BHARATHIDASAN UNIVERSITY
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Programme : Master of Physical Education

Course Title: PHYSICAL FITNESS AND WELLNESS

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Unit -IV

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Pulls-Ups

BALCAL NUTREFY
WELLNESS FOR LIFE

Weight Training

ANAEROBIC EXERCISE

Push-Ups

Sprinting

UNIT-4

Anaerobic Exercise

UNIT 4

Anaerobic Exercise Resistance Training for Muscular Strength and Endurance; principles of resistance training, Safety techniques (spotting, proper body alignment, lifting techniques, spatial, awareness. and proper breathing techniques). Weight training principles and concepts; basic resistance exercises (including free hand exercise, free weight exercise, weight machines, exercise bands and tubing. medicine balls, fit balls) Advanced techniques of weight training

RESISTANCE TRAINING FOR MUSCULAR STRENGTH AND ENDURANCE

Resistance training can help you build muscular strength and endurance by making your muscles work against a force or weight.

Here are some resistance training exercises that can help:

Lunges

A good beginner exercise that helps develop lower-body strength and endurance.

Squats

A popular exercise that works multiple muscle groups at once. You can add weight to the bar to make it more challenging.

Planks

A simple bodyweight exercise that helps build strength and stability throughout your body.

Push-ups

A test for your whole body that engages muscles in your chest, arms, abdomen, hips, and legs.

Dumbbells

Force each side of your body to work independently.

PRINCIPLES OF RSISTANCE TRAINING

some principles of resistance training:

Specificity The exercise should be specific to the type of strength required for the event.

Reversibility If you stop exercising, you will lose your progress. You can reverse the effects of reversibility by resuming training.

Progressive overload Gradually increase the workload over time as your muscles adapt to the resistance.

Breathing You should be able to breathe comfortably while doing resistance training. Holding your breath can increase your blood pressure.

Weight Avoid lifting weights that are so heavy that you need to strain and hold your breath to lift them.

Bodyweight training Also known as calisthenic exercise, this is one of the earliest resistance training methods.

Hypertrophy This type of resistance training focuses on increasing muscle tone, size, and mass.

SAFETY TECHNIQUES (SPOTTING , PROPER BODY ALIGNMENT , LIFTING TECHNIQUES , SPATIAL AWARNESS.

Posture: Keep your head high and chin in, with your shoulders slightly pinched together. Your ears should be over the middle of your shoulders, and your shoulders should be over your hips.

Back: Your back should be straight but not tense. Avoid arching your back, which can stress your vertebrae.

Hips: Your hips should be over your ankles. Your pelvis should be in the middle of your body, neither tucking under nor rotating back.

Knees: Keep your knees slightly bent and facing forward. Feet: Keep your feet pointed straight ahead.

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Lower back: Place a flat hand behind your lower back. If you can slide your hand between your lower back and a wall, your lower back curve is correct.

Head: Your head should be in line with your ribs and hips.

Neck: Keep your neck long and in line with your spine.

Shoulders: Keep your shoulders relaxed and your shoulder blades retracted and depressed.

Rib cage: Your rib cage should be directly in line with your hips.

LIFTING TECHNIQUES

Plan your lift: Make sure the object is light, steady, and unlikely to move. Remove any obstructions, and ensure you have space to lower the load.

Position the load: Try to keep the heaviest part of the object close to you, and hold it close to your body.

Bend at the knees: Bend your knees, not your waist or back, and keep your back straight.

Tighten your core: Tighten your stomach muscles as you lift and lower the object.

Lift slowly: Use your hips and knees to slowly lift the object.

Keep your head forward: Look straight ahead while carrying the load

Squat to set down: Use your knees and hips to squat down and set the object down.

Take breaks: If you feel fatigued, set down the load and rest.

Use a good grip: A good grip can help you lift and carry the load safely.

Use your body: Use your body and arms to help, rather than just your hands.

PROPER BREATHING TECHNIQUES

Diaphragmatic breathing Also known as belly breathing, this technique involves breathing in through your nose and out through your mouth. You can place your hands on your stomach to feel your belly rise and fall as you breathe.

5/5 breathing Inhale slowly for a count of five, then exhale slowly for a count of five. You can imagine you're inflating a balloon in your stomach.

Box breathing Also known as 4/4 breathing, this technique involves breathing in, holding your breath, exhaling, and holding again, all for a count of four.

- **Stimulating breath** This technique involves sitting up tall, relaxing your shoulders, and inhaling and exhaling quickly through your nose for about 10 seconds. You can repeat this several times after taking a break to breathe normally.
- **Left nostril breathing** This technique is said to help with relaxation.

WEIGHT TRAINING PRINCIPLES AND CONCEPTS

Overload This principle states that you need to overload your body to increase muscle strength, endurance, and size. However, over-stressing your body can lead to injury or a decline in performance.

Reversibility This principle states that any improvements in physical fitness due to exercise are reversible if you stop or reduce training.

Progression This principle states that you need to gradually increase your workload to continue improving.

Progressive overload This principle states that you need to gradually increase your exercise weight, sets, or reps over time. This forces your muscles to adapt and grow stronger.

Specificity This principle states that your body will get better at handling the exact demands you place on it when exercising.

Muscle endurance You can develop muscle endurance by using free weights or machines, or by doing exercises using your own body weight.

Resistance training Consistent resistance training can increase your resting metabolic rate, which means your body will burn more calories while you're resting. This can help with weight loss.

Endurance training Endurance training can provide some strength and hypertrophy, and can result in larger increases in aerobic conditioning than higher-intensity programs.

BASIC RESISTANCE EXERCISE

Squats

Deadlift

Push up

Bicep curl

Lunge

Tri cep dumbbell kickback

Bench press

Dumbbell training

Plank

Bent-over row

Bodyweight split squat

Side lunge

Pull-ups

Back extension

Calf raises

Goblet squat

Overhead press

Pelvic tilt

ADVANCE TECHNIQUES 0F WEIGHT TRAINING

Drop sets Increase time under tension and allow you to push past failure.

Super sets Perform two exercises back-to-back without rest to increase workout density and stimulate muscle growth.

Rest-pause training Lift to failure on an exercise, rest for a short time, and then continue with the exercise.

Cluster sets Perform a high resistance compound exercise in multiple mini-sets instead of one longer set

Pre-exhaustion Perform an isolated exercise before a compound exercise for the same muscle group.

Forced reps Produce significantly higher levels of growth hormone than standard resistance training.

Partial reps Perform a partial movement of an exercise with the same weight you would use for the full range of motion.

Eccentric training Emphasize the descending phase of an exercise.

4+2 method An efficient technique to use in strength phases to overcome plateaus.