Basket Ball. Khel Sahitya Kendra. NewDelhi.
- Nat BB (1997). Conditioning Coaches Association. NBA Power Conditioning. Human Kinetics.
- Sharma OP (2003). Basket Ball Skills and Rules. Khel Sahitya Kendra, Delhi.
- Singh, Hardayal. (1919). Science of Sports Training. DVS Publication, N. Delhi.
- Wilmore & Costill (2004).Physiology of Sports &Exercise. Human Kinetics, US

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

Semester II

BSc-PE-DSC-6 (4)-104: CRICKET

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
CRICKET	4	2	0	2	Class XII pass	NIL

Learning Objective: - The learner will acquire knowledge, understanding and practices with applications and skills in cricket including performance (psychomotor).

Learning Outcome:-

1. The learner will attain knowledge, understanding, ability to interpret and analyzing proficiency in cricket.
2. The learner will be able to gain knowledge with respect to historical development, organizational structure and playfield technology of cricket. They will be able to perform the marking/ drawing/ material organizing for cricket.
3. The learner will be able to understand, analyze and interpret the rules of game/sport (cricket) as well as game of knowledge in the areas of scientific basis of warming up, cooling down and technical aspects of coaching i.e., methods of coaching and their uses for psychomotor development.
4. The learner will be able to learn and acquire various skills of game/sports (cricket) as psychomotor development/ applications, gain knowledge and practice about different tests of fitness andskill evaluation, application as well as the evaluation and analysis (psychomotor) of player's performance.
5. The learner will learn about various fitness components and its forms including methods of measurements. Further, the learner will be able to practice and improve performance (psychomotor) on the basis of knowledge, application and skill gained in understanding various fitness components. Track/field marking and marking of different arenas for selected events of cricket.

THEORY SYLLABUS

Unit-I **(07 hrs lectures)**

- Historical Development and Modern Trends (National and International Level)
- Organisational Structure (State, National and International Level)
- Playfield Technology – Marking and Construction of the playfields.

Unit-II **(08 hrs lectures)**

- Rules and their interpretation.
- Warming up and physiological basis of Warming up and it‟s effect on performance.
- Cooling down and its effect.
- Techniques of Coaching – Pep talk, Pre, during and Post match coaching.

Unit-III **(07 hrs lectures)**

- Basic skills and techniques of the Sports/Game.
- Skill/Technique Evaluation
- Evaluation of Player‟s Performance.

Unit-IV

(08 hrs lectures)

- Introduction to Physical and Motor Fitness components: Strength, Speed, Endurance, Coordinative Abilities and Flexibility.
- Motor Fitness Components Testing of above components.

Practical - **(60 hrs.)**

Learning and demonstrating various skills/techniques of sports.

Learning to demonstrate various tests to evaluate motor components as listed in unit IV above.

SUGGESTED READINGS

1. Amarnath M. (1996). Learn to Play Good Cricket. UBS Publishers. New Delhi.
2. Bompa O. Tudor and Halff G. Gregory. (2009) "Periodization Theory and Methodology ofTraining" Human kinetics. NY.
3. Boycott, G. (2010). Play Cricket the Right Way. Great Northern Books Limited, U.K.
4. Cricket (2008). Sports Skills: Cricket Fielding (Know the Game). A & C Black Publishers.
5. Gupta, K. (2006). How to Play Cricket. Goodwill Publishing House, New Delhi.
6. Hobls, J. (2008). The Game of Cricket As it should be played. Jepson Press, USA.
7. Jain R. (2003). Fielding Drills in Cricket. Khel Sahitya Kendra. New Delhi.
8. Rachna (2002). Coaching Successfully: Cricket. Khel Sahitya Kendra. New Delhi.
9. Singh, Hardayal. (1919). Science of Sports Training. DVS Publication, N. Delhi.
10. Sharma P. (2003). Cricket.Shyam Parkashan.Jaipur.
11. Vanaik A. (2017). Officiating and Coaching, Friends Publication. New Delhi

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

Semester II

BSc-PE-DSC-6(4)-105: FOOTBALL

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
FOOTBALL	4	2	0	2	Class XII pass	NIL

Learning Objective: - The learner will acquire knowledge, understanding and practices with applications and skills in football including performance (psychomotor).

Learning Outcome:-

1. The learner will attain knowledge, understanding, ability to interpret and analyzing proficiency in football.
2. The learner will be able to gain knowledge with respect to historical development, organizational structure and playfield technology of football. They will be able to perform the marking/ drawing/ material organizing for football.
3. The learner will be able to understand, analyze and interpret the rules of game/sport (football) as well as game of knowledge in the areas of scientific basis of warming up, cooling down and technical aspects of coaching i.e., methods of coaching and their uses for psychomotor development.
4. The learner will be able to learn and acquire various skills of game/sports (football) as psychomotor development/ applications, gain knowledge and practice about different tests of fitness andskill evaluation, application as well as the evaluation and analysis (psychomotor) of player's performance.
5. The learner will learn about various fitness components and its forms including methods of measurements. Further, the learner will be able to practice and improve performance (psychomotor) on the basis of knowledge, application and skill gained in understanding various fitness components. Field marking and marking of different arenas for selected events of football.

THEORY SYLLABUS

Unit-I **(08 hrs lectures)**

- Historical Development and Modern Trends (National and International Level)
- Organisational Structure (State, National and International Level)
- Playfield Technology – Marking and Construction of the playfields.

Unit-II **(08 hrs lectures)**

- Rules and their interpretation.
- Warming up and physiological basis of Warming up and its effect on performance.
- Cooling down and its effect.
- Techniques of Coaching – Pep talk, Pre, during and Post match coaching.

Unit-III **(07 hrs lectures)**

- Basic skills and techniques of the Sports/Game.
- Skill/Technique Evaluation
- Evaluation of Player‟s Performance.

Unit-IV **(07 hrs lectures)**

- Introduction to Physical and Motor Fitness components: Strength, Speed, Endurance, Coordinative Abilities and Flexibility.
- Motor Fitness Components Testing of above components.

Practical – **(60 hrs.)**

Learning and demonstrating various skills/techniques of sports.

Learning to demonstrate various tests to evaluate motor components as listed in unit IV above.

SUGGESTED READINGS

1. American Football Coaches Association (2002). The Football CoachingBible. 1st Ed., Human Kinetics, USA.
2. Bompa O. Tudor and Halff G. Gregory. (2009) "Periodization Theory and Methodologyof Training" Human kinetics. NY.
3. Carling, C., Williams, M. and Reilling, T. (2006). Handbook of Soccer MatchAnalysis: A Systematic Approach to Improving Performance. Routledge Publishers, USA.
4. Long, H. and Czarnecki, J. (2007). Football for Dummies. For Dummies Publisher, USA.
5. N Kumar (2003). Play and Learn Football. K.S.K. New Delhi.
6. Reilly, T. (2006). The Science Training Soccer: A Scientific Approach toDeveloping Strength, Speed and Endurance. Routledge Publisher, USA.
7. Reilly, T. and J.C.D. Arau (2008). Science and Football V: The Proceedingsof the 5th World Congress on Sports Science and Football, Volume5.
8. Singh, Hardayal. (1919). Science of Sports Training. DVS Publication, N. Delhi.
9. Sharma OP (2001). Teaching and Coaching –Football. Khel S.K.Delhi.
10. Vanaik A. (2017). Officiating and Coaching, Friends Publication. New Delhi

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

Semester II

BSc-PE-DSC-6 (4)-106: GYMNASTICS

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
GYMNASTICS	4	2	0	2	Class XII pass	NIL

Learning Objective: - The learner will acquire knowledge, understanding and practices with applications and skills in gymnastics including performance (psychomotor).

Learning Outcome:-

1. The learner will attain knowledge, understanding, ability to interpret and analyzing proficiency in gymnastics.
2. The learner will be able to gain knowledge with respect to historical development, organizational structure and playfield technology of gymnastics. They will be able to perform the marking/ drawing/ material organizing for gymnastics.
3. The learner will be able to understand, analyze and interpret the rules of game/sport (gymnastics) as well as game of knowledge in the areas of scientific basis of warming up, cooling down and technical aspects of coaching i.e., methods of coaching and their uses for psychomotor development.
4. The learner will be able to learn and acquire various skills of game/sports (gymnastics) as psychomotor development/ applications, gain knowledge and practice about different tests of fitness andskill evaluation, application as well as the evaluation and analysis (psychomotor) of player's performance.
5. The learner will learn about various fitness components and its forms including methods of measurements. Further, the learner will be able to practice and improve performance (psychomotor) on the basis of knowledge, application and skill gained in understanding various fitness components. Track/field/hall marking and marking of different arenas for selected events of gymnastics.

THEORY SYLLABUS

Unit-I **(07 hrs lectures)**

- Historical Development and Modern Trends (National and International Level)
- Organisational Structure (State, National and International Level)
- Playfield Technology – Marking and Construction of the playfields.

Unit-II **(08 hrs lectures)**

- Rules and their interpretation of the sport.
- Warming up and psychological basis of Warming up.
- Cooling down and its effect.
- Techniques of Coaching – Pep talk, Pre, during and Post match coaching.

Unit-III **(08 hrs lectures)**

- Basic skills and techniques of the Artistic Gymnastics, trampoline, parko and rhythmic
- Motor Fitness Components Testing
- Skill/Technique Evaluation
- Evaluation of Player‟s Performance.

Unit-IV **(07 hrs lectures)**

- Introduction to Physical and Motor Fitness components related to sport: Strength, Speed, Endurance, Coordinative Abilities and Flexibility.

Practical - (60 hrs.)

- Learning and demonstrating various skills/techniques of Artistic Gymnastics, trampoline, parko and rhythmic.
- Learning to demonstrate various tests to evaluate motor components as listed in unit IV above.

SUGGESTED READINGS

1. Bompa O. Tudor and Halff G. Gregory. (2009) "Periodization Theory and Methodology ofTraining" Human kinetics. NY.
2. Brown (2009). How to Improve at Gymnastics. Crabtree Publishing Co., USA.
3. Chakraborty S and Sharma L (1995). Fundamental of Gymnastics. D.V.S. Pub. New Delhi.
4. Chakraborty S (1995). Fundamental of Gymnastics. DVS Pub. New Delhi.
5. Chakraborty S (1998). Women's Gymnastics. Friends Pub.Delhi.
6. Code of Points Trampoline Gymnastics (2005). Federation Int. DE Gymnastics
7. Federation International Gymnastics (2006). Federation Int. DE Gymnastics
8. Harvey FJ (1998). Physical Exercises & Gymnastics. Khel Sahitya. New Delhi.
9. Jain R (2005). Play and Learn Gymnastics. Khel SahitayaKendra
10. Mitchell, D., Davis, B. and Lopez, R. (2002). Teaching Fundamental GymnasticsSkills. Human Kinetics, USA.
11. Price, R.G. (2006). The Ultimate Guide to Weight Training for Gymnastics. 2nd Ed.Sportsworkout.com.
12. Schlegel, E. and Dunn, CR. (2001). The Gymnastics Book: The Young Performer"s Guide toGymnastics. Firefly Books, USA.
13. Smither Graham (1980). Behing the Science of Gymnastics. London.
14. Singh, Hardayal. (1919). Science of Sports Training. DVS Publication, N. Delhi.
15. Stickland, L.R. (2008). Gender Gymnastics. Trans Pacific Press, Japan.
16. Vanaik A. (2017). Officiating and Coaching, Friends Publication. New Delhi

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

Semester II

BSc-PE-DSC-6 (4)-107: HANDBALL

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
HANDBALL	4	2	0	2	Class XII pass	NIL

Learning Objective: - The learner will acquire knowledge, understanding and practices with applications and skills in handball including performance (psychomotor).

Learning Outcome:-

1. The learner will attain knowledge, understanding, ability to interpret and analyzing proficiency in handball.
2. The learner will be able to gain knowledge with respect to historical development, organizational structure and playfield technology of handball. They will be able to perform the marking/ drawing/ material organizing for handball.
3. The learner will be able to understand, analyze and interpret the rules of game/sport (handball) as well as game of knowledge in the areas of scientific basis of warming up, cooling down and technical aspects of coaching i.e., methods of coaching and their uses for psychomotor development.
4. The learner will be able to learn and acquire various skills of game/sports (handball) as psychomotor development/ applications, gain knowledge and practice about different tests of fitness andskill evaluation, application as well as the evaluation and analysis (psychomotor) of player's performance.
5. The learner will learn about various fitness components and its forms including methods of measurements. Further, the learner will be able to practice and improve performance (psychomotor) on the basis of knowledge, application and skill gained in understanding various fitness components. Track/field marking and marking of different arenas for selected events of handball.

THEORY SYLLABUS

Unit-I **(08 hrs lectures)**

- Historical Development and Modern Trends (National and International Level)
- Organisational Structure (State, National and International Level)
- Playfield Technology – Marking and Construction of the playfields.

Unit-II **(08 hrs lectures)**

- Rules and their interpretation.
- Warming up and physiological basis of Warming up and its effect on performance.
- Cooling down and its effect.
- Techniques of Coaching – Pep talk, Pre, during and Post match coaching.

Unit-III (07 hrs lectures)

- Basic skills and techniques of the Sports/Game.
- Skill/Technique Evaluation
- Evaluation of Player‟s Performance.

Unit-IV **(07 hrs lectures)**

- Introduction to Physical and Motor Fitness components: Strength, Speed, Endurance, Coordinative Abilities and Flexibility.
- Motor Fitness Components Testing of above components.

Practical - (60 hrs.)

Learning and demonstrating various skills/techniques of sports.
Learning to demonstrate various tests to evaluate motor components as listed in unit IV above.

SUGGESTED READINGS

1. Bompa O. Tudor and Halff G. Gregory. (2009) "Periodization Theory and Methodology ofTraining" Human kinetics. NY.
2. Jain D (2003). Play & Learn Handball. Khel Sahitya Kendra. New Delhi.
3. Kleinman, I. (2009). Complete Physical Education Plans. 2nd Ed. Human Kinetics, USA.
4. Page, J. (2000). Ball Games. Lerner Sports Publisher, USA.
5. Phillips, B.E. (2009). Fundamental Handball. Kessinger Publishers, USA.
6. Schmottlach N Mcmanama J (1997). Physical Education Handbook. 9th Edition. Allyn &Bacon.London.
7. Schmottlach, N. and McManama (2005). Physical Education Activity Handbook.Benjamin Cummings, USA.
8. Singh, Hardayal. (1919). Science of Sports Training. DVS Publication, N. Delhi.
9. Surhone, L.M. et al (2010). Team Handball. Betascript Publishing,USA
10. Vanaik A. (2005). Playfield Manual, Friends Publication. New Delhi
11. Vanaik A. (2017). Officiating and Coaching, Friends Publication. New Delhi

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

Semester II

BSc-PE-DSC-6 (4)-108: HOCKEY

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
HOCKEY	4	2	0	2	Class XII pass	NIL

Learning Objective: - The learner will acquire knowledge, understanding and practices with applications and skills in hockey including performance (psychomotor).

Learning Outcome:-

1. The learner will attain knowledge, understanding, ability to interpret and analyzing proficiency in hockey.
2. The learner will be able to gain knowledge with respect to historical development, organizational structure and playfield technology of hockey. They will be able to perform the marking/ drawing/ material organizing for hockey.
3. The learner will be able to understand, analyze and interpret the rules of game/sport (hockey) as well as game of knowledge in the areas of scientific basis of warming up, cooling down and technical aspects of coaching i.e., methods of coaching and their uses for psychomotor development.
4. The learner will be able to learn and acquire various skills of game/sports (hockey) as psychomotor development/ applications, gain knowledge and practice about different tests of fitness andskill evaluation, application as well as the evaluation and analysis (psychomotor) of player's performance.
5. The learner will learn about various fitness components and its forms including methods of measurements. Further, the learner will be able to practice and improve performance (psychomotor) on the basis of knowledge, application and skill gained in understanding various fitness components. Field marking and marking of different arenas for selected events of hockey.

THEORY SYLLABUS

Unit-I **(08 hrs lectures)**

- Historical Development and Modern Trends (National and International Level)
- Organisational Structure (State, National and International Level)
- Playfield Technology – Marking and Construction of the playfields.

Unit-II (08 hrs lectures)

- Rules and their interpretation.
- Warming up and physiological basis of Warming up and it"s effect on performance.
- Cooling down and its effect.
- Techniques of Coaching – Pep talk, Pre, during and Post match coaching.

UNIT-III (07 hrs lectures)

- Basic skills and techniques of the Sports/Game.
- Skill/Technique Evaluation
- Evaluation of Player"s Performance.

Unit-IV **(07 hrs lectures)**

- Introduction to Physical and Motor Fitness components: Strength, Speed, Endurance, Coordinative Abilities and Flexibility.
- Motor Fitness Components Testing of above components.

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

Practical - (60 hrs)

Learning and demonstrating various skills/techniques of sports.

Learning to demonstrate various tests to evaluate motor components as listed in unit IV above.

SUGGESTED READINGS

1. Bompa O. Tudor and Halff G. Gregory. (2009) "Periodization Theory and Methodology ofTraining" Human kinetics. NY.
2. International Hockey Federation, Rules of the Game of Hockey with Guidance forPlayers and Umpires. International Hockey Federation.
3. Jain D (2003). Hockey Skills & Rules. khel Sahitya Kendra . New Delhi.
4. Narang P (2003). Play & Learn Hockey. Khel Sahitya Kendra. New Delhi.
5. Pecknold, R. and Foeste, A. (2009). Hockey : Essential Skills. McGraw Hills,USA.
6. Rossiter, S. (2003). Hockey the NHL Way : Goaltending Illustrated Edition. SterlingPublishers,USA.
7. Singh, Hardayal. (1919). Science of Sports Training. DVS Publication, N. Delhi.
8. Walter, R. and Johnson, M. (2009). Hockey Plays and Strategies. Human Kinetics,USA.
9. Weekes, D. (2003). The Biggest Book of Hockey Trivia. Greystone Books,USA.
10. Wukovits, J.F. (2000). History of Hockey 1st Ed. Lucent Books,USA.
11. Vanaik A. (2005). Playfield Manual, Friends Publication. New Delhi
12. Vanaik A. (2017). Officiating and Coaching, Friends Publication. New Delhi

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

Semester II

BSc-PE-DSC-6(4)-109: JUDO

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
JUDO	4	2	0	2	Class XII pass	NIL

Learning Objective: - The learner will acquire knowledge, understanding and practices with applications and skills in judo including performance (psychomotor).

Learning Outcome:-

1. The learner will attain knowledge, understanding, ability to interpret and analyzing proficiency in judo.
2. The learner will be able to gain knowledge with respect to historical development, organizational structure and playfield technology of judo. They will be able to perform the marking/ drawing/ material organizing for judo.
3. The learner will be able to understand, analyze and interpret the rules of game/sport (judo) as well as game of knowledge in the areas of scientific basis of warming up, cooling down and technical aspects of coaching i.e., methods of coaching and their uses for psychomotor development.
4. The learner will be able to learn and acquire various skills of game/sports (judo) as psychomotor development/ applications, gain knowledge and practice about different tests of fitness andskill evaluation, application as well as the evaluation and analysis (psychomotor) of player's performance.
5. The learner will learn about various fitness components and its forms including methods of measurements. Further, the learner will be able to practice and improve performance (psychomotor) on the basis of knowledge, application and skill gained in understanding various fitness components. Mat marking and marking of different arenas for selected events of judo.

THEORY SYLLABUS

Unit-I **(08 hrs lectures)**

- Historical Development and Modern Trends (National and International Level)
- Organisational Structure (State, National and International Level)
- Playfield Technology – Marking and Construction of the playfields.

Unit-II **(08 hrs lectures)**

- Rules and their interpretation.
- Warming up and physiological basis of Warming up and it"s effect on performance.
- Cooling down and its effect.
- Techniques of Coaching – Pep talk, Pre, During and Post match Coaching.

Unit-III **(07 hrs lectures)**

- Basic skills and techniques of the Sports/Game.
- Skill/Technique Evaluation
- Evaluation of Player"s Performance.

Unit-IV **(07 hrs lectures)**

- Introduction to Physical and Motor Fitness components: Strength, Speed, Endurance, Coordinative Abilities and Flexibility.

- Motor Fitness Components Testing of above components.

Practical - (60 hrs.)

Learning and demonstrating various skills/techniques of sports.

Learning to demonstrate various tests to evaluate motor components as listed in unit IV above.

SUGGESTED READINGS

1. Bompa O. Tudor and Halff G. Gregory. (2009) "Periodization Theory and Methodology ofTraining" Human kinetics. NY.
2. Diago, T. (2005). Kodokan Judo Throwing Techniques. Kodansha International Publishers,Japan.
3. Harrison EJ (2002). Coaching Successfully Judo. Sports.Delhi.
4. Jain D (2003). Play and Learn Judo. Khel Sahitaya Kendra. New Delhi.
5. Law, M. (2009). Falling Hard : A Journey into the World of Judo. Trumpeter Publisher,Japan.
6. Putin, V., Shestakov, V. ad Levitsky, A. (2004). Judo : History, Theory and Practice.Blue Snake Books, Moscow.
7. Singh, Hardayal. (1919). Science of Sports Training. DVS Publication, N. Delhi.
8. Takahashi, M. (2005). Mastering Judo. Human Kinetics,USA.

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

SemesterII

BSc-PE-DSC-6 (4)-110: KABADDI

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
KABADDI	4	2	0	2	Class XII pass	NIL

Learning Objective: - The learner will acquire knowledge, understanding and practices with applications and skills in kabaddi including performance (psychomotor).

Learning Outcome:-

1. The learner will attain knowledge, understanding, ability to interpret and analyzing proficiency in kabaddi.
2. The learner will be able to gain knowledge with respect to historical development, organizational structure and playfield technology of kabaddi. They will be able to perform the marking/ drawing/ material organizing for kabaddi.
3. The learner will be able to understand, analyze and interpret the rules of game/sport (kabaddi) as well as game of knowledge in the areas of scientific basis of warming up, cooling down and technical aspects of coaching i.e., methods of coaching and their uses for psychomotor development.
4. The learner will be able to learn and acquire various skills of game/sports (kabaddi) as psychomotor development/ applications, gain knowledge and practice about different tests of fitness andskill evaluation, application as well as the evaluation and analysis (psychomotor) of player's performance.
5. The learner will learn about various fitness components and its forms including methods of measurements. Further, the learner will be able to practice and improve performance (psychomotor) on the basis of knowledge, application and skill gained in understanding various fitness components. Court/field/track marking and marking of different arenas for selected events of kabaddi.

THEORY SYLLABUS

Unit-I

- Historical Development and Modern Trends (National and International Level) **(08 hrs lectures)**
- Organisational Structure (State, National and International Level)
- Playfield Technology – Marking and Construction of the playfields.

Unit-II

- Rules and their interpretation. **(08 hrs lectures)**
- Warming up and physiological basis of Warming up and it"s effect on performance.
- Cooling down and its effect.
- Techniques of Coaching – Pep talk, Pre, During and Post match Coaching.

Unit-III

- Basic skills and techniques of the Sports/Game. **(07 hrs lectures)**
- Skill/Technique Evaluation
- Evaluation of Player"s Performance.

Unit-IV (07 hrs lectures)

- Introduction to Physical and Motor Fitness components: Strength, Speed, Endurance, Coordinative Abilities and Flexibility.
- Motor Fitness Components Testing of above components.

Practical - **(60 hrs.)**

Learning and demonstrating various skills/techniques of sports.

Learning to demonstrate various tests to evaluate motor components as listed in unit IV above.

SUGGESTED READINGS

- Bompa O. Tudor and Halff G. Gregory. (2009) "Periodization Theory and Methodology of Training"Human kinetics. NY.
- Kumar, Dharmander. (2018). Kabaddi and It"s Playing Techniques. Writers Choice, New Delhi.
- Mishra , S.C. (2007). Teach Yourself Kabaddi. Sports Publications, New Delhi.
- Rao CV (1983). Kabaddi. Native Indian Sports. NSNIS. Patiala Publisher
- Rao EP (1994). Modern Coaching in Kabaddi.D.V.S.Pub
- Singh, Hardayal. (1919). Science of Sports Training. DVS Publication, N. Delhi.
- Syal, M. (2004). Kabaddi Teaching. Prerna Parkashan, New Delhi.
- Vanaik A. (2017). Officiating and Coaching, Friends Publication. New Delhi.

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

Semester II

BSc-PE-DSC-6(4)-111: KHO-KHO

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
KHO-KHO	4	2	0	2	Class XII pass	NIL

Learning Objective: - The learner will acquire knowledge, understanding and practices with applications and skills in kho-kho including performance (psychomotor).

Learning Outcome:-

1. The learner will attain knowledge, understanding, ability to interpret and analyzing proficiency in kho-kho.
2. The learner will be able to gain knowledge with respect to historical development, organizational structure and playfield technology of kho-kho. They will be able to perform the marking/ drawing/ material organizing for kho-kho.
3. The learner will be able to understand, analyze and interpret the rules of game/sport (kho-kho) as well as game of knowledge in the areas of scientific basis of warming up, cooling down and technical aspects of coaching i.e., methods of coaching and their uses for psychomotor development.
4. The learner will be able to learn and acquire various skills of game/sports (kho-kho) as psychomotor development/ applications, gain knowledge and practice about different tests of fitness andskill evaluation, application as well as the evaluation and analysis (psychomotor) of player's performance.
5. The learner will learn about various fitness components and its forms including methods of measurements. Further, the learner will be able to practice and improve performance (psychomotor) on the basis of knowledge, application and skill gained in understanding various fitness components. Court/field/track marking and marking of different arenas for selected events of kho-kho.

THEORY SYLLABUS

Unit-I

- Historical Development and Modern Trends (National and International Level) **(08 hrs lectures)**
- Organisational Structure (State, National and International Level)
- Playfield Technology – Marking and Construction of the playfields.

Unit-II

- Rules and their interpretation. **(08 hrs lectures)**
- Warming up and physiological basis of Warming up and it"s effect on performance.
- Cooling down and its effect.
- Techniques of Coaching – Pep talk, Pre, During and Post match Coaching.

Unit-III

- Basic skills and techniques of the Sports/Game. **(07 hrs lectures)**
- Skill/Technique Evaluation
- Evaluation of Player"s Performance.

Unit-IV (07 hrs lectures)

- Introduction to Physical and Motor Fitness components: Strength, Speed, Endurance, Coordinative Abilities and Flexibility.
- Motor Fitness Components Testing of above components.

Practical - (60 hrs.)

Learning and demonstrating various skills/techniques of sports.
Learning to demonstrate various tests to evaluate motor components as listed in unit IV above.

SUGGESTED READINGS

1. Bompa O. Tudor and Halff G. Gregory. (2009) "Periodization Theory and Methodology ofTraining" Human kinetics. NY.
2. Chakrabarty G (2002). Kho - Kho Aveloken. Khel Sahitya Kendra.Delhi.
3. Panday L (1982). Kho - Kho Sarvaswa. Metropolitan. New Delhi
4. Singh, Hardayal. (1919). Science of Sports Training. DVS Publication, N. Delhi.
5. Vanaik A. (2005). Playfield Manual, Friends Publication. New Delhi
6. Vanaik A. (2017). Officiating and Coaching, Friends Publication. New Delhi

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

Semester II

BSc-PE-DSC-6 (4)-112: VOLLEYBALL

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
VOLLEYBALL	4	2	0	2	Class XII pass	NIL

Learning Objective: - The learner will acquire knowledge, understanding and practices with applications and skills in volleyball including performance (psychomotor).

Learning Outcome:-

1. The learner will attain knowledge, understanding, ability to interpret and analyzing proficiency in volleyball.
2. The learner will be able to gain knowledge with respect to historical development, organizational structure and playfield technology of volleyball. They will be able to perform the marking/ drawing/ material organizing for volleyball.
3. The learner will be able to understand, analyze and interpret the rules of game/sport (volleyball) as well as game of knowledge in the areas of scientific basis of warming up, cooling down and technical aspects of coaching i.e., methods of coaching and their uses for psychomotor development.
4. The learner will be able to learn and acquire various skills of game/sports (volleyball) as psychomotor development/ applications, gain knowledge and practice about different tests of fitness andskill evaluation, application as well as the evaluation and analysis (psychomotor) of player's performance.
5. The learner will learn about various fitness components and its forms including methods of measurements. Further, the learner will be able to practice and improve performance (psychomotor) on the basis of knowledge, application and skill gained in understanding various fitness components. Court/field/track marking and marking of different arenas for selected events of volleyball.

THEORY SYLLABUS

Unit-I

- Historical Development and Modern Trends (National and International Level) **(08 hrs lectures)**
- Organisational Structure (State, National and International Level)
- Playfield Technology – Marking and Construction of the playfields.

Unit-II

- Rules and their interpretation. **(08 hrs lectures)**
- Warming up and physiological basis of Warming up and it"s effect on performance.
- Cooling down and its effect.
- Techniques of Coaching – Pep talk, Pre, During and Post match Coaching.

Unit-III (07 hrs lectures)

- Basic skills and techniques of the Sports/Game.
- Skill/Technique Evaluation
- Evaluation of Player"s Performance.

Unit-IV (07 hrs lectures)

- Introduction to Physical and Motor Fitness components: Strength, Speed, Endurance, Coordinative Abilities and Flexibility.
- Motor Fitness Components Testing of above components.

Practical - (60 hrs.)

Learning and demonstrating various skills/techniques of sports.

Learning to demonstrate various tests to evaluate motor components as listed in unit IV above.

SUGGESTED READINGS

1. American Volleyball Coaches Association (2005). Volleyball : Skills & Drills. HumanKinetics,USA.
2. Bompa O. Tudor and Halff G. Gregory. (2009) "Periodization Theory and Methodology ofTraining" Human kinetics. NY.
3. FIVB (1996). Backcourt Spiking in Modern Volley Ball. FIVB.Chennai.
4. Kenny, B. and Gregory, C. (2006). Volleyball : Steps to Success. Human Kinetics,USA.
5. Saggar SK (1994). Cosco Skills Statics - Volley Ball. Sport Publication. Delhi.
6. Scates AE (1993). Winning Volley Ball. WC Brown.USA.
7. Scates, A. and Linn, M. (2002). Complete Conditioning for Volleyball. Human Kinetics,USA.
8. Shondell, D. and Reynaud, C. (2002). The Volleyball Coaching Bible. Human Kinetics,USA.
9. Singh, Hardayal. (1919). Science of Sports Training. DVS Publication, N. Delhi.
10. The National Alliance for Youth Sports (2009). Coaching Volleyball. For DummiesPublishers,USA.
11. Volleyball, USA (2009). Volleyball : Systems and Strategies. Human Kinetics,USA.
12. Vanaik A. (2017). Officiating and Coaching, Friends Publication. New Delhi

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

Semester II

BSc-PE-DSC-6 (4)-113: YOGA

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
YOGA	4	2	0	2	Class XII pass	NIL

Learning Objective: - The learner will acquire knowledge, understanding and practices with applications and skills in yoga including performance (psychomotor).

Learning Outcome:-

1. The learner will attain knowledge, understanding, ability to interpret and analyzing proficiency in yoga.
2. The learner will be able to gain knowledge with respect to historical development, organizational structure and playfield technology of yoga. They will be able to perform the marking/ drawing/ material organizing for yoga.
3. The learner will be able to understand, analyze and interpret the rules of game/sport (yoga) as well as game of knowledge in the areas of scientific basis of warming up, cooling down and technical aspects of coaching i.e., methods of coaching and their uses for psychomotor development.
4. The learner will be able to learn and acquire various skills of game/sports (yoga) as psychomotor development/ applications, gain knowledge and practice about different tests of fitness andskill evaluation, application as well as the evaluation and analysis (psychomotor) of player's performance.
5. The learner will learn about various fitness components and its forms including methods of measurements. Further, the learner will be able to practice and improve performance (psychomotor) on the basis of knowledge, application and skill gained in understanding various fitness components.

THEORY SYLLABUS

UNIT-I **(07 hrs lectures)**

- Origin of yoga, definition and scope of yoga, limitations and misconceptions of Yoga
- Importance of yoga in physical education and other fields
- Yoga asana competition at:- State, National, International, SGFI, AIU etc.

UNIT-II **(07 hrs lectures)**

- Philosophical aspects of yoga-Pre-Vedic, Vedic period; Buddhism, Upanishad period, Jainism & tantra
- Qualifications, qualities and responsibilities of a coach,
- Duties/responsibilities of technical official, Scoring system and judgment criteria,
- Protocols for referees, judges and officials.

UNIT-III**(09 hrs lectures)**

- Meaning, techniques, precautions & effects of the following:-
- Asanas : padmasana, vajrasana, sidhasana, paschimottanasa, halasana, sarvangasana, shalabhasana, ardh- matsyendrasana, bhujangasana, tadasana, vrikshasana, matsyasana, gomukhasana, ushtrasana, shavasana, makarasana, vrishchikasana, dhanurasana, purna matsyendrasana, chakrasana, ek pad sikandasana, bakasana, mayurasana, shirshasana
- Pranayama : anulom-vilom, bhastrika, suryabhedhen pranayama, sheetali, sheetkari, bhramari, ujjayi
- Shatkarma : neti, dhauti, nauli, basti, kunjal, kapal bhati, shankh prakshalana
- Bandhas : jalandhar, uddyana, mool bandha

UNIT-IV **(07 hrs lectures)**

- Disease wise treatment through yoga therapy- Asthma, high & low B.P, diabetes, obesity, heart disease, insomania, arthritis, backache & female disease
- Diet & Nutrition, components of nutrition, water, natural diet, balanced diet, fasting-its benefits, types & preparation, importance of vegetarianism in yogic diet.

PRACTICALS (60 hrs.)

1. Prayer
2. Asanas, pranayama, shatkarma, bandha (as mentioned in theory)
3. Yoga-nidra/relaxation techniques
4. Visit to yoga centers/institutes

SUGGESTED READINGS

- Anand Omprarkash (2001). Yog Dawra Kaya Kalp, Kanpur. Sewasth Sahitya Perkashan
- Iyengar, B.K.S. (1995). Light on Yoga : The Bible of Modern Yoga. Schocken Publishers, USA.
- Kaminoff, L. et al (2007). Yoga Anatomy. Human Kinetics, USA.
- Kirk, M. (2005). The Hatha Yoga Illustrated. Human Kinetics, USA.
- Sharma JP and Ganesh S(2007). Yog Kala Ek Prichya. Friends Publication. New Delhi
- Sharma J. P. (2007). Manav jeevan evam yoga. Friends Publication. New Delhi.
- Sharma Jai Prakash And Sehgal Madhu(2006). Yog-Shiksha. Friends Publication. Delhi.
- Sharma Jai Prakash and Rathore Bhupender Singh (2007). Yoga Ke Tatva. Friends Publication. Delhi
- Mukerji, A.P. (2010). The Doctorine and Practice of Yoga. General Books, LLC, New Delhi.
- Norton, W.W. (2010). Yoga for Osteoporosis : The Complete Guide. W.W. Norton & Company, USA.
- Sarin N (2003). Yoga Dawara Rogoon Ka Upchhar. Khel Sahitya Kendra
- Sri Swami Rama, (2001). Breathing. Rishikesh Sadhana Mandir Trust.
- Swami Ram (2000). Yoga & Married Life. Rishikesh Sadhana Mandir Trust
- Swami Swatma Ram: Patanjali Yoga Sutra
- Swami Veda Bharti (2000). Yoga Polity. Economy and Family. Rishikesh Sadhana Mandir Trust
- Text Book Hath Yoga Pradipika
- Text Book Patanjali Yoga Sutra

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

SEMESTER-II

BSc-PE-GE-2 (4)-101: FITNESS & WELLNESS

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

Learning Objectives: To impart the knowledge and practices about the sports, play, recreation, games andmotivational factors towards sports, their fitness components and health.

Learning Outcomes:

1. The learner will learn and practice about the sports and recreation, and their health benefits fornormal and challenged population.
2. The learner will be able to analyze, correlate and evaluate in regard to fitness profile, development and maintenance of the player including types of motor components, principles of physical fitness, benefits of fitness program, causes and prevention of obesity and weight management.
3. The learner will be able to identify, apply and correlate different aspects of wellness including identifying dimensions of wellness, achieving and maintenance of wellness, identifying stressors and managing stress, relationship of wellness towards positive lifestyle and benefits of wellness.
4. The learner will be able to describe, apply, correlate and measure different aspects of behavior modification in regard to barriers to change, six stages of SMART, technique of change & smart goal setting with healthy lifestyle approach adaptation.
5. The learner will be able to describe, apply, correlate and measure different aspects of daily schedule of achieving quality of life and wellness in regard to daily schedule (based upon one's attitude, gender, age &occupation), basic module (time split for rest, sleep, diet, activity & recreation), principles to achieve quality of life including positive attitude, daily regular exercise, control over food habits & healthy hygienic practices.
6. The learner will have practical knowledge with applications and analysis of various laboratory testing, physiological testing, stress management, survey project for fitness and wellness of the local community and nutritional diet analysis.

UNIT – I INTRODUCTION **(09 hrs Lectures)**

- Concept and meaning of fitness and wellness
- Components of fitness and their description
- Components of wellness and their description
- Significance of fitness and wellness in present scenario.
- Fitness and wellness for life

UNIT – II FITNESS PROFILE, DEVELOPMENT AND MAINTAINENCE OF FOLLOWING **(09 hrs Lectures)**

- Types :- physical (cardio respiratory, strength, speed agility, flexibility, power, muscular endurance) health related (cardio-respiratory, flexibility, body composition, muscular strength and endurance) motor skill related (speed, power, agility, coordination, endurance, balance)
- Principals of physical fitness
- Benefits of fitness programme
- Obesity (causes and prevention)
- Weight management (role of diet & exercise in maintenance of ideal weight)

UNIT – III WELLNESS **(09 hrs Lectures)**

- Identifying dimensions of wellness, achieving and maintenance of wellness
    - Adopting healthy & positive lifestyle.
    - Identifying stressors and managing stress
    - Staying safe & preventing injuries
    - Knowledge of Nutrition & its implication on healthy lifestyle
    - Factors leading to eating disorders
    - Hazards of substance abuse (smoking, alcohol & tobacco)
    - Adoption of spirituality principals & their remedial measures
    - Yogic practices for achieving health and fitness
    - Worthwhile use of leisure time.
    - Sexuality – preventive measures for sexual transmitted diseases.
    - Emphasis on proper rest &sleep.
    - Prevention of cancer, cardio-vascular disorders &other diseases.
- Relationship of wellness towards positive lifestyle
- Benefits of wellness

UNIT – IV BEHAVIOR MODIFICATION **(09 hrs Lectures)**

- Barriers to change
- Process of change (6 stages) SMART
- Technique of change & smart goal setting.
- Healthy lifestyle approach. (Introduction, prevention, and treatment of inactivity diseases)

UNIT – V DAILY SCHEDULE OF ACHIEVING QUALITY OF LIFE & WELLNESS **(09 hrs Lectures)**

- Daily schedule based upon one's attitude, gender, age &occupation.
- Basic – module: - Time split for rest, sleep, diet, activity & recreation.
- Principles to achieve quality of life:- positive attitude, daily regular exercise, control over food habits & healthy hygienic practices.

PRACTICAL (30 Hrs.)

1. FITNESS LABS: Various labs testing related to cardio-vascular endurance, flexibility, muscular strength and body composition.
2. PHYSIOLOGICAL TESTING: - Blood pressure, VO2 max, vital capacity, pulse rate.
3. STRESS MANAGEMENT :- Yogic practices (asanas, pranayam and meditation)
4. SURVEY PROJECT: - Fitness & wellness assessment of local community.
5. NUTRITIONAL DIET ANALYSIS :- Given diet

Suggested Readings:

1. Anderson, B., Stretch Yourself for Health & Fitness, Delhi : UBSPD, 2002.
2. Austin and Noble, Swimming For Fitness, Madras: All India Pub., 1997.
3. Bean, Anita, Food For Fitness, London : A & C Block, 1999.
4. Callno Flood, D.K., Practical Math For Health Fitness, New Delhi, 1996.
5. Cox, Corbin, C.B & Indsey, R., Concepts of Physical Fitness, WC Brown, 1994.
6. Difiore, Judy, Complete Guide to Postnatal Fitness, London : A & C Black, 1998.
7. Giam, C.K & The, K.C., Sport Medicine Exercise and Fitness, Singapore : P.G. Medical Book,1994.
8. Gosselior, C., The Ultimate Guide to Fitness, London: Vermilion, 1995.
9. Harrison, J.C., Hooked on Fitness, NY: Parker Pub. Com., 1993.
10. Hoeger, W.K. and S.A., Principles and Labs for Physical Fitness, Englewood Morton, 1999.
11. Kirtani, Reema, Physical Fitness, Delhi : Khel Sahitya, 1998.
12. Maud, J.R. and Foster, C., Physiology Assessment of Human Fitness, New Delhi, 1995.
13. Mcglynn, G., Dynamics of Fitness, Madison : W.C.B Brown, 1993.
14. Muller, J. P., Health, Exercise and Fitness Delhi : Sports, 2000.
15. Muller, J.P., Health Exercise and Fitness, Delhi: Sports, 2003.
16. Saggar, S.K., Physical Fitness, New Delhi : Rupa Co., 1994.
17. Sharkey, B.J., Physiology of Fitness, Human Kinetics Book, 1990.
18. Thani, Lokesh, Rules of Games and Games and Fitness, Delhi: Sports, 2003.

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

SEMESTER-II

BSc-PE-GE-2 (4)-102: GYM MANAGEMENT

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

Learning Objective: - The learner will acquire knowledge, understanding and practices with applications and skills required for gym management.

Learning Outcome:-

1. The learner will develop understanding of the gym essentials including publicity, policy, registration, location and establishment of gym, procurement, placement & maintenance of gym equipment. Learner will be able to apply the understanding of the same for marketing, clientage, enrolments, record keeping, social activities, and public relations.
2. The learner will be able to acquire skills and competencies required for becoming a gym instructor as well as the learner will be able to apply safety procedures to be followed in the gym.
3. The learner will develop the skills required for handling different gym equipment as well as management and utilization of the same.
4. The learner will be able to test, take measurements, analyze and interpret different components with the help of different equipment and tests (flexibility, strength, cardiovascular endurance).
5. The learner will be equipped with personal health and well-being for self-evaluation and of others.
6. The learner will be skilled to handle gym management economics (costing, balance sheet, promotional plans).
7. The learner will acquire practical skills (in laboratory and field setup) in regard to calculating BMI, flexibility test (Sit and reach test, hip bend and toe touch), strength test (Bend knee sit ups, leg raise for minimal strength), cardiovascular endurance test (Harvard step test, cooper 12/9 min. run), self-evaluation (personal health and well-being), asana, aerobic schedule, weight management of the subjects. The learner will be able to compare, correlate and analyze the above learnings in real life situation.

UNIT-I GYM ESSENTIALS **(09 hrs Lectures)**

- Location and Establishment of gym (Publicity, policy, reception, information,Registration, offer of programmes), Procurement, placement & maintenanceof gym Equipments
- Marketing, clientage, Enrolments, record keeping, social activities,Public Relations,
- Individualized/group grooming programme, basic concepts offinancial management

UNIT-II GYM INSTRUCTOR **(09 hrs Lectures)**

- Gym-instructor – qualification, qualities, pay-roll,Performance – evaluation, grooming and presentation
- Safety procedures to be followed in the gym.

UNIT-III GYM-EQUIPMENTS **(09 hrs Lectures)**

- Introduction to different exercise equipment
  - Floorings and equipments required for aerobic- Understanding of various forms of aerobics- floor aerobics, step – aerobics, weight
  - Aerobics and aqua aerobics

UNIT-IV EQUIPMENTS FOR FITNESS EVALUATION AND ASSESSMENTS **(09 hrs Lectures)**

- Measurement of Weight and Height, Calculating BMI (Body Mass Index)
- Measurement of Fitness Components –
  - Flexibility (Sit and Reach Test, Hip Bend and Toe Touch) Strength (Sit-Ups, Leg-Raise for Minimal Strength)
  - Cardiovascular Endurance (One-mile run,Physical Efficiency test, Harvardstep test)
- Self- evaluation –Personal Health and Well-being

UNIT-V GYM MANAGEMENT ECONOMICS **(09 hrs Lectures)**

Costing, Balance sheet, Promotional plans

PRACTICALS **30 hrs.**

1. Calculating BMI
2. Flexibility Test (Sit and reach test, hip bend and toe touch)
3. Strength Test (Bend knee sit ups, leg raise for minimal strength)
4. Cardiovascular endurance test (Harvard step test, cooper 12/9 min. run)
5. Self evaluation- (Personal health and well being)
6. Any five asanas
7. Aerobic schedule
8. Weight management

Suggested Readings:

- Alexenderia, Virginia, "The Gym Workout" Published by Time Life Books.
- Ann Goodsell "Your Personal Trainer, 1994.
- Carol Kennedy Armbruster. Mary M. Yoke " Methods of Group Exercise Instruction", 2009.
- Philip Mazzurco "Exerstyle", 1985.
- Refus, Inc, "The Body in Motion" Published by Time Life Books.
- Sheela Kumari , Fitness, Aerobics & Gym Operations, New Delhi, Khel Sahitya Kendra, 2009.
- Sunil Bharihoke, The Gym" , 2002.
- Time life books, Gym workout, London times life books, 2004
- Time life books, staying flexible, London, time life books, 2005
- Time life books, super firm tough workouts, London times life books, 2005
- Wayne L. Westcott, Thomas R. Bachle, " Strength Training", 2007.

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

SEMESTER-II

BSc-PE-GE-2 (4)-103: PROFESSIONAL PREPARATION AND CAREER AVENUES IN PHYSICAL EDUCATION ANDSPORTS

Course title & Code	Credits	Credit distribution of the course			Eligibility criteria	Pre-requisite of the course (if any)
		Lecture	Tutorial	Practical/ Practice		
PROFESSIONAL PREPARATION AND CAREER AVENUES IN PHYSICAL EDUCATION ANDSPORTS	4	3	0	1	Class XII pass	NIL

Learning Objectives:

1. To develop an understanding of professional preparation in physical education.
2. To develop skills to meet professional requirements.
3. To understand the need for professional development.
4. To acquire skill and competencies for professional development.
5. To gain knowledge of curriculum development.
6. To acquire skill to analyze, develop and evaluate curriculum

Learning Outcomes:

1. The learner will be able to develop an understanding of professional preparation in physical education and compare the same with other countries for exploring best possibilities.
2. The learner will develop skills to meet professional requirements for best applications and analysis.
3. The learner will understand the need for professional development to do comparative analysis of professional preparation program in U.S., Europe and China.
4. The learner will acquire skill and competencies for professional development to relate courses available in physical education and sports and role of physical education teacher and institutes in professional preparation programmes.
5. The learner will gain knowledge of curriculum development to correlate career avenues after under graduation and post-graduation and research degrees, planning for a career: self-assessment, motivational dynamics, decision making,counseling and guidance, challenges and opportunities in physical education.
6. The learner will acquire skills to analyze, develop and evaluate curriculum to correlate career avenues after under graduation and post-graduation and research degrees, planning for a career: self-assessment, motivational dynamics, decision making, counseling and guidance, challenges and opportunities in physical education.

FUNDAMENTALS OF PROFESSIONAL PREPARATION

UNIT-I HISTORICAL PERSPECTIVE (09 hrs Lectures)

- Professional Preparation in India
  - Pre Independence perspective
  - Post-Independence perspective
- Comparative analysis of professional preparation program in U.S., Europe and China

UNIT-II **PROFESSIONAL PREPARATION PROGRAMMES** **(09 hrs Lectures)**

- Foundation: need, objectives and characteristic of professional preparationprogrammes
- Courses available in physical education and sports.
- Role of physical education teacher and institutes in professional preparationprogrammes

UNIT-III **PHYSICAL EDUCATION AND PROFESSIONALISM** **(09 hrs Lectures)**

- Concept and meaning of Profession, Professional and Professionalism.
- Physical education as a profession.

UNIT-IV **CAREER AVENUES & JOB OPPORTUNITIES IN PHYSICAL EDUCATION &SPORTS**

(09 hrs Lectures)

- Career avenues after under graduation and post-graduation and research degrees.
- Planning for a career : self-assessment, motivational dynamics, decision making,counseling and guidance

UNIT-V **EXPLORING AND VENTURING INTO NEW AVENUES** **(09 hrs Lectures)**

- **C**hallenges and opportunities in physical education
- Inter-relationship among various careers in physical education and sports

PRACTICALS : **30 hrs**

1. Case study on national sports policy/national education policy

Suggested Readings:

1. Adams William C. Foundation of Physical Education Exercise and Sports Sciences, Philadelphia,1991
2. Gupta Rakesh, Sharma Akhilesh, and Sharma Santosh, Professional Preparation and CurriculumDesign in Physical Education & sports Sciences, New Delhi, Friends Publications, 2004
3. Hoover. Kenneth H., The Professional Teacher‟s Handbook, Boston, Allyn and Bacoon, 1972
4. Krik David, Physical Education and Curriculum Study, Kent, Croom Helm, 1988
5. Sandhu Kiran, Professional Preparation and Career Development in Physical Education, New Delhi,Friends Publications, 2004
6. Sandhu Kiran, Trends and Development in Professional Preparation in Physical Education, NewDelhi, Friends Publication, 2006
7. Wessel Janet A, and Kelly Luke, Achievement-Based Curriculum Development in PhysicalEducation, Philadepia, Lea and Febiger, 1986
8. Zeigler E.F, Professional and Scholarly Foundation of Physical Education and Kinesiology, SportsEducational Technologies, 2007

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

Semester II
BSc-PE-GE-2 (4)-104: STRESS MANAGEMENT

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

Learning Objective: - To acquaint the learner with the knowledge, practices and understanding of anger, stress and its management and other relatedaspects important to sports persons.

Learning Outcome: -

1. The learner would be able to apply the knowledge, learning and understanding to the concept of anger, stressand how to manage it.
2. The learners will be introduced with the basic concepts of stress and anger, causes and effects of stress and anger, main emotions of stress-fear and anger, daily life stressors, process of stress, anger and psycho physiology of stress. The learner will be able to correlate the concepts and practices of the above.
3. The learner will develop the understanding and knowledge of adaptation to stress- reframing of habitual stress resistance, types of stress, personal and social stress, occupational stress, peer stress / learners stress, family stress, stress & elderly and Stress & drug abuse. It helps to know about the stress related diseases- sleep disorder, eating disorder, sexual and emotional disorder, other stress related diseases, stress & spirituality. The learner will be able to correlate the concepts and practices of the above.
4. The learner will gain knowledge and concept of self-awareness and stress management, muscular tension reduction, emotional tension reduction, stress free living, stress free examination, stress management through physical activity and stressmanagement through recreation activities. The learner will be able to correlate the concepts and practices of the above for best management of stress.
5. The learner will gain knowledge of anger management- Redford William‟s 12 steps of anger management, stress management- behavior modification, time management, coping strategy& intervention skills. It also helps to learn relaxation technique- diaphragmatic breathing, meditation, progressive muscle relaxation, Yoga, mental imagery, music therapy, and massage therapy. The learner will be able to correlate the concepts and practices of the above for best management of stress.

THEORY SYLLABUS:

Unit-I **15 hrs. Lectures**

Definition of stress and anger, Causes and effects of stress and anger, two main emotions of stress-fear and anger, Daily life stressors, Process of stress and anger- Psycho Physiology of stress.

Unit-II **15 hrs. Lectures**

Adaptation to stress-Reframing of habitual stress resistance, types of stress-personal and social stress Occupational stress, Peer stress / Students stress, Family stress, Stress & elderly and Stress & drug abuse.

Stress related diseases- i) Sleep disorder, ii) Eating disorder, iii) Sexual and emotional disorder, iv) Other stress related diseases, v) Stress & Spirituality.

Unit-III

15 hrs. Lectures

Self-awareness and stress management, Muscular tension reduction, Emotional tension reduction, Stress free living, Stress freeexamination, Stress management through physical activity, Stress management through recreation.

Unit-IV

15 hrs. Lectures

Anger management- Redford William‟s 12 steps of anger management

Stress management- behavior modification, time management, coping strategy& intervention skills.

Relaxation technique- i) Diaphragmatic breathing, ii) Meditation, iii) Progressive muscle relaxation, iv) Yoga, v)Mentalimagery, vi) Music therapy, vii) Massage therapy

SUGGESTED READINGS

- Adrain F & Herrick E. and Sharp P (1998). Anger Management. Routledge Publishing. Florence. Kentucky. U.S.A.
- Allen E (2008). Stress Management for Dummies. For Dummies Publishers. U.S.A.
- Davis M. et al (2008). The Relaxation and Stress Reduction workbook. Harbinger Publications, USA.
- Greenberg J.S. (2008). Comprehensive stress management. McGraw Hill, USA
- Hipp E. (2008). Fighting Invisible Tigers: Stress Management for Teens. Free Spirit Publishing, USA.
- Mac W. (2007). Anger and Stress Management. God‟s Way. Calvary Press, USA.
- Petee F (2006).Anger Management. Pentagon. Press. New York. U.S.A.
- Swate Y B (2009). Anger Management. Sage Publication. New Delhi.
- NCERT & CBSE publication and reading for stress management.

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

SEMESTER-II

B.A.(Prog.) with Physical Education as Major

DSC-2- (4)-2.1-ANATOMY AND PHYSIOLOGY

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

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	Class XII pass	NIL

Learning Objective: To provide learners with the basic knowledge and practices of anatomical structures and functions of the human body.

Learning Outcomes:

1. The learner will acquire the basic knowledge of anatomy and physiology of the human body. They will develop understanding about the functions of each system and organs of the body. Such core knowledge and skill will help to create a strongfoundation to engage human subject of all ages, sex, ability in different games/ sports/ fitness programs.
2. The learner will develop the understanding and knowledge of 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. The learner will also learn to count the pulse rate. The learner will be able to compare (individual differences), correlate (different systems/games for physical education) to analyze performance.
3. The learners will develop the understanding and knowledge of muscular system -classification, s tructure, 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, athlete's heart, respiratory system-structure and function, second wind, oxygen debt. The learners will be able to learn the measurement of blood pressure and study of various bones of human body. The learner will also be able to compare (individual differences), correlate (different systems/ games as per syllabus for physical education) to analyze performance.
4. The learner will be able to explain different body system (as per syllabus) with the help of models and various movements of the joints. The learner will also be able to compare (individual differences), correlate (different systems/ games for physical education) to analyze performance.

Unit-1: Introduction to Anatomy and Physiology **(15 Hours)**

1. Meaning and Definition of Anatomy, Physiology and Exercise Physiology
2. Importance of Anatomy and Physiology in Physical Education and Sports
3. Description of Cell and Tissues

Unit-2: Introduction to Various Systems-I **(15 Hours)**

1. Skeletal System: Structural and Functional Classification of Bones, Types of Joints, Different types of Movement around the Joints, Effects of Exercise on Skeletal System
2. Muscular System: Structural and Functional Classification of Muscles, Properties of Muscles, Types of Muscular Contraction, Effects of Exercise on Muscular System, Metabolism

Unit-3: Introduction to Various Systems-II **(15 Hours)**

1. Circulatory System: Structure and Function of Human Heart, Circulation of Blood, Functions of Blood, Effects of Exercise on Circulatory System, Blood Pressure, Cardiac Output
2. Respiratory System: Structure and Function of Respiratory System, Effects of Exercise on Respiratory System, Second Wind, Oxygen Debt

Part-B: Practicals **(30 Hours)**

1. Microscopic identification of Cell/ Tissue.
2. Identification of different parts of Skeletal System.
3. Identification of different parts of Muscular System.
4. Identification of different parts of Circulatory System.
5. Identification of different parts of Respiratory System.
6. Measurement of resting heart rate.
7. Measurement of blood pressure.
8. Measurement of respiratory rate.

Suggested Readings:

1. Jain, A.K.(2002), Anatomy & Physiology for Nurses. Arya Publishers, Delhi.
2. Moried, E.N.(2007), Essentials 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, NewYork: John Willy &Sons.
6. William, C.S. (2000), Essentials of Human Anatomy & Physiology, Benjamin.
7. Wilson and Waugh (1996), Anatomy & Physiology in Health & Illness. Churchill Livingstone.

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

SEMESTER-II

B.A.(Prog.) with Physical Education as Non-Major

DSC-2- (4)-2.2-EXERCISE PHYSIOLOGY

CREDIT DISTRIBUTION, ELIGIBILITY AND PRE-REQUISITES OF THE COURSE

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 Outcomes:

8. The learners will be able to understand the physiological basis of physical activities and functioning. The learners will attain knowledge, understanding, ability of interpreting the concepts and practices in exercise physiology.
9. The learners will learn the changes/adaptations in body systems in response to exercise & training. Such core knowledge and skill will help to create a strong foundation to engage human subject of all ages, sex for exercise, health, fitness, sports performance. The learner will be able to correlate, compare and analyze the cause (exercise) and effect (physiological changes) for best practices.
10. The learners will be able to understand the concept of exercise physiology and its significance in the field of Physical Education & Sports, acute physiological response, and chronic physiological adaptation. The learner will be well acquainted with the practical aspect of assessing resting heart rate and blood pressure of the subject. The learners will also be able to correlate, compare and analyze the cause (exercise) and effect (physiological changes) for best practices in regard to above.
11. The learners will develop the understanding and knowledge and practices of hormonal regulation in exercise & training: The endocrine glands and their hormones, acute response and chronic adaptation. The learners will be able to measure vital capacity using Spirometer and assess the Body Mass Index of the subjects including digestive system, temperature regulation, nervous system, sensory system, excretory system and reproductive system. The learners will also be able to correlate, compare and analyze the cause (exercise) and effect (physiological changes) for best practices in regard to above.
12. The learners will gain knowledge of cardiovascular function during exercise and training: structure & function of the heart, acute response and chronic adaptation, respiratory function during exercise and training: respiratory parameters, second wind, acute response and chronic adaptation. The learners will be also able to correlate, compare and analyze the cause (exercise) and effect (physiological changes) for best practices in regard to above.

Unit-1: Introduction to Physiology (11 Hours)

1. Meaning and Definition of Physiology and Exercise Physiology

2. Minute Structure and Functions of Cell and its Organelles
3. Structure and Classifications of Tissues
4. Essential Properties of Living Organisms
5. Physiological Concept of Health and Fitness

Unit-2: Cardio-Pulmonary System (12 Hours)

1. Cardio-vascular System and Blood: Cardiac Cycle, Pumping action of Heart and its Regulation; Blood Pressure, Its Maintenance and Regulation; Cardiac Output and its Regulation; Functions of Blood and Blood Clotting; Effect of Exercise on Circulatory System
2. Respiratory System: Mechanism of Respiration; Pulmonary Ventilation and its Regulation; Second-wind and Oxygen Debt; Effect of Exercise on Respiratory System

Unit-3: Digestive, Nervous and Sensory Systems (11 Hours)

1. Digestive System: Secretion and Function of the Digestive Juices; Functions of Liver; Absorption of Food; General Metabolism, Metabolism of Carbohydrates, Fats and Proteins; Temperature Regulation; Effect of Exercise on Digestive System
2. Nervous System: Functions of the important parts of the Nervous System, Cerebrum, Medulla Oblongata, Thalamus, Cerebellum and Spinal Cord; Functions of the Autonomic Nervous System; Basic Physiological Mechanism governing Posture and Equilibrium; Effect of Exercise on Nervous System
3. Sensory System: General Sensations (Cutaneous and Kinesthetic); Various forms of Senses with special reference to Vision and Hearing

Unit-4: Excretory, Endocrine and Reproductive Systems (11 Hours)

1. Excretory System: Excretion of Water from the Body through Skin (Sweating), Lungs, Kidney and GI Tract; Effect of Exercise on Excretory System
2. Endocrine System: Secretion of Endocrine Glands (Pituitary, Thyroid, Adrenal & Pancreas); Role of their secretion in Growth, Development and Body Functions; Effect of Exercise on Endocrine System
3. Reproductive System: Physiology of Human Reproduction, Basic Knowledge of Transmission of Hereditary Characteristics

Part-B: Practicals (30 Hours)

1. Measurement of fitness.
2. Measurement of exercise heart rate.
3. Measurement of exercise blood pressure.
4. Measurement of respiratory rate.
5. Calculation of cardiac output.
6. Measurement of reaction time.

Suggested Readings:

1. Jain, A.K. (2002), Anatomy & Physiology for Nurses. Arya Publishers, Delhi.
2. Koley, Shyamal (2007), Exercise Physiology – A Basic Approach. New Delhi: Friends Publications.
3. Kumari, Sheela, S.; Rana, Amita; and Kaushik, Seema (2008), Fitness, Aerobics and Gym Operations. New Delhi: Khel Sahitya Kendra.
4. Moried, E.N.(2007), Essentials of Human Anatomy & Physiology. Ed.8th Dorling Kindersley, India.
5. Prives, M. and others (2004), Human Anatomy Vol. I & II Paragon, Delhi.
6. Seeley & others (2008), Anatomy & Physiology. McGraw Hill, Boston.
7. Tortora (2003), Principles of Anatomy & Physiology, NewYork: John Willy &Sons.
8. William, C.S. (2000), Essentials of Human Anatomy & Physiology, Benjamin.
9. Wilson and Waugh (1996), Anatomy & Physiology in Health & Illness. Churchil! Livingstone.

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

REGISTRAR