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Department of Physical Education
Semester-III

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BSc. (Hons.) Physical Education, Health Education and Sports

Semester III

B.Sc.-PE- DSC-7 (4) Kinesiology

4 Credits (3 THz + 1 P)

Sl. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	pre- Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1.	Kinesiology	04	3	0	1	XII	--

Objective: To impart the knowledge, practices, Applications and analyses related to Kinesiology.

Learning Outcome: Students will learn the science of movement for better sports performance and the basic knowledge practices, Applications and skills of Kinesiology will help to create a strong foundation for Physical Education and Sports to engage human subjects of all ages, sex, and ability.

The student will learn the concepts and applications meaning, aim & objectives, importance of kinesiology for physical education and sports, Fundamental concepts and Applications Centre of gravity, line of gravity, axis and planes of motion, fundamental starting positions, terminology of fundamental movements, and classification of muscles.

The student will develop the understanding skill and practices about Location & Action of Muscles at Various Joints:- a) Upper extremity – shoulder girdle, shoulder joints, elbow joint, b) Neck, trunk (Lumbosacral region) and c) Lower extremity – Hip joint, knee joint, ankle joint and Muscular analysis of fundamental movements:- Walking, running, jumping, throwing, catching, pulling, pushing, striking, hanging.

The student will gain knowledge and Applications of Structure of Motor Actions: - Structure of cyclic and acyclic motor action and movement combination, functional relationship of different phases of motor action.

The student will gain knowledge and applications of Qualities & Physiological Principles of Movements such as movement rhythm, movement coupling movement flow, movement precision and movement amplitude.

The Student will be able to analyze (Muscular) the Fundamental, Sports Skills, as their innovative applications.

THEORY SYLLABUS (45 hours/Lectures)

UNIT-I

(11 Hours/lectures)

Meaning, aim & objectives, importance of kinesiology for physical education and sports

Fundamental concepts: Centre of gravity, line of gravity, axis and planes of motion, fundamental starting positions, terminology of fundamental movements, and classification of muscles

UNIT-II

(11 Hours/lectures)

Location & Action of Muscles at Various Joints:-

a) Upper extremity – shoulder girdle, shoulder joints, elbow joint

b) Neck, trunk (Lumbosacral region)

c) Lower extremity – Hip joint, knee joint, ankle joint

Muscular analysis of fundamental movements:- Walking, running, jumping, throwing, catching, pulling, pushing, striking, hanging

UNIT-III

(12 hours/lectures)

Structure of Motor Actions: - Structure of cyclic and acyclic motor action and movement combination, functional relationship of different phases of motor action.

UNIT-IV

(11 hours/lectures)

Qualities & Physiological Principles Of Movements:- Movement rhythm, movement coupling movement flow, movement precision and movement amplitude.

Practical

(30 hours/lectures)

1. Demonstration of planes & axes of a given movement.
2. Determination of the location of muscles at various joints:
 - i. Shoulder girdle
 - ii. Shoulder joints
 - iii. Elbow joint
 - iv. Hip joint
 - v. Knee joint
 - vi. Ankle joint
3. Muscular analysis of the techniques of game of your specialization
4. Measurement Demonstration of qualities of movement.

SUGGESTED READINGS

1. Bartlett, R. (2007). Introduction to Sports Biomechanics. Routledge Publishers, USA.
2. Blazeovich, A. (2007). Sports Biomechanics. A & C Black Publishers, USA.
3. Breer & Zarnicks (1979). Efficiency of human movement. WIB Sounders Co. USA.
4. Hamill, J. and Knutzen, K.M. (2003). Biomechanical Basis of Human Movement. Lippincott Williams and Wilkins, USA.
5. Hay (1993). The biomechanics of sports techniques. Prentice Hall Inc. New Jersey.
6. McGinnis, P. (2004). Biomechanics of Sports & Exercise. Human Kinetics, USA.
7. Oatis, C.A. (2008). Kinesiology. 2nd Ed. Lippincott, Williams & Wilkins, USA.
8. Lakshmi, V. (2005). Biomechanics of Body Movement in Sports. Khel Sahitya Kendra: New Delhi
9. Shaw, D. (2014). Mechanical Basis of Biomechanics. Sports Publication: New Delhi
10. Margaria, R. (1979). Biomechanics and Energetics of Muscular Exercise. University Press, Oxford: Great Britain
11. Rai, R. (2003). Biomechanics Mechanics Aspects of Human Motion. Agrim Publication: Mohali
12. Uppal, A.K., Kumar, V.L.G. & Panda, M.M. (2004). Biomechanics in Physical Education and Exercise Science. Friends Publication: New Delhi
13. Shaw, D (2018). Pedagogic Kinesiology. Sports Publication: Delhi
14. Wells, K.F. & Luttgens, K. (1976). Kinesiology: Scientific Basic of Human Motion (6th Ed.) Saunders College Publishing. Philadelphia
15. Robertson, D.G.E. Caldwell, G.E., Hamil, J. Kamen G., & Whittlesey, S.N. (2014). Research Methods in Biomechanics. (2nd ed.) Edwards Brothers Malloy: USA
16. Shaw, D (2003). Sports Biomechanics. Khel Sahitya Kendra: New Delhi.
17. Shaw, D (1998). Biomechanics and Kinesiology of human motion. Khel Sahitya Kendra: New Delhi.

DSC-8 (4) EXERCISE & SPORTS PSYCHOLOGY

Credit=4(2 THz+1P)

Sr. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1	Exercise & Sports Psychology	4	3	0	1	XII	---

Objective: - The student is provided with the knowledge Practices Applications and Innovative of psychological aspects of sports performance.

Learning Outcome: - The student learns the psychological aspects to apply to improve the performance in sports. Such core knowledge and skills helps to create a strong foundation to engage human subject of all ages, sex, and ability

The student will learn about Sports and Exercise Psychology and understanding Practices and Applications, motivation, arousal and anxiety and personality.

The student will gain knowledge applications and practices of about the Group, Dynamic, aggression, psychological preparation and performance enhancement.

The learner will able to create data and its interpretation

THEORY SYLLABUS (45 Hours/Lectures)

Unit-I (i) Sports and Exercise Psychology (ii) Concept, Scope, role of sports and exercise psychologist (iii) Importance of Sports and exercise psychology. (iv) Historical development and future of Sports and Exercise Psychology, **(12 Hours/Lectures)**

Unit-II (i) Motivation: guidelines for building motivation, achievement motivation. (ii) Arousal and Anxiety: Types, phenomena of Anxiety in relation to performance – Drive Theory, Inverted U Theory and IZOF. **(11 Hours/Lectures)**

Unit-III (i) Personality: approaches to personality – Trait, types and psychodynamic theories, determinants of personality, assessment of personality. (ii) Team Cohesion: a conceptual model of Cohesion, assessment of Cohesion, relationship of Cohesion with performance. **(11 Hours/Lectures)**

Unit-IV (i) Aggression in sports: types, phenomena of Aggression – Instinct Theory and Social Learning Theory, Assessment of Aggression and Leadership in Sports (ii) Psychological preparation – Long term and short term psychological preparation, Goal setting and self-confidence **(11 Hours/Lectures)**

Practical Syllabus (30 Hours/ Lectures)

1. Measurement of Motivation
2. Measurement of Anxiety
3. Measurement of Personality
4. Measurement of Team Cohesion
5. Measurement of Aggression

SUGGESTED READINGS:

1. Coakley, J.J. (2009). Sporting Sociology, Issues and controversies, McGraw Hill International (Unit-1,3,4&5)
- Dixit S (2006). Khel- Manovigyan. Sports Publications. Delhi
2. Cohen RJ and Swerdlik ME (2002). Psychological testing and Assessment: An Introduction to Tests and Measurement. McGraw Hill. New York. U.S.A.
3. Cox RH (2002). Sport Psychology. McGraw Hill. London.
4. Liukkonen JED (2007). Psychology for Physical Educators. Human Kinetics. U.S.A. Mortin GL (2003). Sports Psychology, Sports Science. Press. USA.
5. Sahni SP (2005). Psychology and Its Application in Sports. D.V.S. Delhi. Shaw D and Other (2005). Sport & Exercise Psychology. Bios. U.K.
6. Verma V (1999). Sport Psychology & All Round Development. Sport Pub. New Delhi.
7. Wann DL (1997). Sport Psychology. Prentice Hall. New Jersey.

Semester-III
BSc-PE-DSC-9(4)-101: ATHLETICS

Max. Marks= 100

Credit = 4 (2 THz + 2 P)
30 hrs. Theory + 60 hrs. Practical

Sr. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1	Athletics	04	2	0	2	XII	---

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

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

After the Completion of First Month:

The student will be able to gain knowledge with respect to Historical Development, Organizational Structure and Playfield Technology of the respective sport/game.

After the Completion of Second Month:

A student will be able to understand and interpret the rules of game as well as game knowledge in the areas of psychological basis of Warming up and technical aspects of coaching.

After the Completion of Third Month:

A student will be able to learn and acquire various skills of sports, gain knowledge about different tests of fitness and skill evaluation as well as the evaluation of player's performance. The technical practice of sprint races, middle and long distance races, hurdles races, jumping event- long jump, throwing events- shot put, hammer throw.

After the Completion of Fourth Month:

A student will be learning about various fitness components and its forms. Further, the student will be able to practice and improve performance on the basis of knowledge gained in understanding various fitness components. Track marking and marking of different arenas for selected events in unit-III.

THEORY SYLLABUS (60 hrs lectures)

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 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 competition Coaching.

Unit-III

(07 hrs lectures)

- 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.

Unit-IV

(07 hrs lectures)

- 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.

Practical -

(60 hrs.)

1. Learning and demonstrating various skills/techniques of sports- sprint races, middle and long distance races, 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:

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

Semester III
BSc-PE-DSC-9 (4)-102: BADMINTON

Credit = 4 (2 THz + 2 P)

30 hrs Theory + 60 hrs Practical

Max. Marks=100

Sr. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1	Badminton	04	2	0	2	XII	---

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

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

After the Completion of First Month:

A student will be able to gain knowledge with respect to Historical Development, Organisational Structure and Playfield Technology of a sport/game.

After the Completion of Second Month:

A student will be able to understand and interpret the rules of game as well as game knowledge in the areas of physiological basis of Warming up and technical aspects of coaching.

After the Completion of Third Month:

A student will be able to learn and acquire various skills of sports/game, gain knowledge about different techniques evaluation as well as the evaluation of player's performance.

After the Completion of Fourth Month:

A student will be learning about various fitness components and its forms. Further, the student will be able to practice and improve performance on the basis of knowledge gained in understanding various fitness components and its testing.

THEORY SYLLABUS (30 hrs lectures)

Unit-I

(08 hrs lectures)

- Historical Development and Modern Trends (National and International Level)
- organizational 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. 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). Badminton Handbook. Mayer & Mayer Sports: UK. Unit-II, III & IV-p-9-14.
4. Daris Pal. (1988). Badminton-The complete practical guide. Dairs & Charles Inc.: USA. Unit-II-p-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. Gupta R. Kumar P. and Tyagi S. (2008). Textbook on Teaching Skill and Prowess (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.

Semester III
BSc-PE-DSC-9 (4)-103: BASKETBALL

Credit = 4 (2 THz + 2 P)

Max. Marks=100

30 hrs Theory + 60 hrs Practical

Sr. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1	Basketball	04	2	0	2	XII	---

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

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

After the Completion of First Month:

A student will be able to gain knowledge with respect to Historical Development, Organisational Structure and Playfield Technology of a sport/game.

After the Completion of Second Month:

A student will be able to understand and interpret the rules of game as well as game knowledge in the areas of physiological basis of Warming up and technical aspects of coaching.

After the Completion of Third Month:

A student will be able to learn and acquire various skills of sports/game, gain knowledge about different techniques evaluation as well as the evaluation of player's performance.

After the Completion of Fourth Month:

A student will be learning about various fitness components and its forms. Further, the student will be able to practice and improve performance on the basis of knowledge gained in understanding various fitness components and its testing.

THEORY SYLLABUS (30 hrs lectures)

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.

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

- 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. New Delhi.
- 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

Semester III
BSc-PE-DSC-9 (4)-104: CRICKET

Credit = 4 (2 THz + 2 P)

Max. Marks=100

30 hrs Theory + 60 hrs Practical

Sr. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1	Cricket	04	2	0	2	XII	---

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

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

After the Completion of First Month:

A student will be able to gain knowledge with respect to Historical Development, Organisational Structure and Playfield Technology of a sport/game.

After the Completion of Second Month:

A student will be able to understand and interpret the rules of game as well as game knowledge in the areas of physiological basis of Warming up and technical aspects of coaching.

After the Completion of Third Month:

A student will be able to learn and acquire various skills of sports/game, gain knowledge about different techniques evaluation as well as the evaluation of player's performance.

After the Completion of Fourth Month:

A student will be learning about various fitness components and its forms. Further, the student will be able to practice and improve performance on the basis of knowledge gained in understanding various fitness components and its testing.

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.

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 of Training" 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. Hobbs, 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

Semester III
BSc-PE-DSC-9(4)-105: FOOTBALL

Credit = 4 (2 THz + 2 P)

Max. Marks=100

30 hrs Theory + 60 hrs Practical

Sr. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1	Football	04	2	0	2	XII	---

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

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

After the Completion of First Month:

A student will be able to gain knowledge with respect to Historical Development, Organisational Structure and Playfield Technology of a sport/game.

After the Completion of Second Month:

A student will be able to understand and interpret the rules of game as well as game knowledge in the areas of physiological basis of Warming up and technical aspects of coaching.

After the Completion of Third Month:

A student will be able to learn and acquire various skills of sports/game, gain knowledge about different techniques evaluation as well as the evaluation of player's performance.

After the Completion of Fourth Month:

A student will be learning about various fitness components and its forms. Further, the student will be able to practice and improve performance on the basis of knowledge gained in understanding various fitness components and its testing.

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 Coaching Bible. 1st Ed., Human Kinetics, USA.
2. Bompa O. Tudor and Halff G. Gregory. (2009) “Periodization Theory and Methodology of Training” Human kinetics. NY.
3. Carling, C., Williams, M. and Reilling, T. (2006). Handbook of Soccer Match Analysis: 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 to Developing Strength, Speed and Endurance. Routledge Publisher, USA.
7. Reilly, T. and J.C.D. Arau (2008). Science and Football V: The Proceedings of 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

Semester III
BSc-PE-DSC-9 (4)-106: GYMNASTICS

Max. Marks=100

Credit = 4 (2 THz + 2 P)
30 hrs Theory + 60 hrs Practical

Sr. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1	Gymnastics	04	2	0	2	XII	---

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

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

After the Completion of First Month:

A student will be able to gain knowledge with respect to Historical Development, Organisational Structure and Playfield Technology of Gymnastics.

After the Completion of Second Month:

A student will be able to understand and interpret the rules of game as well as game knowledge in the areas of physiological basis of Warming up and technical aspects of coaching.

After the Completion of Third Month:

A student will be able to learn and acquire various skills of Gymnastics, gain knowledge about different tests of fitness and skill evaluation as well as the evaluation of player's performance.

After the Completion of Fourth Month:

A student will be learning about various fitness components and its forms. Further, the student will be able to practice and improve performance on the basis of knowledge gained in understanding various fitness components.

THEORY SYLLABUS

Unit-I	<ul style="list-style-type: none"> Historical Development and Modern Trends (National and International Level) Organisational Structure (State, National and International Level) Playfield Technology – Marking and Construction of the playfields. 	(07 hrs lectures)
Unit-II	<ul style="list-style-type: none"> 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. 	(08 hrs lectures)
Unit-III	<ul style="list-style-type: none"> Basic skills and techniques of the Artistic Gymnastics, trampoline, parko and rhythmic Motor Fitness Components Testing Skill/Technique Evaluation Evaluation of Player's Performance. 	(08 hrs lectures)
Unit-IV	<ul style="list-style-type: none"> Introduction to Physical and Motor Fitness components related to sport: Strength, Speed, Endurance, Coordinative Abilities and Flexibility. 	(07 hrs lectures)

- 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 of Training" 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 Gymnastics Skills. Human Kinetics, USA.
11. Price, R.G. (2006). The Ultimate Guide to Weight Training for Gymnastics. 2ndEd. Sportsworlout.com.
12. Schlegel, E. and Dunn, CR. (2001). The Gymnastics Book: The Young Performer's Guide to Gymnastics. 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

Semester III
BSc-PE-DSC-9 (4)-107: HANDBALL

Credit = 4 (2 THz + 2 P)

Max. Marks=100

30 hrs Theory + 60 hrs Practical

Sr. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1	Handball	04	2	0	2	XII	---

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

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

After the Completion of First Month:

A student will be able to gain knowledge with respect to Historical Development, Organisational Structure and Playfield Technology of a sport/game.

After the Completion of Second Month:

A student will be able to understand and interpret the rules of game as well as game knowledge in the areas of physiological basis of Warming up and technical aspects of coaching.

After the Completion of Third Month:

A student will be able to learn and acquire various skills of sports/game, gain knowledge about different techniques evaluation as well as the evaluation of player's performance.

After the Completion of Fourth Month:

A student will be learning about various fitness components and its forms. Further, the student will be able to practice and improve performance on the basis of knowledge gained in understanding various fitness components and its testing.

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.

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 of Training" 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

Semester III
BSc-PE-DSC-9 (4)-108: HOCKEY

Credit = 4 (2 THz + 2 P)

Max. Marks=100

30 hrs Theory + 60 hrs Practical

Sr. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1	Hockey	04	2	0	2	XII	---

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

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

After the Completion of First Month:

A student will be able to gain knowledge with respect to Historical Development, Organisational Structure and Playfield Technology of a sport/game.

After the Completion of Second Month:

A student will be able to understand and interpret the rules of game as well as game knowledge in the areas of physiological basis of Warming up and technical aspects of coaching.

After the Completion of Third Month:

A student will be able to learn and acquire various skills of sports/game, gain knowledge about different techniques evaluation as well as the evaluation of player's performance.

After the Completion of Fourth Month:

A student will be learning about various fitness components and its forms. Further, the student will be able to practice and improve performance on the basis of knowledge gained in understanding various fitness components and its testing.

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.

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 of Training" Human kinetics. NY.
2. International Hockey Federation, Rules of the Game of Hockey with Guidance for Players 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. Sterling Publishers,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

Semester III
BSc-PE-DSC-9(4)-109: JUDO

Credit = 4 (2 THz + 2 P)

Max. Marks=100

30 hrs Theory + 60 hrs Practical

Sr. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1	Judo	04	2	0	2	XII	---

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

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

After the Completion of First Month:

A student will be able to gain knowledge with respect to Historical Development, Organisational Structure and Playfield Technology of a sport/game.

After the Completion of Second Month:

A student will be able to understand and interpret the rules of game as well as game knowledge in the areas of physiological basis of Warming up and technical aspects of coaching.

After the Completion of Third Month:

A student will be able to learn and acquire various skills of sports/game, gain knowledge about different techniques evaluation as well as the evaluation of player's performance.

After the Completion of Fourth Month:

A student will be learning about various fitness components and its forms. Further, the student will be able to practice and improve performance on the basis of knowledge gained in understanding various fitness components and its testing.

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 of Training" 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.

Semester III
BSc-PE-DSC-9 (4)-110: KABADDI

Max. Marks=100

Credit = 4(2 THz + 2 P)
30 hrs Theory + 60 hrs Practical

Sr. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1	Kabaddi	04	2	0	2	XII	---

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

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

After the Completion of First Month:

A student will be able to gain knowledge with respect to Historical Development, Organisational Structure and Playfield Technology of a sport/game.

After the Completion of Second Month:

A student will be able to understand and interpret the rules of game as well as game knowledge in the areas of physiological basis of Warming up and technical aspects of coaching.

After the Completion of Third Month:

A student will be able to learn and acquire various skills of sports/game, gain knowledge about different techniques evaluation as well as the evaluation of player's performance.

After the Completion of Fourth Month:

A student will be learning about various fitness components and its forms. Further, the student will be able to practice and improve performance on the basis of knowledge gained in understanding various fitness components and its testing.

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 its 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

- Introduction to Physical and Motor Fitness components: Strength, Speed, Endurance, Coordinative Abilities and Flexibility. (07 hrs lectures)
- 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.

Semester III
BSc-PE-DSC-9(4)-111: KHO-KHO

Credit = 4(2 THz + 2 P)

Max. Marks=100

30 hrs Theory + 60 hrs Practical

Sr. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1	Kho-Kho	04	2	0	2	XII	---

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

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

After the Completion of First Month:

A student will be able to gain knowledge with respect to Historical Development, Organisational Structure and Playfield Technology of a sport/game.

After the Completion of Second Month:

A student will be able to understand and interpret the rules of game as well as game knowledge in the areas of physiological basis of Warming up and technical aspects of coaching.

After the Completion of Third Month:

A student will be able to learn and acquire various skills of sports/game, gain knowledge about different techniques evaluation as well as the evaluation of player's performance.

After the Completion of Fourth Month:

A student will be learning about various fitness components and its forms. Further, the student will be able to practice and improve performance on the basis of knowledge gained in understanding various fitness components and its testing.

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 its 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

- Introduction to Physical and Motor Fitness components: Strength, Speed, Endurance, Coordinative Abilities and Flexibility. **(07 hrs lectures)**
- 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 of Training" 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

Semester III
BSc-PE-DSC-9 (4)-112: VOLLEYBALL

Credit = 4(2 THz + 2 P)

Max. Marks=100

30 hrs Theory + 60 hrs Practical

Sr. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1	Volleyball	04	2	0	2	XII	---

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

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

After the Completion of First Month:

A student will be able to gain knowledge with respect to Historical Development, Organisational Structure and Playfield Technology of a sport/game.

After the Completion of Second Month:

A student will be able to understand and interpret the rules of game as well as game knowledge in the areas of physiological basis of Warming up and technical aspects of coaching.

After the Completion of Third Month:

A student will be able to learn and acquire various skills of sports/game, gain knowledge about different techniques evaluation as well as the evaluation of player's performance.

After the Completion of Fourth Month:

A student will be learning about various fitness components and its forms. Further, the student will be able to practice and improve performance on the basis of knowledge gained in understanding various fitness components and its testing.

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 its 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

- Introduction to Physical and Motor Fitness components: Strength, Speed, Endurance, Coordinative Abilities and Flexibility. (07 hrs lectures)
- 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. Human Kinetics,USA.
2. Bompa O. Tudor and Halff G. Gregory. (2009) “Periodization Theory and Methodology of Training” 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 Dummies Publishers,USA.
11. Volleyball, USA (2009). Volleyball : Systems and Strategies. Human Kinetics,USA.
12. Vanaik A. (2017). Officiating and Coaching, Friends Publication. New Delhi

Semester III
BSc-PE-DSC-9 (4)-113: YOGA

Credit = 4 (2 THz + 2 P)

Max. Marks=100

30 hrs Theory + 60 hrs Practical

Sr. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1	Yoga	04	2	0	2	XII	---

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

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

After the Completion of First Month:

The Students will develop the understanding and knowledge of Origin of yoga, definition and scope of yoga, limitations and misconceptions, importance of yoga in physical education and other fields, Yoga asana completion at:- State, National, International, SGFI, AIU etc. Philosophical aspects of Yog. 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.

The student will learn about the prayer.

After the Completion of Second Month:

The Students will develop the understanding and knowledge of 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, kunjla, kapal bhati, shankh prakshalana Bandhas : jalandhar, uddiyana, mool bandha.

The student will be able to perform Asanas, pranayama, shatkarma, bandha.

After the Completion of Third Month:

The Students will gain knowledge of Disease wise treatment through yoga therapy- Asthma, high & low B.P, diabetes, obesity, heart disease, insomnia, arthritis, backache & female disease.

The student will learn Yoga-nidra/relaxation techniques

After the Completion of Fourth Month:

The Students will gain knowledge of Diet & constitution, components of nutrition, water, natural diet, balanced diet, fasting-its benefits, types & preparation. Importance of vegetarianism in yogic diet.

The student will learn Visit to yoga centers/institutes

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, kunjla, 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, insomnia, 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 Omprakash (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

POOL OF DISCIPLINE SPECIFIC ELECTIVE (DSEs)

SEMESTER-III

DSE-1(4)-101

B.Sc.-PE-DSE-1(4)-101 ADAPTED PHYSICAL EDUCATION

4 Credits (3 THz + 1 Tutorial)

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
		Lecture	Tutorial	Practical/Practice		
Adapted Physical Education	04	3	1	0	XII	---

Objective:- Students will be educated with the knowledge practices and Applications of importance of adapted physical education with the help of Physical exercises and Sporting activities, which will be beneficial for an able person.

Learning Outcome:- Students learn various ways and means for adapted physical education with the help of Physical exercises and Sporting activities, which will be beneficial for an able person.

The Students will develop the understanding, knowledge and practices of meaning, definitions, Aims and objectives, Need and importance. Role of physical education in adapted physical education. Brief historical review of adapted physical education.

The Students will develop the understanding, knowledge and practices of changing concept of disability handicaps, retardation, physically and mentally challenged. Physical disability, Characteristics and Category. Functional limitation, General causes. Mental retardation and learning disability, Characteristics, Category, Functional limitation, General causes, Hearing and speech impairment. Characteristics, Category, Functional limitation, General causes, Visual impairment, Characteristics, Category, Functional limitation, General causes. Other disabled conditions. Behavioral problems associated with disability, Adjustment problem, Emotional problem, Personality problem, Social problems, Social stigma, Discrimination and Social rejection

The Students will develop the understanding, knowledge and practices of Guiding principles for adapted physical education programme (AAHPER Principle). Physical education programme for disabled of - Elementary school, Middle school, High school. Special adapted programme for various types and categories of physical disability. Regular physical activity, Informal games and special activity, Informal and formal competitions. Special adapted programme for hearing and speech impairment, visual impairment, mental retardation and learning impairment. Regular physical activity, Informal games and special activity, Informal and formal competitions

The Students will develop the understanding, knowledge and practices of Co-curricular activities for disabled, outdoor programs for disabled, and adventure based outdoor programme Creative development and hobby & culture development programme. Aquatic activity programme for disabled Importance of activity for disabled. Nature of aquatic activity programme based on types of various disabilities and rehabilitative role and importance of aquatic activity Rehabilitation, aims and objectives of rehabilitation, meaning of functional and occupational rehabilitation Importance of adapted programme in rehabilitation. Functional rehabilitation, Psychological rehabilitation – adjustment, environmental and personality development and legislative approach

THEORY SYLLABUS: (60 hours/lectures)

UNIT-I INTRODUCTION TO ADAPTED PHYSICAL EDUCATION

(15 hours/lectures)

Meaning, definitions, Aims and objectives, Need and importance. Role of physical education in adapted physical education. Brief historical review of adapted physical education.

UNIT-II CLASSIFICATION OF DISABILITY

(15 hours/lectures)

Changing concept of disability handicaps, retardation, physically and mentally challenged.

Physical disability, Characteristics and Category. Functional limitation, General causes.

Mental retardation and learning disability, Characteristics, Category, Functional limitation, General causes, Hearing and speech impairment. Characteristics, Category, Functional limitation, General causes, Visual impairment, Characteristics, Category, Functional limitation, General causes.

Other disabled conditions. Behavioral problems associated with disability, Adjustment problem, Emotional problem, Personality problem, Social problems, Social stigma, Discrimination and Social rejection

UNIT-III ADAPTED PHYSICAL EDUCATION PROGRAMMES

(15 hours/lectures)

Guiding principles for adapted physical education programme (AAHPER Principle).

Physical education programme for disabled of - Elementary school, Middle school, High school.

Special adapted programme for various types and categories of physical disability. Regular physical activity Informal games and special activity, Informal and formal competitions.

Special adapted programme for hearing and speech impairment, visual impairment, mental retardation and learning impairment. Regular physical activity, Informal games and special activity, Informal and formal competitions.

UNIT-IV ACTIVITIES FOR DISABLED

(15 hours/lectures)

Co-curricular activities for disabled, outdoor programs for disabled, and adventure based outdoor programme

Creative development and hobby & culture development programme. Aquatic activity programme for disabled

Importance of activity for disabled.

Nature of aquatic activity programme based on types of various disabilities and rehabilitative role and importance of aquatic activity Rehabilitation, aims and objectives of rehabilitation, meaning of functional and occupational rehabilitation Importance of adapted programme in rehabilitation. Functional rehabilitation, Psychological rehabilitation – adjustment, environmental and personality development and legislative approach

SUGGESTED READINGS:

1. C, Blauwet, (2007). Promoting the Health and Human Rights of Individuals with a Disability through the Paralympic Movement. (ICSSPE,) at 21. (Blauwet- Promoting the Health).
2. Barton, L. (1993) „Disability, empowerment and physical education“, in J. Evans (ed.), Equality, Education and Physical Education. London: The Falmer Press.
3. Guttmann, L. (1976) Textbook of Sport for the Disabled. Oxford: HM & M Publishers.
4. K, DePauw & S. Gavron, (2005). Disability and Sport. (2nd Ed) Illinois: Human Kinetics.
5. R, Metts. (2000). Disability Issues, Trends and Recommendations for the World Bank (Washington D.C.: World Bank,).
6. Oliver, M. (1990). The Politics of Disablement. Basingstoke: Macmillan.
7. Sport England (2000) Young People with a Disability and Sport. London: Sport England.

Semester III
B.Sc.-PE DSE-1(4)-102 PERSONALITY DEVELOPMENT
DSE-1(4)-102
4 Credit (3 THz + 1 Tutorial)

Max Marks=100

Time: 3 Hrs

Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	pre-Requisite of the Course(if any)
		Lecture	Tutorial	Practical/Practice		
Personality Development	4	3	1	0	XII	--

Max. Marks = 100

Time: 3Hrs

Theory = 75 Marks + Internal Assessment = 25

Objective: To impart the knowledge, practices and applications about the personality of the individuals and factors responsible for the development of personality.

Learning Outcome: Students will learn different components and importance of personality. Such core knowledge and skill helps to create a strong foundation for developing personality.

The students will develop the understanding and knowledge of Personality & holistic Personality and its components.

The students will develop the understanding and knowledge of Components of Physical Personality and its maintenance.

The students will gain understanding and knowledge of the wellness, relation of wellness and personality. The students will also learn the different components of Physical Fitness and its Role in Physical Personality Development

The students will gain knowledge, learning and understanding of the Mental Personality and Spiritual Personality and long term foundation of Spiritual Personality Development. It also helps to understand about factors affecting the personality development.

THEORY SYLLABUS: (60 hours/lectures)

UNIT-I

(15 hours/lectures)

- Introduction to Personality & holistic Personality, Meaning and Definition of Personality & holistic Personality. Freud's concept of personality. Defense Mechanisms. Components of holistic Personality (Physical, Emotional, Social, Temporal-Mental, Occupational, Vital, Environmental and Spiritual). Holistic personality as represented by the car and its four wheels. (8 Hours)

UNIT-II

(15 hours/lectures)

- Physical Personality: Introduction, Meaning, Definition and Components of Physical Personality.
- Physical Personality Principles of developing, controlling and maintaining Physical personality. Theoretical background Measurement of personality. Understanding physical growth and development. Pattern of physical growth and development of different body tissues
- Switching on the favorable genes and switching off the unfavorable and undesired genes. (8 Hours)

UNIT-III

(15 hours/lectures)

- Personality and Wellness: Introduction to wellness, relation of wellness and personality. Components of wellness, health, physical fitness, behaviour, behaviour change method, understanding self-responsibility for one's wellness. Personality and Physical Fitness: Introduction, Components of Physical Fitness, Role

of Physical Fitness in Physical Personality Development. (9 Hours)

UNIT-IV

(15 hours/lectures)

- Mental Personality: Introduction, Meaning and Definition of Mental Personality. Type A, B and C personality characteristics. Somatotype and Personality Traits: Introduction to Somatotype and Mental Personality Traits.
- Spiritual Personality Development: Introduction, Meaning and Definition of Spiritual Personality. Quick fix and long term foundation of Spiritual Personality Development.
- Heredity and Environment: Introduction to Heredity and Environment in relation to personality development. (9 Hours)

SUGGESTED READINGS

1. Kansal, D.K. (2010). Holistic Personality Development. Sports and Spiritual Science Publications, New Delhi
2. Bernard N. (2001). Turn off the Fat Genes. Harmony Books, New York. U.S.A.
3. Callohan L. (2002). The Fitness Factor. The Lyons Press. Guilford. Connecticut. U.S.A.
4. Covey SR (2004). The 8th Habit. Franklin Covey Co., Running Press Book Publishers. Philadelphia. Pennsylvania. U.S.A.

Semester III
B.Sc.-PE-DSE-1(4)-103 Exercise Prescription for Health and Fitness

4 Credits (3 THz + 1Tutorial)

Max. Marks =100

Time: 3Hrs

Sr. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1	Exercise Prescription for Health Fitness	4	3	1	0	XII	---

Theory = 75 Marks + Internal Assessment = 25

Objective: - Students will be educated with the knowledge, practices and applications, importance of Exercise Prescription with the help of Physical Exercises and Sports activities in systematic and scientific procedure.

Learning Outcome: - Students learn various ways, means and methods to exercise prescription the better fitness and lead a healthy life style.

The Students will develop the understanding practices, applications and knowledge of meaning and definition of exercise and physical activity, differences between exercise and physical activity, types of exercises, exercise, lifestyle and physical fitness, exercise and health, health benefits of exercise and exercise recommendations for health.

The Students will develop the understanding practices, applications and knowledge of basis for exercise prescription for general population, background of exercise prescription in regard to interest, attitude, habits and physical capability, exercise for sportsperson, their fitness, wellness and competition.

The Students will develop the understanding practices, applications and knowledge of health benefits of exercise, Exercise as proactive care, prevention of heart diseases, osteoporosis, diabetes, hypertension, obesity etc. Necessity of exercise prescription for sedentary population and sportsperson, self-responsibilities and behaviour change stages for exercise regularity.

The Students will develop the understanding practices, applications and knowledge of steps for exercise prescription, Stress test, and physical fitness test, understanding the acronyms FITT (Frequency, intensity, time), type (mode of exercise) and GO SIR (Progression-Gradual increase, overload, specificity, individualization, recovery and regularity)

Theory of Syllabus (60 Hrs. /Credits)

Unit I

(15 Hrs. /Credits)

Meaning and definition of Exercise and Physical Activity, difference between Exercise and Physical Activity, types of exercises, exercise, lifestyle and physical fitness, exercise and health, health benefits of exercise and exercise recommendations for health.

Unit II

(15 Hrs. /Credits)

Basis for exercise prescription for general population, background of exercise prescription in regard to interest, attitude, habits and physical capability, exercise for sportsperson, their fitness, wellness and competition.

Unit III

(15 Hrs. /Credits)

Health benefits of exercise, Exercise as proactive care, prevention of heart diseases, osteoporosis, diabetes, hypertension, obesity etc.

Necessity of Exercise Prescription for sedentary population and sportsperson, self-responsibilities and behavior change stages for exercise regularity.

Unit IV

(15 Hrs. /Credits)

Steps for exercise prescription, Stress test, and physical fitness test, understanding the acronyms FITT (Frequency, intensity, time), type (mode of exercise) and GO SIR (Progression-Gradual increase, overload, specificity, individualization, recovery and regularity).

Suggested Reading:

1. American college of sports Medicine (2005). ACSM's Health-Related Physical Fitness Assessment Manual. London, Lippincott.
2. Anspaugh, D. J. & Others (2003), Wellness. Boston: McGraw Hills.
3. Corbin C.B, G.J. Welk, W.R. Corbin and K.A. Welk (2008). Fitness & Wellness Concepts.
4. Corbin, C.B. & Others, (2006) Concepts of Fitness And Wellness, Boston, McGraw Hill.
5. Edward A. Taub, F. Murad and Oliphant D. (2007). The Wellness Solution.
6. Hoeger, W.K. And Hoeger S.A, (2006) Principles And Labs For Physical Fitness And Wellness, Australia: Thomson,
7. Kennedy, Carol, A. & Yoke, M.M. (2008) Methods of Group Exercise Instruction N.Y. Human Kinetics.
8. Lang, Annette , Morning Strength Workouts, U.S. Human kinetic, 2007
9. Robin, J. (2005). The Great Physicians Rx for Health & Wellness: Seen Keys to Unlocking Your Health Potential. Nelson Books, Thomson Nelson Publishers, Nashville, Tennessee, USA.
10. Savard, M. and C. Svec (2005). The body Shape Solution to Weight Loss and Wellness. Atria Books, Sydney, Australia.
11. Taub, E.A., F. Murad and D. Oliphant (2007). The Wellness Solution based on Nobel Prize Science. World Almanac Library Publishers, Milwaukee, Wisconsin, USA.
12. Tomkinson, G.R. & Olds, T.S. (ED.), Pediatric Fitness, London Karger, 2007.
13. Trudeau, K. (2007). The Weight – Loss Cure. Alliance Publishing Group, Inc., Elk Grove Village, Illinois, USA.
14. Uppal and Gautam. (2008). Health and Physical Education, Friends Publication,

DSE-1(4)-104. 1:**Semester III****DSE-1(4)-104. 1: Sports Proficiency – 1 – FUNDAMENTALS OF BASKETBALL**

4 Credits (2 THz + 2 P)

Sr. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1	Fundamentals of Basketball	4	2	0	2	XII	---

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

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

After the Completion of First Month:

A student will be able to gain knowledge with respect to Historical Development, organizational Structure and Playfield Technology of a sport/game.

After the Completion of Second Month:

A student will be able to understand and interpret the rules of game as well as game knowledge in the areas of physiological basis of Warming up and technical aspects of coaching.

After the Completion of Third Month:

A student will be able to learn and acquire various skills of sports/game, gain knowledge about different techniques evaluation as well as the evaluation of player's performance.

After the Completion of Fourth Month:

A student will be learning about various fitness components and its forms. Further, the student will be able to practice and improve performance on the basis of knowledge gained in understanding various fitness components and its testing.

THEORY SYLLABUS (30 Hours/lectures)**Unit-I****(8 Hours/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 and Safety Measures.

Unit-II**(7 Hours/lectures)**

- Rules of the game/sport.
- Duties and Responsibilities of Officials.
- Score sheet and Record Keeping
- Planning, organizing and reporting a competition

Unit-III**(7 Hours/lectures)**

- Basic skills and techniques of the Sports/Game.
- Drills for the perfection of Skills/Technique

Unit-IV**(8 Hours/lectures)**

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

Practicals -**(60 Hours/lectures)**

- Learning and demonstrating various skills/techniques of sports.
- Learning to demonstrate various drills for perfecting a skill
- Learning and demonstrating to complete the process of scoring/judgment.

SUGGESTED READINGS

1. Drewett, J. (2007). How to Improve at Basketball. Crabtree Publishing Co.,USA.
2. Goldstein, S. (1998). Basketball Fundamentals. 2nd Ed. Golden Aura Publishing,USA.
3. Jain Naveen (2003). Play and Learn Basket Ball. KhelSahitya Kendra. New Delhi.
4. Nat BB (1997). Conditioning Coaches Association. NBA Power Conditioning. Human Kinetics.
5. Sharma OP (2003). Basket Ball Skills and Rules. Khel Sahitya Kendra, Delhi.
6. Thani Lokesh (1995). Skills & Tactics of Basket Ball. Sport Pub. New Delhi.
7. Thani Yograj (2002). Coaching Successfully Basket Ball. Sports Publisher. Delhi.
8. Wilmore J. H. &Costill, D.L. (2004).Physiology of Sports & Exercise. Human Kinetics,USA.

Semester III
DSE-1(4)-104.2: Sports Proficiency – 1-FUNDAMENTALS OF CRICEKT

4 Credits (2 THz + 2 P)

Sr. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1	Fundamentals of Cricket	04	2	0	2	XII	---

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

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

After the Completion of First Month:

A student will be able to gain knowledge with respect to Historical Development, Organizational Structure and Playfield Technology of a sport/game.

After the Completion of Second Month:

A student will be able to understand and interpret the rules of game as well as game knowledge in the areas of physiological basis of Warming up and technical aspects of coaching.

After the Completion of Third Month:

A student will be able to learn and acquire various skills of sports/game, gain knowledge about different techniques evaluation as well as the evaluation of player's performance.

After the Completion of Fourth Month:

A student will be learning about various fitness components and its forms. Further, the student will be able to practice and improve performance on the basis of knowledge gained in understanding various fitness components and its testing.

THEORY SYLLABUS (30 Hours/Lectures)

Unit-I

(8 Hours/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 and Safety Measures.

Unit-II

(7 Hours/Lectures)

- Rules of the game/sport.
- Duties and Responsibilities of Officials.
- Score sheet and Record Keeping
- Planning, organizing and reporting a competition

Unit-III

(7 Hours/Lectures)

- Basic skills and techniques of the Sports/Game.
- Drills for the perfection of Skills/Technique

Unit-IV

(8 Hours/Lectures)

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

Practical -

(60 Hours/Lectures)

- Learning and demonstrating various skills/techniques of sports.
- Learning to demonstrate various drills for perfecting a skill
- Learning and demonstrating to complete the process of scoring/judgment.

SUGGESTED READINGS

1. Amarnath M. (1996). Learn to Play Good Cricket. UBS Publishers. New Delhi.
2. Boycott, G. (2010). Play Cricket the Right Way. Great Northern Books Limited, U.K.
3. Cricket (2008). Sports Skills: Cricket Fielding (Know the Game). A & C Black Publishers.
4. Gupta, K. (2006). How to Play Cricket. Goodwill Publishing House, New Delhi.
5. Hobbs, J. (2008). The Game of Cricket As it should be Played. Jepson Press, USA.
6. Jain R. (2003). Fielding Drills in Cricket. KhelSahitya Kendra. New Delhi.
7. Rachna (2002). Coaching Successfully: Cricket. KhelSahitya Kendra. New Delhi.
8. Sharma P. (2003). Cricket. Shyam Parkashan. Jaipur.
9. Thani V. (1998). Coaching Cricket. KhelSahitya Kendra. New Delhi.
10. Vanaik A. (2017). Officiating and Coaching, Friends Publication. New Delhi

Semester-III
DSE-1(4)-104. 3: Sports Proficiency – 1- FUNDAMENTALS OF KABADDI

4 Credits (2 THz + 2 P)

Sr. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1	Fundamentals of Kabaddi	4	2	0	2	XII	---

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

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

After the Completion of First Month:

A student will be able to gain knowledge with respect to Historical Development, organizational Structure and Playfield Technology of a sport/game.

After the Completion of Second Month:

A student will be able to understand and interpret the rules of game as well as game knowledge in the areas of physiological basis of Warming up and technical aspects of coaching.

After the Completion of Third Month:

A student will be able to learn and acquire various skills of sports/game, gain knowledge about different techniques evaluation as well as the evaluation of player's performance.

After the Completion of Fourth Month:

A student will be learning about various fitness components and its forms. Further, the student will be able to practice and improve performance on the basis of knowledge gained in understanding various fitness components and its testing.

THEORY SYLLABUS (30 Hours/Lectures)

Unit-I

(8 Hours/Lectures)

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

Unit-II

(8 Hours/Lectures)

- Rules of the game/sport.
- Duties and Responsibilities of Officials.
- Score sheet and Record Keeping
- Planning, organizing and reporting a competition

Unit-III

(7 Hours/Lectures)

- Basic skills and techniques of the Sports/Game.
- Drills for the perfection of Skills/Technique

Unit-IV

(7 Hours/Lectures)

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

Practical - (60 Hours/Lectures)

Learning and demonstration various skills/techniques of sports.

Learning to demonstrate various drills for perfecting a skills

Learning and demonstration to complete the process of scoring/judgment

SUGGESTED READINGS

1. Diago, T. (2005). Kodokan Judo Throwing Techniques. Kodansha International Publisher, Japan.
2. Harrison EJ (2002). Coaching Successfully Judo. Sports. Delhi.
3. Jain D (2003). Play and Learn Judo. Khel Sahitaya Kendra. New Delhi.
4. Law, M. (2009). Falling Hard : A Journey into the World of Judo. Trumpeter Publisher, Japan.
5. Putin, V., Shestakov, V. ad Levitsky, A. (2004). Judo : History, Theory and Practice. Blue Snake Books, Moscow.
6. Takahashi, M. (2005). Mastering Judo. Human Kinetics, USA.

Semester III
DSE-1(4)-104. 5: Sports Proficiency – 1- FUNDAMENTALS OF HANDBALL

4 Credits (2 THz + 2 P)

Sr. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1	Fundamentals of Handball	4	2	0	2	XII	---

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

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

After the Completion of First Month:

A student will be able to gain knowledge with respect to Historical Development, organizational Structure and Playfield Technology of a sport/game.

After the Completion of Second Month:

A student will be able to understand and interpret the rules of game as well as game knowledge in the areas of physiological basis of Warming up and technical aspects of coaching.

After the Completion of Third Month:

A student will be able to learn and acquire various skills of sports/game, gain knowledge about different techniques evaluation as well as the evaluation of player's performance.

After the Completion of Fourth Month:

A student will be learning about various fitness components and its forms. Further, the student will be able to practice and improve performance on the basis of knowledge gained in understanding various fitness components and its testing.

THEORY SYLLABUS (30 Hours/Lectures)

Unit-I (8 Hours/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 and Safety Measures.

Unit-II (8 Hours/ lectures)

- Rules of the game/sport.
- Duties and Responsibilities of Officials.
- Score sheet and Record Keeping
- Planning, organizing and reporting a competition

Unit-III (7 Hours/Lectures)

- Basic skills and techniques of the Sports/Game.
- Drills for the perfection of Skills/Technique

Unit-IV (7 Hours/Lectures)

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

Practical -**(60 Hours/Lectures)**

- Learning and demonstrating various skills/techniques of sports.
- Learning to demonstrate various drills for perfecting a skill
- Learning and demonstrating to complete the process of scoring/judgment.

SUGGESTED READINGS

1. Jain D (2003). Play & Learn Handball. KhelSahitya Kendra. New Delhi.
2. Kleinman, I. (2009). Complete Physical Education Plans. 2nd Ed. Human Kinetics,USA.
3. Page, J. (2000). Ball Games. Lerner Sports Publisher,USA.
4. Phillips, B.E. (2009). Fundamental Handball. Kessinger Publishers,USA.
5. Schmottlach N Mcmanama J (1997). Physical Education Handbook. 9th Edition. Allyn & Bacon. London.
6. Schmottlach, N. and McManama (2005). Physical Education Activity Handbook. Benjamin Cummings, USA.
7. Surhone, L.M. et al (2010). Team Handball. Betascript Publishing,USA
8. Vanaik A. (2005). Playfield Manual, Friends Publication. New Delhi
9. Vanaik A. (2017). Officiating and Coaching, Friends Publication. New Delhi

Semester III
DSE-1(4)-104.6: FUNDAMENTALS OF HOCKEY

4 Credits (2 THz + 2 P)

Sr. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1	Fundamentals of Hockey	4	2	0	2	XII	---

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

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

After the Completion of First Month:

A student will be able to gain knowledge with respect to Historical Development, organizational Structure and Playfield Technology of a sport/game.

After the Completion of Second Month:

A student will be able to understand and interpret the rules of game as well as game knowledge in the areas of physiological basis of Warming up and technical aspects of coaching.

After the Completion of Third Month:

A student will be able to learn and acquire various skills of sports/game, gain knowledge about different techniques evaluation as well as the evaluation of player's performance.

After the Completion of Fourth Month:

A student will be learning about various fitness components and its forms. Further, the student will be able to practice and improve performance on the basis of knowledge gained in understanding various fitness components and its testing.

THEORY SYLLABUS (30 Hours/Lectures)

Unit-I (8 Hours/Lectures)

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

Unit-II (8 Hours/Lectures)

- Rules of the game/sport.
- Duties and Responsibilities of Officials.
- Score sheet and Record Keeping
- Planning, organizing and reporting a competition

Unit-III (7 Hours/Lectures)

- Basic skills and techniques of the Sports/Game.
- Drills for the perfection of Skills/Technique

Unit-IV (7 Hours/Lectures)

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

Practical - (60 Hours/Lectures)

Learning and demonstrating various skills/techniques of sports.

Learning to demonstrate various drills for perfecting a skill

Learning and demonstrating to complete the process of scoring/ judgment.

SUGGESTED READINGS

1. International Hockey Federation (2003). Rules of the Game of Hockey with Guidance for Players and Umpires. International Hockey Federation. India.
2. Jain D (2003). Hockey Skills & Rules. khel Sahitya Kendra . New Delhi.
3. Narang P (2003). Play & Learn Hockey. KhelSahitya Kendra. New Delhi.
4. Pecknold, R. and Foeste, A. (2009). Hockey : Essential Skills. McGraw Hills,USA.
5. Rossiter, S. (2003). Hockey the NHL Way : Goal tending Illustrated Edition. Sterling Publishers,USA.
6. (2002). Coaching Successfully Hockey. Sports Publication. Delhi.
7. Walter, R. and Johnson, M. (2009). Hockey Plays and Strategies. Human Kinetics,USA.
8. Weekes, D. (2003). The Biggest Book of Hockey Trivia. Greystone Books,USA.
9. Wukovits, J.F. (2000). History of Hockey 1st Ed. Lucent Books,USA.
10. Vanaik A. (2005). Playfield Manual, Friends Publication. New Delhi
11. Vanaik A. (2017). Officiating and Coaching, Friends Publication. New Delhi

Semester-III
DSE-1(4)-104. 4: Sports Proficiency – FUNDAMENTALS OF KHO-KHO

4 Credits (2 THz + 2 P)

Sr. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1	Fundamentals of Kho Kho	4	2	0	2	XII	---

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

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

After the Completion of First Month:

A student will be able to gain knowledge with respect to Historical Development, organizational Structure and Playfield Technology of a sport/game.

After the Completion of Second Month:

A student will be able to understand and interpret the rules of game as well as game knowledge in the areas of physiological basis of Warming up and technical aspects of coaching.

After the Completion of Third Month:

A student will be able to learn and acquire various skills of sports/game, gain knowledge about different techniques evaluation as well as the evaluation of player's performance.

After the Completion of Fourth Month:

A student will be learning about various fitness components and its forms. Further, the student will be able to practice and improve performance on the basis of knowledge gained in understanding various fitness components and its testing.

THEORY SYLLABUS (30 Hours/Lectures)

Unit-I

(8 Hours/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 and Safety Measures.

Unit-II

(8 Hours/Lectures)

- Rules of the game/sport.
- Duties and Responsibilities of Officials.
- Score sheet and Record Keeping
- Planning, organizing and reporting a competition

Unit-III

(7 Hours/Lectures)

- Basic skills and techniques of the Sports/Game.
- Drills for the perfection of Skills/Technique

Unit-IV

(7 Hours/Lectures)

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

Practical - (60 Hours/Lectures)

Learning and demonstrating various skills/techniques of sports.

Learning to demonstrate various drills for perfecting a skill

Learning and demonstrating to complete the process of scoring/judgment.

SUGGESTED READINGS

1. Chakrabarty G (2002). Kho - Kho Aveloken. Khel Sahitya Kendra.Delhi.
2. Panday L (1982). Kho - Kho Sarvaswa. Metropolitan. New Delhi
3. Vanaik A. (2005). Playfield Manual, Friends Publication. New Delhi
4. Vanaik A. (2017). Officiating and Coaching, Friends Publication. New Delhi

Semester III
GE-3(4)-301 Olympic Education

GE-3(4)-301
4 Credits (3 THz+1 Tutorial)

Sr. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1	Olympic Education	4	3	1	0	XII	---

Objective: To impart the knowledge, practices and applications about the Olympism its functions through the various International sports federation, National committees and IOC commissions.

Learning Outcome: Students will learn the deep knowledge about ancient and modern Olympics, administration, organisation of Olympics Games and functions of IOC.

After the Completion of First Month:

The students will develop the understanding practices, applications and knowledge of Concept of Olympics movement, the ancient Olympic Games and the Modern Olympic Games and its movement. It also helps to know about the aims and symbols of the Olympic movement and International Olympic Committee (IOC).

After the Completion of Second Month:

The students will develop the understanding practices, applications and knowledge of The National Olympic Committee (NOC), International Sports Federations (IFs), National Sports Federations (NFs), Volunteerism and Olympics games.

After the Completion of Third Month:

The students will gain understanding practices, applications and knowledge of the Organization of Olympics games, international bid process for selecting sites / city for the games, Participation in Olympic Games and about Women & sports.

After the Completion of Fourth Month:

The students will gain knowledge, practices, applications and understanding of the Olympic museum, Olympic academy and Olympic solidarity programme, Paralympics games and concept of Sports for all. It also helps to know about Culture, Olympism, winning, participation and universality of the games, drug abuse and doping in sports and games.

THEORY SYLLABUS: (60 Hours/Lectures)

UNIT-I THE OLYMPIC MOVEMENT

(15 Hours/Lectures)

- 1 Concept of Olympics movement, the ancient Olympic games and the Modern Olympic games and its movement.
- 2 Aims and symbols of the Olympic movement.
- 3 The International Olympic Committee (IOC).

UNIT-II STRUCTURE OF THE OLYMPIC MOVEMENT

(15 Hours/Lectures)

1. The National Olympic Committee (NOC).
2. The International Sports Federations (IFs).
3. The National Sports Federations (NFs).
4. Volunteerism and Olympics games.

UNIT-III THE OLYMPIC GAME

(15 Hours/Lectures)

1. Organization of Olympics games.
2. The international bid process for selecting sites / city for the games.
3. Participation in Olympic Games.
4. Women and sports.

UNIT-IV IOC PROGRAMMES

(15 Hours/Lectures)

1. Olympic museum, Olympic academy and Olympic solidarity program.
2. Paralympics games and concept of Sports for all.
3. Culture, Olympism, winning, participation and universality of the games.
4. Drug abuse and doping.

SUGGESTED READING:

- Carto, J.E.L. And Calif, S.D. (1984). Medicine & Sport Science: Physical Structure of OlympicAthletes. London: Karger.
- Cliw, Gifford, (2004). Summer Olympic.
- Daw, Anderson. (2008). The Story of the Olympics.
- Kumar, Pardeep. (2008). Historical Development of Track & Field. Friends Publication. New Delhi.
- Maranirs David, Rome 1960: The Olympics that changed the world, 2008.
- Osborne, Manpope, Ancient Greece and the Olympic, 2004.
- Oxlade, chris., Olympic, 1999.
- Perrottet, tony, The Naked Olympics: the true story of the Ancient Games, 2004.
- Toropove, Brandon., The Olympic for Beginners, 2008.
- Wallechineley, Davi, The Complete Book of the Olympic, 1992.

BA(PROG.) WITH PHYSICAL EDUCATION & SPORTS AS NON-MAJOR
SEMESTER-3
B.A.-PE-DSC-3 (MINOR)
HEALTH EDUCATION

DSC

Sl. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1.	Health Education	04	3	0	1	XII	--

Objective: To acquaint the students with basic aspects and practices with application to health, health education and various health agencies.

Learning Outcomes of the Paper:

1. The learners will learn the basic concepts of developing the practices of health along with the dimensions, spectrum and determinant of health.
2. The learners will develop the ability to apply the scope and principles of health education in life.
3. The learners will be able to comprehend the role of personal and occupational hygiene for better health practices.
4. The learners will be able to understand and apply the causes and preventive measures of various communicable and non-communicable diseases.
5. The learners will gain knowledge and practices about the role and schemes of various health promoting agencies like WHO, UNICEF, UNDP, MHFW, Red Cross etc.
6. The learners will be able to change their behavioural aspects related to personal health.
7. The learners will be able to create the databases related to health and hygiene.

SYLLABUS

M.M.: 100

No. of Credits: 04 (Lecture-03, Practical-1)

Theory: 45 hours, Practical: 30 hours

Unit-1: Introduction to Health

1. Meaning, Definition & Importance of Health
2. Dimensions of Health
3. Spectrum of Health
4. Determinants of Health

Unit-2: Introduction to Health Education

1. Meaning and Definition of Health Education
2. Aim and Objectives of Health Education
3. Importance and Scope of Health Education
4. Principles of Health Education

Unit-3: Hygiene and Health Issues

1. Personal Hygiene
2. Occupational Hygiene
3. Communicable Diseases : Meaning, Spread and Prevention
4. Non-Communicable Diseases: Meaning, Spread and Prevention

Unit-4: Health Agencies

1. Introduction to International Health Agencies: WHO (World Health Organization), UNICEF (United Nations International Children's Fund), UNDP (United Nations Development Programme)
2. Introduction to National Health Agencies: Ministry of Health and Family Welfare; Indian Red Cross Society, Hind Kushth Nivaran Sangh, Indian Council for Child Welfare, Tuberculosis Association of India, Bharat Sevak Samaj, Central Social Welfare Board

PRACTICAL

1. Conduct a survey on personal hygiene Habits of your college students.
2. Visit to any one national health agency and preparation of a report.
3. Conduct a Survey on anyone of the following:
 - a. Communicable Disease
 - b. Non-Communicable Disease

SUGGESTED READINGS

1. Anspaugh, D.J.; Ezell, G. and Goodman, K.N. (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 Simon, D. (2001). Grow Younger, Live Longer: 10 Steps to Reverse Aging. Three Rivers Press. New York. USA.
4. Dewan, A.P. (1996). School Health Manual. Nature Cure and Yoga Health Centre. New Delhi.
5. Dixit, S. (2006). Swasthya Shiksha. Sports Publication. Delhi.
6. Donatelle, R.J. (2005). Health the Basics. Sixth Edition. Oregon State University.
7. Floyd, P. M. and Yeilding, C. (2003). Personal Health: Perspectives and Lifestyles. Thomson Wads 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. Houses. New Delhi.
11. Uppal, A.K. & Gautam, G.P. (2008). Health & Physical Education. Friends Publication. New Delhi.

BA(PROG.) WITH PHYSICAL EDUCATION & SPORTS AS MAJOR
SEMESTER-3
B.A.-PE-DSC-3 (MAJOR)
SPORTS NUTRITION AND ERGOGENIC AIDS

DSC

Sl. No.	Course Title & Code	Credits	Credit Distribution of the Course			Eligibility Criteria	Pre-Requisite of the Course (if any)
			Lecture	Tutorial	Practical/Practice		
1.	Sports Nutrition and Ergogenic Aids	04	3	0	1	XII	--

Objective: To acquaint the students with basic concepts, application and creativity related to sports nutrition and ergogenic aids.

Learning Outcomes of the Paper:

1. The learners will understand the basic concept and practices of Nutrition and its importance in the field of Sports.
2. The learners will be able to describe the functions of different types of Nutrients and their sources.
3. The learners will gain knowledge of application of nutrient-supplementation and nutrition guidelines.
4. The learners will understand the concept of Ergogenic Aids and their role in sports.
5. The learners will identify the list of prohibited substances to control doping.
6. The learners will be able to create / construct the diet chart/ plan as per individual needs.
7. The learners will be acquainted to the role of World Anti -Doping Agency (WADA) and National Anti-Doping Agency.

SYLLABUS

M.M.: 100

No. of Credits: 04 (Lecture-03, Practical-1)

Theory: 45 hours, Practical: 30 hours

Unit-1: Nutrition

1. Meaning, Definition & Importance of Nutrition
2. Nutrients: Classification, Function, Source
3. Balanced Diet, Dietary Aids, Dietary Gimmicks
4. Achieving a Healthy and Balanced Diet

Unit-2: Sports Nutrition

1. Role of Nutrition in Sports
2. Basic Nutrition Guidelines
3. Energy Balance Equations
4. Pre- and Post-performance Nutrition to athletes

Unit-3: Ergogenic Aids

1. Meaning and Definition of Ergogenic Aids
2. Types of Ergogenic Aids
3. Role of Ergogenic Aids in Sports
4. Nutrition and Ergogenic Aids

Unit-4: Doping and Sports

1. Meaning and Definition of Doping
2. Disadvantages of Doping in Sports
3. Introduction to WADA (World Anti-Doping Agency) and NADA (National Anti-Doping Agency)
4. List of prohibited substances by WADA (World Anti-Doping Agency)

PRACTICAL

1. Preparation of a regular Diet Chart/ Plan for Sportspersons.
2. Preparation of Diet Schedule for Competitive performance (before and after the competition)
3. Visit to Nutritional/ Medical institution and preparation of report.
4. Conduct survey on nutritional practices of sportspersons.

SUGGESTED READINGS

1. Anspaugh, D.J.; Ezell, G. and Goodman, K.N. (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 Simon, D. (2001). Grow Younger, Live Longer: 10 Steps to Reverse Aging. Three Rivers Press. New York. USA.
4. Dewan, A.P. (1996). School Health Manual. Nature Cure and Yoga Health Centre. New Delhi.
5. Dixit, S. (2006). Swasthya Shiksha. Sports Publication. Delhi.
6. Donatelle, R.J. (2005). Health the Basics. Sixth Edition. Oregon State University.
7. Floyd, P. M. and Yeilding, C. (2003). Personal Health: Perspectives and Lifestyles. Thomson Wads 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. Houses. New Delhi.
11. Uppal, A.K. & Gautam, G.P. (2008). Health & Physical Education. Friends Publication. New Delhi.