

**Tamil Nadu Physical Education and Sports  
University**

**Chennai – 127**

<b>Name of the Course</b>	<b>Diploma in Aerobics Instructor</b>
<b>Educational Qualification</b>	<b>+2</b>
<b>Stream</b>	<b>Directorate of Distance Education</b>
<b>Duration</b>	<b>One Year</b>

**Tamil Nadu Physical Education and Sports University  
Chennai-6**

**Director of Distance Education**

<b>Diploma in Aerobic Instructor</b>			
<b>Paper Code</b>	<b>Name of the Subject</b>	<b>Pass</b>	<b>Total</b>
<b>1</b>	Exercise programme design, body conditioning, flexibility and injury.	<b>50</b>	<b>100</b>
<b>2</b>	Kinesiology, Exercise Physiology and Nutrition	<b>50</b>	<b>100</b>
<b>2</b>	Practical	<b>50</b>	<b>100</b>
<b>3</b>	Practical	<b>50</b>	<b>100</b>

**PAPER-1 EXERCISE PROGRAMME DESIGN, BODY CONDITIONING,  
FLEXIBILITY AND INJURY.**

**UNIT-1**

Music – Music Understanding – Cueing - Floor – Use – Mirror – Use – Shoes – use – Stepper – Various Height – Use.

**UNIT –II**

Warm up - Stretching — Low intensity Exercise – High intensity exercise – Cool down.

**UNIT – III**

Body Conditioning – Theories and Principles – Upper part of the Body – Abdomen – Lower part of the Body.

**UNIT-IV**

Flexibility - Types of Flexibility – Static – Dynamic.

**UNIT – V**

Sprain – Strain – Cramp – Fracture – Dislocation.

## **Paper: II- Kinesiology, Exercise Physiology and Nutrition**

**Unit-I :** Muscles of upper Body – Origin - insertion – action – Deltoid – Biceps – Triceps – Brachialis- Lattisimus Dorsai – Pectoralis major – Teress minor – Rectus abdominus – Trapezius – Pelvic floor muscles.

**Unit- II :** Muscles of Lower Body – Gluteus maximus, minimus – Quadriceps – Vastus medialis, lateralis, intermedius, rectus femoris – Psoas major, Sartorius – Hamstring – Semitendinosus – Semimembranosus – Gastrocnemius – Soleus – Plantaris.

**Unit III :** Cardio respiratory System – Heart rate - Resting H.R. maximal heart rate – Target Heart rate – No.2 max – Radial Pulse – Carotid pulse – Temporal – Dorsalis Pedis.

**Unit IV:** Energy System & Nutrition ATP – PC System – Anaerobic metabolism – Aerobic metabolism – Fat metabolism – Diet – need – importance.

**Unit V :** Aerobics and women – During menstruation – Pregnancy – Prenatal – Postnatal.

### **References:**

- 1) Kathryn Lutgen et al. Kinesiology (Scientific Basis of Human Motion). Brown and Benchmark, 1992.
- 2) Essentials of Exercise Physiology : McArdle, WD, Katch, VL 2<sup>nd</sup> Edn., Lippincott Williams and Wilkins (2000).
- 3) Exercise Physiology – Human Bioenergetics and its Application, Brooks, GA, Fahey, TD, White, TP. Mayfield Publishing Company (1996).
- 4) Perspectives in Nutrition (6<sup>th</sup> ed.) by Wardlaw
- 5) Nutrition for sport and exercise (2<sup>nd</sup> ed.,) by Berning and Steen Morgan and King:

## **PRACTICALS**

### **Practical-I**

Floor Aerobics  
Marching  
Step touch  
L-step  
V-step  
Diamond  
Knee lift  
Touch out  
Grape vine  
Turn step  
Cha-Cha  
A- step-  
Arm Variations  
Music Tempo Variations.

### **Practical – II**

Step Aerobics  
Marching  
Up and down  
V-step  
L-step  
Straddle  
Cross over  
Turn step  
Knee lift  
Hop  
Jump  
Run Run  
Arm Variations  
Music Tempo Variations.

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