

CBSE Board Paper Solution-2020

Class	: XII
Subject	: Physical Education
Set	: 4
Code No	: 75
Time Allowed	: 3 Hours
Maximum Marks	: 80

General Instruction:

- 1) The question paper consists of 34 questions
- 2) All questions are compulsory.
- 3) Question 1-20 carry 1 mark and are multiple choice questions.
- 4) Question 21-30 carry 3 marks each and should not exceed 80 -100 words each.
- 5) Question 31-34 carry 5 marks and should not exceed 150-200 words

SECTION - A

1. The total number of matches in a knock out tournament of 34 teams

- (a) 31**
- (b) 32**
- (c) 33**
- (d) 35**

Answer. (c) 33

2. The primary goal of Intramural competition is

- (a) To provide opportunity for mass participation of students**
- (b) To participate in inter-school competition**
- (c) To provide intra-school competition**
- (d) All of the above**

Answer. (d) All of the above

3. The food component present in sugar is

- (a) fats**
- (b) protein**
- (c) vitamin**
- (d) carbohydrate**

Answer. (d) carbohydrate

4. The main source of Vitamin C is

- (a) Guava**
- (b) Egg**
- (e) Milk**
- (d) Banana**

Answer. (a) Guava

5. Which asana is helpful in maintaining normal blood pressure?

- (a) **Shavasana**
- (b) **Padmasana**
- (c) **Shalabhasana**
- (d) **Vakrasana**

Answer. (a) Shavasana

6. Gomukhasana, Chakravana and Matsyasana are helpful in curing which disease?

- (a) **Diabetes**
- (b) **Backpain**
- (c) **Asthama**
- (d) **Obesity**

Answer. (b) Backpain

7. When child is not able to adjust within society or having no friends, is suffering from

- (a) **ADHD**
- (b) **ASD**
- (c) **ODD**
- (d) **OCD**

Answer. (d) OCD

OR

Obsessive Compulsive Disorder is a/an

- (a) **Argumentative disorder**
- (b) **Anxiety disorder**

(c) Receiving and responding disorder

(d) All of these

Answer. (d) All of these

8. Cognitive disability may cause difficulty in which of the following activity

(a) Reading

(b) Writing

(e) Mathematics

(d) All of the above

Answer. (d) All of the above

9. Menarche is defined as the

(a) Ending of menstrual period in women

(b) Beginning of menstrual period in women

(c) Time of pregnancy

(d) Beginning of pregnancy

Answer. (b) Beginning of menstrual period in women

10. Scoliosis is a postural deformity related with

(a) foot

(b) leg

(c) vertebral column

(d) hand

Answer. (c) vertebral column

11. Sit and reach test is conducted for

(a) Flexibility

(b) Motor fitness

(c) Endurance

(d) Speed

Answer. (a) Flexibility

12. Barrow Fitness Test does not include :

(a) Medicine Ball Put

(b) Zig-zag Run

(c) 600 metres Run

(d) Standing Broad Jump

Answer. (c) 600 metres Run

OR

Rock Port one mile test is conducted to measure

(a) Cardiovascular fitness

(b) Senior citizen's fitness

(c) Vital capacity

(d) Muscular strength

Answer. (a) Cardiovascular fitness

13 Movement possible in Ball And Socket joint are.

- (a) Rotation**
- (b) Flexion**
- (c) Extension**
- (d) All of the above**

Answer. (a) Rotation

OR

The Law of acceleration is also known as

- (a) Law of inertia**
- (b) Law of action and reaction**
- (c) Law of momentum**
- (d) Boyle's law**

Answer. (c) Law of momentum

14. Match List 1 and list 2, select the correct option.

Sr. No	List 1	List 2
1.	Abrasion	Joint Injury
2.	Green Stick Fracture	Soft Tissue Injury
3.	Shoulder Dislocation	Cause of Sports Injury
4.	Lack of Fitness	Bone Injury

- (a) 2, 4, 1, 3**
- (b) 3, 2, 4, 1**

(c) 4, 3, 1, 2

(d) 1, 3, 2, 4

Answer. (a) 2, 4, 1, 3

15. Bio-mechanics help in which of the following?

(a) In improving technique

(b) In improving designs of sports equipment

(c) In improving performance

(d) All of these

Answer. (d) All of these

16. The force of friction depends upon

(a) Nature of surface of contact

(b) Material of objects in contact

(c) Both (a) and (b)

(d) None of the above

Answer. (c) Both (a) and (b)

17. Emotionally unstable, anxiety sadness are attributes of which personality dimension?

(a) Extroversion

(b) Neuroticism

(c) Agreeableness

(d) Openness

Answer. (b) Neuroticism

OR

Aggressive behaviour of a sportsperson is influenced by

(a) Emotional identification with the team

(b) Tactical ability

(c) Goal orientation

(d) All of the above

Answer. (d) All of the above

18. The body structure of mesomorphic people is like

(a) Fatty

(b) Large muscles and bones

(c) Solid

(d) Obese

Answer. (b) Large muscles and bones

19. Fartlek training was developed in

(a) Sweden

(b) The USA

(c) India

(d) The U.K.

Answer. (a) Sweden

20. If a muscle contracts and changes its length to produce force, the contraction type is :

- (a) Isotonic**
- (b) Isometric**
- (c) Isokinetic**
- (d) None of these**

Answer. (a) Isotonic

SECTION — B

21. A Explain the procedure of Harvard step test in detail. 3

OR

List down the test items of Rikli and Jones fitness test and explain the procedure of anyone. 3

Answer.

Harvard step test

Harvard step test is a cardiovascular fitness test also called aerobic fitness test. It was developed by Brouha and others in 1943. It is used to measure cardiovascular fitness by checking the recovery rate.

Equipment's required - A gym bench or box of 20 inches high for men and 16 inches for women, a stopwatch and cadence tape.

Procedure - The athlete stands in front of the box. On the command 'go' the athlete steps up and down on the box at a rate of 30 steps per minutes. The heartbeat is counted for 30 seconds period.

Advantages

- a. Minimum equipment is required for conducting this test.
- b. It requires minimal cost.
- c. It is simple to set up and conduct.

Disadvantages

- a. The height of the box remains the same for tall individual and short individuals.
- b. It will be easy for tall individuals and difficult for short individuals.

Or

The Rikli and Jones Senior Fitness Test is a series of simple tests that assess the functional fitness of elderly people. The tests designed by Rikli and Jones for senior citizen fitness are

- a. Chair Stand Test for lower body strength.
- b. Back Scratch Test for upper body flexibility.
- c. Eight Foot Up and Go Test for coordination and agility.

- d. Arm Curl Test for upper body strength and endurance.
- e. Chair Sit and Reach Test for lower body flexibility.
- f. Six' Minute Walk Test for aerobic fitness and endurance.

Back Scratch Test for senior citizens

The usefulness of the Back Scratch Test for senior citizens is to assess the upper body ` flexibility, particularly, the shoulders. The shoulder stretch is a simple flexibility test to determine if the hands can be brought together behind the back particularly the shoulders. This test is part of the fitness programme as an alternative to the back saver sit and reach test.

22. League tournament is a better way to judge the best team of the tournament. Comment. 3

Answer.

There are following advantage of league tournament:

- a. In such type of tournament, the sports officials do not face any difficulty while selecting or determining the appropriate players or team.
- b. The only strong or deserving team gets a victory in the tournament.
- c. Every team gets a full opportunity to show its efficiency or performance.
- d. Sports and games can be made more popular through league tournament owing to a maximum number of matches.

- e. A team need not wait to win another team for playing a match.
- f. The spectators also get a good opportunity to watch the game for many days.
- g. Appropriate opportunities are available to the players to improve their performance

23. 'Asanas can be used as a preventive measure.-

Comment.

3

Answer.

The word 'Yoga' is derived from the Sanskrit root Yuj which means 'join' or 'unite'. This may be as the union of body, mind and soul, and is used in the literature both as an end as well I as means.

Asanas as a preventive measure: The term asana means sitting in a particular posture, which is comfortable and which could be maintained steadily for a long time. Asana gives stability and comfort, both at the physical and mental level.

- a. By performing regular asana, the bones, cartilages, and ligaments become strong.
- b. By performing asana regularly, blood circulation becomes proper and blood pressure normalizes and stabilizes
- c. By regular practice of asana, our body becomes less prone to diseases
- d. By performing asana regularly, the respiratory organs become efficient.
- e. The size of the lungs and chest also enhances

- f. The waste products such as lactic sulphate, urea, uric acid etc. are excreted quickly and properly which in turn turning fatigued.

24. Discuss in detail any one type of disorder. 3

Answer.

Sensory Processing Disorder (SPD) is a neurological disorder that causes difficulties with processing information from the five senses: vision, auditory, touch, olfaction and taste, as well as from the sense of movement (vestibular system) and/or the positional sense (proprioception). Sensory Processing Disorder is a condition in which the brain has trouble receiving and responding to information that comes in through the senses.

25. Suggest physical exercises for childhood and adulthood. 3

Answer.

Exercise guidelines at different stages of growth and Development:

Early childhood (3 to 8 years)

- a. Emphasis on participation not on competition.
- b. Activities are related to fine motor skills.
- c. Minimum one-hour regular medium exercise.
- d. Recreative & enjoyable methods of physical activities.

Later childhood (8 to 12 years)

- a. Exercise to develop body control, strength and coordination.
- b. Organised or team games to develop social-consciousness.
- c. Teach basic rules of sports i.e. fair, play, simple strategies.
- d. Introduction to the concept of sports training.

Adolescence (13 to 19 years)

- a. 60 min to several hrs every day.
- b. Muscle-strengthening exercise at least 3 times a week.
- c. Bone-strengthening exercise and resistance exercise weight training.
- d. Running swimming etc. for stamina building.

Adulthood (above 19 years)

- a. Moderate-intensity physical activity every day.
- b. Running, swimming, etc. for stamina building.
- c. Muscles strong training exercise at least 2 times a week.
- d. Bone-strengthening exercise and resistance exercise.

26. What do you understand by food myths? 3

OR

What are the pitfalls of dieting? 3

Answer.

Food myths mean a legendary story about food with or without a determinable basis of fact or a natural explanation. What to eat, when to eat, and how often to eat are such questions which usually confuse.

Some food myths are as follows:

- a. Egg increases cholesterol levels
- b. Potatoes make you fat
- c. Fat-free products will help you in losing weight
- d. The peel of fruits & vegetables contains no nutrients
- e. Having milk immediately after eating fish
- f. Starve yourself if you want to lose weight
- g. Exercise makes you eat more

OR

There are no advantages to dieting. Science has proved that dieting causes many physical and mental problems. It causes a lot of problems and your physique can even become worse than before.

Some of the pitfalls of dieting are:

- a. The most common side effect of dieting is that you start to lose your hair.
- b. There are many other reasons for depression in life. Dieting is one among them. Stress worsens the mental as well as the physical health of a person.
- c. If you continue dieting for a long time it can damage your internal organs and body systems. Its working efficiency decreases than normal. Your blood circulation becomes passive.

27. Discuss the preventive measure of sports injuries.

Answer.

Exercise is good for the body and with the proper precautions, sports injuries can often be prevented. The quality protective equipment - padding, helmets, shoes, mouth guards - have helped to improve safety in sports. But, can still be susceptible to injury. Always contact your healthcare provider before starting any type of physical activities especially vigorous types of exercises or sports.

Causes of sports injuries may include:

- a. improper or poor training practices
- b. wearing improper sporting gear
- c. being in the poor health condition
- d. improper warm-up or stretching practises before a sporting event or exercise

Common sports injuries include:

- a. Muscle injuries
- b. Sprains and strains
- c. Dislocations
- d. Fractures
- e. Joint (knee, shoulder, ankle) injuries
- f. Achilles tendon injuries

28. With suitable examples explain the application of Newton's law in sports.

3

Answer.

Physics is the study of matter and its motion through time and space, as well as its interaction with energy and the forces created by this interaction.

There are many different types of forces in action in football. Newton developed the Three Laws of Motion and all are applicable in football.

- a. The law of inertia tells us that the football will remain at rest unless someone or something moves it by a specific force. Once the ball leaves the quarterback's hands, the first law tells us that if there are no other forces on the ball, the ball would continue to travel in the same direction and with the same speed until other forces affect its flight.
- b. The second law of motion states that force on an object is equal to the mass of the object multiplied by its acceleration. If we apply this law to a football, it tells us that the amount that the ball accelerates depends on the force applied by the quarterback and the mass of the ball.
- c. The third law of motion states that for every force applied there is an equal and opposite reaction force. An illustration of this might be when a player is trying to catch a football from a very high kick. This slows down the ball so the player can catch the football and bring it to rest.

29. Discuss in detail any three techniques of motivation.

3

OR

Define balanced Diet Explain any four Micro Nutrients.

3

Answer.

Various techniques of motivation are applied on sportspersons which can enable them to achieve the top positions in the field of sports and games. Three techniques of motivation are:

- a. As we know that achieving performance goals is a sign of competence that affects motivation positively.
- b. If an athlete perceives that any particular kind of experiences are available to him in a given sport and he feels that these will be pleasant, enjoyable or satisfying, then he will choose to participate in that game or sport and not any other.
- c. A teacher or coach who has participated in the sport himself is a great asset in motivating the athletes.

OR

Balanced Diet is a complete food, a diet contains adequate amounts of all the necessary nutrients required for proper growth and maintenance of the body.

The energetic food in our diet consists of various types of essential chemicals for our body termed as nutrients: – e.g. Protein, fat, carbohydrates, vitamins & minerals. Micronutrients mainly comprise vitamins and minerals which are required in minute quantities. However, both macronutrients, as well as micronutrients, are essential. Micronutrients are chlorine, iron, manganese, zinc, boron, sodium, copper, molybdenum and nickel.

- a. Iodine produces the hormones for the thyroid gland. It is also significant for proper growth and development.

- b. Iron is essential in the production of haemoglobin. Its deficiency causes anaemia.
- c. Chromium is essential in the production of haemoglobin. Its deficiency may cause diabetes.

30. Define flexibility and its types.

3

Answer.

Flexibility is the range of movement of the joint of a sports person. Flexibility is of two types, i.e., active flexibility and passive flexibility.

- a. Active flexibility:- The ability of an individual to do the joint motion for a longer range without any external help. Active flexibility is always greater than passive flexibility. Ex. doing any stretching exercise without external help. It is two kinds, i.e., static flexibility, and dynamic flexibility. Static Flexibility is usually required by a sports person when he remains in static position e.g. Diving, sitting, lying, etc. Dynamic Flexibility is needed for walking and running its increase by static stretching.
- b. Passive Flexibility:- the ability to do the joint movement with a greater range with the external help of a partner. This flexibility is largely determined by joint structure, stretchability of the muscle and ligament. Passive flexibility helps in the development of active flexibility.

SECTION -C

31. What is circuit training? Draw a diagram of circuit training with 12 stations and explain its importance in sports.

5

OR

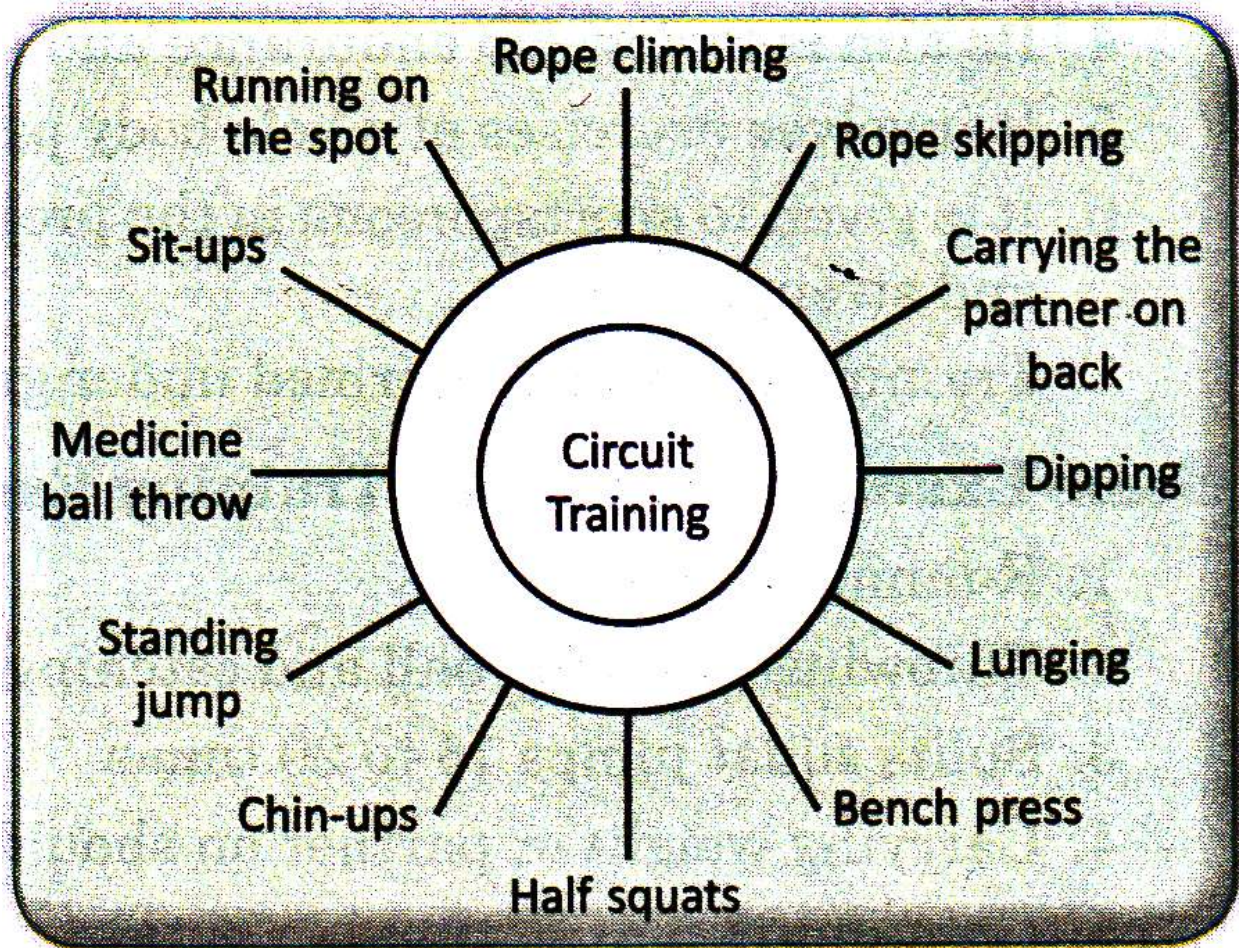
Draw a knock out fixture for 25 teams with all steps involved.

5

Answer.

Circuit training 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 exercise in the programme. When a circuit is complete, one begins the first exercise again for the new circuit. A specific circuit, however, can consist of several exercises involving the same muscle groups.

Circuit training is an excellent way to improve mobility, strength and stamina. The circuit training comprises 6 to 10 strength exercises that are completed one exercise after another.



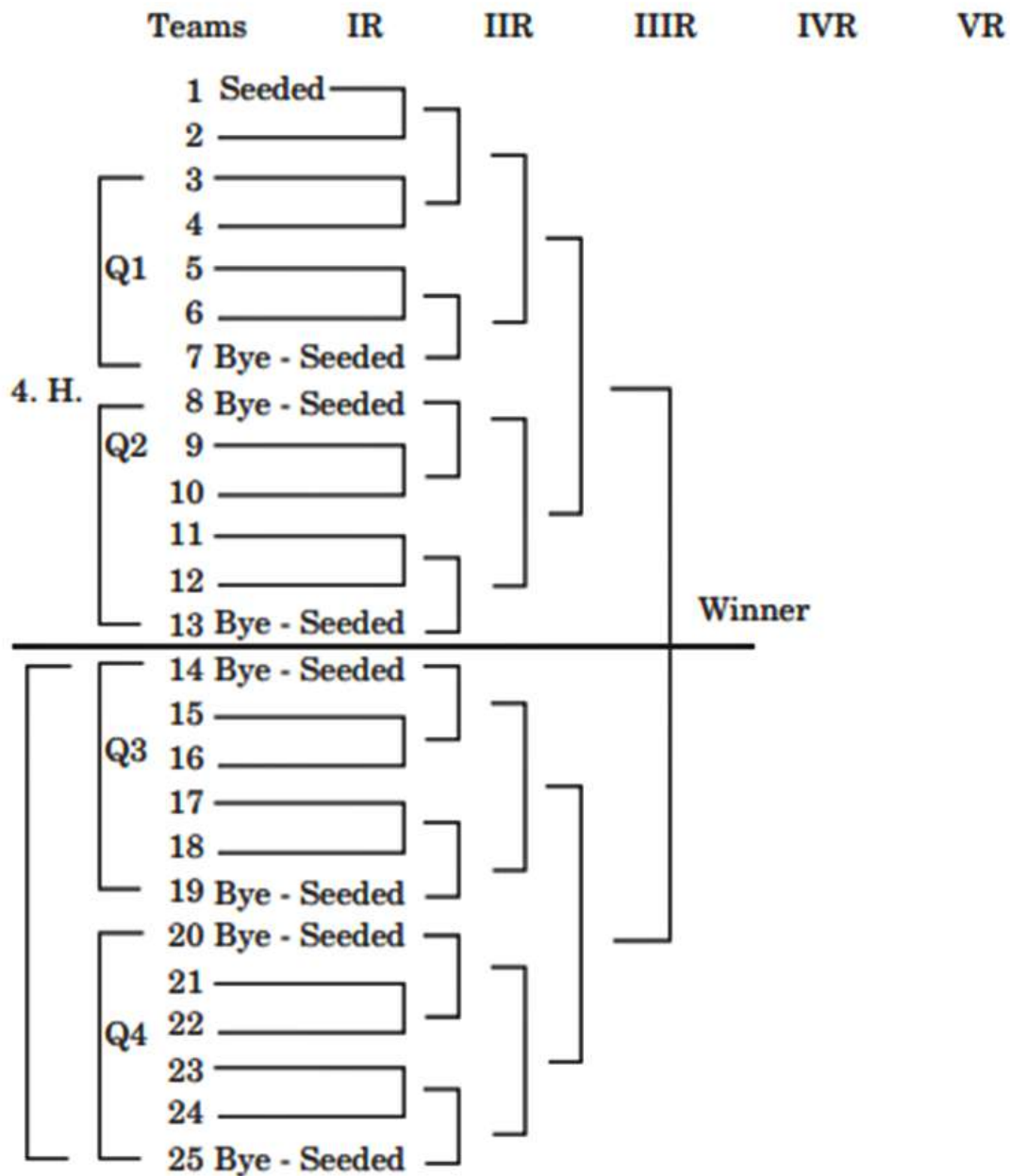
Benefits of circuit training include:

- a. Improvements in cardiovascular fitness
- b. Improvements in muscular endurance
- c. Increased social interaction during a workout
- d. Increased adherence to exercise
- e. Improvements in muscular strength
- f. Reduced risk of diseases, better sleep, etc.

OR

Number of teams = 25

Number of byes = $32 - 25 = 7$ Byes



32. How physical activities are helpful for children with a special need? Explain strategies to make physical activities assessable for them. 5

Answer.

Physical activity is as important for special needs children as it is for any child. Participating in sports can help boost self-confidence.

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. Help Reduce Hyperactivity in children with ADHD: To help a child learn to manage or reduce hyperactivity includes strategies to help lower physical activity levels and to calm thoughts.
- d. 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.
- e. Consider different Approaches to Mobility: Making outdoor programs accessible for the 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. Different Methods of Instructions: Teacher must accommodate many levels of functioning and learn within each group of students.

- g. Universal Design for Learning: The universal design approach provides a framework for creating instructional goals, methods, materials and assessment that work for everyone.
- h. 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. Give your outlook on the participation of Indian women in sports. 5

Answer. For women's participation in sports, we have a look at the ancient period. Regarding participation in the first modern Olympic (1896 Athens), there was no participation of women.

- a. Women participated the first time in the 1900 Olympics. (22 women participated in)
- b. In 1904 six women participated.
- c. And after 100 years in 2000 Sydney Olympics 4069 women had participated.
- d. In 2008 Beijing Olympics 4637 women participated.

Participation in India

- a. In 2000 Karnam Malleshwari was the first woman who won a bronze medal in Sydney Olympic from India.
- b. In 1984 performance of P.T. Usha was very good in Athletics.
- c. In 2012 London Olympics Saina Nehwal and M.C. Mericom got the bronze medal.

d. In 2016, Rio Olympics, Sakshi Malik won the bronze medal, P.V. Sandhu won silver medal whereas Deepa Karmakar opened new dimensions in gymnastics.

Over the past several decades the participation of women in sports in the sports field has increased tremendously. The ideology suggests that women are participating in every sphere of life and proving themselves globally.

34. Which asanas will you suggest for back pain? Explain the procedure, benefits and contraindications of any two asanas recommended for back pain. **5**

OR

What is the effect of exercise on the cardiorespiratory system and muscular system? **5**

Answer.

Back pain is the pain felt in the backbone. Episodes of back pain may be acute, sub-acute, or chronic depending on the duration. The pain may be characterized as a dull ache, shooting or a burning sensation. The pain may originate from the muscles, nerves, bones, joints. It is generally caused by strained muscles, ruptured disk, sciatica, arthritis, osteoporosis, abnormal curvature of the spine, cancer of the spine, etc. Asanas recommended for back pain :

(a) Tadasana: In this asana, body imitates like a palm tree known as Tada in Sanskrit.

Procedure :

- (i) Stand erect, legs together, hands by the side of the thighs.
- (ii) Stretch the arms upward, over the head and parallel to each other, with palms facing each other.
- (iii) Slowly raise the heels and stand on the toes. Stay for a few seconds in this final position.

Benefits :

- (i) It strengthens thighs, knees, ankles.
- (ii) It helps in improving the height of growing children.
- (iii) It helps to remove laziness.

Contra-indications: Those who have complaints of reeling sensation or light-headedness should not practice this.

(b) Vakrasana :

Procedure :

- (i) Sit down stretching your legs forward on the ground. Keep your hands beside your thighs or buttock.
- (ii) Bend your right leg straight and stretched, keep the left foot beside the right knee raised upward.
- (iii) Inhale and raise the arms shoulder high, keeping the elbows straight.
- (iv) Exhaling, 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.
- (v) Look backwards towards the left side, hold on this final position.

Benefits :

- (i) Increases elasticity of the spine.
- (ii) Stretches the muscles.
- (iii) Reduces belly fat.
- (iv) Loosens the hip joint.
- (v) Massages the abdominal organs.

Contra-indications :

- (i) Avoid asana if suffering from severe back pain.
- (ii) This asana is also not recommended for people suffering from ulcer and hernia.

OR

The effects of exercise on the circulatory system.

- a. During exercise, the heart rate increases rapidly.
- b. This provides the muscles with the necessary oxygen and nutrients to provide the muscles with energy.
- c. During exercise stroke volume increases because more blood is sent back to the heart due to the muscles squeezing blood in the veins. As the muscle fibres stretch, they contract more strongly, pumping out more blood.
- d. During exercise, cardiac output is increased.
- e. The heart muscle will grow and strengthen.
- f. The heart muscle will become more efficient in heart rate and stroke volume.

The effects of exercise on the muscular system.

- a. Muscle size increases mainly due to muscle ability to adapt to stress.

- b. Muscle coordination increases when doing exercises which require skill and technique e.g.: dribbling the ball.
- c. Blood supply to muscles increases due to long-term exercise by that improving delivery of various nutrients, minerals and vitamins to muscles and making them more effective and faster at regenerating after injury or workout.
- d. Blood flow can increase by up to 25 times because muscle requires more energy and oxygen.
- e. Muscle fatigue is the decline inability of a muscle to generate force. It can be a result of intense exercise, but abnormal fatigue may be caused by barriers to or interference with the different stages of muscle contraction.