

**PHYSICAL EDUCATION, PRACTICAL BASED COURSE, Distribution of Marks
[OUT OF 75]
Is as follows:**

EXAMINATION	Practical Based Course	Duration of Examination
SEMESTER END Examination (THEORETICAL)	40	2 Hours
SEMESTER END Examination (PRACTICAL)	20	Upto 5 Hours
Continuous Evaluation/Internal Examination/Mid Semester Examination (TO BE CONDUCTED BY COLLEGES)	10	
ATTENDANCE	5	
TOTAL	75	

1. Distribution of 40 Marks for SEMESTER END THEORETICAL EXAMINATION

SL. No.	Questions to be answered	Out of	Marks of each question	Total Marks
1	5	8	1	5x1=5
2	3	5	5	3x5=15
3	2	4	10	2x10=20

However, questions carrying 5 or 10 Marks need not necessarily to be a single question.

2. Distribution of 20 Marks for SEMESTER END PRACTICAL EXAMINATION

SL. No.		
1	Lab. Note Book	3
2	Viva-voce	2
3	Experiment	15
TOTAL		20

3. Continuous Evaluation/ Internal Assessment/ Mid Semester Examination : 10 Marks

Students should complete internal assessment before appearing at the respective Semester examination. All the internal continuing evaluation will be conducted by the teachers of the department. It shall be on the basis of dissertations/projects, term papers, reports, seminar presentation, class test or any combinations thereof spread over the entire period of study.

4. ATTENDANCE

75% and above but below 80%	2 Marks
80% and above but below 85%	3 Marks
85% and above but below 90%	4 Marks
90% and Above	5 Marks

5. ELIGIBILITY FOR APPEARING AT ANY OF THE SEMESTERS EXAM.

A Candidate to be eligible for appearing at any of the Semesters must have a minimum 75% attendance of the Lectures Delivered

COURSE STRUCTURE [B.Sc. PROGRAM]

COURSE COMPONENTS	Number of Courses
DISCIPLINE SPECIFIC COURSE[DSC]	12
DISCIPLINE SPECIFIC ELECTIVE [DSE]	6
ABILITY ENHANCEMENT COMPULSORY COURSE [AECC]	2
SKILL ENHANCEMENT COURSE [SEC]	4
TOTAL	24

CREDIT DETAILS OF THE COURSE B.Sc. PROGRAM

Sl. No.	COURSES	CREDIT	TOTAL
		PRACTICAL BASED	
		Theory+ Practical	
1.	DSC (12 courses)	(12x4)+(12x2)	72
2.	DSE(6 Courses)	(6x4)+(6x2)	36
3.A.	AECC-1(ENVS)	(2x1)	2
3.B.	AECC-2(Eng/MIL)	(2x1)	2
3.C.	SEC (4 Courses)	(4x2)	8
TOTAL CREDIT			120
TOTAL MARKS			1800

SCHEME FOR CBCS IN B.Sc. PROGRAM

YEAR	SEMESTER	DISCIPLINE SPECIFIC CORE COURSE [DSC]	ABILITY ENHANCEMENT COMPULSORY COURSE [AECC]	SKILL ENHANCEMENT COURSE [SEC]	DISCIPLINE SPECIFIC ELECTIVE COURSE [DSE]
1	1	DSC-1[Paper 1]	AECC-I		
		DSC-2[Paper 1]			
		DSC-3[Paper 1]			
	2	DSC-1[Paper 2]	AECC-2		
		DSC-2[Paper 2]			
		DSC-3[Paper 2]			
2	3	DSC-1[Paper 3]		SEC-1[Paper I]	
		DSC-2[Paper 3]			
		DSC-3[Paper 3]			

	4	DSC-1[Paper 4]		SEC-I[Paper 2]	
		DSC-2[Paper 4]			
		DSC-3[Paper 4]			
3	5			SEC-2[Paper I]	DSE-I[Paper I]
					DSE-2[Paper I]
					DSE-3[Paper I]
	6			SEC-2[Paper 2]	DSE-I[Paper 2]
					DSE-2[Paper 2]
					DSE-3[Paper 2]

Note:* DSE-I will be the same subject as DSC-I

DSE-2 will be the same subject as DSC-2

DSE-3 will be the same subject as DSC-3

***SEC -1 and SEC-2 can be chosen from any of the THREE [3] DSC Subjects taken above.**

SCHEME for B.Sc. PROGRAM [With PHYSICAL EDUCATION as one of the Three DSC (DISCIPLINE SPECIFIC CORE COURSES)]

SEMESTER I and 2

YEAR	SEMESTER	COURSEOPTED	CREDIT	MARKS	
1	1	AECC-I (ENVS)	2	100	
		DSC-I CHEM Paper-I	6	75	
		DSC-2 Paper I	6	75	
		DSC-3 Paper I	6	75	
			20	325	
	2	AECC-2(Eng/MIL)	2	50	
		DSC-I CHEM Paper 2	6	75	
		DSC-2 Paper 2	6	75	
		DSC-2 Paper 2	6	75	
			20	275	

SEMESTER 3 and 4

YEAR	SEMESTER	COURSE OPTED	CREDIT	MARKS
2	3	DSC-ICHEM Paper 3	6	75
		DSC-2 Paper 3	6	75
		DSC-3 Paper 3	6	75
		SEC-ICHEM Paper I	2	75
			20	300
	4	DSC-ICHEM Paper 4	6	75
		DSC-2 Paper 4	6	75
		DSC-3 Paper 4	6	75
		SEC-ICHEM Paper 2	2	75
			20	300

SEMESTER 5 and 6

YEAR	SEMESTER	COURSE OPTED	CREDIT	MARKS
3	5	DSE-I CHEM Paper I	6	75
		DSE-2 Paper I	6	75
		DSE-3 Paper I	6	75
		SEC-2 Paper I	2	75
			20	300
	6	DSE-I CHEM Paper 2	6	75
		DSE-2 Paper 2	6	75
		DSE-3 Paper 2	6	75
		SEC-2 Paper 2	2	75
			20	300

TOTAL CREDIT	120
TOTAL MARKS	1800

NORTH BNGAL UNIVERSITY
B.A. Program in Physical Education

1st Semester

Course Code	Course Title	Course Type	Credit	Marks
DSC-PE -1	Foundation and History of Physical Education	Core course	6	75
DSE	Discipline-2 (Core-1) other than Physical Education	Core course	6	75
DSE	Discipline-3 (Core-1) other than Physical Education	Core course	6	75
AECC 1	Environmental Studies	AECC-1 compulsory	2	100
			20	325

B.A. Program in Physical Education

2nd Semester

Course Code	Course Title	Course Type	Credit	Marks
DSC-PE -2	Management of Physical Education and Sports	Core course	6	75
DSE	Discipline-2(Core-2) other than Physical Education	Core course	6	75
DSE	Discipline-2(Core-2) other than Physical Education	Core course	6	75
AECC-2	communicative ENG or MIL	AECC-2 Compulsory	2	50
			20	275

B.A. Program in Physical Education

3rd Semester

Course Code	Course Title	Course Type	Credit	Marks
DSC-PE -3	Anatomy, Physiology and Exercise Physiology	Core course	6	75
DSE	Discipline-2 (Core-3) other than Physical Education	Core course	6	75
DSE	Discipline-2 (Core-3) other than Physical Education	Core course	6	75
SEC-PE 1	Gymnastics	SEC	2	75
			20	300

B.A. Program in Physical Education

4th Semester

Course Code	Course Title	Course Type	Credit	Marks
DSC-PE -4	Health Education, Physical Fitness and Wellness	Core course	6	75
DSE	Discipline-2 (Core-4) other than Physical education	Core course	6	75
DSE	Discipline-2 (Core-4) other than Physical education	Core course	6	75
SEC-PE 2	Track and Field	SEC	2	75
			20	300

B.A. Program in Physical Education

5th Semester

Course Code	Course Title	Course Type	Credit	Marks
DSE-PE 1	DSE (Any one from Discipline-1 and any one from Discipline-2)			
	Discipline-1 (any one)	DSE	6	75
	Tests, Measurements and Evaluation in Physical Education			
	Sports Training			
	DSE-2(Other than physical Education)	DSE	6	75
	1			
	2			
GE -PE 1	GE -1 (for the students other than Phy. Edn.)	GE	6	75
	Modern trends in Physical Education and Sports Sciences			
SEC-PE 3	SEC-PE 3	SEC	2	75
	Archery, Combative Sports and Adventure Sports			
			20	300

B.A. Program in Physical Education

6th Semester

Course Code	Course Title	Course Type	Credit	Marks
DSE-PE 2	DSE (Any one from Discipline-1 and any one from Discipline-2)			
	Discipline-1(Any one)	DSE	6	75
	Psychology in Physical Education and Sports			
	Kinesiology and Biomechanics			
	DSC-2(Other than physical Education)	DSE	6	75
	1			
	2			
GE- PE 2	GE 2 (for the students other than Phy. Edn.)	GE	6	75
	Health Education and Tests & Measurements in Physical Education			
SEC-PE 4	SEC-PE 4	SEC	2	75
	Ball Games (any two)			
	Football/Handball/Basketball/ Volleyball/ Netball/ Throw ball			
			20	300

Note: All External Practical Examination will recorded in C.D by the college and submit it to University

SEMESTER- 1

CORE PAPER-1: Foundation and History of Physical Education

Course Code- CC1A

Total number of classes - 60

Unit- I: Introduction

LH - 12

- 1.1. Meaning and definition of Physical Education.
- 1.2. Aim and objectives of Physical Education.
- 1.3. Modern concept of Physical Education.
- 1.4. Importance of Physical Education.

Unit- II: Biological and Sociological Foundations of Physical Education LH - 18

- 2.1. Biological Foundation- Meaning and definition of growth and development. Factors affecting growth and development. Differences of growth and development. Principles of growth and development.
- 2.2. Age- Chronological age, anatomical age, physiological age and mental age.
- 2.3. Sociological Foundation- Meaning and definition of Sociology, Society and Socialization.
- 2.4. Role of games and sports in National and International integration.

Unit- III: History of Physical Education LH - 18

- 3.1 Historical development of Physical Education and Sports in India- Pre-Independence period and Post-Independence period.
- 3.2 Olympic Movement- Ancient Olympic Games and Modern Olympic Games.
- 3.3 Objectives and functions of National importance institutes of Physical Education and Sports of India.
- 3.4 Historical background of Asian Games and National awards of India.

Unit- IV: Yoga Education

LH – 12 4.1

- 4.1 Meaning, aim, and objectives of Yoga and Pranayama
- 4.2 History and importance of Yoga and Pranayama
- 4.3 Types of Yoga: Hatha yoga, Laya Yoga, mantra Yoga, bhakti Yoga, karma yoga, Jnana yoga
- 4.4 Patanjali yoga sutras: Yama, niyama, asana, pranayama

FIELD PRACTICAL

1. Yoga Asana: Standing position, Sitting Position, Supine Position, Prone Position, Inverted Position (Compulsory one asana in each position)
2. Pranayama: Kapalbhathi, Bhramri, AnulamVilom.

REFERENCES

1. Graham, G. (2001) Teaching Children Physical Education: Becoming a Master Teacher. Human Kinetics, Champaign, Illinois, USA.
2. Kamlesh, M.L. & Singh, M.K. (2006) Physical Education (Naveen Publication).
3. Lau, S.K. (1999) Great Indian Players, New Delhi, Sports.
4. Lumpkin, A. (2007) Introduction to Physical Education, Exercise Science and Sports Studies, McGraw Hill, New York, USA.
5. Siedentop, D. (2004) Introduction to Physical Education, Fitness and Sport, McGraw Hill Companies Inc., New York, USA.
6. Shaffer, D.R. (2002) Development Psychology: Childhood and Adolescence. Thomson, Sydney, Australia.
7. Shukla, (2000) Mother on Education, National Council of Teacher Education, New Delhi.
8. Singh, A. et al. (2000) Essential of Physical Education, Kalyani Publishers, Ludhiana, Punjab.
9. Wuest, D.A. & C.A. Bucher (2006) Foundation of Physical Education, Exercise Science, and Sports. McGraw Hill Companies Inc.; New York, USA.
10. Fahey, T.D., M.P. Insel and W.T. Rath (2006) Fit & Well: Core Concepts and Labs in Physical Fitness, McGraw Hill, New York.
11. Kansal, D.K. (2012) A Practical Approach to Test Measurement and Evaluation Sports and Spiritual Science Publication, New Delhi.
12. Sri Swami Ramas (2001) Breathing. SadhanaMandir Trust. Rishikesh
13. Swami Veda Bharti (2000) yoga, polity, Economy and Family. Sadhana Mandir Trust. Rishikesh

SEMESTER- 2

CORE PAPER- 2: Management of Physical Education and Sports

Course Code- CC1B

Total number of classes - 60

Unit- I: Introduction LH - 12

- 1.1. Concept and definition of Sports Management.
- 1.2. Important of Sports Management.
- 1.3. Purpose of Sports Management.
- 1.4. Principles of Sports Management.

Unit- II: Tournaments LH – 18

- 2.1. Tournaments: Meaning and definition and types of tournaments (Knock-out, League, Combination, Challenge).
- 2.2. Procedure of drawing fixture.
- 2.3. Planning and preparation of Athletic Meet.
- 2.4. Method of organization of Intramural and Extramural competition.

Unit- III: Facilities and Equipment's LH - 18

- 3.1 Method of calculation of Athletic Track and field.
- 3.2 Care and maintenance of play ground and gymnasium.
- 3.3 Importance, care and maintenance of sports equipments.
- 3.4 Time Table: Meaning, importance and factors affecting Time Table.

Unit- IV: Leadership LH - 12

- 4.1 Meaning and definition of leadership.
- 4.2 Qualities of good leader in Physical Education.
- 4.3 Principles of leadership activities.
- 4.4 Hierarchy of Leadership in School, College and University level.

FIELD PRACTICAL

1. Racket Sports: Badminton, Table Tennis (Any One)
2. Indian Games: Kabaddi, Kho-Kho (Any one).

REFERENCES

1. Broyles, F. J. & Rober, H. D. (1979). Administration of sports, Athletic programme: A Managerial Approach. New York: Prentice hall Inc.
2. Bucher, C. A. (1983). Administration of Physical Education and Athletic programme. St. Lolis: The C.V. Hosby Co.
3. Kozman, H.C. Cassidly, R. & Jackson, C. (1960).Methods in Physical Education. London: W.B. Saunders Co.
4. Pandy, L.K. (1977). Methods in Physical Education.Delhe: Metropolitan Book Depo.
5. Sharma, V.M. & Tiwari, R.H.: (1979). Teaching Methods in Physical Education. Amaravati: Shakti Publication.
6. Thomas, J. P. (1967). Organization & administration of Physical Education. Madras: Gyanodayal Press.
7. Tirunarayanan, C. & Hariharan, S. (1969). Methods in Physical Education.Karaikudi: South India Press.
8. Voltmer, E. F. & Esslinger, A. A. (1979).The organization and administration of Physical Education. New York: Prentice Hall Inc.
9. Singh, A. et al. (2010) Essential of Physical Education. Kalyayani Publishers.

SEMESTER- 3

CORE PAPER- 3: Anatomy, Physiology and Exercise Physiology

Course Code- CC1C

Total number of classes – 60

Unit- I: Introduction LH - 12

- 1.1. Meaning, definition and importance of Anatomy, Physiology and Exercise Physiology.
- 1.2. Human Cell- Structure and function.
- 1.3. Tissue- Types and functions.
- 1.4. Organ and System

Unit- II: Musculo-skeletal System LH - 18

- 2.1. Skeletal System- Structure of Skeletal System. Classification and location of bones and joints, Anatomical differences between male and female.
- 2.2. Muscular System- Type, location, function and structure of muscle.
- 2.3. Types of muscular contraction.
- 2.4. Effect of exercise on muscular system.

Unit- III: Circulatory System LH - 18

- 3.1 Blood- Composition and function.
- 3.2 Heart- Structure and functions. Mechanism of blood circulation through heart.
- 3.3 Blood Pressure, Athletic Heart and Bradycardia.
- 3.4 Effect of exercise on circulatory system.

Unit- IV: Respiratory System LH - 12

- 4.1 Structure and function of Respiratory organs.
- 4.2 Mechanism of Respiration.
- 4.3 Vital Capacity, O₂ Debt and Second Wind.
- 4.4 Effect of exercise on respiratory system.

LAB PRACTICAL

1. Assessments of BMI (Body Mass Index) and WHR (Waist Hip Ratio).
2. Assessment of Heart rate, Blood Pressure, Respiratory Rate, and Pick Flow Rate (any two).

REFERENCES

1. Amrit Kumar, R, Moses. (1995). Introduction to Exercise Physiology. Madras: PoompugarPathipagam.
2. Clarke, D.H. (1975). Exercise Physiology. New Jersey: Prentice Hall Inc., Englewood Cliffs.
3. David, L Costill. (2004). Physiology of Sports and Exercise. Human Kinetics.
4. Fox, E.L., and Mathews, D.K. (1981). The Physiological Basis of Physical Education and Athletics. Philadelphia: Sanders College Publishing.
5. Guyton, A.C. (1976). Textbook of Medical Physiology. Philadelphia: W.B. Sanders co. Richard, W. Bowers. (1989). Sports Physiology.WMC: Brown Publishers.
6. SandhyaTiwaji. (1999). Exercise Physiology. Sports Publishers.
7. Shaver, L. (1981). Essentials of Exercise Physiology. New Delhi: Subject Publications.
8. Vincent, T. Murche. (2007). Elementary Physiology. Hyderabad: Sports Publication.
9. William, D. McAradle. (1996). Exercise Physiology, Energy, Nutrition and Human Performance. Philadelphia: Lippincott Williamsand Wilkins Company.

SEMESTER- 3

Course code: SEC 2

GYMNASTICS

Floor Exercise (Basic Element)

1. Compulsory

- 1.1. Forward Roll
- 1.2. Backward Roll
- 1.3. Forward Roll with Split leg
- 1.4. T - Balance
- 1.5. Cart-Wheel

[Note: Perform the above Gymnastic skills continuously in the same sequence]

2. Floor Exercise (Semi- Advance Element)

- 2.1. Dive and Forward Roll
- 2.2. Hand Spring
- 2.3. Head Spring
- 2.4. Neck Spring
- 2.5. Hand Stand and Forward Roll
- 2.6. Somersault

3. Vaulting Table (Semi Advance Element)

- 3.1 Through vault
- 3.2 Stoop Vault
- 3.3 Split CutBar

4. Parallel Bar (MEN)

- 4.1 Mount.
- 4.2 Swing
- 4.3 One leg cutting
- 4.4 Both leg cutting
Shoulder stand.
Dismount

Balancing Beam (WOMEN)

- 4.1. Mount
- 4.2 Leap Jump
- 4.3 T Balance
- 4.4 V Balance
- 4.5 Knee Balance
- 4.6 Forward roll
- 4.7. Split Sitting

5. History of Gymnastics

- 5.1. History and function of FIG and GFI
- 5.2 Types of Gymnastics: Artistic Gymnastics, RhythmicGymnastics, AerobicGymnastics, AcrobaticsGymnastics, TrampolineGymnastics.

REFERENCES

1. Brown (2009). How to improve at Gymnastics. Crabtree Publishing Co., USA.
2. Chakraborty S and Sharma L (1995). Fundamental of Gymnastics. D.V.S. Pub. New Delhi.
3. Chakraborty S (1995). Fundamentals of Gymnastics. DVS.Pub. New Delhi
4. Chakraborty S (1998). Women's Gymnastics. Friends .Pub. New Delhi
5. Federation International Gymnastics (2006) Federation Int. De. Gymnastics.
6. Mitchell, D. Davis, B. and Lopez, R. (2002). Teaching fundamentals gymnastics skills. Human Kinetics, USA.

SEMESTER- 4

CORE PAPER- 4: Health Education, Physical Fitness and Wellness

Course Code- CC1D

Total number of classes – 60

Unit- I: Introduction LH - 18

- 1.1. Concept, definition and dimension of Health.
- 1.2. Aim, objectives and principles of Health Education.
- 1.3. Health Agencies- World Health Organization (WHO), United Nations Educational Scientific and Cultural Organization (UNESCO).
- 1.4. School Health Program- Health Service, Health Instruction, Health Supervision, Health appraisal and Health Record.

Unit- II: Health Problems in India- Prevention and Control LH - 18

- 2.1. Communicable Diseases- AIDS, Hepatitis, STD, Rabies, Gastroenteritis.
- 2.2. Non-communicable Diseases- Obesity, Diabetes, Hypertension and Cardiovascular Diseases.
- 2.3. Nutrition- Nutritional requirements for daily living, Balanced diet, Athletic diet.
- 2.4. Postural deformities- Causes and corrective exercise of Kyphosis, Lordosis, Scoliosis, Knock Knees and Flat Foot.

Unit- III: Fitness, Nutrition and Wellness LH - 12

- 3.1 Nutrition - Meaning, definition and Importance of nutrition.
- 3.2 Basic Components of Physical nutrition.
- 3.3 Concept of Wellness. Relationship between Physical activities and Wellness.
- 3.4 Ageing- Physical activities and its importance.

Unit- IV: Health and First-aid Management LH - 12

- 4.1 First aid- Meaning, definition, importance and CPR. 4.2 Management of sports injuries- Sprain, Strain, Fracture and Dislocation.
- 4.3 Management of sports injuries through the application of Hydro-therapy and Thermo-therapy.
- 4.4 Management of sports injuries through the application of Exercise and Massage therapy.

LAB PRACTICAL

1. First-aid Practical- Triangular Bandage: Slings (Arm Sling, Collar & Cuff Sling), Roller Bandages: Simple Spiral, Reverse Spiral, Figure of Eight, Spica.
2. Rehabilitation Modalities: Hydro-therapy and Thermo-therapy.

REFERENCES

1. Bucher, Charles A. "Administration of Health and Physical Education Programme".
2. Delbert, Oberteuffer, et. al." The School Health Education".
3. Ghosh, B.N. "Treaties of Hygiene and Public Health".
4. Hanlon, John J. "Principles of Public Health Administration" 2003.
5. Turner, C.E. "The School Health and Health Education".
6. Moss et. al. "Health Education" (National Education Association of U.T.A.).
7. Nemir A. "The School Health Education" (Harber and Brothers, New York).
8. Nutrition Encyclopedia, edited by Delores C.S. James, The Gale Group, Inc.
9. Boyd-Eaton S. et al (1989) The Stone Age Health Programme: Diet and Exercise as Nature Intended. Angus and Robertson.
10. Terras S. (1994) Stress, How Your Diet can Help: The Practical Guide to Positive Health Using Diet, Vitamins, Minerals, Herbs and Amino Acids, Thorons.

SEMESTER- 4

Track and Field

Course code: SEC 1

75 Marks

1. Track Events

- 1.1. Starting Techniques: Standing start and Crouch start (its variations) use of Block.
- 1.2. Acceleration with proper running techniques.
- 1.3. Finishing technique: Run Through, Forward Lunging and Shoulder Shrug.
- 1.4. Relay Race: Starting, Baton Holding/Carrying, Baton Exchange in between zone, and Finishing. (Visual non Visual)

2. Field events (Two each from Jumping and Throwing Event)

- 2.1 Long Jump: Approach Run, Take-off, Flight in the air (Hang Style/Hitch Kick) and Landing.
- 2.2 High jump: Approach Run, Take-off, Bar Clearance (Straddle) and Landing.
- 2.3 Triple jump: - Approach run, Take- off and landing for hop, step and jump, flying phase, landing and follow-up action.
- 2.4 Shot put: Holding the Shot, Placement, Initial Stance, Glide, Delivery Stance and Recovery (Perry O'Brien Technique).
- 2.5 Discus Throw: Holding the Discus, Initial Stance, Primary Swing, Turn, Release and Recovery (Rotation in the circle).
- 2.6 Javelin Throw: Grip, Carry, Release and Recovery (3/5 Impulse stride).

3. History, Rules regulation and officiating

- 3.1 Introduction of Track and Field and historical review with reference to India.
- 3.2 Rules and regulations of Athletics, use of score sheets and officiating.

REFERENCES

1. Evans DA (1984). Teaching Athletics. Hodder, London.
2. Fox EL (1998). Physiological Basis of Physical Education and Athletics, Brown Pub.
3. Gothi E (2004). Teaching and Coaching Athletics. Sports Pub, New Delhi.
4. Gupta R. (2004). Layout and Marking of Track and Field. Friends Pub. New Delhi
5. Hand Book- Rules and Regulations. International athletics Federation. (2016).
6. Maughan, R. and Gluson, M. (2004).The Biomechanical Basics of Athletic Performance. Oxford University Press, UK

SEMESTER- 5

Tests, Measurements and Evaluation in Physical Education

Course code: DSE 1

Total number of classes - 60

Unit- I: Introduction LH - 12

- 1.1. Concept of test, measurement & Evaluation.
- 1.2. Criteria of good test.
- 1.3. Principles of Evaluation.
- 1.4. Importance of Test, Measurement and Evaluation in Physical Education and Sports.

Unit- II: Measurements of Body Compositions and Somatotype Assessment LH - 18

- 2.1 Body Mass Index (BMI) - Concept and method of measurement.
- 2.2 Body Fat- Concept and method of measurement.
- 2.3 Lean Body Mass (LBM) - Concept and method of measurement.
- 2.4 Somatotype- Concept and method of measurement.

Unit- III: Fitness Test LH - 18

- 3.1 Kraus-Weber Muscular Strength Test
- 3.2 AAHPER Youth Fitness Test
- 3.3 Barrow motor ability test
- 3.4 Harvard Step Test

Unit- IV: Sports Skill Test LH - 12

- 4.1 Lockhart and McPherson Badminton Skill Test
- 4.2 Cornish Handball Test/ Johnson Basketball Test Battery
- 4.3 McDonald Soccer Test
- 4.4 Brady Volleyball Test

LAB & FIELD PRACTICAL

1. Assessment of somatotype and % body fat (any one).
2. Assessment of AAHPER Youth Fitness Test and Harvard Step Test (any one).

REFERENCES

1. Authors Guide (2013) ACSM's Health Related Physical Fitness Assessment Manual, USA: ACSM Publications.
2. Collins, R.D., & Hodges P.B. (2001) A Comprehensive Guide to Sports Skills Tests and Measurement (2nd edition) Lanham: Scarecrow Press.
3. Cureton T.K. (1947) Physical Fitness Appraisal and Guidance, St. Louis: The C. Mosby Company.
4. Getchell B (1979) Physical Fitness A Way of Life, 2nd Edition New York.
5. John Wiley and Sons, Inc Jenson, Clayne R and Cynt ha, C. Hirst (1980) Measurement in Physical Education and Athletics, New York, MacmillanPublising Co. Inc.
6. Kansal D.K. (1996), "Test and Measurement in Sports and Physical Education, New Delhi: DVS Publications.
7. Krishnamurthy (2007) Evaluation in Physical Education and Sports, New Delhi; Ajay Verma Publication.
8. Vivian H. Heyward (2005) Advance Fitness Assessment and Exercise Prescription, 3rd Edition, Dallas TX: The Cooper Institute for Aerobics Research.
9. Wilmore JH and Costill DL. (2005) Physiology of Sport and Exercise: 3rd Edition. Champaign IL: Human Kinetics.
10. Yobu, A (2010), Test, Measurement and Evaluation in Physical Education in Physical Education and Sports. New Delhi; Friends Publications

SEMESTER- 5

Sports Training

Course code: DSE1

Total number of classes – 60

Unit- I: Introduction LH - 12

- 1.1. Meaning and definition of Sports Training.
- 1.2. Aim and characteristics of Sports Training.
- 1.3. Principles of Sports Training.
- 1.4. Importance of Sports Training.

Unit- II: Principle of Training and Conditioning LH - 18

- 2.1. Warming up and cooling down- Meaning, types and methods.
- 2.2. Conditioning- Concept of Conditioning and its principles.
- 2.3. Training Methods- Circuit Training, Interval Training, Weight Training.
- 2.4. Periodization- Meaning, types, aim and contents of different periods.

Unit- III: Training Load and Adaptation LH - 18

- 3.1 Training Load- Meaning, definition, types and factors of training load.
- 3.2 Components of training load.
- 3.3 Over Load- Meaning, causes, symptoms and tackling of over load.
- 3.4 Adaptation- Meaning and conditions of adaptation.

Unit- IV: Training Techniques LH - 12

- 4.1 Strength- Means and methods of strength development.
- 4.2 Speed- Means and methods of speed development.
- 4.3 Endurance- Means and methods of endurance development.
- 4.4 Flexibility- Means and methods of flexibility & agility development

FIELD PRACTICAL

1. Practical Experience of Weight Training and Circuit Training.
2. Measurement of Speed, Strength (Grip/Leg), Explosive Strength (Leg) and Flexibility (Any two).

REFERENCES

1. Bunn, J.N. (1998) *Scientific Principles of Coaching*, New Jersey Engle Wood Cliffs, Prentice Hall Inc.
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SEMESTER- 5

Modern Trends and Practices in Physical Education Exercise Sciences

(For the students other than Physical Education)

Course code: GE1

Total number of classes - 60

Unit- I: Introduction LH - 12

- 1.1. Meaning, definition and importance of physical Education and Sports.
- 1.2. Aims, objectives and scope of Physical Education.
- 1.3. Types of sports and their utility in physical education.
- 1.4. Meaning, definition and importance of Physical fitness and Motor fitness. Difference between physical fitness and motor fitness. Components of Physical fitness.

Unit- II: Biological, Psychological and Sociological Foundations of Physical Education LH - 18

- 2.1. Biological Foundation- Meaning and definition of growth and development. Factors affecting growth and development. Differences of growth and development. Principles of growth and development.
- 2.2. Meaning and definition of Psychology. Importance of Psychology in Physical Education. Qualities of good leader in Physical Education. Principles of leadership activities.
- 2.3. Sociological Foundation- Meaning and definition of Sociology. Social values and their Importance. Socialization through Sports
- 2.4. Role of games and sports in National and International integration.

Unit- III: History of Physical Education LH - 12

- 3.1 Historical development of Physical Education and Sports in India- Pre-Independence period and Post-Independence period.
- 3.2 Ancient Olympic Games
- 3.3 Modern Olympic Games.
- 3.4 Asian Games

Unit- IV: Exercise Sciences LH - 18

- 4.1 Meaning, definition and importance Exercise and Exercise Physiology.
- 4.2 Effects of short and long term exercise on Muscular systems.
- 4.3 Effects of short and long term exercise on Circulatory System.
- 4.4 Effects of short and long term exercise on Respiratory System.

FIELD PRACTICAL

1. Yoga Asana: Standing position, Sitting Position, Supine Position, Prone Position, Inverted Position (Compulsory one asana in each position)
2. Project: Visit or participate to standard tournaments, competitions and Adventure Sports. Record Book to be maintain. (Any Two)

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SEMESTER- 5

Course Code: SEC3

Archery, Combative sports and Adventure Sports

1. ARCHERY

- 1.1 Stance
- 1.2 Nocking the Arrow
- 1.3 Set
- 1.4 Set-up
- 1.5 Draw and Load
- 1.6 Anchor
- 1.7 Transfer and Hold
- 1.8 Aim and Expand
- 1.9 Release and Follow Through

2. COMBATIVE SPORTS (Any One)

JUDO

- 2.1 Kumi Kata: Gripping
- 2.2 Kuzushi: Breaking the opponents balance.
- 2.3 Tachiwaza: tewaza, Koshiwaza and ashiwaza
- 2.4 SutemiWaza: ma sutemiwaza, yokosutemiwaza
- 2.5 Katamewaza: Osaewaza, Shimewaza, KansetuWaza
- 2.6 Ate Waza: striking maneuvers by Hand, elbow, Knee, foot and heel.

3. TAEKWONDO

- 3.1 Stance-Sogui: Attention stance, closed stance, walking stance, back L-stance, Parallel Stance, Rear foot Stance, Fighting stance
- 3.2 Hand attack: Closed hand strike-jireugi, Open hand technique-chigi
- 3.3 Kick- chagi: front kick, side kick, back kick, Roundhouse kick, Reverse side kick, hook kick, Axe kick, spin kick
- 3.4 Blocks- Makgiburat: Single fore arm block, Low block, Rising Block, Palm block, Knife hand block, Double fore arm block, Double knife hand block
- 3.5 Pattern, Poomsae, Hyung, Tul

4. WRESTLING

- 4.1 Position
- 4.2 Motion
- 4.3 Changing levels
- 4.4 Penetration
- 4.5 Lifting
- 4.6 Back step
- 4.7 Back arch

KARATE

- 4.8 Stance- Dachi: Front Stance, Horse stance, Parallel stance, Cat Stance.**
- 4.9 Punches-Zuki: Middle Punch, Upper Punch, Lower Punch, Side Punch.**
- 4.10 Block- UKE: Middle inside, Middle outer, Upper and Lower Block**
- 4.11 Strike-UCHI: Elbow strike, Knife hand strike, fist hammer strike.**
- 4.12 Leg Technique- AshiWaza, Kick- Geri: Front Kick, Round house kick, Back Kick, Round Kick.**
- 4.13 Self Defence: Defense against punches, Defense against Kicks, Defense against Grabs, Defense against Head locks, Defense against Bear hugs.**

5. ADVENTURE ACTIVITY/ OUTDOOR ACTIVITY

Trekking/Hiking/Camping/Rock climbing/ Artificial Rock Climbing

Note: Activity must be Recorded in CD and produced to External Examiner and should be submitted to University

SEMESTER-6

Psychology in Physical Education and Sports

Course Code- DSE2

Total number of classes - 60

Unit- I: Introduction LH - 12

- 1.1. Meaning and definition Psychology.
- 1.2. Importance and scope of Psychology.
- 1.3. Meaning and definition Sports Psychology.
- 1.4. Need for knowledge of Sports Psychology in the field of Physical Education.

Unit- II: Learning LH - 18

- 2.1. Meaning and definition of learning.
- 2.2. Theories of learning and Laws of learning.
- 2.3. Learning curve: Meaning and Types.
- 2.4. Transfer of learning- Meaning, definition type and factors affecting transfer of learning.

Unit- III: Psychological Factors LH - 18

- 3.1 Motivation- Meaning, definition, type and importance of Motivation in Physical Education and Sports.
- 3.2 Emotion- Meaning, definition, type and importance of Emotion in Physical Education and Sports.
- 3.3 Personality- Meaning, definition and type Personality traits.
- 3.4 Role of physical activities in the development of personality.

Unit- IV: Stress and Anxiety LH - 12

- 4.1 Stress- Meaning, definition and types of Stress.
- 4.2 Causes of Stress.
- 4.3 Anxiety- Meaning, definition and types of Anxiety.
- 4.4 Management of Stress and Anxiety through physical activity and sports.

LAB PRACTICAL

1. Assessment of Personality, Stress and Anxiety (any one)
2. Measurement of Reaction Time, Depth Perception and Mirror Drawing (any one).

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5. John D. Lauther (1998) Sports Psychology. Englewood, Prentice Hall Inc.
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SEMESTER- 6

KINESIOLOGY AND BIOMECHANICS

Course Code- DSE2

Total number of classes - 60

UNIT- I: - Introduction LH-12

- 1.1. Meaning, aim and objectives of Kinesiology and Biomechanics in Physical Education and sports.
- 1.2. Fundamental concept: - Centre of gravity, axes and planes of motion,
- 1.3 fundamentals of starting position.
- 1.4 Terminology of fundamental movements and classification of muscles.

UNIT- II: - Location and action of muscles at various joints. LH-12

- 2.1 Upper Extremity: - Shoulder girdle, shoulder joints, elbow joints.
- 2.2 Neck and trunk -lumbosacral region
- 2.3. Lower Extremity: - Hip joint, knee joint, ankle joint.
- 2.4. Analysis of fundamental movement: -walking, running, jumping, throwing, pulling, pushing.

UNIT-III: - Linear and Angular Kinematics LH-18

- 4.1. Types of motion, linear motion, and angular motion.
- 4.2. Speed, Velocity, Acceleration, Uniform Accelerated motion and Projectile motion.
- 4.3. Angular speed, angular Velocity, angular acceleration.
- 4.4. Angular Acceleration and relationship between linear and angular motion.

UNIT -IV: - Linear kinetics and mechanical principles LH-18

- 1.1. Mass, weight, force, pressure work, power energy.
- 1.2. Impulse, momentum, friction impact.
- 1.3. Movement of inertias, conservation of momentum, transfer of momentum, covers equilibrium.
- 1.4. Principles of initial force, principles of optimum path of acceleration, principles of conservation of momentum and principles of counter action.

LAB PRACTICALS:-

1. Demonstration of planes and axes of a given movement.
 - a) Determination of location of muscles at various joints.
 - b) Shoulder girdle, shoulder joint, elbow joint.
 - c) Hip joint, knee joint, ankle joint
2. Muscle analysis of the techniques of game specialization.

REFERENCES

1. Bartlett, R. (2007). Introduction to sports Biomechanics. Routledge Publishers, USA
2. Hay (1993) The Biomechanics of Sports technique. Prentice hall inc New Jersey
3. Blazevich, A. (2007) Sports Biomechanics. A&C Black Publishers, USA
4. McGinnis, P. (2004) Biomechanics of sports & Exercise. Human Kinetics, USA
5. Oatis, C.A. (2008) Kinesiology 2nd Edition Lippincott, Williams & Wilkins, USA.

SEMESTER-6

Health Education and Tests & Measurements in Physical Education (For the students other than Physical Education)

Course Code: GE-2

Total number of classes - 60

Unit- I: Introduction LH - 18

- 1.1. Concept, definition and dimension of Health.
- 1.2. Definition, aim, objectives and principles of Health Education.
- 1.3. Health Agencies- World Health Organization (WHO), United Nations Educational Scientific and Cultural Organization (UNESCO).
- 1.4. Nutrition- Nutritional requirements for daily living. Balance Diet. Health disorders due to deficiencies of Vitamins and Minerals.

Unit- II: Health and First-aid Managements LH - 18

- 2.1. First aid- Meaning, definition, importance and CPR.
- 2.2. Management of sports injuries- Sprain, Strain, Fracture and Dislocation.
- 2.3. Postural deformities- Causes and corrective exercise of Kyphosis, Lordosis, Scoliosis, Knock Knees and Flat Foot.
- 2.4. Hypo-kinetic Diseases and Physical Activities- Obesity and Diabetes.

Unit-III: Measurement of Body Compositions and Somatotype Assessment LH - 12

- 3.1 Body Mass Index (BMI)- Concept and method of measurement.
- 3.2 Body Fat- Concept and method of measurement.
- 3.3 Lean Body Mass (LBM)- Concept and method of measurement.
- 3.4 Somatotype- Concept and method of Assessment

Unit- IV: Fitness Test LH - 12

- 4.1 Kraus-Weber Muscular Strength Test
- 4.2 AAHPER Youth Fitness Test
- 4.3 Barrow Motor Ability Test
- 4.4 Harvard Step Test

LAB PRACTICAL

1. Assessments of BMI (Body Mass Index) and WHR (Waist Hip Ratio).
2. Assessment of AAHPER Youth Fitness Test, Harvard Step Test (any one).

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1. Bucher, Charles A. "Administration of Health and Physical Education Programme".
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SEMESTER- 6

Course code: SEC4

BALL GAMES (Any three)

FOOTBALL

A. Fundamental Skills

1. Kicking: Kicking the ball with inside of the foot, kicking the ball with Full Instep of the foot, kicking the ball with Inner Instep of the foot, kicking the ball with Outer Instep of the foot and Lofted Kick.
2. Trapping: Trapping- the Rolling ball, and the Bouncing ball with sole of the foot.
3. Dribbling: Dribbling the ball with Instep of the foot, dribbling the ball with Inner and Outer Instep of the foot.
4. Heading: In standing, running and jumping condition.
5. Throw-in: Standing throw-in and Running throw-in.
6. Feinting: With the lower limb and upper part of the body.
7. Tackling: Simple Tackling, Slide Tackling.
8. Goal Keeping: Collection of Ball, Ball clearance- kicking, throwing and deflecting.
9. Game practice with application of Rules and Regulations.

B. Rules and their interpretation and duties of officials.

HANDBALL

A. Fundamental Skills

1. Catching, Throwing and Ball control,
2. Goal Throws: Jump shot, Center shot, Dive shot, Reverse shot.
3. Dribbling: High and low.
4. Attack and counter attack, simple counter attack, counter attack from two wings and center.
5. Blocking, Goalkeeping and Defensive skills.
6. Game practice with application of Rules and Regulations.

B. Rules and their interpretation and duties of officials.

BASKETBALL

A. Fundamental Skills

1. Passing: Two hand Chest Pass, Two hands Bounce Pass, One hand Baseball Pass, Side arm Pass, Overhead Pass, Hook Pass.

2. Receiving: Two hand receiving, One hand receiving, Receiving in stationary position, Receiving while Jumping and Receiving while Running.
3. Dribbling: How to start dribble, drop dribble, High Dribble, Low Dribble, Reverse Dribble, Rolling Dribble.
4. Shooting: Lay-up shot and its variations, One hand set shot, Two hands jump shot, Hook shot, Free Throw.
5. Rebounding: Defensive rebound and Offensive rebound.
6. Individual Defence: Guarding the player with the ball and without the ball, Pivoting.
7. Game practice with application of Rules and Regulations.

B. Rules and their interpretation and duties of officials.

VOLLEYBALL

A. Fundamental skills

1. Service: Under arm service, Side arm service, Tennis service, Floating service.
2. Pass: Under arm pass, Over head pass.
3. Spiking and Blocking.
4. Game practice with application of Rules and Regulations.

B. Rules and their interpretation and duties of officials.

NETBALL

A. Fundamental skills

1. Catching: one handed, two handed, with feet grounded and in flight.
2. Throwing (Different passes and their uses): One hand passes (shoulder, high shoulder, underarm, bounce, lob), two hand passes (Push, overhead and bounce).
3. Footwork: Landing on one foot, landing on two feet, Pivot, Running pass.
4. Shooting: One hand, forward step shot, and backward step shot.
5. Techniques of free dodge and sprint, sudden sprint, sprint and stop, sprinting with change at speed.
6. Defending: Marking the player, marking the ball, blocking, inside the circle, outside the circle. Defending the circle edge against the passing.
7. Intercepting: Pass and shot.
8. Game practice with application of Rules and Regulations.

B. Rules and their interpretation and duties of officials.

THROWBALL

A. Fundamental skills:

Overhand service, Side arm service, two hand catching, one hand overhead return, side arm return.

B. Rules and their interpretations and duties of officials.

Practical content of DSC 1 and DSC 2

KABADDI

A. Fundamental skills

1. Skills in Raiding: Touching with hands, Use of leg-toe touch, squat leg thrust, side kick, mule kick, arrow fly kick, crossing of baulk line. Crossing of Bonus line.
2. Skills of holding the raider: Various formations, catching from particular position, different catches, catching formation and techniques.
3. Additional skills in raiding: Escaping from various holds, techniques of escaping from chain formation, offense and defence.
4. Game practice with application of Rules and Regulations.

B. Rules and their interpretations and duties of the officials.

OR

KHO-KHO

A. Fundamental skills

1. Skills in Chasing: Sit on the box (Parallel & Bullet toe method), Get up from the box (Proximal & Distal foot method), Give Kho (Simple, Early, Late & Judgment), Pole Turn, Pole Dive, Tapping, Hammering, Rectification of foul.
2. Skills in running: Chain Play, Ring play and Chain & Ring mixed play.
3. Game practice with application of Rules and Regulations.

B. Rules and their interpretations and duties of the officials.

AND

BADMINTON

A. Fundamental skills

1. Basic Knowledge: Various parts of the Racket and Grip.
2. Service: Short service, Long service, Long-high service.
3. Shots: Over head shot, Defensive clear shot, Attacking clear shot, Drop shot, Net shot, Smash.
4. Game practice with application of Rules and Regulations.

B. Rules and their interpretations and duties of the officials.

OR

TABLE TENNIS

A. Fundamental skills

1. Basic Knowledge: Various parts of the Racket and Grip (Shake Hand & Pen Hold Grip).
2. Stance: Alternate & Parallel.
3. Push and Service: Backhand & Forehand.
4. Chop: Backhand & Forehand.
5. Receive: Push and Chop with both Backhand & Forehand.
6. Game practice with application of Rules and Regulations.

B. Rules and their interpretations and duties of the officials.