

## CBSE SAMPLE QUESTION PAPER-2

PHYSICAL EDUCATION (048)

SESSION 2021-22(CLASS XII)

TERM II

## SOLUTIONS

## Q.1 Benefits of Asanans 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

(Explain any two)

## Q.2

- (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.

## Q.3 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.

**Incision**

It is a surgical cut made in skin or flesh. Sometimes it may occur due to sharp edged objects of sports equipments or spikes etc. Sometimes, arteries or veins may be cut. Blood usually comes out freely from incision.

#### Q.4 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.

**Q.5 Acceleration Ability:** - It is the ability to achieve high speed from a stationary position or from a slow moving position. This ability is important in all games and sports in which maximum speeds are to be achieved quickly such as sprint races, swimming, hockey, football and gymnastics etc.

**Loco-motor Ability:** - It is the ability to maintain maximum speed for maximum possible duration or distance. This ability is very significant in sports events such as 100m, 200m, 400m races.

**Q.6 Strain:** Commonly it is known as muscle pull. It is the result of stress or force applied on tissues. It can occur anywhere at the muscles or tendons.

**Sprain:** This is an injury of the ligaments. It occurs due to over stretching or tearing of ligaments. During, ligaments sometimes become tense and get injured near the joint with a bone or from a weak spot in the ligaments themselves.

#### Q.7 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 identify 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)

**Q.8 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 Uptake:** The amount of oxygen which can be absorbed and consumed by the working muscles from the blood is called oxygen uptake. The oxygen uptake depends on the rate of diffusion which is further determined by the speed of blood flow, temperature and partial pressure of oxygen in the blood and of carbon dioxide in the muscles cell. The speed and amount of oxygen consumption also depends on the number, size and metabolic capacity of the mitochondria and fortunately these can be improved up to some extent through training.

**Q.9 Goal Setting**

It is a technique to show goal-oriented behavior. When small targets are accomplished, one can move to bigger goals and for achieving them they need to invest extra time budgeting in the daily schedule.

**Fun-based training**

The training should be challenging and task-oriented with enough drive and energy. The training methods should involve fun and enjoyment for athletes. Adding creativity and innovation during training and practice session helps in adding motivation for athletes to persist with the continuous demands of training load.

**Q.10** Load and adaptation have a relationship of cause and effect. This relationship however is governed by certain rules which are explained below:

1. The adaptation processes are set in motion only when the load is optimum. For achieving adaptation the load must have certain minimum of intensity and volume. If the load is less than the adaptation processes are not started and if the load is too much then recovery processes are delayed considerably.
2. The adaptation is the result of proper cycle of load and recovery. Without proper and adequate recovery the adaptation will not take place.
3. The adaptation takes place faster in case of beginners. But it takes a longer time in case of advanced sportsmen. High level sports men take several weeks or even months to achieve an adaptation.
4. The adaptation to load not only result in improvement of performance capacity but it also leads to increase in the load tolerance ability.
5. Load given to a sportsman only once does not lead to any adaptation. A stable adaptation and increase in performance is achieved only when the load is given regularly for several days or weeks.
6. Adaptation achieved through load is not permanent. If the training is stopped then the organism adapts itself to the lower level of demands. The stability of an adaptation is more if it has been achieved gradually and steadily. (Any three)

**Q.11 Sheldon** typed people on the basis of their body structure. This classification is called Somato-types. Sheldon first classification people into several Somato-types, but reduced the classified to the following three types based on the temperament and appearance.

1. **Endomorph:** Such people are characterized by fat belly, love of comfort, love of eating, sociability, slow to react and affectionate, etc.
2. **Mesomorph:** Such people are muscular, energetic, courageous, dominating, risk taking and love adventure.
3. **Ectomorph:** They are lean or thin, full of anxiety, over tense, secretive, introverts and like to be lonely besides many other qualities.

Q.12 Autism spectrum disorder is a disorder that affects development. Here, the word spectrum refers to the range of symptoms and their severity. Generally, the young children with ASD have difficulties with communication, language, social skill and behavior. In other words, autism spectrum disorders are characterized by social interaction difficulties, communication challenges and a tendency to engage in repetitive behaviors.. They don't like to be embraced and repeat the words and actions. They feel difficulties in expressing their needs and emotions. They are sensitive to taste, smell and sound.

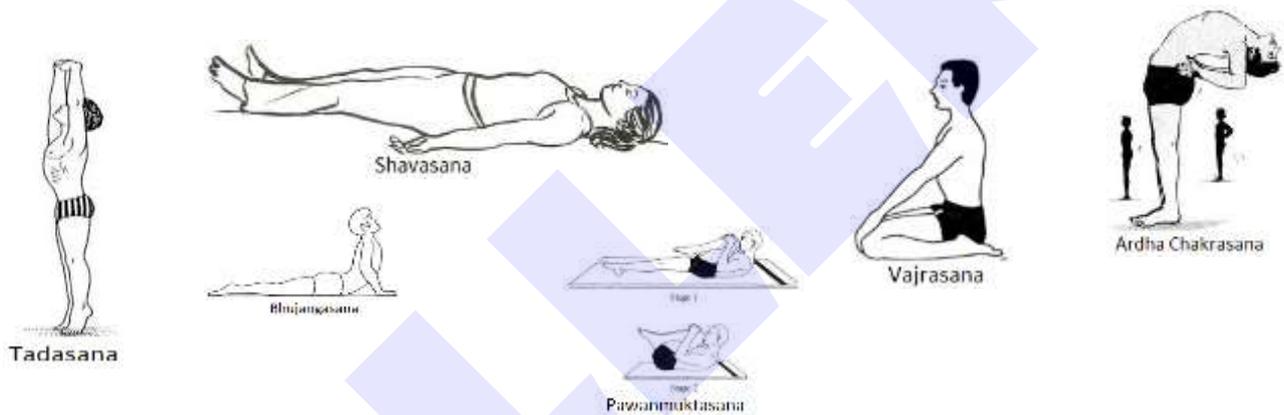
### Causes of Autism Spectrum Disorder (ASD)

Research studies show that there is no single cause of this disorder. However, the available data related to this field suggest that this disorder result from different sets of causal factors such as:

1. Genetic Cause

2. Environmental Factors

Q.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.

### Q.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)

### Q.15 Gomukhasana

**Procedure:** Sit down on the ground with the legs stretched forward. Now fold the left leg the knee and sit on the left foot. Fold the right leg and keep the right thigh on the left thigh with the help of your hands. Now lift your buttocks and bring the heels of both feet together so that they should touch each other. Now fold your left arm behind your back over the shoulder. Fold the right arm behind the back under the right shoulder. After that bend your fingers of both the hands and clasp each other. At this time your head and back should be erect. Then repeat the same in reverse position.



Gomukhasana

**Benefits:**

1. It makes the leg muscles strong and elastic.
2. It helps in keeping the shoulder joints healthy, flexible and strong.
3. .it improves the function of lungs.
4. The regular practice of this asana helps in the treatment of sciatica.
5. It improves the function of kidneys by stimulating it thus helps the individuals who suffer from diabetes.
6. It also reduces stress and anxiety.
7. It helps in staying tough and strong.
8. It helps in treating sexual ailments.

**Contraindications**

1. The individuals who suffer from shoulder, knee or back pain should avoid practising this asana.
2. Avoid this asana in case of any knee injury.
3. Avoid this asana in case of recent or chronic knee or hip injury or inflammation.

Q.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 to 15 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.

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

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

**Q.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.