

1. Title of the course**CERTIFICATE COURSE IN GYM INSTRUCTOR COURSE****2. Objectives:**

- i) To enable student to understand the need and Importance of Fitness Center.
- ii) To acquaint the student with the Fitness programme
- iii) To enable students to understand the effect of Exercise on the body.
- iv) To enable students to understand human posture.
- v) To acquaint the students to give proper instructions of Gym training.

3. Salient Features:

This program is designed as per the scientific principles of fitness. This program will provide the knowledge about the Methodology and Management of fitness training in short period of six weeks. This program will help to develop the trained man power in the field of Fitness training.

4. Duration:

The duration of the course shall be six weeks. (Contact Hours 130 Hours)

5. Medium of instruction:

English and/or Marathi

6. Eligibility of Admission.

XII passed.

Structure of the Course

This course is consists of Three part. Description of these parts is as follows

Part	Head	Content	Marks
I Theory	1	Principles of Fitness Training	20
	2	Sports Medicine	20
	3	Anatomy & Physiology	20
	4	Biomechanics and Kinesiology	20
	5	Management of Fitness Center & Fitness Evaluation	20
			Total Part I
II Practical	6	Weight training Exercises for Chest	20
	7	Weight training Exercises for Back	20
	8	Weight training Exercises for Shoulder & Arms	20
	9	Weight training Exercises for Legs	20
	10	Assignment, Project work & Visits	20
		Total Part II	100
		Total course	200

a) Theory Part : 100 Marks

Head I: Principles of Fitness Training:

I) Concept of Health related Physical fitness:

- i) Cardio vascular endurance
 - Aerobic & Anaerobic Capacity
 - Methods of developing Cardio vascular endurance
- ii) Muscular Strength
 - Type of Strength
 - Methods of Improving Strength
- iii) Muscular endurance
 - Meaning of Muscular endurance
- iv) Flexibility
 - Meaning of Flexibility
 - Importance of Flexibility
 - Development & Maintenance of Flexibility
- v) Body composition (% Fat)
 - Body Mass Index (BMI) Assessment of body composition

- Controlling % Fat

vi) Principles of Fitness training (FITT)

II) Load Adaptation- Recovery:

- Factors of load
- Load & adaptation
- Over load
- Recovery

III) Scheduling (Short term & long term training)

- Micro Cycle
- Meso Cycle
- Macro Cycle
- Total Load & Recovery
- Total sets & Repetitions
- Total exercises

IV) Training Methods:

- Circuit Training Method
- Station Training Method
- Plyometric Training Method

V) Terminology of Wt. Training:

- Reps
- Sets
- Load
- Cheating

Unit II: Sports Medicine:

I) Nutrition:

- Food content
- Basic principles
- Balance diet

- Calories & diet
- Exercise & diet
- Supplement

II) Injury:

- Preventive Measures
 - Proper Warm Up
 - Clothing
 - Correct Technique
 - Sequence of exercise
 - Loading procedure
 - Recovery
 - Breathing
 - Fatigue
 - Safety equipment
- Types of Injury
 - Traumatic
 - Chronic
- First Aid
 - PRICE

Unit III: Fitness Evaluation:

I) Fitness Test:

- 1 Repetition Max
- 12 Min. Run or Walk Test
- 1 Min. Push Ups
- 1 Min. Bent knee sit ups
- Sit & Rich
- Fat measurement/BMI

Unit IV: Anatomy and Physiology:**1) Anatomy:**

- Skeletal System
 - Types of bone
 - Types of Joint
 - Classification of Joint
 - Anatomy of Joint
- Muscular Systems
 - Introduction of Muscles
 - Structure of Muscles
 - Types of Muscles contraction
 - Different muscles in body
 - Insertion of Muscle
 - Slow twitch muscle fibers
 - Fast twitch muscle fibers

2) Physiology:

- Effect of exercise on different systems
- a) Skeletomuscular system :**
 - Function of Bone, Joints & muscles
 - Myoglobin
 - ATP-PC
 - Hypertrophy
- b) Circulatory systems:**
 - Athletes Heart
 - Supply of blood to the organs
 - Blood pressure (systolic/ Diastolic)
- c) Respiratory system:**
 - Intake
 - Uptake

- VO2 Max
- Tidal Volume
- Lung capacity
- Respiratory rate

d) Digestive system:

3) Physiological Principles:

- Muscular contraction
 - Static
 - Dynamic
 - Concentric
 - Eccentric
- Sliding filament theory
- Warming up – fatigue
 - Principles of warming up & cooling down
 - Fatigue oxygen debt.
 - Performance factors

Unit V: Biomechanics & Kinesiology:

- Biomechanics
 - Analysis of Fundamental Movements
 - Principles of lever/leverage
- Kinesiology
 - Meaning
 - Types of movement
 - Plane & axial movement
 - Muscular analysis

Unit VI: Concept of Fitness Center**a) Introduction of gymnasium:**

- Introduction to the gym equipments
- Types of Gym & gym equipments
- Placement of gym equipments

b) Philosophy:

- Characteristics of Gym Instructor
- Need & scope of Gymnasium

Part: II Practical: 100 Marks**1. Warm up – Cool down:**

General exercise
Stretching exercise

2. Weight training Exercise for:

- Arms
- Shoulder
- Chest
- Back
- Lower Back
- Abs
- Legs

3. Basic Concept:

- Sets
- Repetition
- Rest/Recovery
- Breathing
- Heart rate
- Range of Motion
- Cheating

4. Prime movers:

- Assisting
- Antagonist
- Agonist
- Synergies

5. Various training methods of Wt Training :

- Super sets
- Tri sets
- Giant set

- Circuit Training
- 6. **Training Programme:**
 - Basic
 - Intermediate
 - Advance
 - Wt. Loss
 - Wt. gain
- 7. **Evaluation**
 - **Body Measurement**
 - **Fitness testing and evaluation**
- 7. **Assignment, Project work & Visit**
 - **Assignment:** Student should submit a total of 5 tutorials i.e. 1 tutorial each for 5 Units of theory part under examination conditions. Total 25 marks will be considered for this head.
 - **Project work & Visit:** In this part student visits the one gym. Study the facilities & processes of that gym and submit the report of the visit. Total 25 marks will be considered for this head.

Pattern of Examination

01) Scheme of Assessment :

Assessment will be done in two parts. In theory part, there will be 100 Marks multiple choice Objective Questions which will be based on the theory part of the syllabus. There will be 100 marks practical.

02) Structure of Theory Question Paper :

Objective Multiple Choice only.

03) Standard of Passing & Award of Class :

A Candidate will have to obtain minimum 60 % of marks in theory paper and 60 % of marks in practical.

Grade -	O	-	90-95
	A+	-	85-89

A	-	80-84
B+	-	75-79
B	-	70-74
C+	-	65-69
C	-	60-64

7. List of Books recommended :

S.N.	Name of Book	Name of the Author
1	Athletic Training and Sport Medicine	Robert C. Schenck
2	Basic Weight Training for Men and Women	Thomas D. Fahey
3	Concepts of Athletic Training	Pfeiffierl Mangus
4	Essential of Exercise Psychology	Lorry G. Shaver
5	Exercise Physiology	George, Thomas
6	Exercise Physiology	Fox Falls
7	Inside the Body	Anita Ganeri
8	Introduction to human Nutrition	Gibney, Varster and Kok
9	Methods Measurement & Evaluation in Physical Education	Satish Sonkar
10	New Allis of Human Anatomy	
11	Nutrition and Diet Therapy	Lutz and Przytulshi
12		
13	Prentice Therapeutic Modalities in Sports Medicine	William E. Prentice
14	Science of Sports Training	Hardayal Sing
15	Sport Training Principles	Frank W.Dick
16	Sports Exercise	
17	Sports Medicine	Dr. P. K. Pande, Dr. G. S. Sundararajan
18	Sports Medicine of the Lower Extremity	Steven I. Subotnick
19	Strength Training and Conditioning	R. A. Proctor
20	Test & Measurement	Dhananjay Shaw
21	Wood Essential of Anatomy & Physiology	Michael G. Wood
22	Body Building	Arnold

Norms & Conditions for running – Course

1) Infrastructure:

Well equipped Multi Gym, (Area 100 Sq.ft.) Details are as follows

S. N.	Equipment	Details
1	Machines	Treadmill, Chest press, Lat pull down, Leg curl, Leg press, Leg extension, Hyper extension, Preacher curl, Wrist curl, Shoulder press, Arm pulley, Cable Cross over, Seated rows, Standing Calf
2	Free weights	Dumbles- 1 kg, 1.5 kg, 2 kg, 2.5 kg, 5 kg, 7.5 kg, 10 kg, 12.5 kg, 15 kg, 20 kg, 25 kg Weight plats- 1 kg, 1.5 kg, 2 kg, 2.5 kg, 5 kg, 10 kg.
3	Other	Flat bench, Incline bench, Decline bench, Sit up bench, Multi bench, Dumbels stand, Barbell stand, Satbility ball, yoga Mats, Aerobic step, Exercise band, Medicine ball.

2) **Classrooms:** 1 class room

3) **Library Books :** There shall be a **library equipped** with minimum five hundred titles and reference books related to the prescribed courses of study

4) Sufficient number of toilets, separate for male and female, shall be made available for staff and students.