CLASS XII - CBSE

PHYSICAL EDUCATION

1. (i) Reward

(ii) Praise

(iii) Punishment

(iv) Cash prize

(v) Certificates and trophies

2. **1. Low Squat**

2. Static Lunge

3. **Benefits of Matsyasana**

1. It is helpful in curing back pain, knee pain and tonsillitis.
2. It also cures the defects of eyes.
3. Skin diseases can be cures, if we practise this asana regularly.
4. This asana helpful in the treatment of diabetes.
5. It helps in relieving tension in the neck and shoulders.
6. It improves posture.
7. It provides relief from respiratory disorders by encouraging deep breathing.
8. It is the best asana to get relief from asthma.

4. **Benefits of Asanas for Prevention of Diseases**

1. Bones and joints become strong
2. Muscles become strong
3. Circulation of blood becomes normal
4. Respiratory organs become efficient
5. Efficiency of digestive system increases
6. Nervous system strengthens
7. Efficiency of excretory system enhances
8. Immune systems is strengthened

5. (1) Intrinsic Motivation: Intrinsic motivation is internal. It occurs when people are compelled to do something out of pleasure, importance or desire. Motivation is always intrinsic when the force comes from within oneself. It is the motivation to perform an activity for its own sake: performance for the sake of enjoyment.

(2) Extrinsic Motivation: Extrinsic motivation is external. It occurs when external factors compel the person to do something. Motivation is always extrinsic when external forces, positive or negative produce a behavioral change. Reward, punishment, praise, blame or cash prize are examples of extrinsic motivation. It has been found that such devices motivate some persons more strongly than others. In fact, extrinsic motivation includes factors that motivate the individual in achieving the goals.

6. Laceration

Laceration is an injury to living tissue (especially an injury involving a cut or break in the skin). It is the cut over the skin caused due to severe impact of an object or due to its sharp edge. In such cases bleeding is there. It is an irregular cut in the skin from sharp edged sports equipment. These wounds are more dangerous than incised wounds. Such wounds are not smooth. Bleeding occurs in less quantity in such wounds. These wounds may be very poisonous. Usually rough marks remain even after the treatment.

Abrasion

It is a skin injury. It is a superficial (not deep) injury of skin or mucous membranes due to rubbing or scraping. It is normally a minor injury but can be serious if some foreign matter is struck in it. It may be caused by a fall on a hard or rough surface. It occurs at the upper part of the skin. Such injuries occur in sports like wrestling, football, cricket, hockey and track and field etc.

7. Disorder

It is usually used for mental disabilities. Disorder is any ailment that disturbs the health of an individual. Generally, disorder disrupts the normal functioning of an individual. It can be defined as blip (malfunction) in the usual functioning of a person.

Cognitive Disability

It is a neurological disorder that creates hindrance or obstruction for an individual to store, process and produce information. This ability can affect an individual's ability to read, compute, speak and write. Generally, the individuals who have these types of disability usually have symptoms like memory disorder, hyperactivity, dyslexia.

8. General Disability Etiquettes

1. Always put the people first i.e., say 'person with disability' rather than 'disabled person'. Always avoid the outdated words like handicapped, retarded, physically challenged or differently abled. For example, refer to 'person who is blind' rather than 'blind person'.
2. In case of introduction to a person with a disability, it is appropriate to shake hands.
3. When you meet a person with a visual impairment, always identity yourself and others who may be with you.
4. To get the attention of a person who is deaf or having hearing impairment, tap the person on the shoulder or wave your hand. You should look directly at the person and speak cleanly.
5. Never patronize person who use wheelchairs by patting them on the head or shoulder.
6. Always introduce yourself to persons who are blind using your name. (Any two)

9. Oxygen Intake : It is the amount of oxygen which can be taken by the lungs from atmosphere. The oxygen intake depends on the vital capacity which further depends on the lung size, number of active alveoli, strength of the respiratory muscles and size of the chest cavity etc.

Oxygen Transport: The amount of oxygen taken into the blood from lungs has to be transported to the working muscles. The oxygen transport depends on the amount of oxygen which the blood has absorbed from the lungs and the ability of the circulatory system to carry this quickly to the working muscles. The transportation of oxygenated blood depends on the capacity of the heart. This capacity can be improved through training.

10. Flexibility

Flexibility is the range of movements of joints. In other words, it means the range of motion available in a joint. Stretch ability and elasticity are the special qualities of the muscles and ligaments by which these can be stretched and can regain their normal length without any adverse effect on the concerned tissues. So flexibility can be defined as the ability to execute movements with greater amplitude or range.

Types of Flexibility:

a. Passive Flexibility : The ability to do movements with greater distance with external help is called passive flexibility, e.g., stretching exercises with the help of a partner.

b. Active Flexibility : It is the ability to do movements for a longer distance without external help, e.g., to do a stretch without the help of a partner. It can be divided into two parts:

i. Static Flexibility : It is usually required by a sportsperson when he remains in static position, e.g., in diving, sitting, lying and starting position in various sports.

ii. Dynamic Flexibility : Dynamic flexibility is needed for doing movements with greater distance when an individual is in motion.

11. In psychology, the term aggression refers to a range of behaviors that can result in both physical and psychological harm to oneself. This type of social interaction centers on harming another individual either physically or mentally.

"Aggression is a behavior with a goal harming or injuring another being motivated to avoid such treatment**".**

Baron and Richardson "any form of behavior directed towards the goal of harming or injuries another living being who in motivated to avoid such treatment**."**

1. Hostile Aggression: Hostile Aggression is inflicting or causing harm whether it is physical or psychological on someone else. It is sometimes referred as reactive aggression and can be accompanied by anger. In hostile aggression, the main aim is to cause injury to other sportsperson. In simple words, hostile aggression is when the primary aim is to cause physical harm or injury to your opponents.

2. Assertive Aggression or Behavior: Assertive behavior is different types of aggression/ aggressive behavior. This is defined as behavior that involves the use of legitimate physical or verbal force to achieve one's purpose. In assertive aggression or assertive behavior, the intention is to establish dominance rather than to harm the opponent.

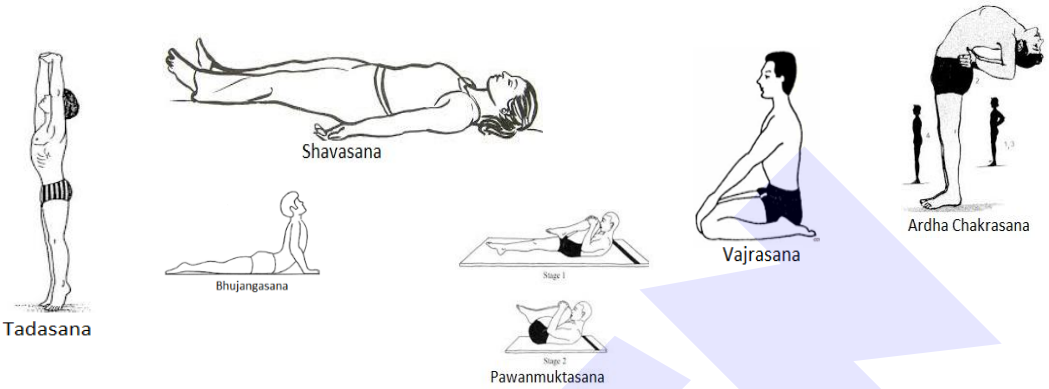
12. Obsessive Compulsive Disorder (OCD)

Obsessive compulsive disorder is a mental health disorder that affects people of all ages and walks of life. It is a type of mental disorder that causes repeated unwanted thoughts. To get rid of the unwanted thoughts, he/she performs the same task/activity again and again. For example, a person may fear that everything he/she touches has germs on it. So, to get rid of that fear he/she washes his/her hands again and again.

Causes of Obsessive Compulsive Disorder (OCD)

The exact cause of OCD is still unknown. Research studies suggest that there may be a problem with the way one part of the brain sends information to another parts. Serotonin is the chemical in the brain that send message from one part to another. Insufficiency of serotonin may help in causing OCD. Stress and anxiety do not cause OCD but every day stress and anxiety may worsen the symptoms of OCD. Recent studies have indicated that there may be considerable genetic basis for OCD. Depression is also thought to cause OCD but the expert's opinion is splitted.

13. Hypertension : Bhujangasana, Pawanmuktasana, Tadasana, Vajrasana, Ardha Chakrasana and Shavasana



Tadasana

Benefits

1. It is helpful in developing physical and mental balance.
2. It cures digestive problems.

Ardha Chakrasana

Benefits

1. It helps to make ankles, thigh, shoulders, chest, spine and abdomen strong.
2. It relieves stress and tension.

Shavasana

Benefits

1. It strengthens the nervous system.
2. It controls high blood pressure.

14. Effects of Exercises on Respiratory System

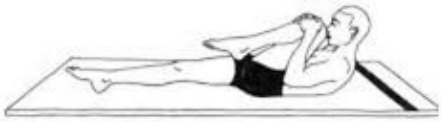
Regular exercises have following effects on respiratory system:

1. **Increase in Tidal Air Capacity :** Tidal air is the amount of air that flows in and out of the lungs in each quit respiratory movement. It has been noted that this tidal air capacity can be increased.
2. **Avoids Second Wind :** For a beginner, the stage of second wind is, indeed, a crucial stage. But for a regular exerciser, it is hardly felt. Sometimes, a well-experienced athlete does not feel it in his course of activity
3. **Unused Alveolus Become Active :** Regular exercise activates the unused alveolus, because much amount of O_2 is required in vigorous and prolonged exercise of daily routine. The passive alveolus becomes active.
4. **Increase in Residual Air Volume :** It is that amount of air, which is left in the lungs after exhalation. If an individual performs regular exercise, his residual air capacity increases in comparison to an individual who does not perform regular exercise.

5. **Increase in Size of Lungs and Chest :** When a person performs exercises regularly, he requires more amount of oxygen. He inhales more amount of air during exercise. Consequently, his lungs and chest are exercised. After some period, the size of his lungs and chest increases.

6. **Increase in Vital Air Capacity :** It is the amount of air which an individual can inhale and exhale with maximum effort. Its capacity varies from 3500cc to 4500cc in a normal adult. It is the sum of tidal volume, inspiratory reserve volume and expiratory reserve volume. Due to regular exercise its capacity increases up to 5500cc. (Explain any three points)

15. Pavanmuktasana



Pawanmuktasana

Procedure : Lie down on your back on a plain surface. Keep your feet together and place your arms beside your body. Take a deep breath. When you exhale bring your knees towards your chest. At the same time press your thighs on your abdomen. Clasp your hands around your legs. Hold the asana when you breathe normally. Every time you inhale, ensure that you loosen the grip. Exhale and release the pose after you rock and roll from side to side about three times.

Benefits:

1. It eases the tension in lower back.
2. It enhances the blood circulation in pelvic area.
3. It stimulates the reproductive organs. It also helps to cure menstrual disorders.
4. It helps in reducing the fats of thighs, buttocks and abdominal area.
5. It strengthens the abdominal muscles. It also massages the intestines and organs of the digestive system which helps in releasing the gas and thus improves digestion.
6. It relieves constipation.

Contraindications

1. If you are suffering from heart problems, hyper acidity, high blood pressure, slip disc and hernia, you should avoid practising this asana.
2. Pregnant women should avoid doing this asana.
3. If you have had an abdominal surgery recently, you should avoid performing this asana.
4. Individuals suffering from piles should avoid this asana.

16. The word training has been a part of human language since ancient time. It denotes the scientific way of execution of some task. This process invariably extends to a number of days and even months and year. Our main task is fitness and conditioning for sports and games. It is only due to that this term is mostly used in sports and games. So, it is called 'Sports training'. Sport training is based on scientific principles. It helps in preparation of sportsmen for apex performance in sports competitions.

Methods to Develop Speed

(1) Acceleration Run : It is usually adopted to develop speed, especially in attaining maximum speed from stationary position. Acceleration ability, like all other speed abilities, can be improved directly or indirectly. It is improved indirectly by improving explosive strength, technique, flexibility etc.

For the direct improvement of acceleration ability short sprints are the best means.

For improving acceleration ability the following load parameters are suggested:-

Intensity : Maximum or near maximum.

Duration : The duration of the sprint should be from 4-6 sec.

Distance : In view of the duration the distance will differ from activity to activity. It will also depend on the nature of sport.

Repetitions : According to the training state, these should be arranged in series of 3-4 repetitions. The sprints should be stopped when the time of sprints starts decreasing.

Recovery : Full recovery in between the series. Duration of recovery will depend on the duration or distance of sprints

In this method, a runner accelerates to his top speed as fast as possible. After attaining his top speed he gradually slows. He runs 20-30 meters distance to reach top speed. This is repeated 10 to15 times. This acceleration run starts from standing or crouch position. Care should be taken that first few strides are shorter (but very faster) and afterwards long-distance strides. Recovery time is ½ - 2 minutes.

(2) Pace Running :

Pace race means to keep pace with or to go with uniform speed, means the whole distance at a constant or steady rate. In pace races the runner or athlete does not run all out from the very first stride. These races are generally 800 meters and above. Pace training helps in improving speed along with endurance. This training requires extensive practice because an athlete has to set his pace at an optimum speed for his event and that requires a lot of experimentation. For developing speed endurance through pace training, the help of a coach is required. The following steps are recommended.

1. Running at maximum steady pace or speed for a distance of 10% to 20% more than the racing distance of an athlete.
2. Repetitions run at below maximum or near maximum speed with long recovery periods.
3. Varied speed runs of 50M normal run and 50 M acceleration.

17. Attention Deficit Hyperactivity Disorder (ADHD)

Attention deficit hyperactivity disorder is a group of behavioral symptoms that include inattentiveness, hyper active and impulsiveness. It is a medical condition affecting a person's ability to focus, sit still, and pay attention. They may have difficulty in focusing on tasks or subjects, or act impulsively; they may also get into trouble. They may be hyperactive or may be unable to control their impulses. This type of disorder is found more common in boys than in girls.

Symptoms in children	Symptoms in Adult
Usually forget about daily activities	May have anxiety attacks
Feel problem in organizing routine activities	May be impulsive
Usually indulge in day dreaming easily destructed	May have controlling emotions
Usually bounce when sitting	Usually have low self steam
Become restless	Usually remain unorganized
Some problem in playing quietly and talk excessively	Easily frustrated and feel depression
Do not pay attention and usually make careless mistake	have problem in concentrating, especially while reading

Causes of Attention Deficit Hyperactivity Disorder (ADHD)

1. Genetic factor
2. Low birth weight
3. Lack of discipline in the family
4. Brain injuries
5. Trauma and brain diseases
6. Diet and exposure to toxic substance.

18. Physiological Factors Determining Strength:

1. Size of the Muscles : The strength of the muscles largely depends upon the size of the muscles. It is well known fact that bigger and larger muscles can produce more force.

2. Body Weight : It is also a well-known fact that the individuals who are heavier are stronger than the individuals who are lighter. There is a positive correlation between body weight and strength among international weightlifters. The heavier weightlifters lift the heavier weight. So, body weight also determines the strength of an individual.

3. Muscles Composition : Each muscle consists of basically two types of muscles fibres i.e., fast twitch fibres (white fibres) and slow twitch fibres (red fibres). The fast twitch fibres are capable to contract faster and therefore, they can produce more force. On the contrary, the slow twitch fibres are not capable to contract faster but they are capable to contract for a longer duration. The muscles which have more percentage of fast twitch fibres can produce more strength.

4. Intensity of the Nerve Impulse : A muscle is composed of a number of motor units. The total force of the muscle depends on the number of contracting motor units. Whenever, a stronger nerve impulse from CNS excites more number of motor units, the muscle will contract more strongly.