

Syllabus of B.Sc. Sports Science Three Year Degree Course
Scheme of examination of B.Sc. Sports Science Three year Course
B.Sc. Part I (2011-12)
Semester-1st

Sr. No. of Paper	Name of Paper	Marks		Time
		Internal	External	
I	Qualifying Hindi*	20	80	3 hours
II	Foundation of Phy. Edu. & Sports	20	80	3 hours
III	Computer Applications	05	35	2 hours
IV (a)	Theory of Games** (Kabaddi, Volleyball, Judo)	10	40	2 hours
IV (b)	Theory of Athletics*** (Sprints, 100 mtr, 200 mtr & 5000 mtrs)	10	40	2 hours
	Total	45	195	

* Not included in Grand Total

** Games: judo, Kabaddi, Volley-ball

*** Athletics: Sprint 100, 200 and 5000 meters

(Semester-2nd)

Sr. No. of Paper	Name of Paper	Marks		Time
		Internal	External	
I	Qualifying English*	20	80	3 hours
II	Anatomy of Fitness	20	80	3 hours
III	Computer Applications	05	35	2 hours
IV (a)	Theory of Games** (Badminton, baseball, Archery & Weight lifting)	10	40	2 hours
IV (b)	Theory of Athletics*** (Relay races and High-jump)	10	40	2 hours
	Total	45	195	

* Not included in Grand Total

** Games: Base ball, Badminton, Archery & Weight Lifting

*** Athletics: Relay Races, High-jumps

Practical:- Games : 50
Athletics : 50
Computer : 20
Total:- :120

Grand Total:- 1st Semester + 2nd Semester + practical
195+195+120=600

Division of internal marks

- (a) House Exams: 5
- (b) Attendance: 5 in case of only 5 marks an internal than these 5 marks will be awarded on the basis on attendance.

Division of external marks (Practical)

- (a) Note Book-10
- (b) Lesson Plan-10
- (c) Progression of skills and fault correction-15
- (d) Viva-voce=15 (covering all the games prescribed in the syllabus of that year)

Note: -similar division of marks will be applicable in athletic events in 1st year, 2nd year and 3rd year.

Note:-

1. 7 Supervisory lessons in teaching each in every games & 5 supervisory lessons each from athletics events prepared by students in their note and checked by the concerned teacher during session.
2. Lessons on the games in any one of the games listed B.Sc. 1st year course above (semester 1st and Semester 2nd).
3. Lesson on Athletics in any one of the Athletics events listed above in B.Sc. 1st year course for games and athletics (semester 1st and semester 2nd)
4. Duration of practical examination will be 3 hours per group followed by Viva-voce.
5. Practical classes for teaching the games and Athletics will be held throughout the year. However, practical examination will be held at the end of the second, fourth and sixth semester respectively.
6. Final lessons will be prepared on a separate chart for the final exams.
7. The draw for final examination (Athletic & Games) will be drawn ten days before the final exams.
8. Practical for computer will be held at the end of second semester and duration for computer practical will be 2 hours followed by viva-voce.

Note: The same guidelines will be applicable in the course of B.Sc. II and B.Sc. III also.

**Scheme of Examination of B.Sc. Sports Science Three year Course
B.Sc. Part II (Semester 3rd)**

Paper	Nomenclature of paper	Marks Theory		Time	Practical marks
		Internal	External		
I.	Qualifying Environmental Science*	10	90	3 hours	-
II	Kinesiology	10	90	3 hours	-
III	Theory of Games **	05	45	2 hours	-
IV	Theory of Athletics ***	05	45	2 hours	-
V	Gymnastic and other Activities	-	-	-	50
	Total:	20	180	-	50

Grand Total marks: 20+180+50=250

* Not included in Grant total

** Games, Football, Handball, Swimming, Gymnastic

*** Athletics- 400 meter, 800 meter, 10000 meter races

(Semester-4th)

Paper	Nomenclature of paper	Marks Theory		Time	Practical marks
		Internal	External		
VI	Physiology of Exercise	10	90	3 hours	-
VII	Health Education, First-aid and safety measures	10	60	3 hours	30
VIII	Theory of Game*	05	45	2 hours	50
IX	Theory of Athletics**	05	45	2 hours	50
	Total:-	30	240		130

Practical:- Game * (Table Tennis, Shooting, Wrestling)	= 50
Athletics** (Hurdles, High Jump, Shotput)	= 50
Health Edu.	= 30
	<u>=130</u>

Grand Total:- 3rd Semester + 4th Semester + practical
250+400= 650

Division of internal marks

- (a) House Examinations: 05 marks
- (b) Attendance: 05 marks in case of only 5 marks in internal then these 5 marks will be awarded on the basis of attendance.

Division of external marks (Practical)

- (a) Note Book: 10 marks
- (b) Lesson Plan: 10 marks
- (c) Progression of skills and fault correction: 15 marks
- (d) Viva-voce: 15 (covering all the games prescribed in the syllabus of that year)

Note: - Similar division of marks will be applicable in athletic events in 3rd & 4th semesters of B.Sc.3rd years.

Note:

1. 7 supervisory lessons in teaching each in every game & 5 supervisory lessons each from athletics events prepared by students in their note & checked by the concerned teacher during session.
2. Lessons on the games in any one of the games listed B.Sc. 2nd years course above (semester 3rd and 4th).
3. Lesson on athletics in any one of the athletics events listed above in B.Sc. 2nd year course for athletics (Semester 3rd and semester 4th).
4. Duration of practical examination will be 3 hours per group followed by viva-voce.
5. Practical classes for teaching of games and athletics will be held throughout the year. However, practical examination will be held at the end of the second, fourth and sixth semester respectively.
6. Final lesson will be prepared on a separate chart for the final examinations.
7. The draw for final examination (athletics & games, Gymnastic & other activity will be drawn 10 days before the final examinations.
8. Practical for Gymnastic and Other activity will be held at the end of 3rd semester in B.Sc. 2nd year.

Note: - The same guidelines will be applicable in the course of B.Sc. III

Paper-I (Semester 3rd)
ENVIRONMENT SCIENCE

Theory Marks: 90
Inter Assessment: 10
Time: 3 hours

Paper setter is required to set 10 questions from 5 units, two questions from each unit. Candidate is required to attempt five questions in all selecting one question from each unit. All questions carry equal marks.

UNIT-I

NATURAL PROCESS

- Solar System:- Sun, major planets and their satellites. Water cycle, wind, ice, ecosystem, components of ecosystem. Ecological succession, major biotic communities, biomes of India, whether modification, noise pollution.

UNIT-III

PUBLIC HEALTH

- Epidemiology – meaning and its types, food born and water born diseases, food related health problems other than biological agents. Air born disease. Disease from animal to man. Air born infection caused by pollution other than micro-organism, insecticide, control & measurements of Rodents.

UNIT-IV

WATER RESOURCES AND AIR RESOURCES

- Uses of water, water sanitation, sources of water, water supply, water quality, water purification, drinking water standard, contamination of drinking water, water pollutants, water pollution. Types of water pollution and its causes. Control of water pollution and water management.
- Air pollution, source of air pollution, major types of air pollutants and consequences of air pollution. Effects of air pollution on human health and in other organism. Effects of air pollution on weather, air pollution control, control of gaseous pollution, control of air pollution by legislation and trees.

UNIT-V

ENVIRONMENTAL MANAGEMENT AND PUBLIC PARTICIPATION:

- Environmental management objectives of environmental management, principle of Environmental Management, strategy of Environmental management. Natural resources management, solid waste management. Environment ethics environment conservation, bio-sphere reserve forest conversation, bio-diversity conservation, wild life conservation.

REFERENCES

1. Aggarwal, K.C. 2001 Environmental Biology, Nidi Pub. Ltd., Bikaner.
2. Bharucha, Frach. The Biodiversity of India. Mapin Publishing Pvt. Ltd. Ahmedabad 380013. India. Email: mapin@icenet.net ®
3. Brunner R.C. 1989. Hazardour Waste Incineration, MC.Graw Hill Inc. 480p.
4. Clark R.S. Marine Pollution, Slanderson Press Oxford (TB)
5. Cunningha, W.P. Cooper, T.H. Gorhani, E & Hepworth, M.T. 2001, Environmental Encyclopedia, Jaico Pub. House, Mumbai 1196 p.
6. De A.K. Environmental Chemistry, Wiley Eastern Ltd.
7. Down to Earth, Centre for Science and Environmental (R)
8. Gleick, H.P. 1993. Water in crisis, Pacific Institute for Studies in Dev. Environmental & Security. Stockholm Env. Institute Oxford Univ. Press, 473 p.
9. Hawkins R.E. Encyclopedia of Indian Natural History, Bombay Natural History Society, Bombay (R)
10. Heywood, V.H. & Waston, R.T. 199. Global Biodiversity. Assessment, Cambridge Pub. House, Delhi 1140 P.
11. Jadhav, H & Bhosale, V.M. 1995. Environmental Protection and Laws. Himalaya Pub. House, Delhi 284 p.
12. Mckinney, M.L. & Schoch, RM 1996. Environmental science Systems & Solutions, Web enhanced edition 639 p.
13. Mhaskar A.K. Matter Hazardous, Tekchno-Science Publications (TB)
14. Miller T.G. Jr. Environmental Sciences. Wadsworth Publishing Co. (TB).
15. Odum, .P. 1971. Fundamentals of Ecology. W.B. Saunders Co. USA, 574 p.
16. Rao M.N. & Datta, A.K. 1987. Waste Water Treatment. 004Fford & OBH Pub. Co. Pvt. Ltd. 345 p.

Paper-II (Semester 3rd)
KINESIOLOGY

Theory Marks: 90
Inter Assessment: 10
Time: 3 hours

Paper setter is required to set 10 questions from 5 units, two questions from each unit. Candidate is required to attempt five questions in all selecting one question from each unit. All questions carry equal marks.

UNIT-I

- Meaning of kinesiology brief history of Kinesiology. Importance of kinesiology for games and sports; structural & functional classification of muscles. Role of muscles in Physical activity, anatomical standing position, planes and axes of movement. Terminology of fundamental movement.

UNIT-II

- Newtons laws of motion and their implication in Physical Education and Sports. Levers, Equilibrium, Center of gravity, force centripetal and centrifugal force; Application of biomechanical principles to high jump, throwing movement, like discus, shotput and javelin.

UNIT-III Location and actions of muscles at various joints:

- Upper extremity-shoulder girdle, shoulder joints & elbow joint. Deltoid, Latissimus Dorsi, Pectoralis major, supra spinatus, pectoralis minor, Trapezius and levator scapulas, Biceps Brachii, Brachialis and Triceps
- Lower extremity: Hipjoint, Knee joint & Ankle joints, Gluteus Maximus, Gluteus medius, Gluteus minimus, Hamstring (Group), quadriceps (Groups), Gastrocnemius, Sartorius.
- The spinal column.

UNIT-IV

- Meaning, importance, aims and objectives of biomechanics in Physical Education and sports; kinetics, speed, velocity, acceleration, projectile, linear, kinetics, mass, weight, pressure, work energy, momentum, friction, impulse, inertia.

UNIT-V Motor movement, posture and postural deformities:

- Movement, rhythm, movement coupling, movement precision and movement amplitude. Meaning of posture type of posture, importance of posture, causes of poor posture, preventive and remedial measures of a poor posture, common

postural deformities kyphosis, lordosis, flat foot, knock knees, bow legs, lateral curvatures.

REFERENCE

1. Breer and Zarnicks, Efficiency of human movement W.B. Co., Philadelphia, 1979.
2. Nu. Scientific Principles of coaching Prentice Hall 1962.
3. Per and Glassgow, C.V. Mosby Co. Saint
4. The mechanics of Athletics, Halmas and Meiar.
5. Miller, Mitohelgon, Paul and Smith, Techniques for of Human Movement Lapse Books London 1975.
6. Biomechanics of Sports technique inc. N.J. 1978
7. Deij, the Anatomical and Mechanical Bones of Motion, Prentice Hall Inc. N.J. 1982.
8. Mechnotach, Bionochanic sportlicher Bowegungan sport-verley Berlin 1978.
9. Logan and Mckinney, Anatomic Kinesiology, M.C. Brown Co. 1977.
10. Marliyn and Hinsin, Kinesiology, Web Dubugue Lown 1977.

Paper-III (Semester 3rd)
THEORY OF GAMES

Theory Marks: 45
Inter Assessment: 05
Time: 2 hours

Paper setter is required to set six questions from three units, two questions from each unit. Candidate is required to attempt three questions in all selecting one question from each unit. All questions carry equal marks.

The Questions in different units given below should be based on the following games:

- 1. Football (2) Handball (3) Swimming (4) Gymnastic**

UNIT-I

- **History of games**
- **Role of Haryana's people for the development of games.**
- **Duties of officials)Pre-game, during the game & Post game)**
- **Technical officials & their duties.**
- **Protective equipment used in games.**

UNIT-II

- **Dimension & marking of the play field/area**
- **Rules & regulations of the games mentioned above**
- **Interpretation of rules & regulations**

UNIT-III

- **Fundamentals of various games.**
- **Offensive & defensive strategy employed in the various games**
- **Conduct of tournament & Types of fixtures used in the games mentioned above,**

REFERENCES

1. Wado Allen – The F.A. Guide to training and coaching
2. Seeton, D.C. Dhyton, I.A. Leibu, H.C. And Massumith, Book of sports, Englowood Cliffs, MD. Prephilice Hall.
3. Dr. Faaune Hero-The Modern Olympic games Budapost, Pennonic Press.
4. Cobarig A.L. Modern Basketball-A Fundaments Analysis of Skills and Tactics, London: Nicholes Kaya. 1966.
5. Bee, Clair and Norton, on Zone Defense and Attack, New York. The Ronld Press Company, 1959.
6. Bowland B.J Handball a complete Guide London: Faber & Faber Ltd., 24, Rosset Square, 1970.

Paper-IV (Semester 3rd)
THEORY OF ATHLETICS

Theory Marks: 45
Inter Assessment: 05
Practical marks: 50
Time: 2 hours

Paper setter is required to set six questions from three units, two questions from each unit. Candidate is required to attempt three questions in all selecting one question from each unit. All questions carry equal marks.

The Questions in different units given below should be based on the following Athletic events:

(i) 400 meter (ii) 800 meter and 10000 meter races

UNIT-I

- History of athletics in India.
- Organization & administration of College athletic meet
- Teaching & training of athlete (Track & Events)

UNIT-II

- Dimension, rules & regulations of track & field events given below.
400, 800 meters, 10000 meters races
- Duties of technical officials in athletic meet.
- Equipment and their specifications used in various events of track & field.

UNIT-III

Fundamentals of various events.

- 400 meter race running with finish technique
- 800 meter race running with finish technique
- 10000 meter race running with finish technique.

REFERENCE

1. Doherty J. Manneth – Modern track and Field, Englewood Cliffs, N.J. Prentice Hall, Inc.
2. Wado Allen – The F.A. Guide to training and coaching.
3. Uyenishi S.L.- The Text Book of JU- Jutsu-Athletic Publications Ltd. Link House, Store Street, London, W.C.I.

Paper-VI (Semester 4th)
PHYSIOLOGY OF EXERCISE

Theory Marks: 90
Inter Assessment: 10
Time: 3 hours

Paper setter is required to set 10 questions from 5 units, two questions from each unit. Candidate is required to attempt five questions in all selecting one question from each unit. All questions carry equal marks.

UNIT-I

- Definition of exercise, types of exercise, benefit of exercise. Meaning of Physiology and Exercise Physiology, Importance & functions of Exercise Physiology in the field of Physical Education and Sports. Long term and short term effects of exercise on muscular system.

UNIT-II

- Physiology of respiratory system and types of respiration, mechanism of inhibition and exhibition, effects of exercise on respiratory system, lungs and exercise. Basic physiology of circulatory system effects of exercise on circulatory system.

UNIT-III

- Cardio-vascular system:- Adaptation of heart, Effect of exercise on heart, changes in heart, Blood, Blood pressure, effect of exercise on blood & blood pressure. Physiology of excretory system, effect of exercise on excretory system.

UNIT-IV

- Physiology of Digestive system, stages of digestive process in mouth, stomach, small intestine, Large intestine, function of liver, effect of exercise on digestive system.

UNIT-V

- Endocrine system, functioning of various endocrine glands pituitary glands, Thyroid gland, adrenal gland, effect of exercise on the functioning of endocrine glands, nervous system, functional classification of nervous system, reflex action, reciprocal intervention. Effect of exercise on nervous system.

REFERENCE

1. Basic Anatomy of Physiology of exercise-Piyush Jain
2. Introduction to anatomy & Physiology of Exercise- Sandhya Tiwari
3. Essential of Physical Education & Sports – Dr. Ajmer Singh & others
4. Essential of Exercise Physiology – Lessy G. Shower.
5. Guyton, A.C. Text Book of Medical Physiology, W.B. Saunders Company, Philadelphia, 1981.
6. Devries, H.A. Physiology of Exercise for Physical Education and Athletics. London: Staoles Press, 1976.

Paper-VII (Semester 4th)
HEALTH EDUCATION, FIRST AID AND SAFELY MEASURES

Theory Marks: 90
Inter Assessment: 10
Time: 3 hours

Paper setter is required to set 10 questions from 5 units, two questions from each unit. Candidate is required to attempt five questions in all selecting one question from each unit. All questions carry equal marks.

UNIT-I

- Meaning of Health, Importance of Health, factors influencing Health Status, Characteristics of healthy individual. Health yesterday and today. New directions for health – health promotion, Physiological health, mental health, emotional health social health, spiritual health & happiness. A key to well being, does laughter enhance health?

UNIT-II

- School health programme and health environment, School building, light renovation, Sanitation, School canteen, School health examination, academic programme, nutrition, balance diet, caloric value of food for competitive sports. Eating for health, today's dieting guide lines medicated value of food.

UNIT-III

- Methods of Education in Health. Health instructions audio-visual methods. Health organizations- world health organizations, Red Cross, government health agencies. Communicable diseases-modes of transmission, control and prevention of following disease-
(i) cholera (ii) small-pox (iii) typhoid (iv) malaria (v) influenza

UNIT-IV

- First Aid: Definition and importance of first aid in modern life, types of first aid, first aid box. Reasons of sports injuries, principle of first aid, functions & qualities of a good first aider.

UNIT-V

- Basic steps in safety measures safety measures for the following (i) bites of animals, burns, control of bleeding, cuts and wounds. Safety for drawing artificial respiration. Safety measures environmental hazards. Heat stroke, heat syncope, wind chill and sunburn.

REFERENCE

1. Safety at School - (Education Pamphlet numbers 53 London: Her Majesty's Stationery office 1969.
2. School Safety Policies – Washington L.C. American Association for Health, Physical Education and Recreation, 168
3. Stack, Harbet J. Duke Elkow Education for safe Living: Englewood cliffs, New Jersey, Prentice Hall Inc 1966.
4. Florio. A & Stafford G.T. – Safety Education New York Inc. Graw Hill book Co. 1967.
5. Evans. A William Everyday Safety, Chicago: Iyons and Camahan, 1952.
6. Health Education by Moss and other (National Education on Association at UTA) 1964.
7. Torner et al: School Health Education. Harper t. Louis, The V.C. Mosby Co. 1976.

Paper-VIII (Semester 4th)
THEORY OF GAMES

Theory Marks: 45
Inter Assessment: 05
Time: 2 hours

Paper setter is required to set six questions from three units, two questions from each unit. Candidate is required to attempt three questions in all selecting one question from each unit. All questions carry equal marks.

The Questions in different units given below should be based on the following games:

(1) Table Tennis (2) Suiting (3) Wrestling

UNIT-I

- History of games
- Role of Haryana's people for the development of games.
- Duties of officials (Pre-game, during the game & Post game)
- Technical officials & their duties.
- Protective equipment used in games.

UNIT-II

- Dimension & marking of the play field/area
- Rules & regulations of the games mentioned above
- Interpretation of rules & regulations

UNIT-III

- Fundamentals of various games.
- Offensive & defensive strategy employed in the various games
- Conduct of tournament & Types of fixtures used in the games mentioned above,

REFERENCES

7. Wado Allen – The F.A. Guide to training and coaching
8. Seeton, D.C. Dhyton, I.A. Leib, H.C. And Massumith, Book of sports, Englewood Cliffs, MD. Prephilice Hall.
9. Dr. Faaune Hero-The Modern Olympic games Budapest, Pennonic Press.
10. Cobarig A.L. Modern Basketball-A Fundaments Analysis of Skills and Tactics, London: Nicholes Kaya. 1966.
11. Bee, Clair and Norton, on Zone Defense and Attack, New York. The Ronld Press Company, 1959.
12. Bowland B.J Handball a complete Guide London: Faber & Faber Ltd., 24, Rosset Square, 1970.

Paper-IX (Semester 4th)
THEORY OF ATHLETICS

Theory Marks: 45
Inter Assessment: 05
Practical marks: 50
Time: 2 hours

Paper setter is required to set six questions from three units, two questions from each unit. Candidate is required to attempt three questions in all selecting one question from each unit. All questions carry equal marks.

The Questions in different units given below should be based on the following Athletic events:

(i) Hurdle (ii) High Jump and Shotput

UNIT-I

- History of IAAF in India.
- Organization & administration of University athletic meet
- Teaching & training of athlete (field events)

UNIT-II

- Dimension, rules & regulations of track & field events given below.
(i) Hurdle (ii) High Jump and Shotput
- Duties of technical officials in athletic meet.
- Equipment and their specifications used in various events of track & field.

UNIT-III

Fundamentals of various events.

- Shotput –Holding, Placement of shot, initial stance, Glide/rotation, Delivery Stance, Delivery action, reverse.
- Hurdle-approach, take off, action of lead leg & trailing leg, flight,landing, stride in between hurdles.
- High Jump- approach, run, take off, bar clearance, landing in different techniques.

REFERENCE

1. Doherty J. Manneth – Modern track and Field, Englwood Cliffe, N.J. Prentice Hall, Ino.
2. Wado Allen – The F.A.Guid to training and coaching.
3. Uyenishi S.L.- The Text Book of JU- Jutsu-Athletic Publications Ltd. Link House, Store Street, London, W.C.I.

**Scheme of Examinations of B.Sc. (Sports Sc.) Part III (Semester-5th)
2011-12**

Paper	Nomenclature	Marks theory		Time
		Int.	Ext.	
I	Physiotherapy	05	45	3 hours
II	Sports Psychology	05	45	3 hours
III	Theory of Games*	05	45	2 hours
IV	Theory of Athletics**	05	45	2 hours
	Total	20	180	
	Grand total	20+180=200		

*Game: Hockey, Netball, Kho-Kho and Tennis

**Athletics: 1500 mtr. Pole-vault, Javelin Throw

(Semester 6th)

Paper	Nomenclature	Marks theory		Time	Practical marks
		Int.	Ext.		
I	Foundation of Sports Training	10	90	3 hours	
II	Sports Sociology	05	45	3 hours	
III	Theory of Games*	05	45	2 hours	50
IV	Theory of Athletics**	05	45	2 hours	50
V	Project Report				
		25	225		100
	Grand Total:	25+225+100=350			

Game*: Soft ball, Basket-Ball, Wrestling

Athletics**: Triple Jump, Hammer- Throw

(Grand total: 5th Semester + 6th Semester + Practical= 200+250+100=550)

Project Reports:-

A research project work will be submitted by all students to the concerned department. Project reports shall be related with current problem of sports, sports Tournaments/Championship. Project report will be prepared by the candidates to be evaluated by the external examiners which will be appointed by the UG/PGBOS in Physical Education. It would be awarded with the grading system i.e. A, B and C.

B.Sc. Sports Science Part-III (Semester 5th)
Physiotherapy-I

Theory marks: 45
Internal Assess: 05
Time: 3 hours

Note:- Paper setter is required to set two questions from each unit and candidates are required to attempt four question in all by selecting atleast one question from each unit. All questions carry equal marks.

Unit-I

- Meaning of Physiotherapy, Scope and utility of physiotherapy, Physiotherapy in sprain, strain, muscle pull, muscle soreness, Hydrotherapy, meaning, precaution in giving the hydrotherapy, Benefits of hydrotherapy.

UNIT-II

- Massage: Meaning and importance in sports, Physical benefits of massage with its utility in sports, Electrotherapy: Meaning & Importance, Danger of using Electrotherapy, Benefits of Electrotherapy,

UNIT-III

- Meaning of Thermo Therapy, Physiological effects of Thermo- therapy. Do's and don't do's in Thermo Therapy, Cryo-Therapy importance of Cryo Therapy methods employed in Cryo Therapy.

UNIT-IV

- Exercise therapy meaning of therapeutic exercise, kinds and its utility in sports. Therapeutic exercise for person suffering from back pain and spondylises.

References:

1. Sports Physiotherapy-K.C.Shekhar
2. Pnventive & Corrective Physical Education by George Thomos
3. Ine Chinese ant of neating by Stephen Pulos
4. Giving to elderly people –understanding and practical help
5. Physiotherapy in Medical conditions by Joan R.Cash
6. Sports Physiotherapy _K.C. Shekhar
7. Pnventive & Corrective Physical Education by George Thomos
8. Ine Chinese of Neating by Stephen Pulos

B.Sc. III Sports Sciences (Semester 5th)
Sports Psychology-II

Theory marks: 45
Internal Assess: 05
Time: 3 hours

Note:- Paper setter is required to set two questions from each unit and candidates are required to attempt four question in all by selecting atleast one question from each unit. All questions carry equal marks.

UNIT-I

- Meaning of Psychology and Sports Psychology, Scope of Sports Psychology, Psychological factors affecting Sports Performance. Learning, types of **learning, Factors affecting learning curve.**

UNIT-II

- Meaning and definition of motivation. Types of motivation techniques of motivation, importance of motivation in Physical Education and Sports. Techniques of theories.

UNIT-III

- Growth & Development, Various stages of growth and development, growth and development during childhood (Psychological, Physical & Motor Development) Psychological characteristics of an adolescent. Problem of an adolescent.

UNIT-IV

- Meaning and definition of personality, Dimensions of personality, Personality traits, factors affecting personality. Role of Physical activities in development of personality.

References:

1. M.L.Kamlesh, Psychology in Physical Education & Sports, Matropolitan book Co. New Delhi 1998.
2. Aldemen A.B., Psychological Behaviour in sports. A.B.Saunders Co., Saunders (1974)
3. Cratty B.J., Psychological and Physical Activity, Prentice Hall.inc.London (1961)
4. Cratty B.J., Psychology in contemporary sports, Prentice Hall.Inc. Englewood cliff (1973)
5. Frost & Rehbon, Psychological Concepts applied section Physical Education and Coaching of Massechusatts (1971)
6. Kane, J.S.- Psychological aspects of Physical Education and Sports, Routler and Ejanpaul, London (1972)
7. Jawthar J.D., Psychology of Coaching, Prentice Hall.inc. R.J., (1951)

Singer, R.N.- Coaching, athletics and Psychology Mograw Mills Book Co. (1972).

**B.Sc. III Sports Sciences (Semester 5th)
Theory of Games-III**

Theory marks: 45

Internal Marks:05

Time: 2 hours

Note:- Paper setter is required to set two questions from each unit and candidates are required to attempt three question in all by selecting atleast one question from each unit. All questions carry equal marks.

UNIT-I

- History and development of following games
Hockey, Netball, Kho-Kho & Lawn Tennis

UNIT-II

- Measurement of Ground, Equipments, Rule & Regulations of :
Hockey, Netball, Kho-Kho & Lawn Tennis

UNIT-III

- Duties of Technical Officials, Fundamental Skills, Awards, Major tournaments, Famous Personalities of Hockey, Netball, Kho-Kho and Lawn Tennis

References:

1. Encyclopedia of Sports and Games (Vol 3) Dr.Pinter Modak, O.P.Sharma (Khel Sahitya Kendra) 2003.
2. Skills and Tactics Hockey 2010, Dr. Sharad Chandra Mishra (Sports Publication).
3. Tennis, Teach yourself (Rachna Jain) Sports Publications 2010.

B.Sc. III Sports Sciences (Semester 5th)
Theory of Athletics-IV

Theory marks: 45

Internal Marks: 05

Time: 2 hours

Note:- Paper setter is required to set two questions from each unit and candidates are required to attempt three question in all by selecting atleast one question from each unit. All questions carry equal marks.

UNIT-I

- Meaning and Principles of Coaching of 1500 mtrs, Pole-vault and Javelin Throw
- Qualities of good Athletics Coach
- Development of Athletics in India

UNIT-II

- Dimension, Rules & Regulations of following events 1500 mtrs, Pole-vault and Javelin Throw
- Duties of technical officials in 1500 mtrs, Pole-vault and Javelin Throw
- Equipments & their specifications used in 1500 mtrs, Pole-vault and Javelin Throw

UNIT-III

- Fundamentals of 1500 mtrs, Pole-vault and Javelin Throw
- Teaching Stage of 1500 mtrs,
- Teaching Stage of Pole-vault (Approach run, Take-off, Bar clearance, landing in different techniques)
- Teaching Stage of Javelin Throw (Grip, release of javelin initial stance and approach run)

References:

1. Dr. A.K.Srivastava "Teach yourself" Javelin Throw published by Sports Publications 2010.
2. Dr. A.K. Srivastava "Teach yourself" Pole-vaulting published by Sports Publication 2010
3. William J Bowerman, William H. Freeman "High performance Training for Track and Field published by Leisure Press USA 1991
4. Mukesh Kumar "Sports and Games" published by Sports Publication 1995.

B.Sc. Sports Science Part-III (Semester 6th)
Foundation of Sports Training-I

Theory marks: 90
Internal Assess: 10
Time: 3 hours

Note:- Paper setter is required to set two questions from each unit and candidates are required to attempt four question in all by selecting atleast one question from each unit. All questions carry equal marks.

UNIT-I

- Meaning, definitions,
- Aims and objectives of sports training,
- Principles of sports training
- Importance of Sports Training

UNIT-II

- Training load, load adaptation, overload and recovery, factors of load.
- Circuit training, interval training, (Fartlek training, plyometric training, Sprint training).

UNIT-III

- Development of Motor components: Speed, Strength, endurance, flexibility, agility.

UNIT-IV

- Periodization: Meaning and definition of periodization, importance of periodisation single, double and triple, periodization, long term and short term plan, planning for competition main and build up competitions.

Reference:

1. Batty, B: Article and Motor Development in infants and Children, Prentice Hall, 1979.
2. Dick, F.W : Sports Training Principles Lepus, London 1980.
3. Jenson, C.R. Bischer, A.G. Scientific Basis of Athletic Conditioning Lea and Bebiger, Philedephic, 1972.
4. Matweyew, L.P: Fundamentals of Sports training (Translation from Russian) Mir Publishers, Moscrow, 1981
5. Pyke, Frank, S: Towards better Coaching, Australian Government Publishing Service, Canberra, 1980.

B.Sc. III Sports Sciences (Semester 6th)
Sports Sociology-II

Theory marks: 45
Internal Assess: 05
Time: 3 hours

Note:- Paper setter is required to set two questions from each unit and candidates are required to attempt four question in all by selecting atleast one question from each unit. All questions carry equal marks.

UNIT-I

- Meaning, Definition of Sports Sociology, Importance of Sports.
- Physical Education and Sports as a Social Phenomenon.

UNIT-II

- Social Institutions: Role of Social Institution in participation in games and sports, Socialization through sports, Sports as regulating institution of society. Sports & Religion how influence in each other..

UNIT-III

- Women in Sports: Social myths related with women.
- Attitude of Society towards sports man and Sports women
- Future of women participation in sports.

UNIT-IV

- Meaning, Definition and characteristics of leadership, qualities of a leader, leadership training in Physical Education, Need and Importance of leadership in Physical Education.

References

1. Cratty B.J., Social dimension of Physical activity, Prentice Hall.inc. B.J.
2. Cratty B.J., Social Psychology in athletics, Prentice hall, inc. F.J. (1981)
3. Martens, Social Psychology and Physical Activity, Harper and Raw Pub. (1975)
4. Singer, R.N., Physical Education-an integrate approach, Rolt, Rivehert & Winsi R.4, (1972).

B.Sc. III Sports Sciences (Semester 6th)
Theory of Games-III

Theory marks: 45

Internal Marks:05

Time: 2 hours

Note:- Paper setter is required to set two questions from each unit and candidates are required to attempt three question in all by selecting atleast one question from each unit. All questions carry equal marks.

UNIT-I

- History of Softball, Basketball & Wrestling
- Technical officials and their duties of Softball, Basketball and Wrestling
- Protective Equipments of : Softball, Basketball and Wrestling

UNIT-II

- Dimension and Marking of Softball, Basketball and Wrestling
- Rules and regulations of Softball, Basketball and Wrestling

UNIT-III

- Fundamental Skills of Softball, Basketball and Wrestling
- Preparation of Score sheet of Softball, Basketball and Wrestling
- Major injuries and their prevention of Softball, Basketball and Wrestling

References:

1. Dr. A.K. Srivastava, Dr. Sharad Chandra Mishra, Ram Gopal, R.Jain, Priyanka Narang, Kunal Nagi, "Sports and Games" in Encyclopedia volume 5 published by Sports Publication 2010
2. Harphool Singh "Teaching and Coaching Modern Wrestling: Published by Lokesh Thani 1996.
3. J.P.Sharam "Basket Ball, published by Khel Sahitya Kendra 2007.
4. Tibora Barna "Wrestling made easy" Published by FILA Budapest, Hungary 2011
5. Ashok Kumar "Sports and Games" in International Encyclopedia published by Mittal publication 2000.

B.Sc. III Sports Sciences (Semester 6th)
Theory of Athletics-IV

Theory marks: 45
Internal Marks: 05
Time: 2 hours

Note:- Paper setter is required to set two questions from each unit and candidates are required to attempt three question in all by selecting atleast one question from each unit. All questions carry equal marks.

UNIT-I

- Teaching & Coaching of :Triple Jump and Hammer Throw
- Selection of an athlete for : Tripple Jump and Hammer Throw
- Safety Equipment used in Tripple Jump and Hammer Throw

UNIT-II

- Dimension and marking of Tripple Jump and Hammer Throw
- Rules & regulations of Tripple Jump and Hammer Throw
- Technical officials and their duties in Tripple Jump and Hammer Throw

UNIT-III

- Fundamental Skill of Tripple Jump and Hammer Throw
- Techniques of Tripple Jump and Hammer Throw
- Major Injuries and their prevention in Tripple Jump and Hammer Throw

References:

1. Ashok Kumar “Sports and Games in International Encyclopedia volume 3 published by Mittal Publication 2000.
2. William J.Bowerman, Willaim, H. Freeman “High Performance Training for Track and Field” published by Leisure Press USA 1991.
3. Mukesh Kumar “Sports and Games” Published by Sports Publications 1995.