

## SYLLABUS

### POST GRADUATE DIPLOMA IN HEALTH FITNESS TRAINER

(SEMESTER I & II)

#### SESSION-2014-15 & 2015-16

1. The examination will consist of two semesters i.e. Semester I and II.
2. Each semester shall be maximum 500 marks.
3. In each semester there shall be four theory papers and two practical papers. Each theory paper shall have four teaching hours per week. There will be two practical papers per week and each practical paper will be of three hours. Each practical paper will have 6 practical hours per week.
4. Evaluation shall be external and internal in the ratio of 80: 20 marks and excluding Practical this ratio will be 75:25

#### SEMESTER-I (External Assessment)

November/December, 2014-15.

Paper	Title of the Paper	Marks
Theory Paper I	APPLIED ANATOMY	60
Theory Paper II	GENERAL PHYSIOLOGY	60
Theory Paper III	HEALTH FITNESS & WELLNESS	60
Theory Paper IV	MEASUREMENT & EVALUATION	60
Practical Paper I		100

Internal assessment will be of 60 marks and will be based on performance of the student in total attendance (20%)/ assignment and project (40%) and two mid-semester Test (40%) and will not exceed 25% of the Theory Paper marks

#### TOTAL MARKS FOR SEMESTER I

Theory paper	240 marks
Internal assessment	60 marks
Practical Papers	200 marks
<b>Total</b>	<b>400 marks</b>

#### DISTRIBUTION OF MARKS FOR INTERNAL ASSESSMENT

Attendance 20%	12
Written Assignment 40%	24
•Theory MST Paper 40%	24

•Average of both Mid-Semester Tests/Internal Examination

**SEMESTER – I**  
**PAPER-I: APPLIED ANATOMY**

***Time: 3 hours***  
***Max Marks: 60***

***Pass Marks: 35%***

**INSTRUCTIONS TO THE PAPER SETTER**

Question paper will consist of three Sections A, B and C. Section A and Section B of the question paper will contribute 60 % (30:30 per section) of the total marks consist of descriptive type questions. The questions for section A and B should be set in such way that there will be four questions in each section and at least one question from each unit of the Syllabus. Each descriptive type question will be of 9 marks. Section C will be the compulsory section and contribute 40% of the entire syllabus and consist of short answer type question/objective type questions. Each short answer type question or objective type question will be of 2 marks.

**INSTRUCTIONS TO THE CANDIDATES**

Candidates are required to attempt two questions each from Section A and B and the entire Section C.

**UNIT-I**

- Introduction to human anatomy
  - Basic introduction to anatomy
  - Basic terminologies
  - Axis & planes
  - Anatomical and fundamental position
  - Anatomical divisions of body

**UNIT-II**

- Skeletal system
  - Basic introduction
  - Types and structure of bones
  - Joints & movements
  - Bony landmarks & identification

### UNIT-III

- Muscular system
  - Introduction to muscles and tendons
  - Types of muscles
  - Muscles of the body
  - Types of muscle contraction

### UNIT-IV

- Posture and aging
  - Assessment of posture
  - Reasons for poor posture
  - Changes in posture due to aging
  - Changes in posture due to various muscle weakness
  - Common postural problems
  - Impact on ADL due to postural changes

## SEMESTER – I PAPER-II: GENERAL PHYSIOLOGY

*Time: 3 hours*  
*Max Marks: 60*

*Pass Marks: 35%*

### INSTRUCTIONS TO THE PAPER SETTER

Question paper will consist of three Sections A, B and C. Section A and Section B of the question paper will contribute 60 % (30:30 per section) of the total marks consist of descriptive type questions. The questions for section A and B should be set in such way that there will be four questions in each section and at least one question from each unit of the Syllabus. Each descriptive type question will be of 9 marks. Section C will be the compulsory section and contribute 40% of the entire syllabus and consist of short answer type question/objective type questions. Each short answer type question or objective type question will be of 2marks.

### INSTRUCTIONS TO THE CANDIDATES

Candidates are required to attempt two questions each from Section A and B and the entire Section C.

## **UNIT-I**

- Basic physiology
  - Cell
  - Tissue
  - Organs

## **UNIT-II**

- Physiological division of systems
  - Circulatory
  - Respiratory
  - Digestive
  - Excretory
  - Reproductive

## **UNIT-III**

- Sensory systems
  - Vision
  - Audition
  - Taste
  - Touch
  - Proprioception

## **UNIT-IV**

- Body fluids & electrolyte balance
  - Blood
  - Lymph
  - Urine
  - Sweat

**SEMESTER – I**

**PAPER-III: HEALTH FITNESS AND WELLNESS**

*Time: 3 hours*  
*Max Marks: 60*

*Pass Marks: 35%*

**INSTRUCTIONS TO THE PAPER SETTER**

Question paper will consist of three Sections A, B and C. Section A and Section B of the question paper will contribute 60 % (30:30 per section) of the total marks consist of descriptive type questions. The questions for section A and B should be set in such way that there will be four questions in each section and at least one question from each unit of the Syllabus. Each descriptive type question will be of 9 marks. Section C will be the compulsory section and contribute 40% of the entire syllabus and consist of short answer type question/objective type questions. Each short answer type question or objective type question will be of 2 marks.

**INSTRUCTIONS TO THE CANDIDATES**

Candidates are required to attempt two questions each from Section A and B and the entire Section C.

**UNIT-I**

- Introduction to health
  - Concept of health
  - Concept of disease
  - Lifestyle and disease
  - Aging
  - Health education recreation & dance

**UNIT-II**

- Physical activities & fitness
  - Introduction to physical activities & fitness
  - Concept to fitness
  - Exercise and its principles

### UNIT-III

- Exercise & training
  - Principles of training
  - Fundamentals of exercise planning and designing
  - Types of training
  - Basic muscle groups and exercises

### UNIT-IV

- Disease prevention and control
  - Communicable disease and non communicable disease
  - Introduction to microbiology
  - Demography and health programs in India
  - Health and hygiene
  - Community health care

## SEMESTER – I PAPER-IV: MEASUREMENT AND EVALUATION

*Time: 3 hours*  
*Max Marks: 60*

*Pass Marks: 35%*

### INSTRUCTIONS TO THE PAPER SETTER

Question paper will consist of three Sections A, B and C. Section A and Section B of the question paper will contribute 60 % (30:30 per section) of the total marks consist of descriptive type questions. The questions for section A and B should be set in such way that there will be four questions in each section and at least one question from each unit of the Syllabus. Each descriptive type question will be of 9 marks. Section C will be the compulsory section and contribute 40% of the entire syllabus and consist of short answer type question/objective type questions. Each short answer type question or objective type question will be of 2marks.

### INSTRUCTIONS TO THE CANDIDATES

Candidates are required to attempt two questions each from Section A and B and the entire Section C.

## **UNIT-I**

- Anthropometric measurements
  - Sitting and standing height, body weight, BMI, body composition,
  - Girth measurement, WHR, BMI
  - Body typing, BMR

## **UNIT- II**

- Fitness measurement
  - Screening and risk stratification
  - Fundamentals of fitness and importance of measurement
  - Health related and skill related fitness parameters
  - Measuring health related fitness parameters
  - Measuring skill related fitness parameters

## **UNIT- III**

- Fitness batteries
  - Importance of fitness batteries
  - Fitness batteries for children
  - Fitness batteries for adolescents
  - Fitness batteries for adults
  - Fitness batteries for older adults
  - Fitness batteries in special population

## **UNIT- I V**

- Training Module
  - Interval Training
  - Circuit Training
  - Sports Specific Training
  - Health related Fitness Training
  - Plyometric Training

## **SEMESTER – I** **PRACTICAL**

- Demonstrate Plain and axis in the human body along with anatomical diversions.
- Explain body Land marks, identification and characteristics of human body.
- Discuss fundamental movements of human body.

- Explain posture its assessment and correction.
- What are the basic joint structure in the human body. Explain its types.
- Assess visual and auditory reflexes of human body.
- Discuss basic structure of cell.
- Evaluate life style activities and its importance.
- Prepare the exercise prescription programme for different age groups and gender.
- Elaborate interval, circuit and fatlike training.
- What is talent identification prepare modules for talent identification.
- Prepare diet charts for different age groups and gender with special reference to nutritional value.

## **SEMESTER – II**

### **SEMESTER-II (External Assessment)**

<b>Paper</b>	<b>Title of the Paper</b>	<b>Marks</b>
Theory Paper V	Kinesiology	60
Theory Paper VI	Injury management and modalities	60
Theory Paper VII	Nutritional Management	60
Theory Paper VIII	Fitness center management	60
Project		100

### **PAPER-V: KINESIOLOGY**

***Time: 3 hours***

***Max Marks: 60***

***Pass Marks:35%***

### **INSTRUCTIONS TO THE PAPER SETTER**

Question paper will consist of three Sections A, B and C. Section A and Section B of the question paper will contribute 60 % (30:30 per section) of the total marks consist of descriptive type questions. The questions for section A and B should be set in such way that there will be four questions in each section and at least one question from each unit of the Syllabus. Each descriptive type question will be of 9 marks. Section C will be the compulsory section and contribute 40% of the entire syllabus and consist of short answer type question/objective type



questions. Each short answer type question or objective type question will be of 2 marks.

### **INSTRUCTIONS TO THE CANDIDATES**

Candidates are required to attempt two questions each from Section A and B and the entire Section C.

#### **UNIT-I**

- Biomechanics
  - Introduction to kinesiology
  - Body mechanics during basic exercises of different body parts – chest, shoulder, back, biceps, triceps, legs
  - Body mechanics during running and jumping
  - Spinal curves
  - Lever mechanism and body

#### **UNIT-II**

- Applied biomechanics
  - Base of support and equilibrium
  - Movement muscle synergies
  - Impact of force and injuries
  - Gait and joint motions
  - Biomechanics of push & pull exercises
  - Biomechanics of respiration

#### **UNIT-III**

- Natural Movements and Posture
  - Erect Posture
  - Postural reflexes
  - Posture Examinations
  - Posture value
  - Posture mechanics and Postural training

#### **UNIT-IV**

- Environment and Adapted Education
  - Acclimatization and adaptation
  - Kinesiology in daily life
  - Kino-engineering
  - High Altitude Training

- Exercise and emotion
- Relaxation techniques
- Behaviour Modification and counselling

**SEMESTER – II**  
**PAPER-VI: INJURY MANAGEMENT AND MODALITIES**

***Time: 3 hours***  
***Max Marks: 60***

***Pass Marks: 35%***

**INSTRUCTIONS TO THE PAPER SETTER**

Question paper will consist of three Sections A, B and C. Section A and Section B of the question paper will contribute 60 % (30:30 per section) of the total marks consist of descriptive type questions. The questions for section A and B should be set in such way that there will be four questions in each section and at least one question from each unit of the Syllabus. Each descriptive type question will be of 9 marks. Section C will be the compulsory section and contribute 40% of the entire syllabus and consist of short answer type question/objective type questions. Each short answer type question or objective type question will be of 2 marks.

**INSTRUCTIONS TO THE CANDIDATES**

Candidates are required to attempt two questions each from Section A and B and the entire Section C.

**UNIT-I**

- Emergency procedures
  - First aid – shocks, snake bite, burns, electric shocks, poison, fracture, bleeding, dislocation, heart attack, hypotension, hypertension
  - Injury assessment and evaluation
  - Common sports injuries symptoms and causes - Dislocation, subluxation, fracture, cramps, strain, sprain, DOMS, tendinitis, compression injuries and overuse injuries
  - Difference between male and female body and its impact on exercise abilities

**UNIT-II**

- Injury management and modalities
  - Acute injury management
  - Bandaging, taping

- Rehabilitation
- Therapeutic modalities

### UNIT-III

- Complementary therapies
  - Naturopathy
  - Herbal medicine
  - Acupressure

### UNIT-IV

- Traditional Therapies
  - Yoga
  - Hydrotherapy
  - Massage

## SEMESTER – II PAPER-VII: NUTRITIONAL MANAGEMENT

*Time: 3 hours*  
*Max Marks: 60*

*Pass Marks: 35%*

### INSTRUCTIONS TO THE PAPER SETTER

Question paper will consist of three Sections A, B and C. Section A and Section B of the question paper will contribute 60 % (30:30 per section) of the total marks consist of descriptive type questions. The questions for section A and B should be set in such way that there will be four questions in each section and at least one question from each unit of the Syllabus. Each descriptive type question will be of 9 marks. Section C will be the compulsory section and contribute 40% of the entire syllabus and consist of short answer type question/objective type questions. Each short answer type question or objective type question will be of 2marks.

### INSTRUCTIONS TO THE CANDIDATES

Candidates are required to attempt two questions each from Section A and B and the entire Section C.

## UNIT-I

- Basic nutrition
  - Basic Terminologies
  - Macro nutrients
  - Metabolism
  - Micro nutrient

## UNIT-II

- Applied nutrition
  - Nutritional assessments
  - Fundamentals of Meal planning
  - Nutrition for general population – child, adolescent, adult and old age
  - Nutrition in special considerations – pregnancy, lactation, disease, illness,

## UNIT-III

- Sports nutrition
  - Nutrition in various sports
  - Carbohydrate loading
  - Ergogenic aids
  - Doping and doping techniques

## UNIT-IV

- Nutrition management
  - Eating disorder / Diseases
  - Deficiency management & Food fortification
  - Creativity & nutritious recipes - scope
  - Economical nutrition management in sports
  - Obesity-weight gain and weight loss
  - Diet consultation

## SEMESTER – II PAPER-VIII: FITNESS CENTER MANAGEMENT

*Time: 3 hours*  
*Max Marks: 60*

*Pass Marks:35%*

## INSTRUCTIONS TO THE PAPER SETTER

Question paper will consist of three Sections A, B and C. Section A and Section B of the question paper will contribute 60 % (30:30 per section) of the total marks consist of descriptive type questions. The questions for section A and B should be set in such way that there will be four questions in each section and at least one question from each unit of the Syllabus. Each descriptive type question will be of 9 marks. Section C will be the compulsory section and contribute 40% of the entire syllabus and consist of short answer type question/objective type questions. Each short answer type question or objective type question will be of 2marks.

### **INSTRUCTIONS TO THE CANDIDATES**

Candidates are required to attempt two questions each from Section A and B and the entire Section C.

#### **UNIT-I**

- Introduction to Health and Fitness Industry
  - History, Current practices and trends
  - Consumer/club member attitudes and attributes
  - The Health/Fitness Business
  - Need for client counseling

#### **UNIT-II**

- Human Resources
  - Recognizing the Importance of Leaders and Managers
  - Understanding Organizational Design
  - Recruitment Staff Quality and Quantity
  - Training Development and management of staff

#### **UNIT-III**

- Membership, Retention, and Profitability
  - Defining the difference between a member and a customer
  - Types of memberships, Packaging of memberships, Pricing strategies
  - Branding
    - Marketing Your Facility, Increasing Sales, Focusing on Customer Service, Retaining Through Members
    - Program Management, Generating Revenue Through Profit Centers

#### **UNIT-IV**

- Operations and Facility Management

Defining and creating a service culture, Understanding Financial Management, Addressing Health and Safety Issues, Maintaining Your Facility, Choosing the Right Equipment, Understanding Legal Issues, Programming for Health/ Fitness clubs

- Evaluations and Future Trends
- Issues of the Health/Fitness Industry
- Facilities and Equipment in the Health/Fitness Industry
- Operational practices in the Health/Fitness Industry
  - Risk management
  - Operating practice
  - Gender Biasness in Fitness Industry
  - Child-Care
  - Role of Fitness for pregnant women

**Recommended Books:**

- "Text book of Anatomy in three volumes": B.D. Chaurasis.
- "Human Physiology, medical allied agency." CC. Chatterjee
- "Athletic ability & anatomy of motion", A.M. Hermansson.
- "Principles of Anatomy and Physiology" Gerard J. Tortra
- "Essential of Anatomy and Physiology" 5<sup>th</sup> Edition: Hole J.W.
- "Fitness and Wellness" : Warner W. K Hoeger and Sharvon A. Hoeger
- "Fitness & Wellness concepts": Charles B. Corbina & Ruth Lindsey
- "Lifetime Fitness & Wellness - A personal choice": Melvin H. Williams
- "Fitness Management 2<sup>nd</sup> edition": Stephen J. Thurrett and James A. Peterson
- "Health Fitness Management 2<sup>nd</sup> Edition": Mike Bates
- "Introduction to Kinesiology studying Physical activity 2<sup>nd</sup> Edition", Shirl J. Hoffman
- "Applied Nutrition": R. Raja lakshmi
- "A textbook of Therapeutic Nutrition": Robinson
- "Textbook of Human Nutrition": Mehtab S. Bhan ji, N. Prahlad Rao, Vinodini Reddy.
- Aggarwal JC & Gupta ( 2007) Early childhood care and Education
- ACHPER-www.ths.mcmaster.ca/chemp