

MODEL TEST PAPER

TIME: 3 hrs

M.M: 70

General Instructions:

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

SECTION-A

1. Sit and reach test is a measure of what?
(a) Muscle endurance (b) Muscle mass (c) Muscle strength (d) Flexibility
2. End result of exercise in muscle is formation of:
(a) Nitric acid (b) Lactic acid (c) Hydrochloric acid (d) Sulphuric acid
3. Stroke volume is a measure of what output by the heart?
(a) Blood pumped per hour (b) Blood pumped per minute
(c) Blood pumped in beat (d) Heart beat per minute
4. Vital capacity of adult lungs is how much?
(a) 300-500 ml (b) 3-5 litres (c) 1-3 litres (d) 800-1200 ml
5. Smooth muscles are found in:
(a) Intestines (b) Heart (c) Thighs (d) Arms
6. Periosteal Contusion is an injury to?
(a) Bone (b) Muscle (c) Ligaments (d) Tendon
7. Combination tournaments can be of how many types?
(a) Two (b) Three (c) Four (d) Six

Or

Avoiding eye contact and preferring to stay alone are common to which disorder?

(a) SPD (b) ADHD (c) ASD (d) ODD

8. How many fat-soluble vitamins are there?
(a) Three (b) Four (c) Two (d) Six
9. Newton's First Law of Motion is known as
(a) Law of Inertia (b) Law of acceleration (c) Law of reaction (d) Gravitational pull
10. Which of the following is a macronutrient?
(a) Sodium (b) Fluoride (c) Water (d) Calcium
11. The posture adopted to practise yoga is called:
(a) Dhyana (b) Asana (c) Niyama (d) Samadhi
12. Cognitive disability does not include:
(a) ADD (b) Dyslexia (c) Down syndrome (d) Polio

Or

AAHPER General Fitness test consists of:

(a) Pull-ups, Boys (b) Sit-ups (Flexed Leg), Boys and Girls
(c) Shuttle Run (Boys and Girls) (d) All of these

13. Deformities arising from the spine do not include:
(a) Abrasions (b) Lordosis (c) Kyphosis (d) Scoliosis

Or

Which one of these is a long-term effect of exercise on cardiovascular system?

(a) ↑ Heart rate (b) ↑ Body temperature (c) ↑ Cardiac output (d) ↑ BP

18. Which mineral is found in the largest quantity in humans?
 (a) Sodium (b) Calcium (c) Iron (d) Phosphorus

14. Which mineral is found in the largest quantity in humans?
 (a) Sodium (b) Calcium (c) Iron (d) Phosphorus

15. Injury to the bone is called:
 (a) Fracture. (b) Sprain. (c) Contusion. (d) Bruises.

16. When the angle between the two bones increases, it is termed as
 (a) Flexion (b) Extension (c) Abduction (d) Adduction

17. Which of the following is a spinal curvature deformity?
 (a) Kyphosis (b) Bowlegs (c) Autism (d) Flatfoot

Or

Gomukhasana and Padmasana are performed to rectify which postural deformity?
 (a) Flatfoot (b) Scoliosis (c) Knock-knees (d) Bow legs

18. Which of the following asanas should be performed for correcting kyphosis?
 (a) Trikonasana (b) Bhujangasana (c) Pawanmuktasana (d) Tadasana

19. Which of the following is not a part of the female athlete triad?
 (a) Osteoporosis (b) Amenorrhoea (c) Anorexia (d) Obesity

20. General Motor Fitness Test has how many components?
 (a) Two (b) Three (c) Four (d) Five

SECTION-B

21. Explain the Harvard Step Test and why it is used.

Or

Explain Fartlek Training Method along with its advantages.

22. What are the physiological determinants of strength? Explain them in brief.
23. Explain briefly the classification of sports injuries and describe any one in detail.
24. What are the benefits of exercise on the musculoskeletal system?
25. What are the various types of macronutrients? Why are proteins important?

What are the physiological signs of human ageing?

26. How does the Female Athlete Triad interfere in sports performance for women?

27. Write down the types of fractures and describe any two.

Or

Mention the procedure for administering any three test items of Rikli and Jones Test.

28. Describe five types of disorders with their symptoms and causes.

29. What is first aid and why is it important?

30. Mention the procedure for performing Gomukhasana along with its benefits and contraindications.

Or
Mention the procedure for performing Shalabhasana along with its benefits and contraindications.

SECTION-C

31. What are the types of movements in joints? Discuss any two in detail.

What are the three Newton's laws of motion? **Or**

32. What is personality? How did Sheldon classify it?
33. What are the types of aggression in sports?

4. What is strength? What are the three types of exercises used to improve strength?

Write a paragraph on the importance of circuit training *Or*

SAMPLE QUESTION PAPER (SOLVED)

Class XII

PHYSICAL EDUCATION (048)

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SECTION-A

1. Which of the following is not involved in Barrow three-item test?
(a) Standing Broad Jump (b) Zigzag Run (c) Medicine Ball Put (d) Shuttle Run
2. League-cum-knockout is part of which tournament?
(a) Knockout (b) Round Robin (c) Combination (d) Consolation
3. Which amongst these is not a method to improve flexibility?
(a) Ballistic (b) Static stretching (c) PNF (d) Fartlek
4. A disorder related to brains trouble in receiving and responding to information can be termed as _____.
(a) ODD (b) OCD (c) ADHD (d) SPD
5. A person having both traits of introvert and extrovert is known as?
(a) Mesomorph (b) Extroversion (c) Ambiverts (d) Endomorph
6. Which amongst these is a sitting asana?
(a) Ardhamatsyendrasana (b) Padahastasana (c) Ardha Chakrasana (d) Trikonasana
7. Which of the following is not a cognitive disability?
(a) Sensory impairment (b) Dyslexia (c) Hyperactivity (d) Memory disorder

Or

Avoiding eye contact and preferring to stay alone are common to which disorder?

- (a) SPD (b) ADHD (c) ASD (d) ODD
8. Fine motor development is involved in:
(a) Sitting (b) Walking (c) Standing (d) Catching a ball
9. Newton's First Law of Motion is known as _____.
(a) Law of inertia (b) Law of acceleration (c) Law of reaction (d) Gravitational pull
10. Which of the following is a micronutrient?
(a) Carbohydrates (b) Fats (c) Water (d) Vitamins
11. What is the formula to determine number of matches in League fixture for even number of teams?
(a) $N+1/2$ (b) $N-1/2$ (c) $N(N-1)/2$ (d) $N(N+1)/2$
12. What is the height of the box used by boys in Harvard step test?
(a) 16 inches (b) 18 inches (c) 20 inches (d) 22 inches

Or

AAHPER General Fitness test consists of:

- (a) Pull-ups, Boys (b) Sit-ups (Flexed Leg), Boys and Girls
- (c) Shuttle Run (Boys and Girls) (d) All of these
13. The amount of oxygen which can be absorbed and consumed by the working muscles from blood is called _____.
(a) Oxygen intake (b) Oxygen transport (c) Oxygen uptake (d) Energy reserve

Or

Which one of these is a long-term effect of exercise on cardiovascular system?

- (a) ↑ Heart rate (b) ↑ Body temperature (c) ↑ Cardiac output (d) ↑ BP

14. Acceleration runs are used to improve _____.
 (a) Strength (b) Endurance (c) Speed (d) Flexibility

15. Overstretching of ligament causes:
 (a) Strain (b) Sprain (c) Contusion (d) Bruises

16. When the angle between the two bones decreases, it is termed as _____.
 (a) Flexion (b) Extension (c) Abduction (d) Adduction

17. Which of the following is not a spinal curvature deformity?
 (a) Kyphosis (b) Scoliosis (c) Lordosis (d) Flat foot

Or

Gomukhasana and Padmasana are performed to rectify which postural deformity?

(a) Flat foot (b) Scoliosis (c) Knock knees (d) Bow legs

18. Which of the following asanas should be performed for curing obesity?
 (a) Trikonasana (b) Bhujangasana (c) Pawanmuktasana (d) Tadasana

19. Which of the following is a macro mineral?
 (a) Iodine (b) Iron (c) Copper (d) Calcium

20. Person with emotional instability and negative emotions is termed as _____.
 (a) Neuroticism (b) Agreeableness (c) Openness (d) Conscientiousness

Answers: 1. (d) 2. (c) 3. (d) 4. (d) 5. (c) 6. (a)
 7. (a) or (c) 8. (d) 9. (a) 10. (d) 11. (c) 12. (c) or (d)
 13. (c) or (c) 14. (c) 15. (b) 16. (a) 17. (d) or (c) 18. (a)
 19. (d) 20. (a)

SECTION-B

21. Explain any three types of coordinative abilities.

Or

Explain Fartlek Training method along with its advantages.

Ans. Types of coordinative abilities include

(a) Orientation ability	(b) Coupling ability
(c) Reaction ability	(d) Rhythm ability
(e) Adaptation ability	(f) Balance ability
(g) Differential ability	

Orientation ability is the ability of a person to adjust as per time and movement. *For example*, in football, a player has to sense their own position, the position of the opponent as well as the position of the moving ball. This is called orientation ability.

Balance ability is not only the ability of a sportsperson to maintain balance while still but also while moving, just like a gymnast landing on the feet at the end of a manoeuvre or a skier twisting while skiing. Coupling ability refers to an athlete being able to move or use their organs in tandem like simultaneous use of hands, feet, eyes and ears while playing, say, football or cricket.

Or

Fartlek, meaning speed play, is a method of training devised in Sweden. This method uses distance running with bursts of speed running in between. This helps develop anaerobic and aerobic capacities and, after a warm-up session, steady running for a distance followed by bursts of sprints, etc. Advantages of this method of training include the following:

(a) It enhances both speed and endurance
 (b) Improves finishing capacity in races and allows overtaking of competitors on the track
 (c) Needs no equipment
 (d) Can be done on mass basis
 (e) Easily adaptable to local conditions

22. Friction is categorised into how many types? Explain them in brief.

Ans. Friction: Force that is at the surface of contact of two bodies and opposes their relative motion. Friction is of two main types:

- (a) *Static friction*: Body moves on surface of other body but actual motion has not started.
- (b) *Dynamic friction*: Body moves on the surface of other body.
 - (i) Sliding
 - (ii) Rolling

23. Explain briefly the two types of Aggression.

Ans. Aggression is a behaviour with a goal of harming or injuring another being motivated to avoid such treatment.

- (a) *Hostile*: Inflicting physical or psychological harm. This can be hitting the opponent or rioting or damaging property.
- (b) *Instrumental*: Displaying aggression in pursuit of non-aggressive goal. It can be a hockey player using the hockey stick to take away the ball, etc.
- (c) *Assertive*: Use of legitimate physical or verbal force to achieve one's purpose. Thus, in cricket, sledging would be classified as assertive behaviour since there is no intention to cause hurt or harm.

24. Explain the methods to improve flexibility with the help of examples.

Ans. Methods to improve flexibility. (any three)

(a) Active Stretching	(b) Passive Stretching
(c) Isometric Stretching	(d) Dynamic Stretching
(e) Ballistic Stretching	

Active stretching is when we assume a posture and hold it for some time without any assistance. This uses the strength of the agonist muscles to maintain the position.

Ballistic stretching involves movements at a joint in a rhythmic pattern. A bouncing motion is involved and this leads to the limb going into an extended range of motion.

Passive stretching increases flexibility without use of the muscles. This is the most common method of increasing flexibility and involves holding the stretch in a comfortable but challenging position for 10 to 30 seconds at a time.

25. Explain the physical activities that can be undertaken to correct flat foot deformity.

Ans. Flat foot refers to the absence of arches in the feet. While innocuous, many corrective exercises for flat foot deformity can be done. These include repeated jumping on toes in erect position, rope skipping, barefoot walking on uneven ground or wet sand. Corrective pads in footwear also prove beneficial.

26. Describe various types of fats. What are the different sources of fats?

Or

What are the pitfalls of dieting? Explain any three.

Ans. Fats: Fats and oils are important items in the diet of sportsmen. They contain carbon, hydrogen and oxygen. They are composed of fatty acids. Fats are a better source of energy than carbohydrates. Fat can be stored in the body. It is also known as fuel. Energy is produced by their burning process.

Dietary fats are derived from two main sources:

- (a) *Vegetable source*: They include various edible oils like groundnut, mustard, cottonseed, coconut oil, rape seed, etc.
- (b) *Animal Source*: They include butter, ghee, lard, fish oil, and certain marine fish oils such as cod liver oil and sardine oil, etc.

Functions:

- (a) Fats improve the palatability of food.
- (b) They are essential for the absorption of vitamins A, D, E and K.
- (c) They are concentrated source of energy.
- (d) Impart firmness to the tissues.
- (e) Protect delicate organs against being injured.
- (f) Fats are energy sources during fasting or famines.

Or

Pitfalls of Dieting: The pitfalls of dieting are many especially if done unsupervised. These include extreme reduction of calories, restricted intake of essential nutrients, skipping meals, intake of wrongly or inadequately labelled processed foods, not exercising and inadvertently underestimating calories.

Cutting back too many calories leads to a rebound weight gain since it triggers the famine instinct and we retain whatever little we eat. Anything less than 1,200 Kcal per day is harmful to the adults in the long run.

Similarly, while trying to diet, one can severely restrict the intake of essential nutrients, leading to nutrient deficiency-induced disease and disorders.

Poor energy leads to inability to indulge in regular exercise leading to loss of muscle tone and body shape.

27. 'Women face certain hindrance in sports due to their biological cycle'. Explain these issues in brief.

Ans. Female Athlete Triad (Osteoporosis, Amenorrhoea, Eating Disorders): The Female Athlete Triad is a syndrome (collection of signs and symptoms) that links three health problems including disordered eating, amenorrhoea and osteoporosis. Girls may begin to skip periods if they are not getting adequate nutrition for the amount of exercise they do (energy availability). Periods may also be irregular. Stress lowers estrogen levels which may cause skipped periods. Low estrogen levels and a lack of menstrual periods can lead to low bone mass (low bone mineral density) and stress fractures (small cracks) in their bones. This disorder often goes unrecognised. The consequences of lost bone mineral density can be devastating for the female athlete. Premature osteoporotic fractures can occur and lost bone mineral density may never be regained.

28. Suggest various external methods of motivating a person for better performance in sports.

Ans. External methods of motivating:

(a) Reward	(b) Praise
(c) Punishment	(d) Blame
(e) Cash prize	(f) Certificates and trophies

29. Write down the formula for calculating Fitness Index both for short term and long term.

Or

Explain the procedure for administering any three test items of Rikli and Jones Test.

$$\text{Ans. Fitness Index (short form)} = \frac{(100 \times \text{test duration in seconds})}{(5.5 \times \text{pulse count between 1 and 1.5 mm})}$$

$$\text{Fitness Index (long form)} = \frac{(100 \times \text{test duration in seconds})}{2 \times \text{sum of heart beats in the recovery periods}}$$

Or

Senior Citizen Fitness Test—Rikli And Jones. (any three)

- (a) Chair Stand Test for lower body strength
- (b) Arm Curl Test for upper body strength
- (c) Chair Sit and Reach Test for lower body flexibility
- (d) Back Stretch for upper body flexibility
- (e) Eight Foot Up and Go Test for agility
- (f) Six-minute Walk Test for aerobic endurance

Chair stand test measures lower body strength, especially of the legs. A chair, at least 44 cm high, is used and with arms crossed at wrist, the test subject stands up and sits on the chair. The test period is 30 seconds and the score is the number of stands.

Arm curl test measures upper body muscle strength. It is done using a five-pound weight for females and an eight-pound weight for males. The test is to find out the maximum number of curls the dominant arm can do in 30 seconds.

Six-minute walk test is for the overall functional fitness. This test permits routine activity like walking, climbing upstairs and moving through crowded areas such as markets. The idea is to walk a maximum possible distance in six minutes.

30. Describe various types of movements in joints with the help of examples.

Ans. Types of Movements (any three)

- (a) **Flexion:** Flexion is movement decreasing the angle between articulating bones. *For example*, flexion at the elbow is decreasing the angle between the ulna and the humerus.
- (b) **Extension:** Extension is the opposite of flexion, describing a straightening movement that increases the angle between body parts. *For example*, when standing up, the knees are extended.
- (c) **Adduction:** Adduction is movement towards the mid line of the body and also applies to movements inwards and across the body, *e.g.*, right femur extended out to the right side, inwards, towards or across the centre of the body.
- (d) **Abduction:** Abduction is movement away from the mid line of the body. *For example*, abduction of the hip is when the femur moves outward to the side.
- (e) **Rotation:** Rotation is movement in which something, *e.g.*, a bone or a whole limb, pivots or revolves around a single long axis. *For example*, rotation of the head slowly from left to right or hip rotation.

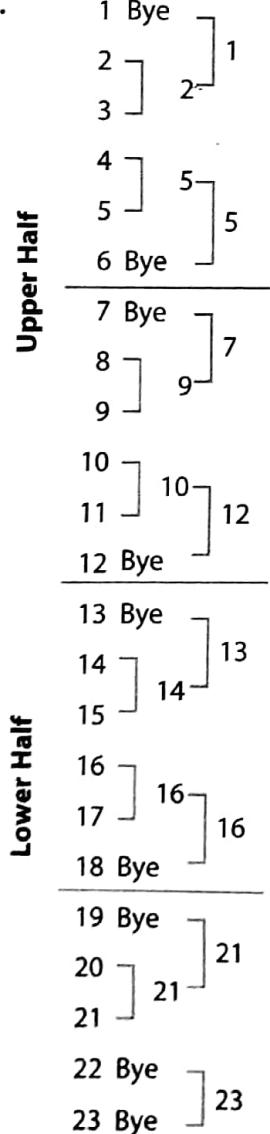
SECTION-C

31. Draw a knockout fixture for 23 teams.

Or

Draw a fixture for 9 teams by Round Robin method.

Ans.



Or

Number of matches = $\frac{N(N-1)}{2}$, where N is the number of teams

If the number of teams = 11, then

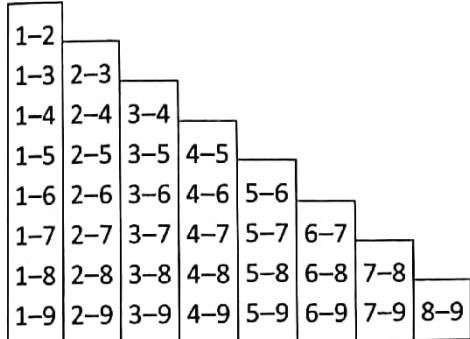
$$\text{Number of matches} = \frac{11(11-1)}{2} = \frac{11 \times 10}{2} = \frac{110}{2} = 55 \text{ matches}$$

Fixture of 9 teams

Staircase Method

Total teams = 9

$$\text{Number of matches} = \frac{9(9-1)}{2} = \frac{9 \times 8}{2} = \frac{72}{2} = 36 \text{ matches}$$



32. Describe five types of disorders with their symptoms and causes.

Ans. (a) **Attention Deficit Hyperactivity Disorder (ADHD):** It is a disorder in which a person is unable to control behaviour due to difficulty in processing neural stimuli, accompanied by an extremely high level of motor activity. ADHD can affect children and adults but can be easily detected during schooling.

(b) **Sensory Processing Disorder (SPD):** 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). SPD is a condition in which the brain has trouble receiving and responding to information that comes in through the senses.

(c) **Autism Spectrum Disorder (ASD):** Autism is a complex neuro-behavioural condition that includes impairments in social interaction and developmental language and communication skills combined with rigid, repetitive behaviours.

(d) **Oppositional Defiant Disorder (ODD):** Oppositional Defiant Disorder is a persistent behaviour characterised by anger, irritation, argumentative nature, defiant behaviour and vindictiveness. It tends to accompany about 40% of people with ADHD. Symptoms appear at about 8 years of age and last for over six months causing problems in school and at home. It is likely to be caused by a combination of genetic factors and environment. Treatment includes therapy and counselling.

(e) **Obsessive Compulsive Disorder (OCD):** Obsessive compulsive disorder is a mental disorder in which people have unwanted and repeated thoughts, feelings, ideas, sensations and behaviours that drive them to do something over and over.

33. What are the physiological changes associated with normal ageing?

Ans. Physiological changes are a part of the normal ageing process. As we grow older, many factors determine our ageing process. Notable changes that accompany ageing include:

- Heart and associated blood vessels lose elasticity and may have deposits in the walls leading to high blood pressure and hardened arteries.
- Bones decrease in density and the muscles and other soft tissues lose strength and flexibility. Posture becomes stooped and risk of developing fractures increases.
- Digestion becomes irregular and the digestive juices decrease in quantity. This requires extra effort in swallowing and leads to challenges like constipation and bloating, etc.
- Kidneys and the excretory system become less efficient. Kidney damage may occur and urinary incontinence may arise.

- (e) Brain ageing leads to slowed cognition, poor memory and decreased retention of new facts. Focus is blurred and coordination of various body parts is diminished.
- (f) Vision becomes poor and age-related diseases like cataract and short-sightedness appear. Eyes may produce less tears leading to dry eyes and irritation.
- (g) Hearing ability diminishes as we age.
- (h) Muscle loss leads to weight loss and poor energy and fitness.

34. Describe the procedure for performing Gomukhasana along with its benefits and contraindications.

Or

Describe the procedure for performing Shalabhasana along with its benefits and contraindications.

Ans. Gomukhasana: Gomukhasana is a seated asana. To do this asana, we need to sit erect on the ground with left leg crossed and put under the right hip and the right leg placed over the left thigh. As we stack both the knees one on top of the other, the left arm is folded and placed behind the back. The right arm is put over the right shoulder to stretch to reach the left hand. The benefits of this asana include stronger legs, better lung function, increased flexibility of shoulder joint as well as diminished stress and anxiety.

This asana should be avoided by those having sciatica, neck and shoulder problems and also those having knee problem.

Or

Shalabhasana: This is a lying down asana. While lying flat on the abdomen, the chin is placed on the floor. Arms are placed under the abdomen. Hands are placed palm downwards under the thigh. Palms are pressed to floor while inhaling and legs are raised straight high up as far as possible and for as long as possible.

The benefits of this asana include improved self-confidence and it helps fight depression. It improves kidney function and regulates the acid base balance in the body. Leg muscles are strengthened as are back and pelvic muscles. Better posture and weight loss are the other benefits of this asana.

Those having hip arthritis or pain in lower back should refrain from doing this asana. High blood pressure and glaucoma are medical conditions where this asana should be avoided as well as by heart patients.

PHYSICAL EDUCATION (048)

BLUEPRINT

Unit	1 Marker MCQ 4 Questions for Choice	3 Markers 3 Questions for Choice	5 Markers 2 Questions for Choice	Total Marks
1.	Q.2, Q.11	—	Q.31 (Option)	7
2.	Q.10, Q.19	Q.26 (Option)	—	5
3.	Q.6, Q.18	—	Q.34 (Option)	7
4.	Q.4, Q.7 (Option)	—	Q.32 (Option)	7
5.	Q.8, Q.17 (Option)	Q.25, Q.27	—	8
6.	Q.1, Q.12 (Option)	Q.29 (Option)	—	5
7.	Q.13 (Option), Q.15	—	Q.33	7
8.	Q.9, Q.16	Q.22, Q.30	—	8
9.	Q.5, Q.20	Q.23, Q.28	—	8
10.	Q.3, Q.14	Q.21 (Option), Q.24	—	7