

CBSE Test Paper 01
CH- 12 Training in Sports

1. What does the term 'Fartlek' mean and who developed this training method?
2. What is endurance?
3. What are the methods for developing flexibility?
4. What is balance ability?
5. What is Training?
6. What is circuit training?
7. Dynamic strength is divided into three parts. Write in brief about each.
8. Define flexibility and explain the methods of flexibility development.
9. What do you mean by sports training ? Highlight main features of Interval and Fartlek Training.
10. Elaborate the beneficial negative impacts of high altitude training.

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Answer

1. Fartlek is a Swedish term which means 'speed play' and has been used by distance runner for years. Fartlek is a form of road running or cross country running in which the runner usually changes the pace significantly during the run.
2. Endurance is the ability to do sports movements with the desired quality and speed under conditions of fatigue. Endurance is the ability to sustain or continue an activity under fatigue the ability to endure an unpleasant or difficult process or situation without giving way.
3. Methods for developing flexibility are
 1. Ballistic method
 2. Static stretching method
 3. Dynamic stretching method
 4. Proprioceptive neuromuscular facilitation technique
4. Balance ability is understood as an ability to keep body or its parts in a relatively stable position.
5. Training is about knowing where you stand (no matter how good or bad the current situation looks) at present, and where you will be after some point of time. Training is about the acquisition of knowledge, skills, and abilities through professional development.
6. In this training method in which certain exercise of various kind are performed with or without apparatus with given dosage. It was developed by —Adamson and Morgan in 1957. This is considered for the development of —strength & Endurance. Circuit training method is a scientific method which is based on over coming various exercises at once. It is meant for to develop strength & endurance. It is an off-season training method. It is a form of body conditioning or resistance training using high-intensity aerobics. It targets strength building and muscular endurance. An exercise "circuit" is one completion of all prescribed exercises in the program. When one

circuit is complete, one begins the first exercise again for the next circuit.

7. **Maximum strength:** The greatest force that is possible to overcome a resistance in a single maximum contraction, e.g., weightlifting, shot put, discus, hammer throw in track and field etc.

Explosive strength: It is the ability of a muscle to get over resistance of sub maximum intensity of stimulus as fast as possible, e.g., sprints, jumps, smashing in volleyball, etc. It's a combination of strength and speed abilities.

Strength endurance: It is the ability of muscles to get over resistance of medium intensity of stimulus for as long a time as possible. For example, long distance races, swimming, distance cycling, wrestling, boxing, etc.

8. **Flexibility** is the range of movement. It is the ability of joints to move in the maximum range.

Types of Flexibility:

1. **Active Flexibility** It is performed without external help or self-movement of a part to the maximum range.
2. **Passive Flexibility** It is the ability of joints to move in their maximum range with external help.

Developing methods of flexibility are:-

1. **Ballistic Method - Ballistic Method** In ballistic method, the movement is performed with a swing in a rhythmic way.
2. **Static Stretching Method** - In this method, the joint is stretched and held for 10 to 30 sec.
3. **Dynamic Stretching Method** - In this method, activities are performed with a motion or movement in a full range.
4. **Post Isometric Stretch or PNF Technique** - This method is based on the principle of proprioceptive neuromuscular facilitation. PNF is a more advanced technique that involves both stretching (static + dynamic) techniques and contraction of the muscle groups being targeted. For gaining flexibility in the shortest possible time, the PNF technique is the most appropriate method for developing flexibility.

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9. Sports Training :- It is a process of sports perfection directed by scientific and pedagogic principles and aims at leading a sports person to high and top level sports performance in a game or a sport or an event by means of planned and systematic improvement of performance capacity and readiness of performance. "Sports training" is a planned and controlled process in which, for achieving a goal, changes in complex sports motor performance, ability to act and behavior are made through measures of content, methods and organization.

INTERVAL TRAINING : This training method is considered as best method for development of endurance. The method is based upon —effort and recovery principle. During interval training recovery period is given to the athlete after each speedy workout. Recovery period can be adjusted according to the efficiency of athlete. The load can be increased by reducing the recovery period or by increasing the workout. It is of two types

- (a) slow or extensive interval training method
- (b) fast or intensive interval training method.

FARTLEK :- It is a Swedish term that means "speed play," is a form of interval or speed training that can be effective in improving your speed and endurance. Fartlek running involves varying your pace throughout your run, alternating between fast segments and slow jogs. Unlike traditional interval training that involves specific timed or measured segments, fartleks are more unstructured. Work-rest intervals can be based on how the body feels. With fartlek training, you can experiment with pace and endurance, and to experience changes of pace. This method was developed in Scandinavia. It is used to describe cross country runs where the steady speed of ordinary cross country running is changed into a mixture of faster and slower phases, each covering a different distance over natural terrain according to the individual approach of the sports person. The change of intensity is done depending upon the surface of running, surrounding condition of the sports person, climate and the like. This method is effective for development of both aerobic and anaerobic capacities of sports persons.

Example :

- (i) Jogging for 5 to 10 minutes
- (ii) Brisk walk for 5 min.

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- (iii) End with stretching exercise.
 - (iv) Run at fast steady pace over a distance of 800 m to 1200 m.
 - (v) Run up the hill
 - (vi) Easy running 40 to 50 m
 - (vii) Run down the hill
 - (viii) Walk of 5 min.
 - (ix) Run at fast pace for one minute
 - (x) Jog about 1 to 1.5 km.

10. Running or exercising at high altitudes in the beginning decreases the amount of oxygen getting to the muscles. At low atmospheric pressure in the thin air makes the blood less oxygen rich as it passes to the muscles. A number of physiological changes that occur with acclimatization enhance the supply of oxygen to muscles and the more amount of oxygen definitely help in improving the sports performance. At high altitudes body produces a hormone known as erythropoietin which stimulates the production of red blood cells which carry oxygen to the muscles of the body. If you have more red blood cells, more amount of oxygen can be supplied to your muscles. Many other changes occur in the body during acclimatization which help in enhancing sports performance. Negative impacts The acclimatization to the high altitudes is not easy. The increase in red blood cells, makes the blood thicker which can make the blood flow slow. It makes difficult for the heart to pump blood flow throughout the body and can actually reduce the amount of oxygen getting to where it is required. If we perform weight training at high altitude , we cannot avoid weight loss. Our body will consume our muscles in order to provide energy for training that will weak body's immune system , it may lead to further infections which lead to decrease I sports performance.