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- ◆ **Latest CBSE Examination Paper 2020**



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CBSE EXAMINATION PAPER 2020

Section – A

1. (c)
2. (a)
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5. (a)
6. (c)
7. (b) or (b)
8. (d)
9. (b)
10. (c)
11. (a)
12. (c) or (a)
13. (d) or (c)
14. (a)
15. (d)
16. (c)
17. (b) or (d)
18. (b)
19. (a)
20. (a)

21. Harvard Step Test Administration

Purpose: Measurement of cardio-vascular efficiency.

Age level and sex: It is designed for college man by Brouha at Harvard University Laboratory. It is also modified to suit both sexes from Elementary school to college level.

Time Allotment: 5 minutes

Facilities and Equipment: A stop watch, 20” height bench, partners, stethoscope, metronome, score sheet.

Procedure: Stand facing the step-up bench. On the word ‘ready go’ count your steps for 5 minutes. Count as follow: left foot up, right foot up, left foot down, right foot down. (straightened the knees completely on top of the bench). At the end of the fifth minute give command ‘stop’ and ask the subject to sit down. Take the pulse rate at the wrist, exactly one minute later record the pulse rate for 30 seconds. Exactly 30 seconds later, again take and record the pulse rate for another 30 seconds. Again exactly 30 seconds later take the third recovery pulse rate for 30 seconds and record. So the recovery pulse count from 1 to 1½, 2 to 2½, 3 to 3½ minutes after exercise is completed.

Scoring: His fitness index is calculated by

$$PEI = \frac{\text{Duration of exercise in second} \times 100}{2 \times \text{sum of three pulse count}}$$

Or

- (a) Chair stand test for lower body strength.
- (b) Arm curl test for upper body strength.
- (c) Eight foot up and go test for agility.
- (d) Six minute walk test for aerobic endurance.

Procedure: For 8 foot up and go test place the chair next to a wall and mark 8 feet in front of the chair. The subject starts by fully seated, hand resting on knees and feet flat on ground. On command ‘Go’ timing is started and the subject stands and walks as quickly as possible around the cone. Back to initial position and sit on to chair. A Person sit down Stop time. Perform two trials.

Scoring: Time is recorded and as per the norms grading is done.

22. Advantages:

- (a) It produces a deserving or true winner.
- (b) It gives ranking to all the competitors.
- (c) It keeps the interest alive upto the end as all the participants have to play upto the end of the league.
- (d) It satisfies all the teams or players because all teams get equal chance to play against each other.
- (e) Greater number of matches are played by teams.

23. Yoga helps in improving our flexibility, lower our stress and increases our confidence and finally contributes to a healthier lifestyle on the whole. There are various lifestyle diseases like obesity, diabetes, asthma, hypertension and backache. Through regular participation in yoga.

- (a) Bones and joints become strong
- (b) Muscles becomes stronger and flexible.
- (c) Circulation of blood becomes normal.
- (d) Respiratory organs become efficient.
- (e) Efficiency of digestive system increases.
- (f) Better neuro muscular coordination.
- (g) Strengthen the immune system.

24. The nature of ODD is that your child does not see his or her behaviour as a problem. Instead he/she will probably believe that unreasonable demands one being forced on him/her. But if your child has signs and symptoms common to ODD then consult doctor. There are no clear signs or causes for this problem. It may be a combination of inherited and environment factors as under.

- (a) **Genetics:** A child's natural disposition or temperament and possibly hemological differences in the way the nerves and the brain functions.
- (b) **Environmental:** Problems with parenting that may involve a lack of supervision, inconsistent or harsh discipline or abuse or neglect may contribute to the development of behavioural disorders.
- (c) **Head injury:** Some studies suggest that defect in or injuries to certain areas of the brain can lead to serious behavioural problems in children. In addition, ODD has been linked to abnormal functioning of certain types of brain chemicals or neuro transmitters.

25. Physical exercises for childhood and adulthood are:

Childhood Exercises: The activity recommended for early childhood are

- | | |
|------------------------|----------------------------|
| (a) Running | (b) Catching |
| (c) Throwing | (d) Jumping |
| (e) Coordinative exs. | (f) Flexibility exs. |
| (g) Competitive sports | (h) Cycling, Swimming etc. |

The above mentioned exercises involves control over small muscles and bone development. The activities should be more child based learning with safe environment.

Exercise for Adulthood: In this stage, the muscular strength, endurance and speed develops along with growth pattern. All the games are recommended in this stage. Proper technique is learnt under guidance of expert coaches. It include:

- | | |
|---------------------|----------------|
| (a) Push ups | (b) Basketball |
| (c) Weight training | (d) Hockey |
| (e) Judo | (f) Wrestling |
| (g) Boxing etc. | |

- 26. Food myths:** These are unscientific reasons or thoughts about food items. These are more of a psychological nature than actual. Wrong information floats around nutrition and without knowing the logic we start following it or create myths without finding the truth.

For example

- (a) Eating egg will jack up your cholesterol.
- (b) Dairy products are the only food healthy for bones.
- (c) Low fat food are more suitable for weight loss.
- (d) Having milk immediately after fish makes you sick.

Or

Pitfalls of dieting are as follows:

- (a) The most common effect of dieting is hair loss.
 - (b) The person remains under stress.
 - (c) It can also lead to cognition impairment if continued for long.
 - (d) The worst part of dieting is that it can even damage the organs of the body.
 - (e) After dieting when you start eating your regular meal you gain weight very quickly and your physique is deformed.
- 27.** (a) Always do warm-up exercise before start of any activity.
(b) Prepare yourself psychologically for the activity.
(c) Always check the equipment before its use.
(d) Use safety equipments related to the game.
(e) Always drink a lot of liquid or fluid.
(f) Do not train when you are very tired.

28. Newton's laws of motion:

Newton's first law: "Every object persists in its state of rest or uniform motion in a straight line unless it is compelled to change that is state by forces impressed on it".

- (a) A body at rest tends to remain at rest and a body in motion tends to remain moving at the same speed and in the same direction.
- (b) This means that nothing starts or stops moving until some outside force causes it to do so.
- (c) These forces may add to its motion, slow it down or change its direction.

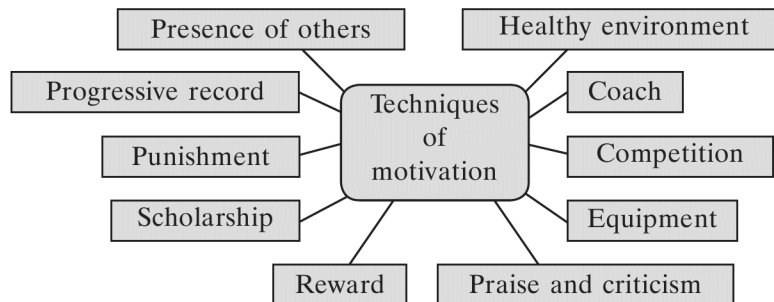
Newton's second law: "Force is equal to the change in momentum per change in time. For a constant mass, force equals mass times acceleration."

- (a) When a body is acted upon by a constant force, its resulting acceleration is inversely proportional to the mass of the body and is directly proportional to the applied force.

- (b) It covers both change in direction and speed, including starting up from rest and coming to a stop.
 - (c) This law is expressed by $F = MA$.
 - (d) For example, speeding up, slowing down, entering, climb or descent and turning.
- Newton's Third law:** "For every action, there is an equal and opposite reaction".
Example: (a) Start of 100 metre race (b) Take off in long Jump

29. There are various suitable techniques to motivate athletes. These are–

- (a) **Coach as a motivator:** The method of teaching or coaching adopted by players has an important bearing in motivating them. A good communicative skill accompanied by demonstration exerts a great motivating force and energizes an individual to perform better. Coach plays a major role in clearing the concept of an athlete with praise as well as criticism giving the right feedback.



- (b) **Equipment:** In the present scenario, equipment provided to an athlete serves as a great motivational technique. Latest gadgets, well maintained ground, good quality equipment (safety) motivate an athlete to practise hard.
- (c) **Praise and criticism:** Praise is the most powerful tool to motivate. Whether it is verbal or non-verbal it provides a positive feedback and leads to self-improvement. This helps an athlete to continue striving hard for future improvement. A simple pat on the back, can do wonders. Sometimes criticism also motivates the athletes because focus is on correcting major errors. Positive and right direction along with criticism gives the accurate feedback.
- (d) **Presence of others:** It is a known fact that presence of others has a influence on the performance and motivational level. It includes family, team officials, coach, spectators, fellow competitors. All these serves as a force to focus on performance. By providing exposure to athletes, through competitions in various social settings, their motivational level can be increased.

Or

Balanced Diet: It is defined as a diet which contains different types of food in such a quantity and proportions that the need for calories, amino acids, vitamins, minerals, fats, carbohydrates and other nutrients is adequately met for maintaining health.

Vitality, general well-being and making a small provision for extra nutrients to withstand short duration of leanness are also needed in a balanced diet.

Functions of balanced diet:

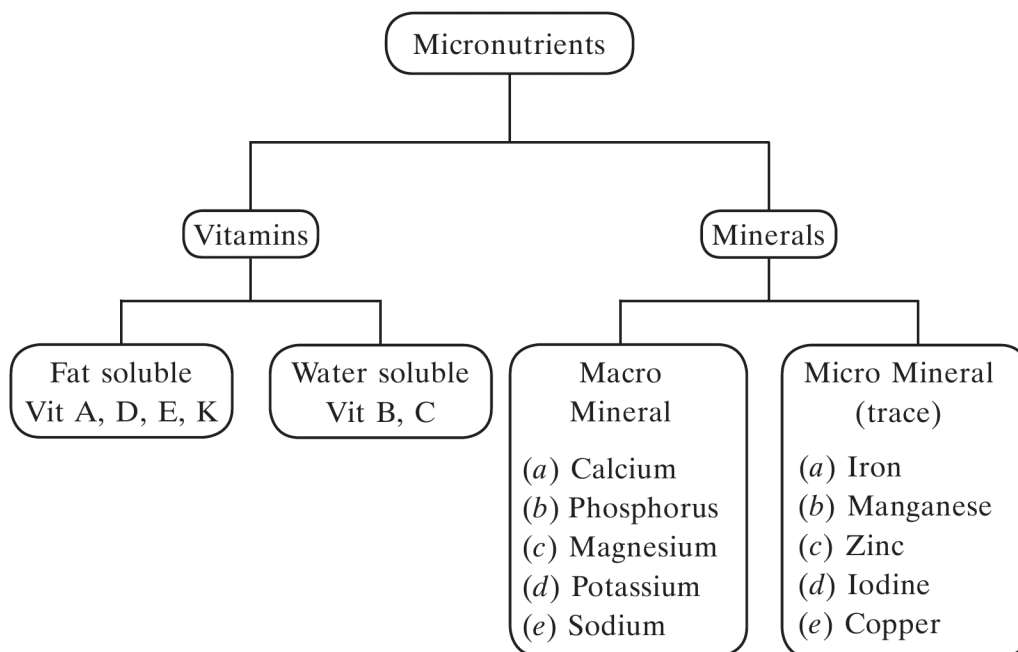
- (a) It provides energy for the various activities of the body.
- (b) It helps the body to grow and replace wornout tissues.
- (c) It has the chemicals, which help to control the body functions and protect the body from diseases.

Four Micronutrients are

- (a) Water soluble vitamins
- (b) Fat soluble vitamins
- (c) Macro minerals
- (d) Trace minerals

Micronutrients are one of the major groups of nutrients your body needs. They include Vitamins and Minerals. Vitamins are necessary for energy production, immune function, blood clotting and other functions. Minerals play an important role in growth, bone health, fluid balance and several other processes.

Example Calcium, Magnesium, Phosphorus, Sodium are macrominerals and trace minerals are Iron, Manganese, Copper etc.

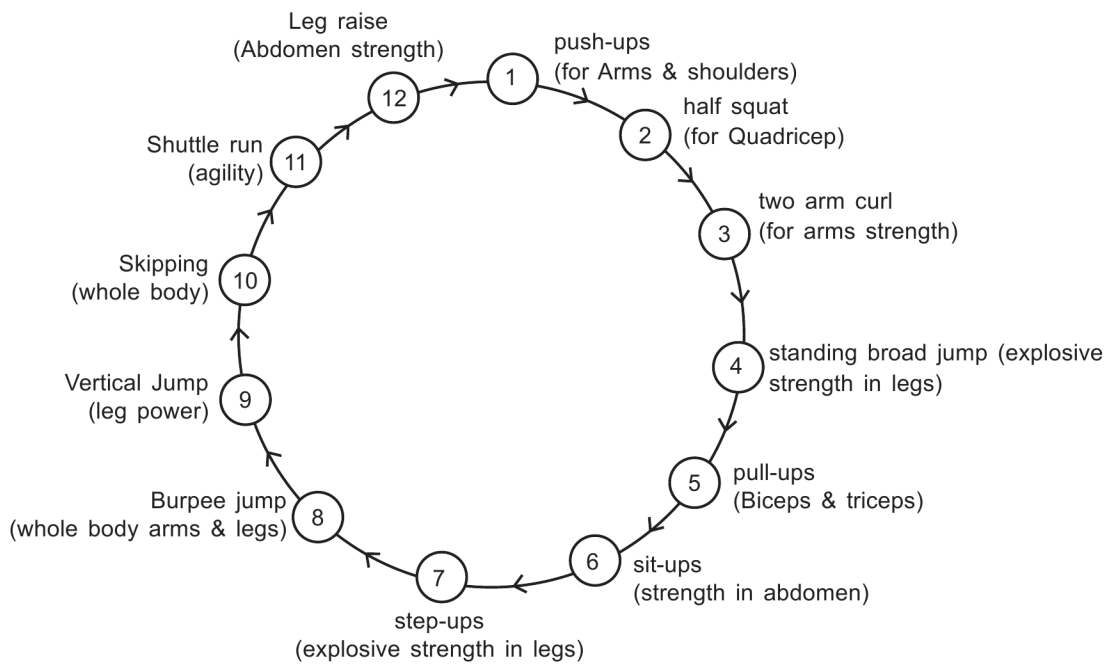


- 30. Flexibility:** Stretchability and elasticity are the special qualities of the muscles and ligaments by which these can be stretched and can regain their normal length without any adverse effect on the concerned tissue. So, flexibility can be defined as the ability to execute movements with greater amplitude or range. Flexibility is measured by determining the range of possible movement at a joint.

Flexibility is of two types:

- (a) Passive flexibility
 - (b) Active flexibility.
- (a) **Passive flexibility:** The ability to perform movements with greater amplitude with external help is passive flexibility. e.g., Stretching exercises with the help of partner. Passive flexibility is always greater than active flexibility because with the help of partner stretching of muscles, ligaments and joint structure takes place slowly with holding method.
- (b) **Active flexibility:** The ability to do movements with greater amplitude without external help is called active flexibility. Active flexibility is of two types; static and dynamic. Static flexibility is required while standing, sitting or lying. Dynamic flexibility is required for executing movements with greater amplitude when the sportman is moving. Both flexibilities depend on motor coordination.
- 31.** It is a form of body conditioning or resistance training. It is very good for development of muscular strength and endurance. Circuit is one completion of all prescribed exercises in the programme. There are 7-12 exercises in one circuit. We call it a set.
- Four importance are:
- (a) It improves strength, endurance and speeds up the fat burning process.
 - (b) It improves cardio-vascular endurance due to lesser resting periods.
 - (c) Circuit training conditions the entire body and prepares you for more advanced fitness programs.
 - (d) It increases the work capacity which include both the amount of work you can do and recovery.

Circuit training plan for strength development:



Or

Knock out fixture for 25 teams

$$\text{Teams in upper half} = \frac{n+1}{2} = \frac{25+1}{2} = 13$$

$$\text{Teams in lower half} = \frac{n-1}{2} = \frac{25-1}{2} = 12$$

$$\text{No. of Matches} = n - 1 = 25 - 1 = 24$$

$$\text{No. of Bye} = 32 - 25 = 7$$

$$\text{Bye in upper half} = \frac{nb-1}{2} = \frac{7-1}{2} = 3$$

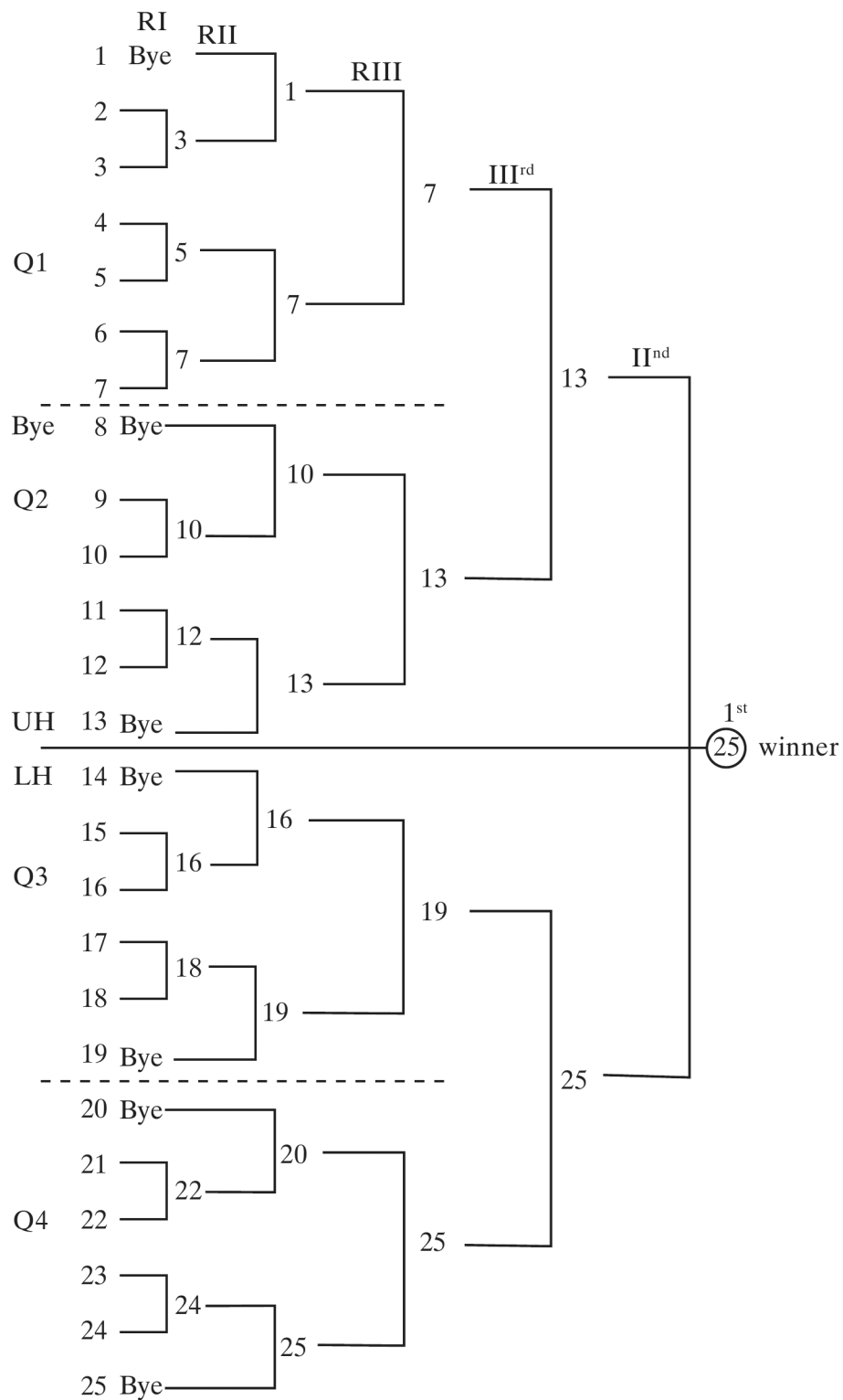
$$\text{Bye in lower half} = \frac{nb+1}{2} = \frac{7+1}{2} = 4$$

Teams in Quarter 1 = 7,

Teams in Quarter 2 = 6,

Teams in Quarter 3 = 6,

Teams in Quarter 4 = 6,



32. Children with special need help and guidance while performing various activities.

Some of the benefits of physical activities are:

- (a) There is improvement in muscle strength, coordination and flexibility.
- (b) Improve exercise endurance, cardiovascular efficiency and increase life expectancy.
- (c) One experiences better balance, motor skills and body awareness.
- (d) Research has shown that physical education programmes can do a great deal to improve the lifestyle of children with special needs.
- (e) Help control obesity.
- (f) Improve self-esteem and social skills.
- (g) Encourage an active lifestyle.
- (h) Physical activity improves general mood and self-confidence.
- (i) There is development of better motor skills and enhanced physical health that helps individual to fight back disability.
- (j) Help establish new friendships and channel energy.

Various strategies involved are:

- (a) **Fun activities for children with Autism:** Craft activity is fun for everyone, the opportunity to explore, colour, shape and sensory experiences can stimulate attention and faster calmness.
- (b) **Adaptive Physical Activity for Students with Cerebral Palsy:** When putting adaptations into place, the planning, equipment and environment for physical education classes should be such that ensure enjoyment and success for a child.
- (c) **Selecting and Adapting toys and Games as per their Interest:** An Adapted toy can provide children with disability the same play opportunities, simplify the rules of the game and setting up the play environment.
- (d) **Different Methods of Instructions:** Teachers must adjust and vary their approach based on the skills and unique learning needs. Instructions should be focused on the abilities of each student. Teacher must accommodate many levels of functioning and learning within each group of students.
- (e) **Consider different Approaches to Mobility:** Making outdoor programs accessible for disabled. Once you gain some regularity in getting children out in green environments you will start seeing the results in their level of self-esteem focus and participation in social settings.
- (f) **Arranging Positive Learning Environment:** Children who have additional needs often require the environment to be adopted to maximise their participation in the planned manner.

- 33. Women in sports:** In childhood, there is very little difference between boys and girls as regards capacity for physical activity. Development in girls is little more than that in boys up to puberty. From late adolescence onwards boys rapidly outstrip the girls in physical development. Boys are capable of more prolonged and strenuous activity. In the past, female participation in sports and physical recreation was discouraged mainly for aesthetic and cultural reasons. Women, therefore, by virtue of their sex, are at a disadvantage in sports.

Sports is the area where gender inequality is strongly evident. Problem is more socio-psychological than anything else. The first Indian woman to participate in Olympics was in 1952. In 1975, the Government of India instituted the national sports festival for women with a view to promoting women sports. The Sports Authority of India was set up in 1984 with the objective of broadbasing of sports and nurturing of talented children in different age group by providing them infrastructure, education, coaching facilities and other related facilities. Indian female sports persons, such as Anju Bobby George, PT Usha, Saniya Mirza, Anjali Bhagwat, Saina Nehwal have made a mark for themselves in the world of sports and are gaining respect.

- 34.** Asanas to cure back pain problems are:

- | | |
|------------------|-------------------------|
| (a) Tadasana | (b) Ardh matsyendrasana |
| (c) Vakrasana | (d) Shalabhasana |
| (e) Bhujangasana | |

Technique of Tadasana:

- (a) Keep your legs, heels and toes together.
- (b) Fix eyes on focal point on the eye level.
- (c) Pull the kneecaps up. Keep them firm and stand erect.
- (d) Extend your arms, palms and fingers upwards. Keep the elbows straight.
- (e) Keep your chest up, neck erect and head straight.
- (f) Raise the heels and come up on your toes.
- (g) Breathe normally and hold the position for 10-30 seconds.
- (h) Practice 4-5 times.

Contraindications:

Avoid under

- (a) **acute cardiac conditions.**
- (b) **varicose veins**
- (c) **vertigo**

Benefits:

This asana helps develop physical and mental balance. The entire spine is stretched and loosened, helping to clear up the congestion of the spinal nerves at the point where they emerge from the spinal column. It also stretches the abdominal muscles and the intestines.

Procedure for Vakrasana:

- (a) Sit down on the ground stretching your legs forwards.
- (b) Keep your hands beside your thighs or hips.
- (c) Right leg is stretched.
- (d) Keep the left foot beside the right knee and left knee raised upward.
- (e) Inhale and twist to the left, place the right arm by the outer side of the left knee and hold the left ankle with the right hand.
- (f) Take the left hand behind the back, keeping the palms on the floor.
- (g) Look backward towards the left.
- (h) Hold on the position for few seconds.
- (i) Perform the same movement on the other side and repeat the process slowly 3-4 times.
- (j) Take a deep breath and relax.

Benefits of Vakrasana:

- (a) Increases the elasticity of spine.
- (b) Tones up the spinal nerves.
- (c) Helps to relieve stiffness of vertebra.
- (d) Reduces belly fat.
- (e) Relieves back pain.
- (f) Regulates the secretion of digestive juices, useful for different digestive disorders.

Or

Adapting effects in our cardiovascular system for a longer period are:

- (a) **Cardiac output increases:** The cardiac output at rest remains unchanged but at maximum level of exercise it increases considerably. This increase results mainly from the increase in maximal stroke volume. For highly endurance trained athletes the cardiac output is 40 l/min. or more.
- (b) **Increase in stroke volume:** Physical exercise, especially endurance training, increases the stroke volume. In trained athletes, who endure for long duration, the left ventricle of heart holds more blood during relaxed state than it does in an untrained athlete's heart. It means more blood is available to enter the ventricle, which ultimately increases stroke volume. It also results in decrease in heartrate at rest.

- (c) **Lung volume:** With endurance training lung volume and capacities increase. Vital capacity is also increased after long duration workouts.
- (d) **Tidal volume increases:** The tidal volume is the amount of air inspired or expired per breath. It also increases as a result of long hours training. In untrained individual the tidal volume is 500 ml/breath, whereas in trained persons it increases to more than 600–700 ml/breath.
- (e) **Blood flow:** It is a well-known fact that active muscles require more oxygen and nutrients. To fulfil this requirement, more blood must be supplied to these muscles during exercise. The adaptive effect that takes place is that the muscle becomes better trained and the circulatory system adapts to increase blood flow to them.

Effects on Muscular system:

- (a) **Hypertrophy of the muscle:** Due to resistance training the size of muscle fibres increases. Blood supply in the muscles increases. The total amount of proteins increases which is essential for muscle growth.
- (b) **Biochemical changes in muscles:**
 - (i) **Aerobic changes:** Myocin content increases. Oxydation of carbohydrates and fats Increases. Amount of mitochondria increases thus more muscular force is produced.
 - (ii) **Anaerobic changes:** ATP+PC system capacity increases, thereby more energy is released. Glycolytic capacity also increases as a result of training.
- (c) **Body composition changes:** There can be significant losses of relative and absolute body fat. Fat free weight or muscle mass increases significantly. After training flexibility increases which plays an important role in physical activities to enhance the performance and prevent muscular injury.
- (d) **Improving the strength of connective tissues:** Exercises strengthen and extend connective tissues that join the fibres, to perform strenuous activities.