PRACTICE PAPER-2 (SOLUTIONS)

CLASS: XII

SUBJECT : PHYSICAL EDUCATION

SECTION – A

S. No.	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
Ans.	(a)	(b)	(a)	(b)	(d)	(c)	(d)	(b)	(b)	(b)
S. No.	11.	12.	13.	14.	15.	16.	17.	18.		
Ans.	(a)	(b)	(c)	(b)	(a)	(a)	(a)	(b)		

SOLUTIONS

1. N (N - 1)

2. $\frac{nb+1}{2}$

3. Lower Back

4. Secondary amenorrhea

5. Makarasana

6. Saral-matsyasana

7. 1996

8. 4 Kcal/gm

9. Both (A) and (R) are true, but (R) is not the correct explanation of (A).

10. 5 cm

11. Abrasion

12. Enlargement of heart due to chronic endurance training

13. Sliding Friction

14. Mass

15. Process Goal

16. Medium duration

17. D C B A

18. D C B A

SECTION – B

19. **Procedure of Gomukhasana:** 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.

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.

20. Paralympics is a mega sports event involving athletes with a range of disabilities, and is organized by the International Paralympic Committee (IPC).

The vision of the IPC is, "To enable Paralympic athletes to achieve sporting excellence and to inspire and excite the world."

21. **Purpose:** To determine upper body strength.

Objective: To complete maximum arm curls in 30 seconds.

Equipment: Straight back chair without arms; Dumbbell for men- 8 pounds (3.6kgs) and women- 5 pounds (2.3kgs); stopwatch.

22. **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.

23. **Self-esteem**

Self-esteem is how one values and respects oneself, and influences one's emotional, physical and spiritual balance. According to Adler & Stewart "Self-esteem refers to a person's overall

sense of his or her value or worth. It can be considered a sort of measure of how much a person "values, approves of, appreciates, prizes, or likes him or herself."

Media Image

During teenage, the teenagers become more aware of celebrities and media images. They usually start to compare themselves with media images and celebrities. Print media as well as electronic media can affect how the teenagers feel about themselves and their body images.

24. Meso-cycle

Meso-cycle is a training cycle of medium duration. It is composed of a definite arrangement of 3-6 micro cycle or weekly cycles. The last micro cycle or weekly cycles of a meso-cycle, primary aims at recovery and relaxation.

A meso-cycle aims at tackling of definite training tasks as part of the total process of development of performance capacity or top form. Depending on its position in a macro-cycle and on the aim of macro-cycle the meso-cycle can have a variety of aims e.g., learning or perfection of technical skill or skills, improvement of motor abilities, maintenance and stabilization of performance factors improved in the previous meso-cycle, achievement of top form or direct preparation for competition, recovery and relaxation and so on.

SECTION – C

25. Common Postural Deformities

Incorrect posture can lead to many postural defects. These are:

1. Spinal Curvature (Kyphosis, Lordosis, Scoliosis)
2. Round Shoulders
3. Knock Knees
4. Flat Foot
5. Bow Legs

1. **Kyphosis:** Kyphosis is also known as Hunch Back or round upper back. The word Kyphosis comes from the Greek term *kyph* and means *bent or bowed*. Thoracic spine (upper back) has a normal outward curvature that is medically referred to as Kyphosis or the 'kyphotic' curve by which the spine is bent forward. It is an exaggerated, forward rounding of the back.
2. **Lordosis:** It is also called swayback. It is the inward curvature of spine. In fact, it is an increased forward curve in the Lumber region. It creates problem in standing and walking. The body seems to be stiff. The individual feels shame and inferiority. Lordosis can be corrected in early stage.
3. **Scoliosis:** Postural adaptation of the spine in lateral direction is called Scoliosis. Scoliosis means bending, twisting or rotation. In fact, these are sideways curves and may be called scoliotic curves. These are defined in terms of their convexities. They are identified, as either convexity right to right convexity. A simple or single curve to the left or convexity left is common called a 'C' curve. Scoliotic curve may be found in 'S' shape. **(Any two)**

26. Benifites of Katichakrasana

1. Good for relieving constipation
2. Strengthens and improves the flexibility of the spine and waist
3. Good for arm and leg muscles
4. Opens up the neck and shoulders and strengthens the abdominal muscles and lower back
5. Beneficial for those with sedentary or deskbound jobs

Benefits of Ushtrasana

1. It promotes stretching of anterior muscles and contraction of the posterior muscles.
2. Generates favourable influence on ovaries, thyroid and other endocrine glands.
3. Develops strength and confidence.
4. Beneficial for digestive and reproductive organs.
5. It loosens up the vertebra and stimulates the spinal nerves, relieving backache, rounded back and drooping shoulders.
6. It is helpful for asthmatic people.

27. Logo of Special Olympics

The Special Olympics logo is based on the sculpture "Joy and Happiness to All the Children of the World" by Zurab T sereteli. The logo is a symbol of growth, confidence and joy among children and adults with disabilities who are learning coordination, mastering skills, participating in competitions and preparing themselves for richer, more productive lives.

Oath of Special Olympics

The Special Olympics athlete's oath, which was first introduced by Eunice Kennedy Shriver at the inaugural Special Olympics international games in Chicago in 1968, is "Let me win. But if I cannot win, let me be brave in the attempt."

28. Plate tapping test

Purpose

The objective of the test is to measure the student's speed and coordination of limb movement.

Equipment Required

Table (Adjustable height), Yellow discs (20 cm), Rectangle (30x20cm), Whistle and Stop watch

Procedure

If possible, the table height should be adjusted so that the subject is standing comfortably in front of the discs. The two yellow discs are placed with their centers 60 cm apart on the table. The rectangle is placed equidistant between both discs. The non-preferred hand is placed on the rectangle. The subject moves the preferred hand back and forth between the discs over the hand in the middle as quickly as possible. This action is repeated for 25 full cycles (50 taps).

Scoring

The time taken to complete 25 cycles is recorded. Performed the test twice and the best result is recorded.

29. 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. With the help of different methods of strength training such as weight training the size of the muscles can be increased and as a result of that strength is improved. So, the strength is determined by the size of the muscles.
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 or it can be said that the muscle will produce more force or strength. So, the intensity of the nerve impulse also determines the amount of strength. **(Explain any three)**

30. Air Resistance: When a projectile moves through the air, it is slowed down by air resistance. Air resistance decreases the horizontal component of a projectile.

There are following factors which are related to the amount of air resistance acting on a projectile.

1. **Surface of the Objects:** If the surface of the object is rough, the air resistance will definitely be greater.
2. **Surface to Volume Ratio:** The larger the surface to volume ratio, the more air resistance will affect the object.
3. **Mass:** Air resistance depends on the mass of the object. If the mass of the object is smaller there will be more air resistance.

Speed: If speed of an object increases, the air resistance also increases. This occurs due to friction.

SECTION – D

31. a. Bulimia nervosa is an eating disorder in which an individual eats large amount of food with loss of control over eating and then adopts unhealthy ways to cut down calories like vomiting, taking laxatives, weight loss supplements, diuretics, excessive exercises etc.

b.

Under weight	<18.5
Normal weight	18.5-24.9

c. Symptoms of bulimia are:

1. Dehydration

2. Dental problems
3. Oedema
4. Extreme weight fluctuation
5. Menstrual irregularity in female
6. Weakness, cramps and depression etc.

d. Procedure for measuring height

Remove the participant's shoes and hair ornaments. The participant stands with feet flat, together, and back against the wall. Make sure legs are straight, arms are at sides, and shoulders are level. Take the measurement while the participant stands with head, shoulders, buttocks, and heels touching the flat surface (wall). Lightly mark where the bottom of the headpiece meets the wall. Then, use a metal tape to measure from the base on the floor to the marked measurement on the wall to get the height measurement. Accurately record the height to the nearest 0.1 centimeter.

32. a. Biotin

b. Pellagra

c. Functions of vitamin B12

It is a Part of two coenzymes- methyl cobalamin and 5- deoxy adenylyl cobalamin. It is needed for making new cells and also important to nerve function

d.White and heme

33. a. A. Knock knee B. Bow legs

b. Padmasana and gomukhasana

c. Knock Knees is also known as Genu valgum and Bow Legs - Genu-varum

d. Knock - knee

SECTION – E

34. Knock out Tournament

This is the most popular form and most of the tournaments organized are based on this type. In a knock out tournament any team which loses out of an opponent is automatically eliminated from the tournament. Hence, the defeated team does not get a second chance to compete in the tournament. Only the winning teams continue to compete and get opportunities for further competition.

Fixture of 21 teams

1. No of teams = 21
2. Half division

Upper half = $\frac{N+1}{2} = \frac{21+1}{2} = 11$ teams

Lower half = $\frac{N-1}{2} = \frac{21-1}{2} = 10$ teams

3. Bye Next power of 2-total team

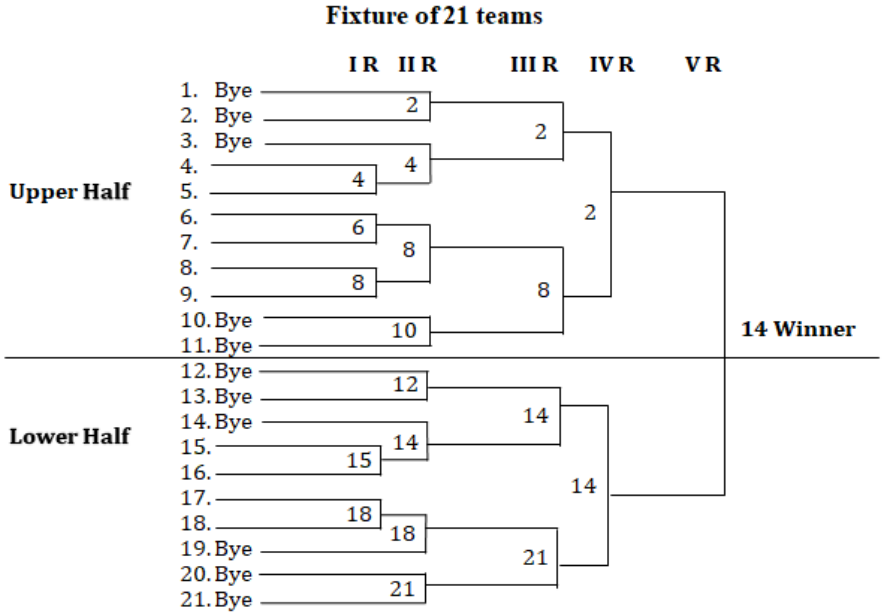
32 – 21 = 11 Bye

Upper half bye = $\frac{NB-1}{2} = \frac{11-1}{2} = 5\ Bye$

Lower half bye = $\frac{N+1}{2} = \frac{11+1}{2} = 6\ Bye$

4. No. of matches = N – 1= 21 – 1= 20 matches

5. No. of rounds = 2^5 = 2×2×2×2×2 = 5 rounds



35. Equilibrium refers to the state of any object when all forces acting upon it result in zero change of motion for the object. In other words, when the sum of all forces is zero, the object is in a state of equilibrium. In all activities whether stationary or moving, balance is an important factor. All activities demand stability and sometimes, instability depends on its purpose.

Equilibrium: It is defined as a state of balance or a stable situation, where opposite forces cancel each other out and where no changes are occurring.

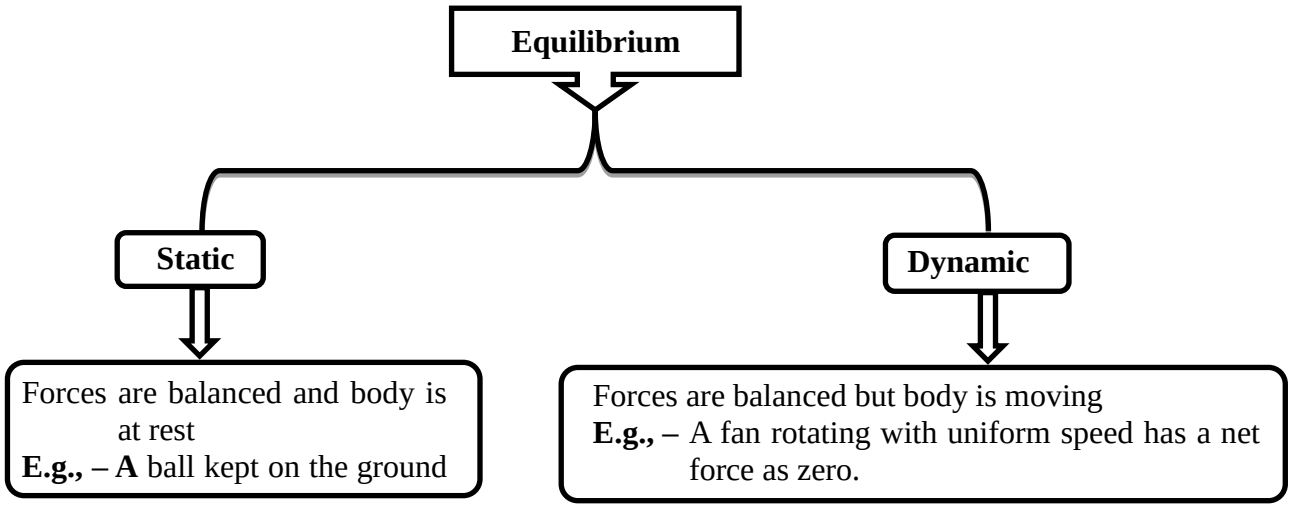
Types of Equilibrium

(i) Dynamic Equilibrium: It is the balance of the body during movement.

(ii) **Static Equilibrium:** is the balance of the body during its rest or stationary position.

or

Static equilibrium is when the centre of gravity is in a stable position.



Static Equilibrium	Dynamic Equilibrium
1. When the sum of forces acting upon the object and sum of the movement acting upon the body is both equal to zero, then the body is said to be in static equilibrium.	**1.** When all the forces acting on an object are balanced, and the body is in motion, then the body is said to be in dynamic equilibrium.
2. In other words, Static balance is maintaining equilibrium when stationary. e.g., Yoga	**2.** In other words, dynamic balance is maintaining equilibrium when moving. E.g. jump shot in basketball.
3. E.g., A gymnast performing 'T' position on the balancing beam, because the gymnast is not making any movement.	**3.** E.g., A cycle is moving with uniform velocity.

36. The big five factors of personality are the five main domains which define human personality and account for individual differences. This model offered by Paul Costa and Robert McCrae. The five personality traits also known as the Five Factor Model of Personality and sometimes referred as OCEAN. The five domains or traits represented by the acronym OCEAN are Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism.

BIG 5 Traits	Behaviour for High Score	Behaviour for low score
OPENNESS	Curious, Imaginative, Intellectual, Creative, Open to trying new things, Focused on tackling new challenges, Thinks about abstract concepts	Dislikes change, Does not enjoy new things, Resists new ideas Not very imaginative, Dislikes abstract or theoretical concepts

CONSCIENTIOUSNESS	Well-Organised, careful, responsible, self-disciplined	Disorganised, careless, relaxed, easy going
EXTRAVERSION	Active, optimistic, sociable, interactive , affectionate	Sober; reserved , cautious
AGGREEABLENESS	Good Natured, friendly, helpful, trusting, cooperative	Irritable, suspicious, rude, uncooperative
NEUROTICISM	Insecure, nervous, anxious, excitable	Calm, composed, poised, Hardy, Secure

37. Most of the mass and sports are based on the principle of load and rest. The name interval clearly reflects that the training in this method is done in intervals. In this method, the total work to be performed is divided into small periods. These periods are performed in interval with certain speed and rest. This means that a load period is followed by a rest period which is again followed by a load period like this the whole work is divided.

Load –Rest–Load –Rest –Load–Rest – Load

In this training method, everything is predetermined and is specific the distance to be covered, time allowed to cover the distance, heart rate, recovery period and number of time it has to be performed.

1:1 means load and the rest is equal. E.g. 1 minute exercise followed by 1 minute of rest.

Similarly 1: 2 means that the period of rest is double of the load e.g. 1 minute exercise followed by 2 minute of rest.

Slow or extensive interval training methods can be given by using 1:1. In this method:

a. Volume or total distance is 6kms to 12kms
b. Distance in each interval is 300m to 800m.
c. Speed of work is 60% to 80% (of maximum speed)
d. Frequency or number of repetitions: 15 to 25
e. Duration of rest: 1 to 3 min. after each repetition.
f. Heart rate is kept around: 140 – 170 beats per min.
g. Mode of recovery: Walk or slow jogging. (active recovery)

This method is very effective for developing aerobic endurance.

In this method the player is made to work out or run at medium pace whereas the distance is longer or long duration. The rest period is incomplete before next repetition. This method is generally practiced once or twice in a week. Generally players of major games (football, hockey, basketball, etc.) long distance runners, long distance swimmers practice this. Slow interval training method is performed when there are sufficient days for competition.

Fast or intensive interval training methods can be given by using 1:2. This method is very effective for developing anaerobic endurance. Load variables for this type of intensive interval method are:

a. Volume or total distance is 2kms to 5kms
b. Distance in each interval is 80m to 300m.
c. Speed of work is 80% to 100% (of maximum speed)
d. Frequency or number of repetitions: 15 to 25
e. Duration of rest: $^1/_2$ to 2 min. after each repetition.
f. Heart rate: 170 to 200 beat per min.
g. Mode of recovery: Walk or slow jogging. (active recovery)

In this method the player is made to run short distance or workout at high speed. The rest is incomplete before next repetition. This method is generally practiced 2 to 3 times is a week.