

# CLASS 12 PHYSICAL EDUCATION

## ANSWER KEY – SET 4

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### SECTION A – MCQ ANSWERS

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

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### SECTION B – (2 Marks Each)

**21. Define Overtraining**

Overtraining is a condition in which an athlete experiences fatigue, decreased performance and lack of recovery due to excessive training without adequate rest.

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### **22. Two Effects of Exercise on Muscular System**

1. Increases muscle strength and size.
  2. Improves muscular endurance and tone.
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### **23. What is Intrinsic Motivation?**

Intrinsic motivation is the inner drive to perform an activity for self-satisfaction, enjoyment or personal achievement without external rewards.

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### **24. Define Biomechanics**

Biomechanics is the study of force and motion applied to human movement in sports.

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### **25. Two Advantages of Balanced Diet**

1. Provides adequate energy for daily activities.
  2. Helps in growth, repair and maintenance of body tissues.
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### **26. What is Knock Knees?**

Knock knees is a leg deformity in which knees touch each other while ankles remain apart.

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## **SECTION C – (3 Marks Each)**

### **27. Physiological Factors Determining Endurance**

- Heart efficiency
  - Lung capacity
  - Hemoglobin level
  - Muscle fiber type
  - Energy reserves
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## **28. Types of Coordinative Abilities**

1. Orientation Ability
  2. Reaction Ability
  3. Balance Ability
  4. Differentiation Ability
  5. Rhythm Ability
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## **29. Causes & Corrective Measures of Flat Foot**

### **Causes:**

- Weak arch muscles
- Obesity
- Improper footwear

### **Corrective Measures:**

- Toe walking exercises
  - Arch strengthening exercises
  - Barefoot walking on sand
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## **30. Importance of Test & Measurement**

- Helps in selection of players
  - Evaluates performance
  - Tracks progress
  - Identifies strengths and weaknesses
  - Improves training planning
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## **31. Principles of Training**

- Principle of overload
  - Principle of progression
  - Principle of specificity
  - Principle of reversibility
  - Principle of individuality
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## **32. Psychological Strategies to Control Anxiety**

- Meditation and relaxation
  - Deep breathing
  - Positive thinking
  - Visualization
  - Goal setting
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## SECTION D – LONG ANSWERS

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### **33. Women Empowerment Through Sports with Challenges and Solutions**

Sports play a significant role in empowering women by enhancing their physical strength, confidence and leadership qualities. Participation in sports promotes gender equality and provides equal opportunities for women to showcase their talent. It helps in breaking traditional stereotypes that limit women's participation in society. Women athletes serve as role models and inspire young girls to pursue sports as a career.

However, women face several challenges such as gender discrimination, lack of facilities, social restrictions and financial problems. In many rural areas, girls are discouraged from participating in sports due to cultural beliefs. Safety concerns and lack of female coaches also limit participation. Unequal pay and media coverage further create barriers.

To overcome these challenges, government initiatives like Khelo India and Beti Bachao Beti Padhao promote women in sports. Equal training facilities, scholarships and awareness programs are essential. Society and families must encourage girls to participate actively.

Thus, sports empower women socially, economically and psychologically. With proper support and equal opportunities, women can excel at national and international levels.

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### **34. Training Methods to Improve Speed and Endurance**

Speed and endurance are essential components of physical fitness required in various sports. Speed refers to the ability to perform movement quickly, while endurance is the ability to sustain activity for a long duration.

To improve speed, methods such as acceleration runs, sprint training and repetition method are used. Sprint training involves short-distance high-intensity runs with full recovery. The repetition method includes maximum effort runs followed by complete rest. Strength training also improves explosive speed.

For improving endurance, continuous training and interval training are highly effective. Continuous training involves performing exercise without rest for a long period, such as long-distance running. Interval training alternates high-intensity work with short rest periods, improving cardiovascular efficiency. Fartlek training combines continuous and interval methods.

Proper warm-up, balanced diet and adequate rest are necessary for improvement. Gradual increase in intensity following the principle of progression is important.

In conclusion, systematic training enhances speed, stamina and overall performance in sports.

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### **35. Sports Injuries Classification and Management**

Sports injuries are common in athletic activities and can be classified into soft tissue injuries and hard tissue injuries. Soft tissue injuries include sprains, strains and bruises, while hard tissue injuries include fractures and dislocations. Injuries may occur due to improper warm-up, overtraining, poor technique or accidents.

Immediate management is essential to prevent further damage. The RICE method is widely used for soft tissue injuries. Rest prevents further harm, Ice reduces swelling and pain, Compression controls inflammation and Elevation reduces blood flow to the injured area. Severe injuries require medical attention.

Rehabilitation exercises should begin gradually to restore strength and mobility. Proper warm-up, cool-down and use of protective equipment reduce injury risk. Balanced diet and hydration help in recovery.

Therefore, correct classification and timely management ensure faster recovery and safe return to sports activities.

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### **36. Effects of Exercise on Circulatory and Respiratory Systems**

Regular exercise positively affects both circulatory and respiratory systems. In the circulatory system, exercise strengthens the heart muscles and increases stroke volume, allowing the heart to pump more blood efficiently. It improves blood circulation and increases hemoglobin levels, enhancing oxygen supply to muscles. Regular exercise reduces the risk of heart diseases and lowers resting heart rate.

In the respiratory system, exercise increases lung capacity and improves oxygen intake. Respiratory muscles become stronger, allowing better breathing efficiency. Regular physical activity reduces breathlessness and enhances stamina.

Exercise also improves coordination between heart and lungs, ensuring better oxygen delivery during physical activity.

In conclusion, regular exercise enhances overall efficiency of circulatory and respiratory systems, improves endurance and promotes long-term health.