Title: (PEM-1001) RESEARCH PROCESS IN PHYSICAL EDUCATION

Objectives: To Provide Understanding of Research Approach and Theoretical Framework of Research and Development of Scientific Skill to Deal with Ethical Issues and Complexity of Problems.

Credits: 04
Max. Marks: 100
Sessional Marks: 10
Mid Term Exam: 30
Examination Marks: 60
Paper Code: PEM-1001
Duration: 2:00 Hours

UNIT – I

Introduction:
1.1 Meaning and Definition of Research.
1.2 Need, Nature and Scope of research in Physical Education.
1.3 Classification of Research, Location of Research Problem,
1.4 Criteria for selection of a problem,
1.5 Qualities of a good researcher.

UNIT – II

Methods of Research:
2.1 Descriptive Methods of Research:
   2.1.1 Survey Study
   2.1.2 Case study

2.2 Introduction of Historical Research:
   2.2.1 Steps in Historical Research.
   2.2.2 Sources of Historical Research
   2.2.3 Primary Data and Secondary Data.
   2.2.4 Historical Criticism, Internal Criticism and External Criticism.

2.3 Experimental Research:
   2.3.1 Meaning Nature and Importance
   2.3.2 Meaning of Variable, Types of Variables
   2.3.3 Experimental Design - Single Group Design, Reverse Group Design, Factorial Design.

UNIT – III

Sampling:
3.1 Meaning and Definition of Sample and Population.
3.2 Types of Sampling and Probability Methods.
3.3 Systematic Sampling, Cluster sampling, Stratified Sampling, Area Sampling, Multistage Sampling.
3.4 Non-Probability Methods.
3.5 Convenience Sample, Judgment Sampling, Quota Sampling.

UNIT – IV

Research Proposal and Report Writing :
4.3 Mechanics of writing Research Report, Footnote and Bibliography Writing.
4.4 Method of writing abstract and full paper for presenting in a conference and to publishing journals,
REFERENCES:

Best J.W (1971) Research in Education, New Jersey; Prentice Hall, Inc
Moorthy A. M. Research Processes in Physical Education (2010); Friend Publication, New Delhi
Title: (PEM-1002) Physiology of Exercises

Objectives:
1. Demonstrate competent knowledge in areas of exercise physiology.
2. Describe physiological concepts related to exercise.

Credits: 04
Max. Marks: 100
Sessional Marks: 10
Mid Term Exam: 30
Examination Marks: 60
Paper Code: PEM-1002
Duration: 2:00 Hours

UNIT I
Introduction of Physiology of Exercise
1.1 Meaning and definition of Physiology of Exercise
1.2 Role of Exercise Physiology in the field of Physical Education
1.3 General Nutrients of the diet and their proportion in it.
1.4 Food requirement of athletes engaged in different sports activities.
1.5 Appropriate diet before, during and after sports activity.

UNIT II
Metabolism and Energy Transfer
1.1 Metabolism – ATP – PC or Phosphagen System – Anaerobic Metabolism – Aerobic Metabolism – Aerobic and Anaerobic Systems during Rest and Exercise.
1.2 Replenishment of energy stores.
1.3 Recovery of lactic acid from blood and muscles.
1.4 Thermoregulation – Sports performance in hot climate, Cool Climate, high altitude.
1.5 The physiological implications of a warm up and cool down (for example, reduce the delayed onset of muscular soreness – DOMS)

UNIT III
Energy continuum and recovery process
2.1 The predominant energy system used related to:
   2.1.1 The type of exercise (duration and intensity)
   2.1.2 The interchanging between thresholds during an activity (for example, the onset of blood lactate accumulation/OBLA)
2.2 The effect of the level of fitness, availability of oxygen and food fuels, and enzyme control on the energy system used.
2.3 Returning the body to its pre-exercise state
2.4 The oxygen debt / excess post exercise oxygen consumption (EPOC)
2.5 The alactacid and lactacid debt components, including the processes that occur and the duration of each component

UNIT IV
Ergogenic Aids
3.1 Nutritional aids: – carbohydrate loading – pre/post competition meals – food/fluid intake during exercise
3.2 Uses of creatine supplements in sports
3.3 Blood doping and recombinant erythropoietin (Rh EPO)
3.5 Narcotic, Stimulants and sports performance.
REFERENCES:

Title: (PEM-1003) YOGIC SCIENCES

Credits: 04
Max. Marks: 100
Sessional Marks: 10
Mid Term Exam: 30
Examination Marks: 60
Paper Code: PEM-1003
Duration: 2:00 Hours

Unit I
Introduction
1.1. Meaning, Definition and Types of Yoga.
1.2. Ashtanga Yoga: Yama, Niyama, Asana, Pranayama, Prathyahara, Dharana, Dhyana, Samadhi
1.3. Concept of Yogic Practice; Indications and Contra-Indications
1.4. Principles of Performing Asanas and Pranayama

Unit II
Asanas and Pranayama
2.1. Types of Asanas: Techniques and Benefits,
2.2. Surya Namaskar: Methods and Benefits.
2.3. Pranayama: Types- Methods and Benefits; Nadi Shodhan Pranayama
2.4. Nadi and Chakras in Body

Unit III
Kriyas and Mudras
3.3. Meaning, Techniques and Benefits of Yogic Mudras
3.4. Meditation: Benefits & its Types

Unit IV
Yoga and Sports
4.1. Power of Yoga to Improve Sports Performance
4.2. Role of Yoga in Psychological Preparation of athlete
4.3. Yoga and Mental Wellbeing, Anxiety, Depression Concentration, & Self Actualization.
4.4. Effect of Yoga on Physiological System
REFERENCES:
Title: (PEM-1011) TEST, MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION (Elective)

Objectives: To Highlight the Applications of Test, Measurement and Evaluation in Physical Education and to Develop Practical Competency in Conducting Motor, Physical Fitness and Sports Skill Tests.

Credits: 04
Max. Marks: 100
Sessional Marks: 10
Mid Term Exam: 30
Examination Marks: 60
Paper Code: PEM-1011
Duration: 2:00 Hours

UNIT – I
1. Introduction:
   1.1 Meaning and Definition of Test, Measurement and Evaluation.
   1.2 Importance of Test, Measurement and Evaluation.
   1.3 Criteria for Test Selection, Scientific Authenticity.
   1.4 Meaning, Definition of Validity, Reliability, Objectivity and Norms

UNIT – II
2. Motor Fitness and Physical Fitness Tests:
   2.1 Test for Motor Fitness – Indiana Motor Fitness Test (for elementary School Children and high School boys, girls and College Men), JCR test.
   2.2 Motor Ability- Barrow Motor Ability Test for Men, Newton Motor Ability Test,
                      Strength Fitness- Kraus-Weber Minimum Muscular Fitness Test.
   2.3 Physical Fitness Test- AAHPERD Youth Fitness Test, Youth Physical Fitness Test.
   2.4 Cardio Vascular Test-Harvard Step Test, 12Min. Run/Walk Test, Multi-Stage Fitness Test (Beep test)

UNIT – III
3. Anthropometric and Aerobic-Anaerobic Tests:
   3.1 Anaerobic Capacity-Margaria-Kalamen test, Wingate Anaerobic Test.
   3.2 Anthropometric Measurements- Method of Measuring Height, Standing and Sitting Height.
   3.3 Method of Measuring Circumference- Arm, Waist, Hip, Thigh.
   3.4 Method of Measuring Skin Folds - Triceps, Sub Scapular, Suprailiac.

UNIT – IV
4. Skill Tests:
   4.1 Specific Spots Skill Test- Badminton: Miller Wall Volley Test.
   4.2 Basketball- Johnson Basketball Test.
   4.3 Hockey- Schmithals-French Field Hockey Skill Test, Friendel Field Hockey Test,
   4.4 Volleyball- Russel Lange Volleyball Test, Brady’s Volleyball Test.
   4.5 Johnson Soccer Test, Mc-Donald Volley Soccer Test.
   4.6 Tennis- Dyer Tennis Test.

Note: Practicals of indoor and out-door tests be designed and arranged internally.
REFERENCES:

- Cureton T.K. (1947) Physical Fitness Appraisal and Guidance, St. Louis: The C. Mosby Company
Title: (PEM-1071) Track and Field- I (Running Events) + Gymnastics

Objectives:
- To develop skilful, creative mastery of the body in a gymnastic context.
- To enhance knowledge and understanding of gymnastics as an aesthetic experience.
- To enrich personal and social development while interacting with others in a variety of structured contexts.

Credits: 04
Max. Marks: 100
Internal Assessment: 40
Examination Marks: 60
Paper Code: PEM-1071

Unit-I

Running Event:
1.1 Fundamental Skills-
   - Short and Middle distance
1.2 Use of Starting blocks-
   - Various techniques of sprint start & Block Setting
     Sitting Start (Crouch)
     1) Bunch & Bullet Start
     2) Medium Start
     3) Elongated Start
   - Standing Start
1.3 Construction of 400 mt. track
   - Staggers
   - Starting & finishing points of different running events.

Unit-II

Advanced Skills: Body position at the start-starting technique
2.1 Change in body position during running.
2.2 Movements of the arms,
2.3 Stride length and frequency.
2.4 Position of torso while running.
2.5 Position of torso while at finish

Gymnastics

Unit – III
1.1 Forward roll
1.2 Backward roll and Back Extension Roll
1.3 Roll with stretched body or in truck position
1.4 Drive roll
1.5 Hand stand (hand stand with forward roll).
HISTORICAL DEVELOPMENT OF GYMNASTICS:

2.1 Japana (Straddle fold).
2.2 Pike fold.
2.3 Box splits.
2.4 Bridges.
2.5 Bent leg dish.

References:
- Jake at Gymnastics (Hardcover) by Rachel Isadora (shelved 2 times as gymnastics), published 2014.
- British Gymnastics, the governing body for gymnastics in the UK.
- International Federation of Aesthetic Group Gymnastics Official website.
- International Federation of Gymnastics (FIG) official website http://www.fig-gymnastics.com/site/ (Visited 08/10/215).
- Texts on Wiki source:
- Bio – Mechanics of Athletic Movement: Ray
- Track & Fundamental Techniques: Ken – Obosen
- http://www.brianmac.co.uk/sprints/starts.htm
Title: (PEM-1073) Laboratory Practical (Sports Psychology, Physiology of Exercise, Biomechanics and Kinesiology)

Sports Psychology: UNIT-I
1.1 Attention Test
1.2 Reaction Time Test OR Attitude Test

Physiology of Exercise: UNIT-II
2.1 Heart Rate and Blood Pressure Assessment Test:
   A. Purpose
   B. Background
      a) Resting Heart Rate
      b) Maximum Heart Rate
      c) Target Heart Rate
      d) Resting Blood Pressure
      e) Blood Pressure After Exercise
      f) Measurement Of Exercise Intensity
   C. Methods:
      a) Equipment Required and Method for Heart Rate Measurement
      b) Equipment Required and Method for Blood Pressure Measurement
2.2 Respiration Assessment Test:
   A. Purpose
   B. Background
      a) Vital Capacity
      b) Respiratory Rate
      c) Breathing Frequency
   C. Methods:
      a) Equipment Required and Method for vital capacity Measurement
      b) Data Collection

Kinesiology & Biomechanics: UNIT-III
3.1 Analysis of Centre of Gravity
3.2 Analysis of moment of inertia

UNIT-IV
4.1 Analysis of Video Motion of Sports
References:


Title: (PEM-1074) Yoga & Aerobics

Objectives:

Yoga:

Unit-I

Asana’s and Pranayamas:

1.1 Types of Asanas: Meditative, Relaxtative cultural and corrective- Bhujangasana, Salbhasana, Dhanurasana, Sarvangasana, Ardha Matsendraasana, Vakrasana, Pashichimottanasana, Sheershasana, Ustrasana, Halasana, Tadaasana, Chandrasana, Trikonasana, Pavanmuktasana, Mayoarasana, Sury Namaskar.

1.2 Types of Pranayamas: According to Patanjali and Hatha Yoga Pradipika, Types of Bandhas, Mool Bandha, Uddiyan Bandha, Jalandhar Bandha.

Unit-II

Kriyas & Mudras:

2.1 Kapal Bhanti, Tratka, Nauli, Neti.

2.2 Yoga Mudra, Tadagi Mudra, Viprit Karni Mudra, Pashinee Mudra.

AEROBICS

Unit- III

3.1 Understanding of various forms of aerobics

3.2 Floor aerobics, step aerobics, weight Aerobics

3.3 Training effects of aerobic fitness on various physiological systems namely skeletal Muscular, circulatory and respiratory

3.4 Improvement of aerobic fitness

3.5 Aerobic fitness programme

Unit- IV

4.1 Rhythmic Aerobics dance

4.2 Low impact aerobics

4.3 High impact aerobics

4.4 Aerobics kick boxing
References:
- Refus, Inc, “The Body in Motion” Published by Time Life Books.
- Sheela Kumari , Fitness, Aerobics & Gym Operations, New Delhi, Khel Sahitya Kendra 2009.
- Time life books, Gym workout, London times life books, 2004
- Time life books, staying flexible, London, time life books, 2005
- Time life books, super firm tough workouts, London times life books, 2005
DEPARTMENT OF PHYSICAL EDUCATION
SYLLABUS (SESSION: 2017-2018)
MASTER OF PHYSICAL EDUCATION (M.P.ED.)

Semester-1st

Title: (PEM-1076) Mass Demonstration Activity

Credits: 04
Max. Marks: 100
Sessional Marks: 40
Examination Marks: 60
Paper Code: PEM-1076

Unit 1

Introduction
1.1 Introduction of the Mass Demonstration Activity.
1.2 Aim and Objective of Mass Demonstration Activity.
1.3 Advantage and Disadvantage of Mass Demonstration.

Unit 2

Freehand Exercise
2.1 General warming-up activities.
2.2 Commands: verbal command, drum, whistle and music (Two count, Four count, Eight count and Sixteen count).
2.3 Various numbers of Exercises (Standing, Jumping and Moving Exercise).
2.4 Combination Exercises.

Unit 3

Dumbells/ Wands/ Hoop/ Umbrella
3.1 Grip with Light apparatus.
3.2 Attention and Stand – at – ease with light apparatus.
3.3 Various number of Exercises (Standing, Jumping and Moving Exercise).
3.4 Combining Exercise.

Unit 4

Organization of the Activity/Game
4.1 Ground Making/Designing.
4.2 Organization and Conducting the Mass Demonstration.

BOOKS RECOMMENDED FOR STUDY
1. Johnson, B. L., Chinese Wand Exercise. 1977
3. Kleinman, I., Complete physical education plans for grades 5 to 12.