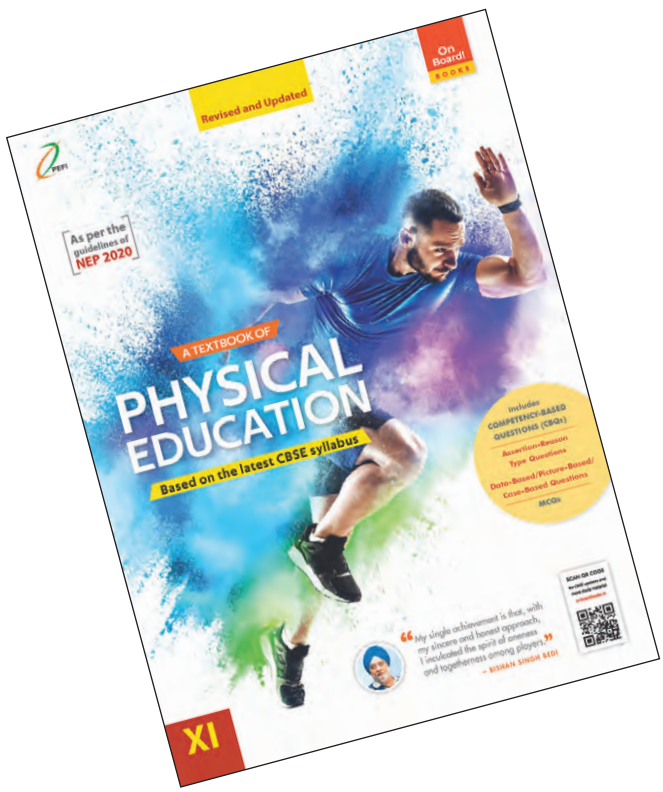
TEACHER'S HANDBOOK

A TEXTBOOK OF
PHYSICAL EDUCATION
Book 11



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CHAPTER 1

CHANGING TRENDS AND CAREER IN PHYSICAL EDUCATION

P. 25–30

A. Objective Type/Multiple-Choice Questions

I. Multiple-Choice Questions

1. What is the primary goal of physical education?

(a) Increase productivity

(b) Decrease productivity

(c) Improve academic scores

(d) Improve professional relationships

Ans. (a) Increase productivity

2. What kind of a system do sports and games rely on and why?

(a) Two systems for coordination

(b) Two systems for balance

(c) Two systems for concentration

(d) Two systems for endurance

Ans. (a) Two systems for coordination

3. When was the Central Advisory Board of Physical Education established?

(a) 1947 (b) 1948

(c) 1950 (d) 1956

Ans. (c) 1950

4. What was the objective of the Coaching Scheme introduced by Rajkumari Amrit Kaur?

(a) To establish National Institute of Sports

(b) To encourage Indian youth to participate in games and sports

(c) To streamline coaching programs in India

(d) To liaison between Government and National Sports Federations

Ans. (c) To streamline coaching programs in India

5. Which event motivated Indian youth to participate in games and sports at the international level?

(a) First College of Physical Education

(b) National Physical Efficiency Drive

(c) Asian Games

(d) Sports Talent Search Scheme

Ans. (c) Asian Games

6. What was the purpose of the Rural Sports tournament scheme introduced by the government?

(a) To promote indigenous physical activities

(b) To evaluate the physical fitness status of peoples in India

(c) To involve rural youth and spot natural talent in different sports

(d) To enhance women participation in sports

Ans. (c) To involve rural youth and spot natural talent in different sports

7. Where Lakshmibai National Institute of Physical Education (LNIPE) is situated?

(a) New Delhi (b) Patiala

(c) Bhubaneswar (d) Gwalior

Ans. (d) Gwalior

8. Central Government Physical Education Committees was set-up in 1948, which is also known as?

(a) Tara Chand Committee

(b) Rajkumari Amrit Kaur Committee

(c) Tara Prasad Committee

(d) NIS Committee

Ans. (a) Tara Chand Committee

9. SAI Stands for

(a) Sports Appointment of India

(b) Sports Academic of India

(c) Sports Authority of India

(d) Sports Accreditation of India

Ans. (c) Sports Authority of India

10. Which of the following tournaments, is played on clay courts?

(a) Australian Open (b) French Open

(c) US Open (d) The Wimbledon

Ans. (b) French Open

11. Which of the following career options is associated with physical education?

(a) Sports marketing

(b) Sports administration

(c) Professional sportsperson

(d) All of these

Ans. (d) All of these

12. For those who have a strong passion for the camera, ... is a career option.

(a) Sports journalism

(b) Sports photography

(c) Sports broadcasting

(d) Sports marketing

Ans. (b) Sports photography

13. Which technology is used in the picture given alongside?

(a) GATE
(b) GPS
(c) Speedometer
(d) VAR

Ans. (d) VAR

14. Khelo-India is an initiative of the .....

(a) Government of Delhi
(b) Government of UP
(c) Government of India
(d) Government of Maharashtra

Ans. (c) Government of India

15. Khelo-India would cover ..... most talented and deserving young athletes every year.

(a) 1000 (b) 2000
(c) 3000 (d) 4000

Ans. (a) 1000

16. Khelo-India strives to promote .....

(a) 'Sports for one' as well as 'Sports for all'
(b) 'Sports for all' as well as 'Sports for excellence'
(c) 'Sports for one' as well as 'Sports for many'
(d) 'Sports for development' as well as 'Sports for excellence'

Ans. (b) 'Sports for all' as well as 'Sports for excellence'

17. How much annual scholarship shall each selected athlete receive under the Khelo-India Scheme for eight consecutive years?

(a) Two lakhs (b) Five lakhs
(c) Three lakhs (d) Eight lakhs

Ans. (b) Five lakhs

18. When was the Fit-India Movement launched?

(a) 29 August 2013 (b) 29 August 2016
(c) 29 August 2019 (d) 29 August 2021

Ans. (c) 29 August 2019

19. There is a picture given alongside. This is the logo of

(a) Khelo-India Program.
(b) Fit-India Program.
(c) Khel-India Program.
(d) Fitness India Program.

Ans. (a) Khelo-India Program.

II. Match the following:

List I – Acronym	List II – Full-form
(a) PU	(1) National Testing Agency
(b) SAI	(2) National Council of Teacher Education
(c) NCTE	(3) Polyurethane
(d) NTA	(4) Sports Authority of India

Select the correct set of options:

(a) (i)—(3), (ii)—(4), (iii)—(2), (iv)—(1)
(b) (i)—(2), (ii)—(4), (iii)—(1), (iv)—(3)
(c) (i)—(1), (ii)—(2), (iii)—(3), (iv)—(4)
(d) (i)—(4), (ii)—(3), (iii)—(2), (iv)—(1)

Ans. (a) (i)—(3), (ii)—(4), (iii)—(2), (iv)—(1)

III. Assertion-Reason Type Questions: CBQ

Given below are the two statements labelled Assertion (A) and Reason (R).

A: Sports and games are an integral part of human culture and social interactions.

R: A number of sports events and games are played around the world.

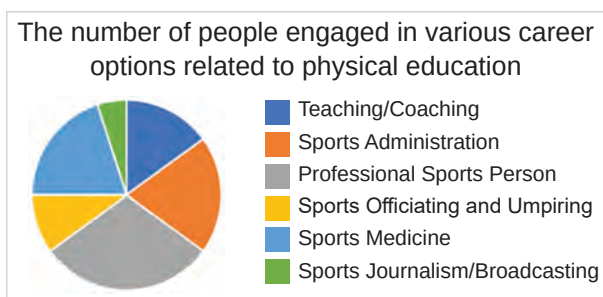
In the context of the two statements given above, which one of the following is correct?

(a) Both (A) and (R) are true and (R) is the correct explanation of (A).
(b) Both (A) and (R) are true but (R) is not the correct explanation of (A).
(c) (A) is true, but (R) is false.
(d) (A) is false, but (R) is true.

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

IV. Data-Based Questions: CBQ

The following pie-chart depicts the number of people engaged in various career options related to physical education:



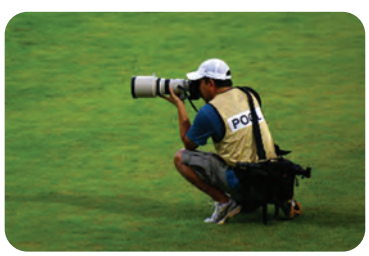
On the basis of the pie-chart given above, answer the following questions:

1. Which is the most popular profession?
   (a) Being a coach
   (b) Being an umpire
   (c) Being a professional player
   (d) Being a journalist
2. Which profession shows minimum engagement?
   (a) Journalism (b) Coaching
   (c) Administration (d) Medicine
3. A school, college or academy can be a possible place of work for .....
   (a) Sports Teachers/Coaches
   (b) Sports Administrators
   (c) Sports Doctors/Physicians
   (d) All of these

Ans. **1.** (c) being a professional player; **2.** (a) Journalism; **3.** (d) All of these

V. Picture-Based Questions: CBQ

Identify the professions in sports:

1.  .....
2.  .....
3.  .....
4.  .....

Ans. **1.** Sports Coaching; **2.** Umpiring; **3.** Sports Photography; **4.** Sports Medicine

VI. Case-Based Questions: CBQ

1. A school did not have sports periods as part of its curriculum.

   On the basis of the case given, answer the following questions:

   (a) Which skills will most likely be missing in the students of such a school?
   (b) If the school creates a sports department in future, what sort of employees will it require?
   (c) ..... is an important objective of physical education.
   (d) A ..... and ..... Physical Education Program must be an integral part of school curriculums.

Ans. (a) Teamwork and cooperation
(b) Sports doctor and Coach
(c) Economic development
(d) well-structured; well-implemented

2. Look at the following figures and answer these questions.

Figure A

Figure B

   (a) What does Figure A depict? Write one of its objectives.
   (b) What does Figure B depict? Write one of its objectives.
   (c) There were initially ..... disciplines under Figure A Program.
   (d) Figure B Program was launched on ..... by the Prime Minister of India.

Ans. (a) Khelo–India Program, Community Coaching Development
(b) Fit-India Program, To promote fitness as easy, fun and free.
(c) 16
(d) 29 August 2019

B. Very Short Answer Type Questions

1. Define physical education.

Ans. Physical education is education through physical activities for the development of the total personality of child to its fullness and perfection in body, mind and spirit.

2. What is the primary aim of physical education?

Ans. The primary aim of physical education is to make every child physically, mentally and emotionally fit and also to develop in her/him such personal and social qualities as will help her/him to live happily with others and build him up as a good citizen.

3. When was the National Institute of Sports (NIS) established?

Ans. NIS was established in 1961.

4. What was the objective of the National Fitness Corps?

Ans. The objective of the National Fitness Corps was to make youth physically strong.

5. What was the objective of the Rural Sports tournament scheme?

Ans. The objective of the Rural Sports tournament scheme was to involve rural youth and spot natural talent in different sports.

6. Give a list of career options in physical education.

Ans. Teaching, Coaching, Personal Trainer, Professional sportsperson, Sports officiating and umpiring, Sports administration.

7. What are some diploma courses in physical education that you can take up in India?

Ans. Diploma courses in Physical education are for a duration of two years after class 12 in any stream. Diploma in Aerobics, Yoga Teacher Training, Yoga & Physical Education, Yoga, Physical Education, Special Olympics and Fitness are some courses.

8. What is the duration of a certificate course in physical education in India?

Ans. Certificate courses in physical education in India can be taken for a duration of one year after the student has passed 12th in any stream.

9. Give examples of at least two skills needed to become a coach.

Ans. Communication skills, Empathy, Work ethics, Leadership qualities, Time management abilities.

10. Mention two objectives of Khelo-India Program.

Ans. (i) Play Field Development

(ii) Community Coaching Development

11. How many sports disciplines are covered under Khelo-India Program? Mention any two.

Ans. 25 sports; Athletics and Badminton

12. What is the fitness mantra of Fit-India Program?

Ans. Fit-India Mission encourages people to become part of Fit-India Movement by including at least 30–60 minutes of physical activities in their day-to-day lives.

C. Short Answer Type-I Questions

1. Mention the different categories of the broad objective of physical education.

Ans. The different categories of the broad objective of physical education include organic aspect, neuromuscular aspect, mental aspect, emotional and social aspects of development.

2. What was the purpose of the Central Advisory Board of Physical Education?

Ans. The purpose of the Central Advisory Board of Physical Education was to advise the government regarding physical education issues and introduce Physical Education Subject as Compulsory subject at elementary, middle and senior secondary level.

3. What was the objective of the Coaching Scheme introduced by Rajkumari Amrit Kaur?

Ans. The objective of the Coaching Scheme was to streamline coaching program in India and produce qualified coaches in different games and sports.

4. Mention the three courses for physical education teachers for schools in India recognised by the NCTE.

Ans. (i) Diploma in Physical Education (DPEd)

(ii) Bachelor of Physical Education (BPEd)

(iii) Master of Physical Education (MPEd)

5. Write briefly about the coaching career in physical education.

Ans. Refer to pages 19-20 of the book.

6. What are the different kinds of job opportunities available under sports administration?

Ans. Chief Administrator in schools and colleges, Directors of Sports, District Sports Officers, etc.

7. Why do celebrities, models and sportspersons hire a personal trainer?

Ans. Celebrities, models and sportspersons are under constant pressure to appear fit and fabulous under the glare of cameras and the public eye or on the playground. And they often have a strict regime to follow. Almost every celebrity out there has their own personal trainer to help guide them with their training sessions.

8. Mention any two career options in physical education.

Ans. Teaching and personal trainer (Refer P–18-19)

9. What is Hawk-Eye Technology?

Ans. Hawk-Eye System employs six to seven very powerful cameras which are fixed at various positions of the stadium to track and get the clear view of the ball from different angles in games like cricket, football, tennis, etc. This powerful and strong combination ensures that no shot is missed to be tracked by it. It also provides 3-D animation of the path of the ball.

10. Briefly write about any two features of Khelo-India Program.

Ans. (i) The Program aims to promote 20 universities across the country as centres of sporting excellence, which would enable talented sportspersons to pursue both studies as well as sports.

(ii) The Program also aims at creating an active population with healthy lifestyle.

11. Write any two objectives of Fit-India Program.

Ans. (i) To encourage indigenous sports.

(ii) To make fitness reach every school, college/ university, panchayat/village, etc.

12. What is the goal of Fit-India Program?

Ans. The goal of Fit-India is to change people's habits and encourage them to adopt a more physically active lifestyle.

13. What is the fitness pledge of Fit-India Program?

Ans. "I promise to myself that I will devote time for physical activity and sports every day and I will encourage my family members and neighbours to be physically fit and make India a fit nation."

D. Short Answer Type-II Questions

1. Create a mind map depicting the aims and objectives of physical education.

Ans.

2. Why is physical education important for youth? Give any three reasons.

Ans. Physical education is important for the youth for the following three reasons:

(i) Physical activities like jogging, walking, engaging in various sports help in maintaining correct posture and strengthening of the internal organs and muscles.

(ii) Physical education classes help the youths fruitfully employ their leisure time.

(iii) Many sporting activities function on certain social values like team spirit, fair play, cooperation and respect. These make the youths positive and mature.

3. How is physical education different from academic classroom-based education?

Ans. Physical education activities serve as a good outlet for students' surplus energy, reduce their anxiety and may bring them closer to their peers. Moreover, students get an opportunity to leave the classrooms and textbooks for a while and refresh their body and mind.

4. When and where was the first College of Physical Education established?

Ans. The first College of Physical Education was established in 1957 as Lakshmibai College of Physical Education (LCPE) at Gwalior, Madhya Pradesh.

5. What was the objective of the National Plan of Physical Education and Recreation?

Ans. The objective of the National Plan of Physical Education and Recreation was to promote indigenous physical activities in India.

6. What was the objective of the National Sports championship for women?

Ans. The objective of the National Sports championship for women was to enhance women participation in sports.

7. Write in brief about different wearable gears.

Ans. Sports gears are mostly worn to ensure basic safety related to the game/sport. Sports injury is the only limitation for the players to sustain their sports performance. So, all the respective sports have their minimum requirement of wearing sports gears as laid down in their regulations. Few common sports gears used are: Batting/kipping gloves, pads, helmets/ head gears used in various sports, shin/abdominal guards, caps used in various joints knee caps, etc.

8. What are the basic educational qualifications required for pursuing a serious career in physical education in India?

Ans. After passing class 12th with any stream, a student can pursue various certificate and diploma courses. Apart from these, other courses like degree courses, postgraduate courses and advanced courses are also available.

9. What are the duties involved in teaching physical education?

Ans. Teaching physical education is a science in its own right, entailing a number of duties such as:

- training students in gymnastics, callisthenics and other physical activities
- coaching the students in specific sports
- organising sporting events
- maintaining sports equipment, gymnasiums, fields, pools, etc.

10. Make a table listing the various objectives of Khelo-India Program and Fit-India Program.

Ans. **Objectives of Khelo-India Program**

(i) Play Field Development

(ii) Community Coaching Development

(iii) State Level Khelo-India Centres

(iv) Annual Sports Competition

(v) Talent Search and Development

Objectives of Fit-India Program

(i) To promote fitness as easy, fun and free.

(ii) To spread awareness on fitness and various physical activities that promote fitness through focused campaigns.

(iii) To encourage indigenous sports.

(iv) To make fitness reach every school, college/ university, panchayat/village, etc.

(v) To create a platform for citizens of India to share information, drive awareness and encourage sharing of personal fitness stories.

11. What is the Khelo-India Program?

Ans. The Khelo-India is a national Program for the development of sports. It is an initiative of the Government of India to strengthen the sports ecosystem by encouraging mass participation and promotion of excellence. This Program has been introduced to revive the sports culture in India at the grassroot level by building a strong framework for all sports in India. It will provide a national level platform to the grassroot level talents.

12. Name the schemes that have been merged and revamped as Khelo-India Scheme.

Ans. Being approved by the Union Cabinet, Khelo-India Program has been revamped after the merger of Rajiv Gandhi Khel Abhiyan (RGKA), Urban Sports Infrastructure Scheme (USIS) and National Sports Talent Search Scheme (NSTSS).

13. What are the different objectives of Fit-India Program? Mention any three.

Ans. Refer to Answer of Question 10.

E. Long Answer Type Questions

1. What are the various aspects of development achieved through physical education? Explain in detail.

Ans. The various aspects of development achieved through physical education are given below:

(i) **Organic aspect of development:** The first step of physical education is to establish physical fitness through regular exercise to strengthen the internal organs and muscles.

(ii) **Neuromuscular aspect of development:** Neuromuscular aspect of physical education enhances their relationship, in addition to gradually decreasing fatigue and providing mental satisfaction.

(iii) **Mental aspect of development:** Sports and games require mental alertness and concentration. The players learn how to face tough challenges and find within themselves a sense of self-reliance.

(iv) **Emotional aspect of development:** Physical education activities serve as a good outlet for teenagers' surplus energy, reduce their anxiety and may bring them closer to their peers.

(v) **Social aspect of development:** One of the most positive outcomes of physical education is the growth of social skills, although this may not be immediately visible. It is human nature to seek the society of fellow human beings, no matter how well we can act alone.

2. Discuss the various initiatives taken by the Government of India to promote physical education and sports in India after independence.

Ans. After getting independence in 1947, the Government of India took various initiatives

to promote physical education and sports in India. Some of the important initiatives are: establishment of the Central Government Physical Education Committee in 1948, setting up of the Central Advisory Board of Physical Education in 1950, introduction of Physical Education Subject as Compulsory subject at elementary, middle and senior secondary level, preparation of the National Plan of Physical Education and Recreation in 1956 to promote indigenous physical activities, establishment of the National Institute of Sports in 1961 to produce qualified coaches in different games and sports, establishment of the All India Council of Sports in 1954 to liaison between Government and National Sports Federations in order to assist in financial matters, introduction of the Sports Talent Search Scheme in 1970–71 to promote sportspersons of state and National level, and launch of the National Sports championship for women in 1975 to enhance women participation in sports. These initiatives have played a significant role in promoting physical education and sports in India.

3. What are the changing trends in sports in terms of playing surfaces?

Ans. Refer to pages 14-15 of the book.

4. Describe in detail about the changing trends in sports in terms of technological advancements.

Ans. Refer to page 16 of the book.

5. Classify various playing surfaces in sports.

Ans. Refer to page 12, Table 1.1 Different types of playing surfaces for outdoor and indoor sports of the book.

6. Make a table listing out the different courses available in physical education.

Ans. Refer to pages 17-18 of the book.

7. Discuss in detail about any five careers options available in physical education.

Ans. Refer to pages 17-20 of the textbook.

8. Write any five objectives of Khelo-India Program.

Ans. The objectives of Khelo-India Program are as follows:

(i) Play Field Development

(ii) Community Coaching Development

(iii) State Level Khelo-India Centres

(iv) Annual Sports Competition

(v) Talent Search and Development

(vi) Utilisation and Creation/Upgradation of Sports Infrastructure

(vii) Support to National/Regional/State Sports Academics

(viii) Physical Fitness of School Children (any five)

9. What are the features of Khelo-India Program? Write about any five.

Ans. Features of Khelo-India Program are given below.

(i) This Program/scheme will be implemented by the Central Government machinery and 100 per cent of the funds will be provided by the central government.

(ii) A Pan Indian Sports Scholarship scheme, which would cover 1,000 most talented and deserving young athletes every year across selected sports disciplines. Initially, there are 16 disciplines. They are: Archery, Athletics, Badminton, Basketball, Boxing, Football, Gymnastics, Hockey, Judo, Kabaddi, Kho-Kho, Shooting, Swimming, Volleyball, Weightlifting and Wrestling.

(iii) Each selected athlete under the scheme shall receive an annual scholarship worth five lakh rupees for eight consecutive years.

(iv) A long-term athlete development pathway would be made available to gifted and talented youngsters to excel in competitive sports and will create a pool of highly competitive athletes who can compete to win at the global platform.

(v) The Program aims to promote 20 universities across the country as hubs of sporting excellence, which would enable talented sportspersons to pursue both studies as well as sports.

(vi) The Program also aims at creating an active population with healthy lifestyle.

(vii) The Program would cover about 20 crore children in the age group of 10–18 under a massive national physical fitness drive, which will not only measure the physical fitness of all children in the age group, but also support their fitness related activities. (any five)

10. What is Fit-India Program? How is it important for rural players of India?

Ans. The Fit India Program is a government initiative launched by the Ministry of Youth Affairs and Sports in India in 2019. The program aims to

encourage people to incorporate physical activity and sports into their daily lives and promote a culture of fitness across the country. The initiative intends to inspire citizens to adopt an active lifestyle by creating awareness about the benefits of regular exercise, a healthy diet, and the importance of mental well-being.

For rural players in India, the Fit-India Program is particularly important as it provides them with access to resources and opportunities that may not have been available to them previously. The program seeks to reach people in every corner of the country and aims to provide them with the necessary infrastructure, equipment, and guidance to promote fitness and sports. It also aims to create awareness about traditional Indian games and encourage their revival, which can have a positive impact on rural players who may have grown up playing these games.

Through the Fit-India Program, rural players can benefit from the various schemes and initiatives that are offered, such as the construction of sports infrastructure, the promotion of indigenous games, the training of coaches, and the provision of financial assistance to individuals and institutions that promote fitness and sports. The program also aims to create a network of community-based fitness programs that can reach people at the grassroots level and help them adopt a healthy lifestyle.

Overall, the Fit-India Program is important for rural players in India as it provides them with opportunities to participate in sports and fitness activities, which can have a positive impact on their physical and mental well-being. Additionally, the program can help in creating a culture of fitness in rural areas and promote the development of sports infrastructure and talent.

11. Make a list of objectives, fitness pledge and fitness mantra of Fit-India Program.

Ans. **Objectives of Fit-India Program:**

(i) To promote physical activity and sports in every corner of the country.

(ii) To create awareness about the benefits of regular exercise, a healthy diet, and the importance of mental well-being.

(iii) To encourage citizens to adopt an active lifestyle.

(iv) To provide necessary infrastructure, equipment, and guidance to promote fitness and sports.

(v) To revive traditional Indian games and promote their importance.

(vi) To promote the development of sports infrastructure and talent in the country.

(vii) To create a network of community-based fitness programs that can reach people at the grassroots level.

Fitness Pledge of Fit-India Program:

"I pledge to make fitness an integral part of my daily routine. I will take the stairs instead of the elevator. I will cycle or walk short distances instead of taking a vehicle. I will take up a sport or physical activity that I enjoy. I will encourage my family, friends, and colleagues to join me on this journey towards a fit India."

Fitness Mantra of Fit-India Program:

"Fitness is not just about physical strength, but also mental well-being. It is a way of life that can help us lead a healthier, happier, and more fulfilling life. Let us make fitness a part of our daily routine and inspire others to do the same."

CHAPTER 2

OLYMPISM VALUE EDUCATION

P. 44–48

A. Objective Type/ Multiple-Choice Questions

I. Multiple-Choice Questions

1. Which of the following values are a part of Olympic values?

(a) Friendship and Solidarity

(b) Peace and Equality

(c) Fair Play

(d) All of these

Ans. (d) All of these

2. Which of the following is the Olympic symbol?

(a)  (b) 

(c)  (d) 

Ans. (d) 

3. According to the UNESCO Charter, what is the fundamental right of every human being?

(a) Access to education

(b) Access to healthcare

(c) Access to physical education and sport

(d) Access to food and water

Ans. (c) Access to physical education and sport

4. Which of the following is not one of the core educational values of the Olympic Values Education?

(a) Joy of effort

(b) Fair play

(c) Respect for others

(d) Freedom of choice

Ans. (d) Freedom of choice

5. What is the goal of the Olympic Charter?

(a) To promote peace and respect for others

(b) To create a new society in which there is acceptance and respect for people of all races

(c) To contribute to building a peaceful and better world through educating youth through sport

(d) To provide daily opportunities for children and youth to participate in physical activity

Ans. (c) To contribute to building a peaceful and better world through educating youth through sport

6. What can the concept of fair play lead to?

(a) The development and reinforcement of similar behaviour in one's everyday life

(b) The development of bad memories

(c) The reinforcement of negative attitudes and behaviour towards the community

(d) The promotion of unethical practices as a way to solve conflicts

Ans. (b) The development and reinforcement of similar behaviour in one's everyday life

7. Where can the ruins of the birthplace of Olympic Games be found?

(a) Florence, Italy (b) Paris, France

(c) Olympia, Greece (d) Berlin, Germany

Ans. (c) Olympia, Greece

8. What was the other name of the Olympic Truce?

(a) Ekecheiria (b) Elecheiria

(c) Elkcheiria (d) Emcheiria

Ans. (a) Ekecheiria

9. When were the first modern Olympics held?

(a) 1982 (b) 1882

(c) 1896 (d) 1892

Ans. (c) 1896

10. When did women participate in the games for the first time?

(a) 1900 (b) 1880

(c) 1904 (d) 1888

Ans. (a) 1900

11. Who composed the Olympic Anthem?

(a) Rabindranath Tagore

(b) Spiro Samara

(c) Kostis Palamas

(d) George Bernard Shaw

Ans. (b) Spiro Samara

12. Which of these sports forms an event at the Winter Olympics?

(a) Judo (b) Luge

(c) Handball (d) Water Polo

Ans. (b) Luge

13. In which country were the first Summer Olympics held?

(a) France (b) USA

(c) Greece (d) Great Britain

Ans. (c) Greece

14. At present, there are ..... NOCs recognised by the IOC.

(a) 106 (b) 206

(c) 260 (d) 306

Ans. (b) 206

15. There are ..... international federations recognised by the IPC.

(a) 6 (b) 9

(c) 10 (d) 17

Ans. (d) 17

16. Which of the following are the positions in the IOA board for which the elections are held?

(a) President and Senior Vice President

(b) Secretary General and Treasurer

(c) One representative elected out of the Athletes Commission

(d) All of these

Ans. (d) All of these

17. In which year was the Indian Olympic Association created?

(a) 1927 (b) 1947

(c) 1952 (d) 1964

Ans. (a) 1927

18. What is the name of the anti-doping foundation initiated by the International Olympic Committee to promote, coordinate and monitor the fight against drugs in sports?

(a) International Drug Monitoring Agency (IDMA)

(b) World Anti-Drugs Council (WADC)

(c) International Doping Committee (IDC)

(d) World Anti-Doping Agency (WADA)

Ans. (d) World Anti-Doping Agency (WADA)

II. Match the following:

List I – Olympic Games Venue	List II – Year
(a) Antwerp	(1) 2000
(b) Sydney	(2) 2012
(c) London	(3) 1896
(d) Athens	(4) 1920

Select the correct set of options:

(a) (i)—(4), (ii)—(1), (iii)—(3), (iv)—(2)

(b) (i)—(2), (ii)—(4), (iii)—(1), (iv)—(3)

(c) (i)—(1), (ii)—(2), (iii)—(3), (iv)—(4)

(d) (i)—(4), (ii)—(3), (iii)—(2), (iv)—(1)

Ans. (a) (i)—(4), (ii)—(1), (iii)—(3), (iv)—(2)

III. Assertion-Reason Type Questions: CBQ

Given below are the two statements labelled Assertion (A) and Reason (R).

A: Olympic Games encourage the adoption of peace.

R: All individual differences are forgotten when participants arrive at the Games, and the event commences with mutual respect and harmony.

In the context of the two statements given above, which one of the following is correct?

(a) Both (A) and (R) are true and (R) is the correct explanation of (A).

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

(c) (A) is true, but (R) is false.

(d) (A) is false, but (R) is true.

Ans. (a) Both (A) and (R) are true and (R) is the correct explanation of (A).

IV. Data-Based Questions: CBQ

Given below is the depiction of equal importance of the values of Olympics:

On the basis of the pie-chart given above, answer the following questions:

1. Congratulating the winner despite losing depicts which value?

(a) Friendship and Solidarity

(b) Respect

(c) Excellence

(d) Fair Play

2. Which of the following values is represented by a dove above the Olympic symbol?

(a) Friendship and Solidarity

(b) Excellence

(c) Respect

(d) Fair Play

3. Penalising a player for adopting any unfair means to win the games is an example of .....

(a) Friendship and Solidarity

(b) Respect

(c) Excellence

(d) Fair Play

Ans. **1.** (c) Equality; **2.** (a) Friendship and Solidarity; **3.** (d) Fair Play

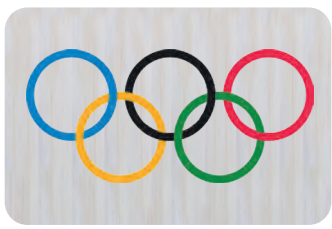
V. Picture-Based Questions: CBQ

Identify the following pictures related to Olympic Games and write their description:

1.

.....

2.



.....

3.

.....

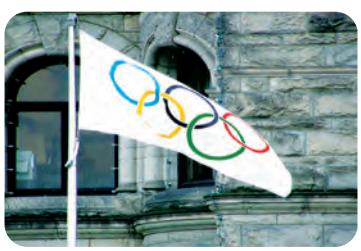
4.

.....

Ans. **1.** Olympic Wreath – Award; **2.** Olympic Rings – Symbol; **3.** Olympic Torch – Ceremony; **4.** Olympic Value – Truce Symbol – Friendship and Solidarity

VI. Case-Based Questions: CBQ

1. Look at the following figure and answer these questions.



(a) What do the five rings of the given flag represent?

(b) The Olympic Flag was first hoisted in .....

(c) What does the white background of the flag symbolise?

(d) The Olympic symbol of five rings was designed by .....

Ans. (a) The five rings represent the five continents, i.e. Africa, America, Asia, Australia and Europe.

(b) The Olympic flag was first hoisted in 1920 at the Antwerp Games, Belgium.

(c) Peace

(d) Baron de Coubertin (Pierre de Coubertin)

2. The International Olympic Committee consists of President, Vice Presidents and the members of the Executive Board.

On the basis of the case given, answer the following questions:

(a) The President will be elected for ..... years.

(b) ..... VPs are elected for a term of four years.

(c) When is the President eligible for a re-election?

(d) Where is the IOC based in?

Ans. (a) 8 years

(b) 4

(c) Right after the expiry of his/her term.

(d) Lausanne, Switzerland

B. Very Short Answer Type Questions

1. What is Olympism?

Ans. Olympism is a philosophy of life. The word 'Olympism' refers to the philosophy of the Olympic Games.

2. What is the goal of Olympism?

Ans. The goal of Olympism is to help construct a more peaceful and better world by teaching kids through sport activities, which must be done without prejudice, and inculcating the Olympic spirit, which demands mutual understanding, solidarity and fair play.

3. What are the five educational values incorporated in the Olympic Values Education?

Ans. The five educational values incorporated in the Olympic Values Education are Joy of effort, Fair play, Respect for others, Pursuit of excellence, and Balance between body, will and mind.

4. How can sports help in promoting acceptance and respect for diversity?

Ans. Sports can help in promoting acceptance and respect for diversity by bringing people from different cultures together to work towards a common goal, which fosters understanding and acceptance of cultural differences.

5. When was the first recorded Olympic Games held in ancient Greece?

Ans. The first recorded Olympic Games were held in Greece in 776 BCE.

6. Name the venue of the ancient Olympics.

Ans. The name of the Venue of the ancient Olympic Games was a valley in Elis on the Pelonnese Peninsula.

7. What were the rules of the ancient Olympics?

Ans. The rules of the ancient Olympics were as under:

- Only freeborn Greek males could participate in the Games. However, athletes from the Roman Empire were later allowed to join.
- Slaves and convicts were banned.
- Women were not even allowed to enter the stadiums once they were married.
- Competitors had to stay in Olympia for one month and practice before the commencement of the Games. They also had to take an oath that they were already trained for ten months in their state before coming to Olympia. *(any one)*

8. Write down the oath taken by the participants in the modern Olympics.

Ans. The oath taken by the participants in the modern Olympics is as under: "In the name of all the competitors I promise that we shall take part in these Olympic Games, respecting and abiding by the rules which govern them, committing ourselves to a sport without doping and without drugs, in the true spirit of sportsmanship, for the glory of sport and the honour of our teams."

9. What would you say is the biggest single difference between the ancient and the modern Olympic rules when it comes to participation rules?

Ans. The biggest difference between the ancient and modern Olympic rules when it comes to participation rules is that previously no women whether married or unmarried could participate in Olympic Games and now all females can participate in Olympic Games if they are eligible.

10. Where is the torch of the modern Olympic Games originally lit before it is brought to the host city?

Ans. The torch of the modern Olympic Games, originally lit, before it is brought to the host city, is Olympia Village, Greece.

11. What does Olympic symbol represent?

Ans. Olympic Symbol represents to celebrate the – sporting friendship and cooperation between the people of all the five continents.

12. What is the motto of the modern Olympic Games?

Ans. The new Olympic motto in Latin words – *Citius*, *Altius*, *Fortius* – *Communiter* for Faster, Higher, Stronger – Together.

13. What do you understand by *Citius*, *Altius*, *Fortius* and *Communiter*?

Ans. The Latin words – *Citius*, *Altius*, *Fortius* – *Communiter* mean Faster, Higher, Stronger – Together.

14. In which years were the modern Olympic Games cancelled and why?

Ans. The Olympic Games were cancelled in the year 394 BCE by the Roman Emperor Theodossius as he did not favour "Pagan Practices".

15. Who composed Olympic Anthem?

Ans. Spiro Samara

16. Which are the three primary components of the Olympic Movement?

Ans. The IOC, International Sports Federations (IFs), and National Olympic Committees (NOCs) are the three primary components of the Olympic Movement.

17. Where is the headquarters of International Olympic Committee located?

Ans. The headquarters of International Olympic Committee is located at Lausanne, Switzerland.

C. Short Answer Type-I Questions

1. What is the Olympic oath?

Ans. "In the name of all the competitors, I promise that we shall take part in these Olympic Games, respecting and abiding by the rules which govern them, committing ourselves to a sport without doping and without drugs, in the true spirit of sportsmanship, for the glory of sport and the honour of our teams."

2. What are the five educational values under the core Olympic values?

Ans. The five educational values under the core Olympic values are: Joy of Effort, Fair Play, Respect for Others, Pursuit of Excellence, and Balance between Body, Will and Mind. These values aim to promote personal development and a positive attitude towards sports and life.

3. What is the focus of the modern Olympic Movement?

Ans. The focus of the modern Olympic Movement extends beyond sports, embracing cultures, artistic works, environmental awareness and education.

4. What did Pierre de Coubertin believe about learning?

Ans. Pierre de Coubertin believed that learning happened in the whole body, not just in the mind, and that physical learning took place in both body and mind but could not be done without will.

5. Where and when did the Olympics begin? What was the event and who won?

Ans. The ancient Olympic Games were first held in Olympia, Greece, in 776 BCE. The event was a one-day athletic competition that featured a single foot race, which was won by a cook from the city of Elis named Coroebus.

6. Mention any two rules of the ancient Olympics.

Ans. (i) Only freeborn Greek males could participate in the Games. However, athletes from the Roman Empire were later allowed to join.

(ii) Slaves and convicts were banned.

7. How did the modern Olympic Games begin?

Ans. The modern Olympic Games began in Athens, Greece in 1896, inspired by the ancient Olympics. The idea was proposed by French educator Baron de Coubertin, who believed in promoting international understanding and sportsmanship through athletics.

8. Mention any two rules of modern Olympics.

Ans. (i) They should be the citizen of a participating country by law.

(ii) Previously professionals were not allowed. This was eventually rectified.

9. Excellence is not only on the playground; it is also in the classroom. Comment.

Ans. This statement reflects the Olympic value of the pursuit of excellence, which encourages individuals to strive for their best in all aspects of life, including academics. The value of excellence is not limited to athletic achievements but extends to personal growth, education and character development.

10. Mention the broad structure of the IOC.

Ans. The International Olympic Committee (IOC) is composed of the President, Vice Presidents, Executive Board, and Session, which is the supreme authority of the IOC. The IOC also includes commissions responsible for various aspects of the Olympic Games and the Olympic Movement.

11. Write any two functions of the IOC.

Ans. (i) To encourage and support the organisation, development and coordination of sports and sports competitions.

(ii) To ensure the regular celebration of the Olympic Games.

12. Why was IOA established?

Ans. To prepare aspiring and skilled sportspersons of the country for participation in the Olympic Games, the Indian Olympic Association (IOA), also known as Bharatiya Olympic Sangh, was established in 1927.

13. Write two main objectives of the IOA.

Ans. (i) To educate the public of the country as to the value of sports.

(ii) To guard and enforce the applicable rules in cooperation with National Sports Federations.

D. Short Answer Type-II Questions

1. What do you mean by Olympic values?

Ans. The Olympic Games are about spreading the spirit of friendship and solidarity among the people from various countries of the world.

2. Create a mind map showing the fundamental principles of Olympism.

Ans. Mind Map

3. What is the purpose of Olympic Movement?

Ans. The purpose of the Olympic Movement is to promote and spread the Olympic values of excellence, friendship, and respect across the world through the celebration of the Olympic Games and other initiatives. It aims to use sport as a means to promote social and cultural exchange and to build a better, more peaceful world.

4. Write about Respect in Olympic values.

Ans. Respect is one of the core Olympic values, promoting fair play and sportsmanship. It calls for mutual understanding and tolerance among individuals of different backgrounds and cultures. Respect extends beyond the playing field to the Olympic Movement's governance, anti-doping efforts, and environmental sustainability initiatives. It aims to create a better world through respect for diversity, integrity and human dignity.

5. How can you justify this statement — 'Respect lies in the heart of Olympism'?

Ans. Respect is one of the fundamental Olympic values that lies at the heart of Olympism. It is the foundation of the Olympic spirit, encouraging individuals to treat each other with fairness and dignity, on and off the playing field. The pursuit of excellence and the joy of effort are built on the foundation of mutual respect, which fosters a sense of belonging and unity among athletes, coaches, officials, and fans, creating a harmonious and peaceful Olympic community.

6. What is the role of sports in promoting respect for diversity?

Ans. Sports provide an opportunity for people from different cultures to come together and work towards a common goal, such as winning a game. Through this experience, individuals can learn to appreciate the worth of all people and cultures, irrespective of race, age, gender, and ability. This acceptance can help to promote peace and respect for diversity.

7. How does pursuit of excellence in sports benefit young people?

Ans. Pursuing excellence in sports can help young people make positive, healthy choices and strive to become the best that they can be in whatever they do. It provides an opportunity for players to make healthy choices in safe social and physical surroundings, while also developing skills and learning to work towards a goal. Additionally, participating in sports can help to build a balanced approach to life, which includes mental, emotional, and physical well-being.

8. Write a brief note on the ancient Olympics.

Ans. The Olympic began in Ancient Greece thousands of years ago. It is difficult to determine when exactly they did begin. We only know about venue and that venue is – Olympic, a valley in Elis on the Peloponnese Peninsula. The first recorded Olympics were held in 776 BCE. The only event was a single footrace won by a cook named Coroebus.

9. Why did the ancient Olympic Games decline?

Ans. The Olympic Games reached their peak by 400 BCE and began to decline. The Olympic Games were abolished in 394 CE by the Roman Empire Theodossius I, who was Christian and did not favour pagan practice.

10. How were the ancient Olympics a period of peace?

Ans. Olympic Games played a vital role for peace by an agent of friendship and solidarity and encouraged the adoption of peace. The Olympic Games encourage to forget all the individual differences. The event commences with mutual respect and harmony.

11. Make a table to bring out the similarities and differences between the ancient Olympics and the modern Olympics?

Ans. The similarities between the ceremonies of the ancient Olympic and modern Olympics is that:

(i) A torch is lit;

(ii) The flag is hoisted. *(Refer to P–33)*

12. What are the objectives of the Olympic Games?

Ans. Baron de Coubertin said of the Olympic Games:

"Why did I restore the Olympic Games? To enable and strengthen sports, to ensure their independence and duration and thus to enable them better to fulfil the educational role incumbent upon them in the modern world."

The Objectives of the Olympic Games are thus:

- The development of team spirit, sense of loyalty, and honour not only among sportsperson but also among humanity beyond the realm of sports.
- To promote competitive sports and preserve them for future generations.
- To bring international communities closer and call for peace and harmony by getting rid of divisions of caste, creed, colour, race and religion.

- To highlight the importance of physical education and the positive impact it has on the youth's character and personality development.

13. What do you understand by *Citius*, *Altius* and *Fortius – Communiter*?

Ans. We understand by these Latin words *Citius*, *Altius* and *Fortius – Communiter* to celebrate the spiriting friendship and cooperation between the people of all the five continents together.

The Olympic motto of three Latin words – *Citius, Altius, Fortius – Communiter* for Faster, Higher, Stronger – Together; is carved under the emblem

14. What is the significance of the design on the Olympic Flag?

Ans. The Olympic Flag was created in 1913 at the suggestion of the Baron de Coubertin. Olympic Flag is made of white silk and contains five interlocking rings / circles in five colours representing five continents of the world viz. America, Europe, Australia, Asia, and Africa.

The five rings have different colours: Yellow, Red, Blue, Green and Black. The Interlocking of rings/circles symbolizes cooperation and friendship between the people of all five continents.

15. Write briefly on Baron de Coubertin and how he helped bring the Olympics back to life.

Ans. Baron de Coubertin, a Parisian, is considered the pioneer for injecting the life into the Olympics. He found the games as an agent to work for international peace. He called a meeting of various countries in 1893. The countries included the Greece, Italy and Spain. In the meeting he talked about his endeavour. Then he called the second meeting on 16 June 1894 in Paris. In this meeting 75 representatives of 13 countries participated and resolved that; "Sports competition should be held every four years on the line of the Greek Olympic Games and every nation should be invited to participate." The first modern Olympic was organized in 1896. Athens hosted it and nine countries competed.

16. Write in brief about International Olympic Committee (IOC).

Ans. The International Olympic Committee is an international, non-profit, non-governmental organization and the governing authority of the modern Olympic Games. It is based in Lausanne, Switzerland.

The IOC was founded by Pierre de Coubertin on 23 June, 1894 with Demetrio Vikelas as its first President. Its membership consists of 105 active members and 32 honourary members. It organizes the summer and winter Olympic Games every four years. The structure of the IOC may be represented as under:

President: Elected by members for a term of eight years. She/he can be re-elected after the expiry of the term.

The Vice Presidents: Four VPs are elected by the members for a term of four years. They can also be re-elected after the term finishes.

Executive Board: It consists of the President, VPs, and ten other members elected by an IOC session through secret ballot with a simple majority declaring the chosen members. This Board is responsible for the administration of the IOC.

17. Write a note on Indian Olympic Association.

Ans. The Indian Olympic Association also known as Bhartiya Olympic Sangh was established in 1927 by Sir Dorabji Tata and A.G. Noehren as President and General Secretary. The former resigned in 1928 and the post was taken up by Maharaja Bhupinder Singh. It is a non-profit and non-governmental organization. It has its headquarters located at New Delhi. The official year of the IOA lasts from 1 April to 31 March. With the approval of the General Assembly the members consist of National Sports Federation whose sports are included in the Programs of the Olympic Games or the Commonwealth Games or Asian Games. To appoint:

- President
- Senior Vice Presidents
- Eight Vice Presidents
- Secretary General
- Treasurer
- Six Joint Secretaries
- Ten Executive Council members
- One representative elected out of the Athletes Commission, elections are held once every four years.

  One male and one female athlete who have participated in the Olympic Games and fulfil the eligibility criteria of the guide lines; State and Union Territories Olympic Association; Service Sports Control Board, and the National Federation of Kho-Kho.

E. Long Answer Type Questions

1. What role do the Olympic Values Education play in the holistic development of individuals?

Ans. The Olympic Values Education is based on the Olympic philosophy that learning takes place through the balanced development of body and mind. The core values, including Joy of effort, Fair play, Respect for others, Pursuit of excellence, and Balance between body, will and mind, are aimed at promoting the holistic development of individuals. These values promote physical fitness, emotional well-being, and intellectual growth, and help individuals to make positive, healthy choices in their lives. The pursuit of excellence encourages individuals to strive to become the best that they can be in whatever they do, while respect for others fosters understanding and acceptance of diversity. Fair play helps individuals to develop positive attitudes and behaviour, while the balance between body, will, and mind promotes a healthy and balanced approach to life. Overall, the Olympic Values Education plays an important role in promoting the holistic development of individuals, and can help to create a peaceful and better world through educating youth through sport.

2. Discuss the ancient Olympic Games.

Ans. The Olympic Games began in Ancient Greece thousands of years ago. When exactly the Olympics began is not known, but the venue is known where the Olympics were held and it is at Olympia, a valley in Elis on the Peloponnese

Peninsula. The first recorded Olympics were held in 776 BCE. The only event was a single footrace, won by a cook named Coroebus.

With the passage of time other events like: the hoplitodrome, chariot races, pentathlon consisting of five events like: Jumping, Javelin, Sprint, Discuss, Wrestling and Pankration of boxing and wrestling where a player could be declared or lay unconscious in the arena, were eventually added. The Olympic Games were actually just one of four ancient PanHellenic Games held at two or four year intervals, but they were more prestigious than the other three – the Pythian, Nemean and Isthmian Games.

3. Write an essay on the modern Olympics.

Ans. The modern Olympics, which began in 1896, are a global sporting event that bring together athletes from around the world to compete in various sports. Inspired by the ancient Olympics, the modern Olympics are held every four years and showcase the highest levels of athletic achievement.

The modern Olympics have grown to become more than just a sporting event. They promote international understanding, friendship, and fair play. The Olympic values of excellence, respect, and friendship serve as a guide for athletes, coaches, and fans to foster a culture of sportsmanship and mutual respect.

In addition to the Summer Olympics, the Winter Olympics were introduced in 1924, featuring cold-weather sports such as skiing and ice skating. The Paralympic Games, which began in 1960, provide an opportunity for athletes with disabilities to showcase their abilities in a competitive setting.

Overall, the modern Olympics have become a symbol of unity and peace, showcasing the power of sport to bring people together from all corners of the world.

4. Write short notes on

(a) the Olympic ceremony.

(b) Olympic values.

Ans. (a) **The Olympic ceremony:** Olympic ceremony begins with the burning of the torch in Olympic village, Greece. This torch is then brought to the host city. The participants of each country conduct a march past, with the Greek troupe taking the lead and athletes from the host country take up the rear. An assortment of culture and entertainment Program is shown in the stadium, after which the Olympic Flag is hoisted and the flame lit by torch. The leader of the host city then declares the commencement of the Games.

The Olympic Games are closed with an assembly of all participants. They gather at the Stadium as a group.

Three flags are then hoisted. First, the Greek flag to the tune of the Greek national anthem; Second the host country's flag with its national anthem and third, the flag of the country hosting the next games, to the tune of its national anthem.

The president of the IOC expresses words of gratitude to the organizers and the participants and formally closes the games.

The Olympic flag is handed over to the mayor of the city, who keeps it safe till the next Games. The flame is finally extinguished.

(b) Olympic values: The Olympic Games are about spreading the spirit of friendship and solidarity among the people from various countries of the world. It is not only the players but also nations come together to participate in these games, leaving aside whatever political or any other differences they might have. Its endorsement of peace is reflected in its Olympic Truce Movement and in its logo: a dove drawn above the Olympic Symbol, therefore, IOC does not need to send out spondophoroi.

5. Enumerate the main functions of the IOC.

Ans. The main functions of IOC are:

- To encourage and support the promotions of ethics in sports as well as education of youth through sports and to dedicate its efforts to ensure that, in sports the spirit of fair play prevails and violence is banned.
- To encourage and support the organization, development and coordination of sports and sports competitions.
- To ensure the regular celebration of the Olympic Games.
- To cooperate with competent public or private organizations and authorities in the endeavour to place sports at the service of humanity and thereby to promote peace.
- To take action in order to strengthen the unity and to protect the independence of the Olympic Moment.

6. Write in detail about the objectives of the IOA.

Ans. The main objectives of the IOA are as under:

- Development and promotion of the Olympic movement.
- Promotion and encouragement of the physical, moral and cultural education of the young people of the nation so that their character can be developed.
- Provision of the Olympic Charter, the Olympic movement, the World Anti-Doping Code and to abide by the decisions of the International Olympic Committee.
- To enforce and defend the exclusive right of the IOC and Association to the use of the Olympic properties to the Olympic Charter.
- To certify the eligibility of competitors from India for such international competitions that require such certificates.
- To act as the channel of communication between National Sports Federation and the Government of India for financial or other assistance to the Federation.
- To have full and complete jurisdiction over all matters pertaining to the designation of the city in relation to hosting the Olympic Games in India.
- To resist in the realm of sports all pressure of any kind whether of a political, legal, racial, religious or economic.

7. Make a table to show the differences between IOC and IOA.

Ans. The differences between IOC and IOA can be enumerated as under:

	International Olympic Committee (IOC)		**Indian Olympic Association (IOA)**
a.	IOC is an international organization.	a.	It is a National organization.
b.	It is based in Lausanne, Switzerland.	b.	It was established in 1927.
c.	It was founded by Pierre de Coubertin.	c.	It is known as Bhartiya Olympic Sangh also.
d.	It was founded on 23 June, 1894.	d.	Its first president was Sir Dorabji Tata.
e.	Its first President was Demetrios Vikelas.	e.	Its headquarters are located in New Delhi.
f.	It organizes the youth Olympic Games.	f.	The official year of the IOA is 1 April to 31 March.
g.	It is made up of IFSs and 15 representatives of the NOCs.	g.	It has to take the approval of the General Assembly which is fixing its members from different sports organizations.
h.	It has the President, 4 VPs, and an executive consisting of the President, VPs, and ten other members elected by an IOC session through secret ballot with a simple majority declaring the chosen members.	h.	It consists of one President, Senior VP, 8 VPs, Secretary General, 6 Joint Secretaries, 10 Executive Council members, one representative elected out of the Athletes.
i.	The board is responsible for the administration of the IOC.		

CHAPTER 3

YOGA

P. 59–64

A. Objective Type/ Multiple-Choice Questions

I. Multiple-Choice Questions

1. On which date is the International Yoga Day celebrated every year?

(a) 15 August (b) 21 June

(c) 26 January (d) 21 July

Ans. (b) 21 June

2. How many limbs of yoga are there?

(a) 5 (b) 7

(c) 8 (d) 13

Ans. (c) 8

3. Which of the following is not a meditative asana?

(a) Vajrasana (b) Padmasana

(c) Shavasana (d) Gomukhasana

Ans. (c) Shavasana

4. Which famous yogic book was written by Maharishi Patanjali?

(a) *Yoga Sutra* (b) *Yoga Manjari*

(c) *Ashtanga Yoga* (d) *Samaveda*

Ans. (a) *Yoga Sutra*

5. The origin of yoga can be traced back to .....

(a) post-Vedic Indian traditions – around fourth and fifth centuries BCE

(b) pre-Vedic Indian traditions – around fourth and fifth centuries BCE

(c) post-Vedic Indian traditions – around sixth and fifth centuries BCE

(d) pre-Vedic Indian traditions – around sixth and fifth centuries BCE

Ans. (d) pre-Vedic Indian traditions – around sixth and fifth centuries BCE

6. What is the goal of yoga?

(a) To help us utilise the mind and body to achieve an awareness of ourselves as a unit.

(b) To help us utilise the breath and body to achieve an awareness of ourselves as a unit.

(c) To help us utilise the breath and mind to achieve an awareness of ourselves as a unit.

(d) To help us utilise the mind and physique to achieve an awareness of ourselves as a unit.

Ans. (b) To help us utilise the breath and body to achieve an awareness of ourselves as a unit.

7. Asanas refers to ..... while Pranayama refers to .....

(a) physical exercises; breathing exercises and control of breath

(b) body postures; breathing exercises and control of prana (internal energy)

(c) body movements; mind exercises and control of brain

(d) control of the senses; union with the divine

Ans. (b) body postures; breathing exercises and control of prana (internal energy)

8. What is the difference between Dhyana and Samadhi?

(a) Dhyana is devotion, meditation on the divine will, whereas, samadhi is union with the divine.

(b) Dhyana is union with the divine, whereas, samadhi is devotion, meditation on the divine will.

(c) Dhyana is concentration and cultivating inner perceptual awareness, whereas, samadhi is union with the divine.

(d) Dhyana is union with the divine, whereas, samadhi is concentration and cultivating inner perceptual awareness.

Ans. (a) Dhyana is devotion, meditation on the divine will, whereas, samadhi is union with the divine.

9. What is pratyahara?

(a) Profound contemplation without distraction

(b) The sixth limb of Ashtanga Yoga

(c) The highest limb in Ashtanga Yoga

(d) Gaining mastery over external sensory pleasures

Ans. (d) Gaining mastery over external sensory pleasures

10. This is the initial step of deep concentration or Samadhi.

(a) Pratyahara

(b) Dhyana

(c) Dharana

(d) Samadhi

Ans. (c) Dharana

11. This means deep thinking without distraction.

(a) Dhyana (b) Pratyahara

(c) Samadhi (d) Dharana

Ans. (a) Dhyana

12. This is the highest limb in *Ashtanga Yoga*—in which a person experiences oneness with the universe.

(a) Pratyahara (b) Samadhi

(c) Dharana (d) Dhyana

Ans. (b) Samadhi

13. How many yogic kriyas are there?

(a) Six (b) Five

(c) Four (d) Seven

Ans. (a) Six

14. This kriya helps in nasal cleansing.

(a) Vasti (b) Neti

(c) Nauli (d) Dhauti

Ans. (b) Neti

15. This kriya leads to the radiance of the head.

(a) Kapalbhati (b) Trataka

(c) Vasti (d) Neti

Ans. (a) Kapalbhati

16. This kriya improves the power of concentration and cures poor vision.

(a) Vasti (b) Nauli

(c) Neti (d) Trataka

Ans. (d) Trataka

17. This kriya cleanses the large intestine.

(a) Vasti (b) Kapalbhati

(c) Dhauti (d) Neti

Ans. (a) Vasti

18. The figure shows

(a) Suryabhedi pranayama

(b) Sheetkari pranayama

(c) Bhramari pranayama

(d) Sheetli pranayama

Ans. (c) Bhramari pranayama

19. What is stress according to medical science?

(a) A specific response of the body to nonspecific demands

(b) A mental illness

(c) A physical ailment

(d) A result of external factors

Ans. (a) A specific response of the body to nonspecific demands

20. What does Yoga consider as a holistic way of health?

(a) Only physical well-being

(b) Only mental well-being

(c) Both physical and mental well-being

(d) Spiritual well-being

Ans. (c) Both physical and mental well-being

21. What is the Yogic concept of Ahara?

(a) Right conduct

(b) Right thinking

(c) Food and wellness

(d) Recreation and wellness

Ans. (c) Food and wellness

II. Match the following:

Match list – I with list – II and select the correct answer from the code given below:

List I – Limb of Yoga	**List II – Meaning**
(a) Pranayama	(1) Union with the Divine
(b) Pratyahara	(2) Meditation on the Divine Will
(c) Dhyana	(3) Control of the senses
(d) Samadhi	(4) Breathing exercise

Select the correct set of options:

(a) (i)–(4), (ii)–(1), (iii)–(3), (iv)–(2)

(b) (i)–(2), (ii)–(4), (iii)–(3), (iv)–(1)

(c) (i)–(3), (ii)–(2), (iii)–(4), (iv)–(1)

(d) (i)–(4), (ii)–(3), (iii)–(2), (iv)–(1)

Ans. (d) (i)–(4), (ii)–(3), (iii)–(2), (iv)–(1)

III. Assertion-Reason Type Questions: CBQ

Given below are the two statements labelled Assertion (A) and Reason (R).

A: Stress and anxiety can be reduced by regular practice of yoga.

R: Practising breathing techniques drives away insomnia to a large extent.

In the context of the two statements given above, which one of the following is correct?

(a) Both (A) and (R) are true and (R) is the correct explanation of (A).

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

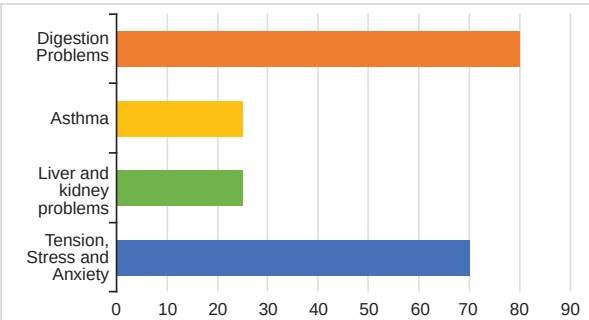
(c) (A) is true, but (R) is false.

(d) (A) is false, but (R) is true.

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

IV. Data-Based Questions: CBQ

Given below is a data collected from a locality identifying the common ailments:



On the basis of the chart given above, answer the following questions:

1. Which pranayama can help in reducing digestion problems?

(a) Suryabhedi (b) Ujjayi

(c) Sheetli (d) Plavini

2. Which pranayama will help in curing asthma?

(a) Kapalbhati (b) Bhastrika

(c) Ujjayi (d) Sheetkari

3. Which pranayama helps in relieving tension, stress and anxiety?

(a) Bhastrika (b) Suryabhedi

(c) Bhramari (d) Plavini

4. This pranayama enhances the functions of liver and kidneys.

(a) Ujjayi (b) Sheetkari

(c) Sheetli (d) Kapalbhati

Ans. **1.** (a) Suryabhedi;

2. (c) Ujjayi;

3. (c) Bhramari;

4. (d) Kapalbhati

V. Picture-Based Questions: CBQ

Identify the following sanas/kriyas/pranayama:

1.

.....

2.

.....

3.

.....

4.

.....

Ans. **1.** Makarasana; **2.** Bhramari Pranayama; **3.** Jal Neti Kriya; **4.** Shirshasana

VI. Case-Based Questions: CBQ

1. An expert has been called to demonstrate different yogic kriyas in a school campus and also train the students.

On the basis of the case given, answer the following questions:

(a) Which of the kriyas will be taught to children for training the eyes and mind?

(b) The expert tells the students to perform nauli regularly. What are the benefits of nauli?

(c) ..... kriya will help in cases of sinusitis.

(d) ..... is a method of churning or shaking the belly to stimulate the intestines, strengthen the liver and ease the processes of digestion and ejection.

Ans. (a) Trataka; (b) Strengthens liver; (c) Neti; (d) Nauli

2. The yoga teacher of a school tells students that the goal of yoga is to help one utilise the breath and body to achieve an awareness of oneself and connect with others to create one whole. In this context, he introduces eight limbs of yoga.

Now answer the following questions.

(a) Which are the five sub-disciplines of yama?

(b) ..... and ..... are the sub-disciplines of niyama.

(c) ..... means gaining mastery over external sensory pleasures.

(d) Which is the highest limb in *Ashtanga Yoga* — The final stage in which a person experiences oneness with the universe?

Ans. (a) Ahimsa, Satya, Asteya, Brahmacharya and Aparigraha; (b) Saucha and Santosha; (c) Pratyahara; (d) Samadhi.

B. Very Short Answer Type Questions

1. Mention two importance of yoga.

Ans. (i) Yoga promotes physical and mental well-being by improving flexibility, strength and balance while reducing stress and anxiety.

(ii) It enhances self-awareness and mindfulness, allowing individuals to cultivate a deeper connection between their mind, body and spirit, leading to overall holistic health.

2. How does yoga help in maintaining correct body posture?

Ans. Yoga helps maintain correct body posture by strengthening the core muscles, improving flexibility and aligning the spine. It promotes awareness of body alignment and encourages the practice of proper posture both on and off the yoga mat.

3. How does yoga instil moral and ethical values in practitioners?

Ans. Yoga instils moral and ethical values by promoting self-discipline, compassion and mindfulness. Through practices like self-reflection, non-violence (ahimsa) and truthfulness (*satya*), practitioners develop a deeper understanding of themselves and their interactions with others, fostering a more virtuous and ethical approach to life.

4. Write the names of any four limbs of yoga.

Ans. The four limbs of yoga are:

(i) Yama (Universal Morality and ethics)

(ii) Niyama (Personal rules)

(iii) Asana (Yogic postures and positions)

(iv) Pranayama (Breathing exercises)

5. Which sub-discipline of yama preaches non-violence? How?

Ans. The sub-discipline of yama that preaches non-violence is called 'Ahimsa'. It promotes refraining from causing harm or violence to oneself or others, cultivating compassion, kindness, and respect for all living beings through thoughts, words and actions.

6. Differentiate between yama and niyama.

Ans. Yama refers to the ethical principles or restraints in yoga, guiding practitioners in how to interact with the external world. Niyama, on the other hand, pertains to personal observances and disciplines, focusing on self-discipline and inner purification to cultivate a positive internal state.

7. What is tapa?

Ans. Tapa is the disciplined use of the energy produced by the body by applying it to fruitful physical tasks and activities. A healthy diet, correct body posture, energetic exercise – all these are part of the rule of tapa.

8. What are the three constituents of pranayama?

Ans. The three constituents of pranayama are:

(i) **Puraka:** Inhalation or the process of taking in breath.

(ii) **Kumbhaka:** Breath retention or the pause between inhalation and exhalation.

(iii) **Rechaka:** Exhalation or the process of releasing breath.

9. Which is the initial step of *Samadhi*?

Ans. The initial step of Samadhi, the state of profound meditation and self-realisation in yoga, is known as Dharana. Dharana refers to the concentration and focus of the mind on a single point or object, preparing the practitioner for deeper states of meditation.

10. What are the two kinds of *Samadhi*?

Ans. There are two kinds of *samadhi*: *samprajnata samadhi*, also called *savikalpa samadhi* and *sabija samadhi*, in which the meditation is supported by an external object.

The second is *asamprajnata samadhi*, also called *nirvikalpa samadhi* and *nirbija samadhi*, in which meditation is carried out without focusing on an object.

11. Mention the different types of yogic kriyas.

Ans. Yogic kriyas encompass various purification practices in yoga. Some types include Neti (nasal cleansing), Kapalabhati (detox breath), Dhauti (cleansing of the digestive tract), Nauli (abdominal massage) and Vasti (colon cleansing).

12. Which yogic kriya leads to breathe detoxification?

Ans. Kapalbhati leads to breathe detoxification.

13. What is dhauti? What are its different types?

Ans. Dhauti is the cleansing the internal parts of the body such as the digestive tract, the chest, the mouth, and the rectum. Types of dhauti include jala dhauti which uses warm saline water, sutra dhauti which uses a sterilised piece of cotton, and vatsara dhauti which uses breathing techniques.

14. What is nauli? What are its benefits?

Ans. Nauli is a method of churning or shaking the belly to stimulate the intestines, strengthen the liver and ease the processes of digestion and ejection.

15. What are the physical signs of an overworked body?

Ans. The physical signs of an overworked body can include high blood pressure, high blood sugar, digestive disorders, back pain and many others.

16. What are the five approaches to manage a healthy lifestyle according to the Yogic concept?

Ans. The five approaches to manage a healthy lifestyle according to the Yogic concept are Ahara, Vihara, Achara, Vichara and Vyavahara.

C. Short Answer Type-I Questions

1. What is the meaning of yoga?

Ans. The term 'yoga' originates from the Sanskrit word '*yuj*', which means to unite or join. In a broader sense, yoga signifies the union of the individual self with the universal consciousness or the state of harmony and balance within oneself. It encompasses physical, mental and spiritual practices aimed at fostering self-realisation, inner peace, and a holistic connection between mind, body and spirit.

2. What are the eight limbs of yoga?

Ans. The eight limbs of yoga are:

(i) Yama (Universal Morality and ethics)

(ii) Niyama (Personal rules)

(iii) Asana (Yogic postures and positions)

(iv) Pranayama (Breathing exercises)

(v) Pratyahara (withdrawal from the senses)

(vi) Dharana (concentration)

(vii) Dhyana (meditation)

(viii) Samadhi (enlightenment)

3. Mention any two benefits of practising the eight limbs of yoga.

Ans. Practising the eight limbs of yoga offers numerous benefits. Two key benefits are:

(i) **Enhanced self-awareness:** The practices foster self-reflection, mindfulness and introspection, leading to a deeper understanding of one's thoughts, emotions and behaviours.

(ii) **Inner peace and harmony:** The combined practice of the eight limbs cultivates mental and emotional well-being, reduces stress, and promotes a sense of balance, tranquility and overall inner harmony.

4. What are the sub-disciplines of yama? Explain any two.

Ans. The sub-disciplines of yama are Ahimsa, Satya, Asteya, Brahmcharya and Aparigraha. The two sub-disciplines are as follows:

(i) **Ahimsa:** It emphasises non-violence and compassion towards all living beings. Practitioners refrain from causing harm or violence in thoughts, words and actions, promoting peace and harmony.

(ii) **Satya:** Satya represents truthfulness and honesty. It encourages individuals to speak and act truthfully, fostering authenticity, trust and integrity. Practicing satya involves aligning one's words and actions with what is true and just.

5. Briefly explain (a) ahimsa and (b) asteya.

Ans. (a) **Ahimsa:** Ahimsa means 'non-violence'. To observe ahimsa is to show kindness towards all living beings and avoid causing harm to any; to be kind, friendly and accepting. This is only possible when negative emotions like anger, jealousy, cruelty, and hatred are erased from one's mental makeup. Ahimsa is thus an outlook full of bravery, sympathy and courage.

(b) **Asteya:** Asteya means to 'not steal'. Why does theft occur? Either to acquire necessities that cannot be obtained by honest means, or to satisfy greed. In either case, theft goes against the other principles of yama, since it is a dishonest and cruel act. The better alternative is to live according to one's means or work and earn so that there is no need to prevent others from having what is rightfully theirs.

6. What are the sub-disciplines of niyama? Explain any two.

Ans. The sub-disciplines of niyama are Saucha (Cleanliness or purity, Santosha (Contentment), Tapa (Discipline or austerity), Swadhyaya (Self-study or self-reflection) and Ishwara Pranidhana (Surrender to a higher power or devotion to the divine).

Two are mentioned below:

(i) **Saucha:** It is about purity and cleanliness, both externally and internally. It involves maintaining cleanliness of the body, mind and surroundings, and practicing purity in thoughts, speech and actions.

(ii) **Santosha:** It is contentment and finding joy in the present moment. It is the practice of accepting oneself and one's circumstances with gratitude, cultivating a sense of inner satisfaction and peace, regardless of external circumstances.

7. What are the similarities between 'aparigraha' and 'santosha'?

Ans. Both aparigraha and santosha are concepts in yoga philosophy that promote a positive mind-set and contentment:

(i) **Aparigraha:** It emphasises non-possessiveness and non-greed, encouraging individuals to let go of attachments to material possessions, desires and expectations.

(ii) **Santosha:** It is contentment, finding joy in the present moment and being satisfied with what one has, without constantly seeking external validation or longing for more. Both promote inner peace and a min-dset of gratitude.

8. What is the difference between dharana, dhyana and samadhi?

Ans. Dharana, dhyana and samadhi are progressive stages of meditation:

(i) **Dharana:** Dharana is the stage of concentration, where the practitioner focuses the mind on a single point, object or mantra, developing unwavering attention and mental stability.

(ii) **Dhyana:** Dhyana is the stage of meditation or sustained contemplation. It is a state of uninterrupted flow of awareness, where the meditator becomes fully absorbed in the object of meditation, transcending the distractions of the external world.

(iii) **Samadhi:** Samadhi is the ultimate stage of meditation, representing a state of deep absorption and oneness. In this state, the meditator experiences a merging of the individual self with the object of meditation, leading to trans-cendence of the ego and profound realization of unity and interconnected-ness with the divine or universal con-sciousness.

9. What are the different yogic kriyas? Explain any two in detail.

Ans. Yogic kriyas are purification practices in yoga. They are neti, Kapalbhati, Trataka, Dhauti, Vasti and Nauli.

Two examples are:

(i) **Neti:** It is a nasal cleansing technique. It involves pouring lukewarm saline water into one nostril, allowing it to flow out through the other nostril, clearing the nasal passages and removing excess mucus. Neti helps maintain nasal hygiene, alleviates sinus issues, and promotes respiratory health.

(ii) **Trataka:** It is a concentrated gazing practice. It involves fixing the gaze on a specific object, such as a candle flame or a symbol, without blinking or moving the eyes. Trataka enhances concentration, improves eye health, and calms the mind, making it beneficial for meditation and developing focus.

10. Rakhi wants to cleanse her nasal passage for making respiration easier, preventing infection and ensuring personal hygiene. What would you suggest her? Why?

Ans. I would suggest Rakhi to practice the yogic kriya called Neti. It is a nasal cleansing technique that involves pouring lukewarm saline water into one nostril and allowing it to flow out through the other nostril. This practice helps cleanse the nasal passages, remove excess mucus and maintain nasal hygiene. It can aid in making respiration easier, prevent nasal infections and promote overall respiratory health, ensuring personal hygiene in that area.

11. What does Yoga align?

Ans. Yoga aligns the body, mind and intellect level.

12. What does relaxation help control?

Ans. Relaxation helps control anxiety, hypertension, and other discomforts of the mind and body.

D. Short Answer Type-II Questions

1. Create a mind map showing the importance of yoga in modern life.

Ans. Refer to pages 50-51 of the book and create mind map on their own.

2. What does yama comprise of?

Ans. Refer to pages 51-52 of the book.

3. What does niyama comprise of?

Ans. Refer to page 52 of the book.

4. Write briefly about asteya.

Ans. Asteya is a concept that fall under Yama and yoga ethics, translating to "non-stealing" or

"non-taking." It encourages individuals to refrain from stealing in any form, whether it is physical objects, ideas or energy. Practicing asteya involves cultivating honesty, integrity and respect for others' possessions, thoughts, and efforts. It promotes a mindset of abundance and gratitude while discouraging greed and exploitation.

5. Write briefly about aparigraha.

Ans. Aparigraha is a principle in yoga philosophy advocating non-possessiveness or non-greediness. It encourages individuals to limit their desire for material possessions, attachments and accumulation of wealth. By practicing aparigraha, one aims to live a simple, minimalist lifestyle, freeing oneself from the burden of excessive possessions and fostering contentment, inner peace, and detachment from worldly desires.

6. Explain santosha and tapa.

Ans. Santosha, a concept in yoga philosophy, embodies contentment and satisfaction with one's current circumstances, promoting inner peace and gratitude.

Tapa refers to austerity or self-discipline, encouraging individuals to endure hardships willingly for spiritual growth. Together, Santosha teaches acceptance and joy in the present moment, while Tapa cultivates resilience and determination, fostering personal development and transformation on the yogic path.

7. Write the constituents of pranayama.

Ans. Refer to page 54 of the book.

8. Write short notes on: samadhi, dharana, pratyahara and dhyana.

Ans.

- **Samadhi:** It is the highest limb in *Ashtanga Yoga* – the final stage in which a person experiences oneness with the universe.

  There are two types of samadhi: one as samprajnata samadhi also called savikalpa samadhi and the other asamprajnata samadhi also called as nirvikalpa samadhi.

- **Dharana:** It is sixth limb of *Ashtanga Yoga*, translated as concentration or single focus. It is the initial step of deep concentration or Samadhi, where the object being focused upon is held in the mind without consciousness wavering from it. The focal point can be at the centre of the head of the navel.

- **Pratyahara:** *Ahara* means food or anything we take into ourselves from the outside. *Prati* stands for against or away. Pratyahara, therefore, literary means 'control of ahara', or gaining mastery over sensory pleasures.

  Its primary function is the withdrawal from or control over sensory impressions, releasing the mind's external influences. It strengthens the mind's power of immunity and brings it close to divinity by avoiding sensory distractions of sound, beauty, smell, touch, etc.

- **Dhyana:** It is known as meditation. It means profound contemplation without distraction. Here the practitioner trains the mind to remain fixed at a single external point in a continuous flow. The concentration is so strong that no sensory perception or intrusion can break it. In this way, the practitioner approaches spiritual liberation and bliss.

9. Discuss at least three types of asanas for concentration.

Ans. The three types of asanas for concentration are as under:

- **Padmasana (lotus pose):** A cross-legged sitting yoga posture which can calm the mind and fight physical ailments. Four mudras (hand gestures) can be used in padmasana: chin mudra, chinmayi mudra, adi mudra and brahma mudra.
- **Swastikasana (ankle lock pose):** Also known as the auspicious pose, swastikasana is a simple sitting posture with the ankles locked against each other. It can bring relief from muscle pain.
- **Vajrasana (thunderbolt pose):** Performed by sitting on the knees with a straight posture and upward spine. It is known to stimulate digestion and liver function.

10. Differentiate between Relaxative Asanas and Cultural Asanas.

Ans. The differences between Relaxative asanas and Cultural asanas are as under:

Relaxative asanas: These asanas are designed in such a manner that there is no need to contract the muscles. Its aim is to remove fatigue and relax an individual physically and mentally. For example, we take a few relaxative asanas here:

Shashankasana, Shavasana, etc.

Cultural asanas: These are exercise poses that imitate various aspects of God in the form of animals and divine beings. It has three stages: coming into the position, holding the position

and releasing oneself from the position. It also has different types like: Shalabhasana (locust pose), Halasana (plow pose), Matsyasana (fish pose) and Shirshasana (headstand pose).

11. Write short notes on any three yogic kriyas.

Ans. Three yogic kriyas can be described as under:

- **Neti (Nasal cleansing):** It is important to keep our nasal clean for making respiration easier, maintaining personal hygiene and preventing infection. It can be done in two ways like Sutra neti and Jal neti.
- **Nauli (Abdominal message):** It is a method of churning or sacking the body to stimulate the intestines, strengthen the liver and ease the process of digestion and ejection.
- **Vasti (Colon cleansing):** Like an enema, vasti also cleans the large intestine. It achieves this with the suction of water or air through the rectum.

12. What are the benefits of doing kapalbhati?

Ans. Refer to page 55 of the book.

13. What are the benefits of doing trataka?

Ans. Refer to page 56 of the book.

14. Write briefly about kriya that helps in internal cleansing.

Ans. Dhauti - Refer to page 56 of the book.

15. Make a table on various yogic kriyas and their benefits.

Ans. Table

Yogic Kriyas	Benefits
Neti	Cleanses nasal passages, removes excess mucus, promotes respiratory health, prevents nasal infections, ensures nasal hygiene.
Kapalbhati	Improves lung capacity, enhances respiratory function, strengthens abdominal muscles, detoxifies the body, increases mental alertness and clarity.
Trataka	Enhances concentration, improves focus and memory, calms the mind, relieves eye strain, enhances eye health and vision.
Dhauti	Cleanses the digestive system, improves digestion, eliminates toxins from the stomach, helps in overcoming digestive disorders.
Vasti	Aids in colon cleansing, relieves constipation, detoxifies the body, promotes healthy bowel movements, improves overall digestive health.
Nauli	Stimulates abdominal organs, strengthens abdominal muscles, improves digestion, tones the digestive system, massages and activates the internal organs.

16. What are the three components of Vihara?

Ans. The three components of Vihara are relaxation, recreation and relationships.

17. What is the Yogic breathing practice that revitalises the body and helps to control the mind?

Ans. The Yogic breathing practice that revitalises the body and helps to control the mind is Pranayamas.

E. Long Answer Type Questions

1. Write a brief note on the eight limbs of yoga.

Ans. The eight limbs of yoga are:

- **Yama:** Universal morality and ethics comprising ahimsa, satya, asteya, brahmacharya and aparigraha.
- **Niyama:** Personal rules, comprising saucha, tapa, swadhyaya, and ishwara pranidhana.
- **Asanas:** It means body posture.
- **Pranayam:** It is the breathing exercises and control of prana.
- **Pratyahara:** It means the control of senses.
- **Dharana:** It means concentration and cultivating inner peace and awareness.
- **Dhyana:** It is the devotion, meditation on the divine will.
- **Samadhi:** It means the union with the divine.

2. Write in detail on: (a) yama and (b) niyama.

Ans. (a) **Yama:** It is the first form of Yoga. It has the following five sub-disciplines:

- **Ahimsa:** One of the most recognized terms in Indian cultural history. It means nonviolence.
- **Satya:** It means the truth. This highlights the importance of truthfulness.
- **Asteya:** It means to 'not steal' or non-stealing of anything whether money, material, ideas, speeches or writings, etc.

- **Brahmacharya:** It is denouncement of excessive sexual desire and lust rather than abstinence from sexual activity which is necessary for protection.
- **Aparigraha:** It is the hoarding of wealth for self-interest. It enables us to be satisfied with what we have or get.

(b) **Niyama:** It is being performed to eliminate wrong, harmful or disturbing behaviour. We have five types of niyamas like:

- Saucha which focuses on the importance of having a clean body and mind which can be realised by practising asanas and prayanamas.
- **Santosh:** Like aparigraha, santosh upholds modesty, as a virtue which can bring us contentment of mind.
- **Tapa:** It is called for a discipline use of the energy produced by the body by applying it to fruitful physical tasks and activities.
- **Swadhyaya**: 'swa' means 'self', adhaya' means 'study'. It is, therefore, thoughtful reflection on oneself and one's actions.
- **Ishwara pranidhana:** Proximity with the Divine will save us from going astray.

3. Describe asana and its benefits in detail.

Ans. Refer to pages 52-53 of the book.

4. Make a table differentiating between different types of pranayama and their benefits.

Ans. Table

Pranayama Type	Description	Benefits
Suryabhedi Pranayama	Alternative breathing increasing bile flow, digestion; reduces phlegm, gas, purifies blood	Improved digestion, body warmth, blood purification
Ujjayi Pranayama	Sound breath sharpens mind, generates body heat, reduces heart attack risk, aids respiratory diseases	Mental clarity, internal heat, respiratory support, reduced heart attack risk
Sheetkari Pranayama	Hissing breath, inhale through open mouth, exhale through nose, lowers body temperature, blood pressure, enhances digestion, stress relief	Body cooling, reduced blood pressure, improved digestion, stress relief
Sheetli Pranayama	Cooling breath, inhale through rolled tongue, exhale through nose, cools nervous system, endocrine glands	Nervous system cooling, endocrine system regulation
Bhastrika Pranayama	Breath of fire, involves belly in respiration, enhances metabolism, digestion	Improved metabolism, digestion; not suitable for pregnant women, hypertensive individuals
Plavini Pranayama	Floating pranayama, crosses legs, balances on hands, increases blood circulation	Improved blood circulation; requires expert supervision
Anuloma-Viloma Pranayama	Nadi Shodhana, improves focus, concentration, blood circulation, removes body waste	Enhanced focus, concentration, blood circulation, detoxification
Bhramari Pranayama	Bee breath, closing ears, eyes, nose, exhaling with sound of Indian bee (bhramari), relieves tension, anxiety, migraines, headaches, lowers BP	Stress relief, anxiety reduction, headache/ migraine relief, reduced blood pressure

5. Describe the benefits of (a) pratyahara and (b) pranayama.

Ans. Refer to page 54 of the book.

6. Discuss how shat karma can cleanse the human body.

Ans. Refer to pages 55-56 of the book.

7. What are the eight types of pranayama? Discuss.

Ans. Refer to pages 56-57 of the book.

8. Explain how Yoga helps in stress management.

Ans. Yoga helps in stress management by aligning the body, mind and intellect level through self-realisation of inner awareness. Yogic asanas stretch and tone every muscle and joint of the body, as well as the spine, organs, and nerves, keeping the entire system in radiant health. By releasing physical and mental tension, a person liberates a vast amount of energy. Pranayamas revitalise the body and help to control the mind, leaving the person calm and refreshed. Relaxation helps control anxiety, hypertension and other discomforts of the mind and body. Yoga considers health as a holistic way and sees the person as a whole. The five approaches to manage any healthy lifestyle and emerge victorious are Ahara, Vihara, Achara, Vichara and Vyavahara.

CHAPTER 4

PHYSICAL EDUCATION AND SPORTS FOR CHILDREN WITH SPECIAL NEEDS

P. 74–78

A. Objective Type/ Multiple-Choice Questions

I. Multiple-Choice Questions

1. In which of the following areas can the disability not be seen?

(a) Physical (b) Financial

(c) Mental (d) Cognitive

Ans. (b) Financial

2. When did the Government of India pass RPWD Act to give an effect to the United Nations Convention on the Rights of Person with Disabilities?

(a) 20 December 2016

(b) 27 December 2016

(c) 27 December 2015

(d) 20 December 2015

Ans. (b) 27 December 2016

3. Which day every year is celebrated as World Disability Day?

(a) December 3 (b) December 4

(c) December 5 (d) December 6

Ans. (a) December 3

4. If the IQ of a child is between ..... she/he is considered to have mild intellectual disability.

(a) 35 and 55 (b) 20 and 40

(c) 10 and 20 (d) 55 and 75

Ans. (d) 55 and 75

5. If the IQ of a child is between ....., then the child is in the category of moderate intellectual disability.

(a) 35 and 55 (b) 20 and 40

(c) 10 and 20 (d) 55 and 75

Ans. (a) 35 and 55

6. A child falls in the severe intellectual disability category if the IQ is between .....

(a) 35 and 55 (b) 20 and 40

(c) 10 and 20 (d) 55 and 75

Ans. (b) 20 and 40

7. For a child to be considered in the severe intellectual disability category, his/her IQ has to be below what value?

(a) 70 (b) 55

(c) 30 (d) 15

Ans. (c) 30

8. A child with intellectual disability will show limitations in which of the following areas?

(a) Conceptual skills (b) Social skills

(c) Practical skills (d) All of these

Ans. (d) All of these

9. Which of the following is not a cause of physical disability?

(a) Cold and fever

(b) Genetic disorder

(c) Spinal injury

(d) Muscle dystrophy

Ans. (a) Cold and fever

10. How can physical disabilities be diagnosed?

(a) Through observation of child's development

(b) Behaviour and physical performance

(c) Understanding of the mental state

(d) Only through (a) and (b)

Ans. (d) Only through (a) and (b)

11. Which of the following is a gene anomaly?

(a) Spina bifida

(b) Down syndrome

(c) Fragile X syndrome

(d) All of these

Ans. (d) All of these

12. Which of the following is not due to vitamin deficiency?

(a) Night blindness

(b) Filaria

(c) Osteomalacia

(d) Functional disability

Ans. (d) Functional disability

13. What is the name for the condition under which a person has difficulty in comprehending written text, spelling and writing accurately?

(a) Spina bifida (b) Epilepsy

(c) Dyslexia (d) Arthritis

Ans. (c) Dyslexia

14. Which of the following does not broadly define disability?

(a) Blindness and low-vision

(b) Leprosy-cured

(c) Mental retardation and illness

(d) Leukoderma-cured

Ans. (d) Leukoderma-cured

15. What is the meaning of etiquette with regards to CWSN?

(a) Code of conduct for disabled people

(b) Acceptable behaviour in society with good manners and code of conduct

(c) Rules for physical contact with disabled people

(d) None of these

Ans. (b) Acceptable behaviour in society with good manners and code of conduct

16. What should we do before extending aid to a person with special needs?

(a) Assume they need our help

(b) Get their consent

(c) Show excessive concern

(d) None of these

Ans. (b) Get their consent

17. What is the first step in showing disability etiquette?

(a) Speaking in sign language

(b) Using outdated terms like 'handicapped' and 'retarded'

(c) Using language like 'person with blindness/ blind person/visually impaired person'

(d) None of these

Ans. (c) Using language like 'person with blindness/ blind person/visually impaired person'

18. A physiotherapist is usually well-versed in related disciplines such as .....

(a) anatomy, physiology, biomechanics, kinesiology and neuroscience

(b) psychology, anatomy, biomechanics, kinesiology and neurology

(c) anatomy, physiology, psychology, kinesiology and neurology

(d) psychology, anatomy, biomechanics, physiology and neurology

Ans. (a) anatomy, physiology, biomechanics, kinesiology and neuroscience

19. Which of these professionals working for children with special needs is mainly responsible for improvement in instructional methods, such as modification of the classroom equipment and facilities?

(a) Physical education teacher

(b) Speech language pathologist

(c) Occupational therapist

(d) Physiotherapist

Ans. (c) Occupational therapist

20. Which professional works with CWSN to evaluate their existing skill sets and potential to design a suitable instructional method and alter general education lessons to make these accessible to them?

(a) Counsellor

(b) Physiotherapist

(c) Special educator

(d) Speech therapist

Ans. (c) Special educator

II. Match the following:

List I – IQ Range	List II – Intellectual Disability
(a) 55 and 75	(1) Moderate
(b) 35 and 55	(2) Profound
(c) 20 and 40	(3) Mild
(d) Below 25	(4) Severe

Select the correct set of options:

(a) (i)–(4), (ii)–(1), (iii)–(3), (iv)–(2)

(b) (i)–(3), (ii)–(1), (iii)–(4), (iv)–(2)

(c) (i)–(3), (ii)–(2), (iii)–(4), (iv)–(1)

(d) (i)–(4), (ii)–(3), (iii)–(2), (iv)–(1)

Ans. (b) (i)–(3), (ii)–(1), (iii)–(4), (iv)–(2)

III. Assertion-Reason Type Questions: CBQ

Given below are the two statements labelled Assertion (A) and Reason (R).

A: Physical education is recognised as an indispensable portion of the school curriculum because of its many faceted benefits.

R: It helps students attain physical, emotional, mental and social prowess.

In the context of the two statements given above, which one of the following is correct?

(a) Both (A) and (R) are true and (R) is the correct explanation of (A).

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

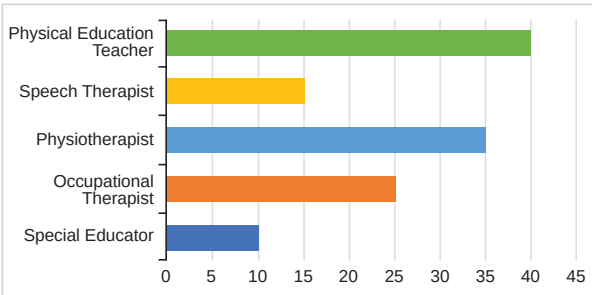
(c) (A) is true, but (R) is false.

(d) (A) is false, but (R) is true.

Ans. (a) Both (A) and (R) are true and (R) is the correct explanation of (A).

IV. Data-Based Questions: CBQ

The data collected from a country about the kind of professions related to physical education and well-being preferred by people is given below:



On the basis of the chart given, answer the following questions:

1. What would a Special Educator be required to do?

(a) Make considerations for cultural and environmental factors

(b) Teach basic literacy and communication skills

(c) Evaluate and adapt existing curriculum

(d) None of the above

2. Which is the most popular profession?

(a) Special educator

(b) Physical education teacher

(c) Speech therapist

(d) Physiotherapist

3. A professional who helps students perfect their fine motor and visual skills, as well as take care of themselves is a .....

(a) occupational therapist.

(b) physical education teacher.

(c) speech therapist.

(d) physiotherapist.

Ans. **1.** (b) Teach basic literacy and communication skills; **2.** (d) Physiotherapist; **3.** (a) Occupational therapist

V. Picture-Based Questions: CBQ

Identify the following occupations:

1.

.....

2.

.....

3.

.....

4.

.....

Ans. **1.** Physical Education Teacher; **2.** Physiotherapist; **3.** Speech Therapist; **4.** Special Educator

VI. Case-Based Questions: CBQ

1. A person is well-versed in anatomy, physiology, biomechanics, kinesiology and neuroscience.

On the basis of the case given, answer the following questions:

(a) What would be the possible occupation of the person described above?

(b) The above professional is needed for .....

(c) Which role will such a person play?

(d) The above professional will help students gain control of fundamental ..... skills.

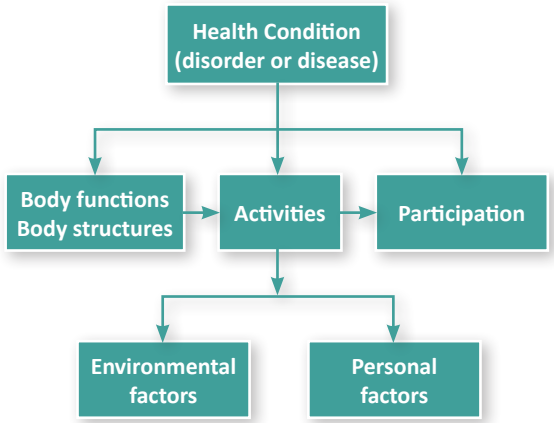
Ans. (a) Physiotherapist

(b) Medical consultation and observation

(c) Designs programs and activities that involve promotion of balance, strength and coordination

(d) motor

2. Look at the diagram given and answer the following questions.



(a) What does the given flow chart depict?

(b) This diagram was given by .....

(c) How many types of disability are there?

(d) Genetic disorder and muscle dystrophy are the causes of .....

Ans. (a) depicts the model of disability.

(b) International Classification of Functioning

(c) 21 types

(d) physical disability

B. Very Short Answer Type Questions

1. Define disability.

Ans. Disability is the inability or incompetency in performing any functional work by the body.

2. When is the World Disability Day celebrated every year?

Ans. Every year December 3 is celebrated as World Disability Day.

3. What is disorder?

Ans. A disorder is an illness or a dysfunctional factor that affects the physiology and/or psychology of an individual.

4. How many types of disorder are there?

Ans. Mainly there are two types of disorder – functional and psychological.

5. What are the types of disability?

Ans. Intellectual disability and physical disability.

6. What is the IQ of a child with moderate intellectual disability?

Ans. Between 35 and 55.

7. What is the IQ of a child with profound intellectual disability?

Ans. Below 25.

8. Mention any two causes of physical disability.

Ans. Genetic disorder and muscle dystrophy.

9. What was the result of the Bhopal Gas Tragedy of 1984?

Ans. The Bhopal Gas Tragedy of 1984 produced long-term health effects that included neurological disabilities like impairment of memory and motor skills and inability to grow in children.

10. What is PTSD? What is its significance?

Ans. PSTD is Post Traumatic Stress Disorder. It is a mental health condition that can develop after experiencing or witnessing a traumatic event. It is significant as it can severely impact a person's well-being, causing distressing symptoms like flashbacks, nightmares, anxiety and emotional disturbances.

11. What does disability etiquette mean?

Ans. Disability etiquette means the way in which you can make a person with special needs comfortable in their own world.

12. What should we do while speaking to a person with speech impairment?

Ans. We should ask short questions rather than long explanations.

13. Mention two objectives of adaptive physical education.

Ans. Two objectives of adaptive physical education are as follows:

(i) develop fundamental motor skills and patterns of students with disabilities, such as running, throwing, catching, etc.

(ii) help students to improve their balance, coordination and posture.

14. Mention two principles of adaptive physical education.

Ans. Two principles of adaptive physical education:

(i) It is important to have a thorough knowledge of motor behaviours and development patterns of the different kinds of disabilities, and how people with these disabilities differ from their abled counterparts. Additionally, the trainers should also be aware of the neurological basis of these behaviours and patterns.

(ii) Routine medical check-up should be conducted not only for pure health benefits, but also to monitor the progress of the students and assess the effectiveness of the programmes.

15. What are the soft skills required for the occupation special education counsellor?

Ans. Empathy, patience, communication, active listening, adaptability, collaboration, problem-solving, flexibility and cultural sensitivity are essential soft skills for a special education counsellor.

16. Mention one significant role of occupational therapist.

Ans. One significant role of an occupational therapist is to help individuals of all ages improve their functional abilities and independence in daily activities, such as self-care, work, and leisure, through assessment, intervention and environmental modifications.

17. Which disciplines is a physiotherapist well-versed in?

Ans. Physiotherapists are well-versed in disciplines such as anatomy, physiology, kinesiology, biomechanics, neurology and exercise science. They utilise this knowledge to assess, diagnose and treat musculoskeletal, neurological, and cardiopulmonary conditions, aiming to enhance movement, function and overall well-being.

18. What types of students do special educators work with?

Ans. Special educators work with a diverse range of students, including those with learning disabilities, developmental delays, behavioural challenges and communication disorders. They work with students with learning, mental, emotional and physical disabilities.

C. Short Answer Type-I Questions

1. What is disability? Give an example.

Ans. Disability refers to a condition or impairment that limits a person's ability to perform certain tasks or activities. It can be physical, cognitive, sensory or emotional in nature. For example, a person with a physical disability such as paralysis may experience limited mobility and require assistive devices, modifications or support to engage in daily activities or navigate their environment effectively.

2. Explain briefly the different types of disability.

Ans. There are various types of disabilities. But two main types are mentioned below:

(i) Intellectual disability refers to limitations in intellectual functioning and adaptive behaviour. It impacts cognitive abilities, problem-solving, learning and social skills. People with intellectual disabilities may require support in areas like communication and independent living.

(ii) Physical disability involves limitations in mobility, dexterity, or physical functioning. It can be caused by conditions such as paralysis, amputation or muscular dystrophy. Physical disabilities may necessitate assistive devices, modifications to the environment or mobility aids to enhance independence and accessibility.

3. How is intellectual disability characterised as mild, moderate, severe and profound?

Ans. Intellectual disability is categorized based on the severity of the impairment:

(i) **Mild:** Individuals have an intellectual quotient (IQ) of 55-75. They may experience delays in academic and social skills but can often live independently with support.

(ii) **Moderate:** IQ ranges from 35-55. Individuals may require support in daily tasks, have limited academic abilities, and benefit from supervised living arrangements and vocational training.

(iii) **Severe:** IQ ranges from 20-40. Significant limitations in intellectual and adaptive functioning require extensive support and assistance in daily activities.

(iv) **Profound:** Individuals have an IQ below 25, significant intellectual and adaptive impairments and often require round-the-clock support and care.

4. In which areas will a child with intellectual disability show limitation?

Ans. A child with intellectual disability will have limitations in the functioning of mental capacity such as learning, reasoning, problem-solving and IQ level.

5. What are the causes of physical disability?

Ans. Physical disabilities can have various causes:

(i) **Genetics:** Anomalies in genes can cause disabilities such as spinal bifida (split spine) and muscular dystrophy, and intellectual disabilities like Down syndrome and Fragile X syndrome.

These are inherited at birth. However, diseases and overexposure to radiation may also bring about genetic abnormalities.

(ii) **Hormonal Imbalances:** Disturbances in the function of the endocrine glands are also responsible for bringing about disabilities, both physical and mental.

(iii) **Poverty:** Many families live below the poverty line and go without two square meals a day. Their living conditions are poor and they do not have access to quality healthcare, safe drinking water, proper sanitation and wholesome nutrition. As such, they fall prey to many diseases and disabilities and pass them on to their offspring.

6. How do genetics and malnutrition cause physical disability?

Ans. Genetics can contribute to physical disabilities when there are inherited abnormalities or mutations in genes responsible for normal physical development. These genetic variations can affect the formation or functioning of body structures, leading to physical disabilities.

Malnutrition, especially during critical stages of growth and development, can result in inadequate nourishment and essential nutrient deficiencies. This can impair proper bone and muscle development, causing physical disabilities like stunted growth, skeletal deformities or muscle weakness.

7. Children were adversely affected by the Bhopal Gas Tragedy of 1984. How?

Ans. The Bhopal Gas Tragedy of 1984, caused by a gas leak from a pesticide plant, had severe repercussions on children. Exposure to toxic gases led to various health effects, including respiratory problems, eye injuries, neurological disorders and developmental delays. Children born to exposed parents faced a higher risk of congenital disabilities and birth defects. The tragedy left a lasting impact on the physical and cognitive well-being of the affected children.

8. What are some outdated terms that should not be used while addressing persons with disabilities?

Ans. Terms like 'handicapped', 'retarded', 'physically challenged', 'spastic', 'wheelchair-bound', 'cripple', 'psycho', 'mentally challenged', 'abnormal', 'the blind', 'dwarf', 'midget', 'epileptic', 'the deaf/dumb/mute', 'invalid', etc.

9. How should we introduce ourselves to people with visual impairment?

Ans. When meeting individuals with visual impairment, it is important to introduce oneself and anyone accompanying. Prioritise speaking first, ensuring clear communication. Describe the setting and offer assistance without being forceful. Maintaining specificity throughout interactions is crucial.

10. Mention any four objectives of adaptive physical education.

Ans. Refer to page 69 of the book.

11. Briefly write about any four principles of adaptive physical education.

Ans. Refer to page 70 of the book.

12. Briefly mention the roles and responsibilities of special education counsellor.

Ans. Refer to pages 70-71 of the book.

13. How can a physical education teacher improve the physical, social and emotional skills of CWSN?

Ans. Refer to page 72 of the book.

14. What are the roles and responsibilities of a speech therapist?

Ans. Refer to page 72 of the book.

D. Short Answer Type-II Questions

1. How do you define 'disability'? Explain with examples.

Ans. Disability is a term used to describe a physical, cognitive, sensory, or develop-mental condition that significantly impairs a person's ability to perform everyday tasks and participate fully in society. Examples include:

(i) **Physical Disability:** Paralysis, limb amputation, or mobility impairments affecting movement and coordination.

(ii) **Cognitive Disability:** Intellectual disabilities, learning disorders, or memory impairments affecting cognitive functions and learning abilities.

(iii) **Sensory Disability:** Blindness, deafness, or hearing/vision impairments that impact sensory perception.

(iv) **Developmental Disability:** Autism spectrum disorder, Down syndrome, or cerebral palsy affecting overall development and social interaction.

2. What is intellectual disability?

Ans. Intellectual disability is a neurodevelop-mental disorder characterised by significant limitations in intellectual functioning and adaptive behaviour. It is typically diagnosed in childhood and affects cognitive abilities, problem-solving skills, learning and social functioning. Individuals with intellectual disability may experience challenges in areas such as communication, self-care, academic achievement and independent living. The severity of intellectual disability can vary,

ranging from mild to profound, and support and interventions are provided based on individual needs.

3. What are the causes of physical disability? Write about any two in detail.

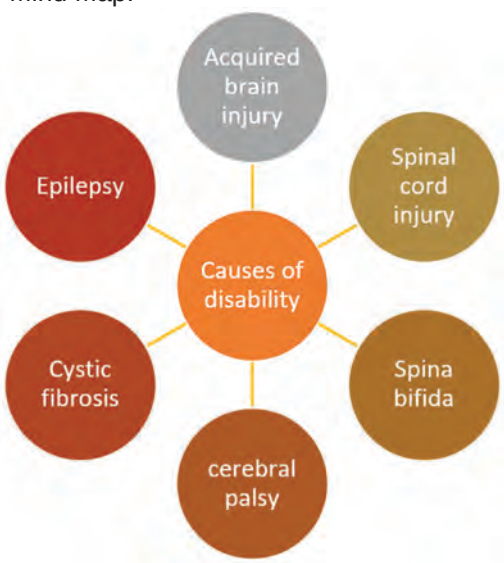
Ans. Physical disabilities can have various causes. They are acquired brain injury spinal cord injury, spina bifida, cerebral palsy, cystic fibrosis, epilepsy, multiple sclerosis, etc.

(i) Spina bifida is a neural tube defect occurring during early pregnancy when the spinal column does not close properly. It can lead to paralysis or weakness in the legs, bladder and bowel control issues and mobility challenges.

(ii) Cerebral palsy results from brain damage before or shortly after birth, affecting muscle control and coordination. Causes include brain injury, infections, or oxygen deprivation. Both conditions can lead to significant physical disabilities and require specialised care and interventions.

4. Create a mind map on the various causes of disability.

Ans. Mind Map:



5. Why should we not use sign language while talking to a person with speech impairment?

Ans. Sign language might not effectively aid communication for individuals with speech impairment. This is because sign language relies heavily on visual cues, while speech impairment primarily affects verbal communication. Hence, alternative methods such as written communication or alternative communication systems may be more suitable.

6. What should we do while talking to people who use wheelchairs or crutches?

Ans. When conversing with individuals using wheelchairs or crutches, it is essential to maintain eye level rather than looking down. This fosters respectful interaction, acknowledging their presence and autonomy. Such a posture promotes equality and ensures a comfortable conversational atmosphere, fostering mutual respect and understanding.

7. What are the objectives of adapted physical education?

Ans. Refer to page 69 of the book.

8. How is physical education beneficial for students with disability?

Ans. Physical education provides numerous benefits for students with disabilities. It promotes physical fitness, improves motor skills and enhances overall health and well-being. It can also contribute to the development of social skills, self-confidence and teamwork. Adapted physical education programs cater to the specific needs of students with disabilities, offering modified activities, equipment, and strategies to ensure inclusivity and participation. These programs help students with disabilities improve their physical abilities, enjoy recreational activities and experience the joy of movement and physical achievement.

9. What are the obstacles faced in the implementation of adapted physical education in India?

Ans. The implementation of adapted physical education in India faces several obstacles. Limited awareness and understanding of inclusive education among educators and administrators hinder the development of appropriate programs. Insufficient training and resources for teachers to deliver adapted physical education, including lack of specialised equipment and facilities, pose challenges. Inadequate policy support and funding for inclusive education initiatives further impede progress. Additionally, societal attitudes and stigmas towards disabilities may contribute to the exclusion of students with disabilities from physical education opportunities, limiting their access to the benefits of inclusive physical education.

10. Make a table on the role of various professionals working with CWSN.

Ans. The following table explains the role of various professionals working with CWSN.

Professional	Role
Special Education Counsellor	Provides counselling and emotional support to CWSN, collaborates with families and educators to address social and emotional needs, and develops individualised support plans.
Occupational Therapist	Assesses and addresses fine motor skills, sensory integration and activities of daily living for CWSN. Provides therapy and recommendations for adaptive equipment and environmental modifications.
Physiotherapist	Assesses and treats physical disabilities, mobility issues, and gross motor skills in CWSN. Provides therapy, exercises, and recommendations for assistive devices.
Physical Education Teacher	Develops and implements adapted physical education programs, modifies activities to meet the needs of CWSN, and promotes physical fitness, motor skills and inclusive participation.
Speech Therapist	Evaluates and addresses speech, language, and communication difficulties in CWSN. Provides therapy and interventions to improve communication skills.
Special Educator	Provides individualised instruction and support, develops and implements individualised education plans, and adapts curriculum for CWSN.

E. Long Answer Type Questions

1. Describe the concept of disability and disorder in detail.

Ans. Refer to pages 65-66 of the book.

2. Make a table on the types of disability, its causes and its nature.

Ans. Refer to pages 66-67 of the book.

3. Elaborate on the nature of intellectual disability.

Ans. Refer to pages 66-67 of the book.

4. Discuss five causes of disability in detail.

Ans. Refer to pages 67-68 of the book.

5. What are the characteristics of physical disability?

Ans. Refer to page 67 of the book.

6. Explain the importance of sensitivity in disability etiquette.

Ans. Sensitivity is important in disability etiquette because people with special needs require empathy and encouragement to feel comfortable. The way we speak to them, establish physical contact, and show them empathy or encouragement should all be conducted with sensitivity. People with different kinds of impairments will certainly have a different type of mind-set but the rules to deal with them remain the same as generally we deal with anyone in the society. Therefore, sensitivity is key to creating a better understanding with differently abled persons.

7. Describe the objectives and principles of adaptive physical education.

Ans. Adapted physical education aims at to:

- Develop fundamental motor skills and patterns of students with disabilities, such as running, throwing, catching, etc.
- Help students to improve their balance coordination and posture.
- Bring about their participation in activities such as dance, aquatics and other sports.
- To make them realize healthy self-esteem through increased physical independence.
- Reduce health complications.

Principals of Adapted Physical education are as under:

- It is imperative to have thorough knowledge of motor behaviours and development patterns of the different kinds of disabilities and how people with these disabilities vary from their abled counterparts.
- The activities and programmes should be planned according to the interests of their students and after taking their specific needs into consideration.
- Routine medical check-up should be conducted not only for pure health benefits

but also to monitor the progress of the students and assess the effectiveness of the programmes.

- The rules governing physical education classes for abled students cannot be applied to their peers who have special needs.
- Apart from having sufficient knowledge and experience, the trainers should also have abundant patience, empathy and strong communication skills.

8. Write notes on how the following can help students with special needs:

(a) Special Education Counsellor

(b) Occupational Therapist

(c) Special Educator

(d) Physical Education Teacher

(e) Physiotherapist

(f) Speech Therapist

Ans. (a) The special education counsellor can look after the students and their well-being, taking into consideration the academic, vocational, social and psy-chological factors. He can be helpful in deepening the connection between the students and their families, to expand their social skills, to provide guidance to hold sessions with the students, to communicate with students, etc.

(b) Occupational therapist can be helpful to students perfect their fine motor and visual skills, to aid the students in gaining correct hand-eye coordination, to assess the abilities of the students and encourage them to participate in the activities of the class room.

(c) Special educator can be helpful to a student in altering general education lessons to make it accessible according to the needs of the students, to help the students achieve academic success, to have literacy and communication skills.

(d) Physical education teacher can be helpful to devise or setting in which students with special needs can perform exercise and activity, to cultivate and adapt existing curriculum, so that students with special needs can adjust, to plan and prepare the activities according to the needs of the students, to install a positive attitude in the students, to approach the students' needs on individual and group levels, to satisfy the emotional needs of the students.

(e) Physiotherapist can be helpful to the students to achieve full physical functions.

He can help the students to gain control of fundamental motor skills, to promote balance, strength and coordination, to monitor and make adjustments to the programmes and activities of the students as require, etc.

(f) A speech therapist, also known as Speech Language Pathologist (SLP) or speech pathologist, works with communicative and speech disorders, which may be speech and lingual issues, problems with swallowing and voice, cognitive communication, etc.

CHAPTER 5

PHYSICAL FITNESS, WELLNESS AND LIFESTYLE

P. 91–96

A. Objective Type/ Multiple-Choice Questions

I. Multiple-Choice Questions

1. What is wellness?

(a) It is the state of being healthy and free of diseases.

(b) It is the state of being healthy and happy.

(c) It is the state of being happy and fit.

(d) It is the state of being fit and content.

Ans. (a) It is the state of being healthy and free of diseases.

2. According to the World Health Organization (WHO), health is described as:

(a) The absence of disease or infirmity

(b) A state of complete physical well-being

(c) A holistic state of well-being encompassing physical, mental and social dimensions

(d) Freedom from physical pain and illness

Ans. (c) A holistic state of well-being encompassing physical, mental and social dimensions

3. A sharp and alert mind is a sign of which component of wellness?

(a) Intellectual wellness

(b) Financial wellness

(c) Environmental wellness

(d) Physical wellness

Ans. (a) Intellectual wellness

4. Which of these is not a component of physical fitness?

(a) Strength (b) Flexibility

(c) Speed (d) Memory

Ans. (d) Memory

5. What is a key component of social wellness?

(a) Balanced engagement with one's spiritual surroundings

(b) Active engagement with one's spiritual surroundings

(c) Passive engagement with one's social surroundings

(d) Healthy engagement with one's social surroundings

Ans. (d) Healthy engagement with one's social surroundings

6. What are the activities that require strength endurance?

(a) Running (b) Cycling

(c) Combative sports (d) All of these

Ans. (d) All of these

7. Which of these types of strength is also known as isometric strength?

(a) Maximum strength

(b) Static strength

(c) Explosive strength

(d) Strength endurance

Ans. (b) Static strength

8. Which of these is not a way to cultivate physical fitness and wellness?

(a) Meeting friends and family members regularly

(b) Spending long hours sitting at the office

(c) Taking a brisk walk every day for 30 minutes

(d) Spending every weekend outside the city at a farm

Ans. (b) Spending long hours sitting at the office

9. Which of these components of physical fitness would a marathon runner need the most?

(a) Explosive strength

(b) Locomotor ability

(c) Reaction ability

(d) Long term endurance

Ans. (d) Long term endurance

10. What does good cardiovascular endurance imply?

(a) Heart, lungs and vascular system are in perfect working condition.

(b) Heart and mind are in perfect working condition.

(c) Respiratory and nervous system are in perfect working condition.

(d) Brain, heart and sensory system are in perfect working condition.

Ans. (a) Heart, lungs and vascular system are in perfect working condition.

11. What qualities required to become a leader are directly or indirectly inculcated during physical education activities?

(a) Creativity, sense of discipline, dedication and devotion

(b) Knowledge of professional domains

(c) Understanding of advanced technologies

(d) Awareness of global issues

Ans. (a) Creativity, sense of discipline, dedication and devotion

12. What is best understood through sporting activities?

(a) Intellectual and reasoning skills

(b) Social bondings and cooperation

(c) Goal setting, training, hardship, struggle and success

(d) Modesty and humility

Ans. (c) Goal setting, training, hardship, struggle and success

13. What is the primary aim of first aid?

(a) Prevent further harm

(b) Promote recovery

(c) Preserve life

(d) All of these

Ans. (c) Preserve life

14. What does the acronym PRICE stand for?

(a) Protect, Restore, Instruct, Cure, Energize

(b) Prevention, Rest, Ice, Compression, Elevation

(c) Protection, Rest, Ice, Compression, Elevation

(d) Preservation, Recovery, Ice, Compression, Education

Ans. (c) Protection, Rest, Ice, Compression, Elevation

15. How long should ice be applied on an injury according to the PRICE procedure?

(a) 5–10 minutes (b) 10–15 minutes

(c) 15–20 minutes (d) 20–25 minutes

Ans. (c) 15–20 minutes

16. What is the purpose of compression in the PRICE procedure?

(a) To reduce bleeding

(b) To reduce pain and swelling

(c) To promote recovery

(d) All of these

Ans. (b) To reduce pain and swelling

17. What should be done if there is loss of sensation or discoloration in areas other than the area being iced?

(a) Continue applying ice

(b) Remove ice immediately

(c) Increase the duration of ice application

(d) None of these

Ans. (b) Remove ice immediately

II. Match the following:

List I – Components of Health Related Fitness	List II – Assessment Activity
(a) Cardiovascular Endurance	(1) Yoga
(b) Muscular Strength	(2) Aerobic Exercise
(c) Muscular Endurance	(3) Dancing
(d) Flexibility	(4) Squats

Select the correct set of options:

(a) (i)–(4), (ii)–(1), (iii)–(3), (iv)–(2)

(b) (i)–(2), (ii)–(4), (iii)–(3), (iv)–(1)

(c) (i)–(1), (ii)–(2), (iii)–(3), (iv)–(4)

(d) (i)–(4), (ii)–(3), (iii)–(2), (iv)–(1)

Ans. (b) (i)–(2), (ii)–(4), (iii)–(3), (iv)–(1)

III. Assertion-Reason Type Questions: CBQ

Given below are the two statements labelled Assertion (A) and Reason (R).

A: A physically fit person responds effortlessly to physical tasks.

R: It is due to her/his healthy organs that she/he does not get tired easily, has keen and focused mind and has enough extra energy to recover quickly in case of exhaustion.

In the context of the two statements given above, which one of the following is correct?

(a) Both (A) and (R) are true and (R) is the correct explanation of (A).

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

(c) (A) is true, but (R) is false.

(d) (A) is false, but (R) is true.

Ans. (a) Both (A) and (R) are true and (R) is the correct explanation of (A).

IV. Data-Based Questions: CBQ

Given below is the depiction data collected from a sports training academy which assessed its students for various components of physical fitness and the percentage of students who passed in various categories are as follows:

On the basis of the pie-chart given, answer the following questions:

1. The percentage of people who passed the flexibility assessment were most likely to perform ..... regularly.

(a) Yoga (b) Boxing

(c) Weightlifting (d) None of these

2. The students who passed the endurance test would have been tested for ..... and ..... endurance.

(a) maximum, explosive

(b) dynamic, static

(c) reaction, acceleration

(d) short term, long term

3. How many categories does speed test have?

(a) 5 (b) 6

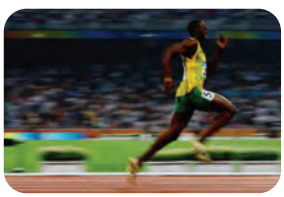
(c) 3 (d) 4

Ans. **1.** (a) Yoga; **2.** (d) short term, long term; **3.** (a) 5

V. Picture-Based Questions: CBQ

Identify the following activities and write the kind of component of physical fitness and wellness required for it:

1.



.....

2.

.....

3.

.....

4.

.....

Ans. **1.** Sprinting – Speed; **2.** Swimming – Endurance; **3.** Weightlifting – Strength; **4.** Yoga – Flexibility

VI. Case-Based Questions: CBQ

1. In a class of 50 students, a teacher was taking a lesson on components of wellness. The students were later assessed on what they had learnt.

On the basis of the case given, answer the following questions:

(a) What will happen if a person does not pay attention to social wellness?

(b) How can financial wellness be achieved?

(c) If a person responds intelligently to circumstances and is receptive to new ideas and challenges, then ..... component of wellness justifies her/his qualities.

(d) Physical wellness highlights the ..... aspect of wellness.

Ans. (a) It will result inability to build lasting friendships; (b) By developing money management goals, spending after saving and focusing on the principle of 'waste not, want not',; financial wellness can be achieved (c) Intellectual wellness (d) physiological

2. Radhika wants to be a gymnast. She is training under a gymnast trainer to achieve her ambition.

Based on this case, answer the following questions.

(a) Which component of physical fitness is required by Radhika to become a gymnast?

(b) This physical component is of two types: ..... and .....

(c) This physical component is also required in other sports like ..... and .....

(d) What are the benefits of this physical component?

Ans. (a) Flexibility; (b) passive and active (c) figure skating and swimming (d) Flexibility improves range of motion, enhances athletic performance, reduces the risk of injuries, and promotes better posture and body alignment.

B. Very Short Answer Type Questions

1. What is the meaning of wellness?

Ans. Wellness is the state of being healthy and free of diseases. However, its meaning can be broadened to show the inter-relationship between physiological health, psychological health and social health.

2. What is the meaning of physical fitness?

Ans. Physical fitness is the state of physical health characterised by the smooth functioning of the body, absence of illness, a sound immune system and a robust physique.

3. Write any one importance of physical fitness and wellness.

Ans. Two importance of physical fitness and wellness are as follows:

(i) Improve efficiency of body organs and reduce the risk of heart, lungs and liver ailments.

(ii) Improve posture and balance of the body, thereby making the outer appearance more fit and attractive. (*any one*)

4. Write a tip for cultivating physical fitness and wellness.

Ans. A tip for cultivating physical fitness and wellness:

(i) Exert your body as often as possible. Use the stairs instead of escalators and elevators. Walk or cycle if the distance allows it instead of driving a vehicle or taking public transport.

5. Mention the various components of physical fitness and wellness.

Ans. Physical fitness and wellness encompass cardiovascular endurance, muscular strength, muscular endurance, flexibility and body composition. It also includes mental well-being, stress management, healthy nutrition and adequate sleep for overall health and vitality.

6. What are the different types of dynamic strength?

Ans. The different types of dynamic strength include explosive strength, which involves quick and powerful movements; maximal strength, which refers to the maximum force a muscle or group of muscles can generate; and strength endurance, which is the ability to sustain muscular contractions over an extended period.

7. What are the different types of endurance?

Ans. Based on speed, endurance can be broadly divided into:

(i) **Short-Term Endurance:** Short-term endurance is required to resist tiredness in sports where the action lasts for a short period but is intense in terms of force applied. It is utilised in events like 800 m race, swimming, gymnastics and combative sports like wrestling.

(ii) **Long-Term Endurance:** Long-term endurance is required in sports activities in which intensity of force applied is less but the duration longer. For instance, long distance events such as 5,000 m and 10,000 m cross-country races, as well as marathon.

8. How would you categorise speed?

Ans. Speed can be categorised into various types:

(i) Reaction Ability

(ii) Acceleration Ability

(iii) Locomotor Ability

(iv) Movement Ability

(v) Speed Endurance

9. Write two components of wellness.

Ans. Physical wellness and Intellectual wellness.

10. Write any two dimensions of health.

Ans. Physical health and mental health are the two dimensions of health.

11. How can one build muscular strength?

Ans. Building muscular strength can be achieved through progressive resistance training, which involves gradually increasing the weight or resistance used during exercises. Incorporating compound exercises that target multiple muscle groups, ensuring adequate rest and recovery, and maintaining a balanced diet are also important factors.

12. Mention one traditional game of Kerala.

Ans. Boat races are held during the harvest festival of Onam in autumn. Chundan

Vallams are paddled longboats. They are the biggest and longest boats used in a sport in the world.

The races are held on the fifth day of the Onam celebrations at places such as Aranmula, Kollam, Kottayam and Kumarakom. The snake boats of Kerala have over four hundred years of history associated with them.

13. What is First Aid?

Ans. First aid is the initial assistance given to an individual who has fallen ill or who has suffered an injury.

14. What are the three aims and objectives of first aid?

Ans. The three aims and objectives of first aid are Preserve, Prevent and Promote.

C. Short Answer Type–I Questions

1. Write two benefits of physical fitness and wellness.

Ans. Physical fitness and wellness offer numerous benefits. Two benefits are as follows:

(i) They enhance overall health by reducing the risk of chronic diseases such as heart disease, obesity, and diabetes.

(ii) They contribute to improved mental well-being by reducing stress, improving mood, promoting better sleep, and boosting self-confidence, leading to a higher quality of life and increased productivity.

2. Write any two importance of good health.

Ans. Good health ensures a higher quality of life by enabling physical and mental well-being, enhancing productivity, and reducing healthcare costs. It also fosters resilience against diseases, promoting longevity and allowing individuals to pursue their goals and enjoy life to the fullest.

3. Give two tips for cultivating physical fitness and wellness.

Ans. Refer to page 81 of the book.

4. What are the differences between maximum strength, explosive strength and strength endurance?

Ans. (i) **Maximum Strength:** It is the ability of a muscle to overcome resistance of maximum intensity. It is applied in sports where a huge burst of strength is needed to accomplish tasks of short duration and heavy resistance, such as weightlifting, discus throw, hammer throw, javelin throw and shot put. In sports like long jump, pole vault, and high jump, in which the take-off has to be powerful, maximum strength is also required.

(ii) **Explosive Strength:** It is the ability of a muscle to exert against a strong resistance at high speed. It is commonly used in high jump, long jump, pole vault, sprint starts, etc. in which the strength is used much like an explosion. Explosive strength can be understood as a combination of strength and speed.

(iii) **Strength Endurance:** It is the ability of a muscle to overcome resistance for as long as possible, i.e. even under conditions of tiredness. It is used in activities in which muscular strength performs with minimal decrease in efficiency over a longer duration of time, such as long distance running, cycling, combative sports, etc.

Strength endurance is formed by blending strength and endurance.

5. What is endurance? What are its different types?

Ans. Refer to page 85 of the book.

6. What is speed? What are its various types? Explain any three in detail.

Ans. Refer to page 85 of the book.

7. What is flexibility and its various types?

Ans. Refer to page 86 of the book.

8. How is mental wellness different from emotional wellness?

Ans. Mental wellness differs from emotional wellness in the following manner:

(i) **Mental Wellness:** Mental wellness focuses on the intellectual health of the individual. It is just as important for the happiness of the individual as physical health. It can even be said that there is a strong association between physical wellness and mental wellness.

Mental wellness is characterised by a sharp and alert mind which can concentrate on the task at hand, respond intelligently to circumstances, is receptive to new ideas and challenges, nurtures positive thinking and can provide productive solutions to problems.

(ii) **Emotional Wellness:** Even if a person is physically and mentally fit, she/he will still not have a fulfilling life without emotional wellness. When anxiety, depression, frustration and a general feeling of negativity consume an individual, she/he will not be able to achieve much. Therefore, it is crucial to address emotional tension, identify its causes and deal with them accordingly.

9. How is muscular strength different from muscular endurance?

Ans. Muscular strength refers to the maximum force a muscle or group of muscles can exert against resistance in a single effort. It is typically measured by the amount of weight one can lift or push. Muscular endurance, on the other hand, refers to the ability of a muscle or group of muscles to perform repetitive contractions over

an extended period without fatigue. It relates to sustained muscular activity and resistance to fatigue.

10. Ravish wants to increase his cardiovascular endurance. What should he do?

Ans. To increase cardiovascular endurance, Ravish can engage in activities that elevate his heart rate and sustain it over an extended period. Options include aerobic exercises such as running, cycling, swimming or brisk walking. He should aim for at least 150 minutes of moderate-intensity aerobic exercise or 75 minutes of vigorous-intensity exercise per week. Additionally, incorporating interval training, circuit training or participating in sports can further enhance cardiovascular endurance.

11. What are the components of skill-related fitness? Explain any two.

Ans. Refer to pages 87-88 of the book.

12. Name any four traditional games of India.

Ans. Refer to page 88 of the book.

13. What is the PRICE procedure? Explain each component briefly.

Ans. The PRICE procedure is an effective method to apply during the first 24-48 hours after injury. It stands for Protection, Rest, Ice, Compression, and Elevation. Protection involves protecting the injured area from further damage using splint or support. Rest involves complete rest to the person and allowing the injury to heal properly. Ice involves applying ice packs to the injured area for 15-20 minutes to reduce bleeding, swelling, and pain. Compression involves wrapping the injury with an elastic bandage or compression strap to reduce pain and swelling. Elevation involves elevating the injured part above heart level to reduce swelling.

14. How does physical education and sporting activity help in developing leadership qualities?

Ans. Physical education and sporting activities teach team and social bonding, spirit of competitiveness and cooperation, which are important characteristics in a leader. Intellectual and reasoning skills are truly developed through participation in physical education activities. The process of goal setting, training, hardship, struggle, and success is best understood through sporting activities. One learns to become modest through participation in physical education activities. Most importantly, one learns to be humble in success and sensible in defeat.

D. Short Answer Type-II Questions

1. How do physical fitness and wellness play an important role in our lives?

Ans. Refer to pages 80-81 of the book.

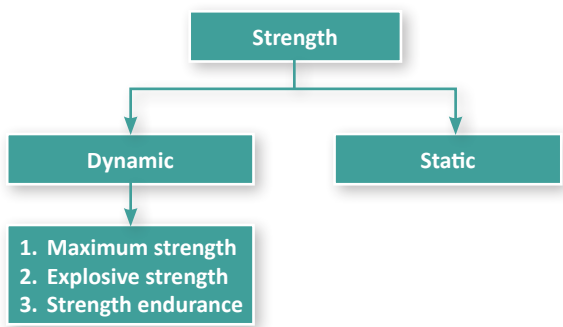
2. Make a list of tips for cultivating physical fitness and wellness.

Ans. The list of tips for cultivating physical fitness and wellness are as under:

- Exert your body as often as possible.
- Use the stairs of escalators and elevators.
- Walk or cycle if the distance allows instead of driving or taking public transport.
- Exercise for a minimum of 30 minutes a day to improve muscular strength, flexibility and also to fully energy derived from food.
- Eat a balanced diet which includes a variety of nutrients and contains the right amount of carbohydrates.
- Spend time in clean and calm environment like parks and gardens.
- Socialise with people and develop hobbies to reduce stress and revitalise yourself.

3. Create a mind map explaining strength and its types.

Ans. Mind Map



4. What do you mean by endurance? Write about its types.

Ans. Refer page 85 of the book.

5. Make a table to differentiate between active flexibility and passive flexibility.

Ans. Refer page 86 of the book.

6. Explain the components of wellness.

Ans. Refer pages 82-83 of the book.

7. Explain any three skill-related components of fitness.

Ans. Refer pages 87-88 of the book.

8. Write about combat games and racquet games played traditionally in India.

Ans. Refer to page 88 of the book.

9. What is the primary aim of first aid? Explain briefly.

Ans. The primary aim of first aid is to save the life of the injured person. It is the initial medical treatment given to the person. If the injury is serious, then advanced medical attention from a trained expert will be required.

10. What are the three Ps of first aid? Explain each briefly.

Ans. The three Ps of first aid are Preserve, Prevent and Promote. Preserve involves saving the life of the injured person. Prevent involves preventing the condition from getting worse and complicated. Promote involves promoting recovery.

E. Long Answer Type Questions

1. Describe the importance of wellness and physical fitness.

Ans. According to Shri Rama Krishna, "He who is soft and weak minded like the puffed rice soaked in milk, is good for nothing. He cannot achieve anything great. But the strong and virile one is heroic. He is the accomplisher of everything in life."

Therefore physical fitness and wellness plays an important role in one's life. They are as under:

- Improves efficiency of body organs and reduces the risk of heart, lungs and liver ailments.
- Improves posture and balance of the body, thereby, making the outer appearance more fit and attractive.
- Keeps an individual energetic, focused and intelligent so that he can confidently deal with all sorts of situations and challenges.
- In cases like expectancy and eases the function of daily routine such as walking, lifting and carrying, etc.
- Keeps away fatigue and reduces recovery time after exhaustion.
- Boosts the immune system so that recovery after illness and injuries is quicker.
- Raises the ability to cope with stress and anxiety.
- Delays ageing to an individual.
- Enables an individual to maintain an ideal body weight, which in turn prevents the onset of chronic diseases and disorders.
- Raises a person's self-esteem and helps him to maintain an attractive and personable appearance.
- Overall improvement of the quality of life.

2. What are the components of physical fitness? Discuss in detail.

Ans. The components of physical fitness are as under:

- **Strength:** The general interpretation of strength is our power to accomplish a work or series of works without getting tired quickly.

  "Strength is the ability of the muscles to overcome resistance or the amount of force that can be exerted by a muscle or a group of muscles against a resistance."

  Strengths can be dynamic which is involved in muscles. This kind of strength are of three types like:

  Maximum Strength, Explosive Strength and Strength Endurance.

- **Static strength:** It is the ability of the muscle to act against resistance offered by an immovable object. It is called isometric strength also. While using this kind of strength, the joint angle and muscle length do not change.
- **Endurance:** It is the ability to resist fatigue and sustain an activity for a long duration of time. It is determined by the working capacity of the individual's muscles, the degree of resistance against fatigue and environmental conditions and their pace of recovery after exhaustion. It differs from muscular strength because it concerns the individual's capability to perform a type of task repeatedly over an extended period of time. Endurance can be of two forms like short term and long term.
- **Speed:** It is the ability to perform a movement or a continuous series of movements within a very short period of time. It can be described as the capacity to produce the greatest possible muscular action in the shortest possible time also. It also differs according to the functioning of one's nervous system. There are different kinds of speed like: Reaction Ability, Acceleration Ability, Locomotive Ability, Movement Ability and Speed Endurance.
- **Flexibility:** Flexibility is the ability of an individual's joints to execute a wide spectrum

of movements. It lowers fatigue and risk of injuries and increases speed, strength and endurance at the same time. Flexibility can be of passive flexibility and active flexibility.

3. Explain dynamic strength and static strength in brief.

Ans. (a) **Dynamic strength:** It is involved in movement of muscles. It is known as "isotonic strength" also. It is the strength used in exercises such as lifting weights, squatting, jumping, etc. in which muscles contract and joints close and open visibly.

The dynamic strength is of three types:

- **Maximum strength:** It is the ability of a muscle to overcome resistance of maximum intensity. It is commonly used in weightlifting, discus throw, hammer throw, javelin throw and also in long jump, pole vault, and high jump.
- **Explosive strength:** It is the ability of a muscle to exert against a strong resistance at high speed. This kind of strength is commonly used in high jump, long jump, pole vault and sprint starts.
- **Strength endurance:** It is ability of a muscle to overcome resistance for as long as possible. It is used in long distance running, cycling, combative sports, etc.

(b) **Static strength:** It is the ability of the muscle to act against resistance offered by an immovable object. It is also called isometric strength. While using this strength, the joint and muscle length do not change.

4. What do you understand by the term 'flexibility'? Discuss its types in detail.

Ans. Flexibility is the ability of an individual's joints to execute a wide spectrum of movements. An individual who has great flexibility can efficiently perform more physical activities than one who has a limited range. Flexibility also reduces the amount of time required by a sportsperson to master moves. It lowers fatigue and risk of injuries and increases speed, strength and endurance at the same time. It is determined by the anatomical structure of joints, extension of ligaments and muscles, warm body temperature and the individual's age gender and physical strength. Flexibility is required in every kind of sports. Flexibility can be of two types like:

- **Passive flexibility:** It is the ability to perform a range of movements with the aid of an external application.
- **Active flexibility:** In this kind of flexibility no external help is needed. The individual uses her/his own muscular strength to execute the movements. It is lesser in force than passive flexibility. It can be of static one in which the movement is performed while remaining in a static position.

5. What are the components of health exercises related fitness? Explain each of them briefly.

Ans. The components of health-related fitness are:

- **Cardiovascular endurance:** It refers to our physical ability to undergo aerobic exercise for prolonged periods of time.
- **Muscular strength:** It deals with short duration muscle contraction involved in anaerobic activities. Short duration in this context varies from 0 to 15 seconds. In short, muscular strength means the ability of the muscles to lift weight. It is measured in pounds and dynes.
- **Muscular endurance:** Muscular endurance is defined as the ability of a muscle or a group of muscles to perform repeated muscular contradiction against resistance for a longer period of time. While muscular strength deals with short duration muscle contractions, muscle endurance deals with sustained muscle contractions.
- **Body composition:** Body composition is the percentage of your body's tissues which are composed of fat versus tissues which are fat-free. It differs from individual to individual. A healthy amount of fat for men is 15 to 18%, while that of a woman is between 20 to 25%. To avoid diseases such as diabetes, heart diseases, joint pain, muscular pain and obesity caused by excessive fat deposition, we should maintain a healthy percentage of body fat.
- **Flexibility:** Flexibility is the ability of a joint to move through a full range of motion. It is affected by joint structure, muscle length, tendons, ligaments, etc. Good flexibility in the joints can help prevent injuries through all stages of life. Without it, our posture and balance suffer and we become more vulnerable to injuries. For improving flexibility, we can try activities that lengthen the muscles such as swimming or a basic stretching programme.

6. What is the importance of traditional and regional games of India?

Ans. Refer to page 89 of the book.

7. Briefly describe about the following traditional and regional games of India.

(a) Chaupar (a) Kalarippayattu (c) Atya Patya (d) Mallakhamb

Ans. (a) **Chaupar:** It is a traditional Indian board game played on a cloth board with dice and pieces. Originating from the Indian epic *Mahabharata*, it involves strategic moves and luck. The game symbolises the battle between good and evil and is often played during festivals and social gatherings, fostering social bonds and strategic thinking.

(b) **Kalarippayattu:** This is an ancient martial art form originating from Kerala, India. It encompasses various combat techniques, physical exercises and weaponry training. Practitioners focus on flexibility, agility, and strength through rigorous training routines. Kalarippayattu not only serves as a means of self-defense but also promotes physical fitness, mental discipline and cultural heritage.

(c) **Atya Patya:** It is a traditional game native to Maharashtra, India. It involves a team of players who aim to score points by hitting a wooden ball with their hands and sending it past the opponents' boundary lines. This fast-paced game demands agility, teamwork, and quick reflexes, serving as a recreational sport while fostering camaraderie and physical fitness.

(d) **Mallakhamb:** It is an ancient Indian sport that originated as a form of training for wrestlers and warriors. It involves performing various gymnastic and yoga postures on a vertical wooden pole or rope. Mallakhamb improves strength, balance, flexibility and concentration. It has cultural significance and is also practiced competitively as a traditional sport in India.

8. How does physical education activities prepare individuals to become leaders and provide a platform to nurture their potential?

Ans. Physical education activities play a crucial role in preparing individuals to become leaders by inculcating qualities such as creativity, discipline, dedication and devotion. These qualities are essential for leadership positions and are developed through participating in physical activities and sports. Furthermore, physical education activities help individuals to become creative in their thoughts and develop new ideas. They also develop a strong willpower and sense of discipline, which are essential for leadership positions. Through physical education activities, individuals learn to set goals, face challenges, and strive for success, which is best understood through sporting activities. Intellectual and reasoning skills are also developed through participation in physical education activities, which is vital for making sound decisions as a leader.

Moreover, physical education and sporting activities teach team and social bondings, spirit of competitiveness and cooperation, which are important characteristics for a leader. Individuals learn to work together as a team and develop a sense of cooperation and competitiveness. The process of goal setting, training, hardship, struggle and success is best understood through sporting activities. Participating in physical education activities also teaches individuals to become modest in success and sensible in defeat, which is essential for becoming a good leader.

Thus, physical education activities provide a platform to young students to nurture their potential and prepare them to become leaders. It not only helps in physical development but also plays a significant role in developing cognitive and affective skills. Therefore, it is crucial to encourage individuals to participate in physical education activities to develop essential qualities and skills required for becoming a leader.

9. How does the PRICE procedure help in the initial treatment of injuries? Explain each component in detail.

Ans. The PRICE procedure is a well-established first aid protocol for the initial treatment of injuries, which is used to help manage pain, reduce inflammation and promote healing. The PRICE acronym stands for:

- **Protection:** The first step is to protect the injured area from further damage. This may involve immobilizing the injured body part, using a splint or sling, or avoiding activities that may aggravate the injury.
- **Rest:** Resting the injured area is essential for allowing the body to heal. This means avoiding any activities that cause pain or discomfort and limiting the use of the affected body part.
- **Ice:** Applying ice to the injured area helps to reduce pain and swelling by constricting blood vessels and decreasing blood flow. It is important to apply ice for no more than 20 minutes at a time, and to use a towel or cloth to protect the skin from ice burns.

- **Compression:** Wrapping the injured area with a bandage or compression sleeve helps to reduce swelling by applying pressure to the affected area. It is important to make sure the bandage is not too tight, as this can restrict blood flow.
- **Elevation:** Elevating the injured area above the level of the heart helps to reduce swelling by allowing excess fluid to drain away from the injured area. This can be achieved by propping up the affected body part on pillows or by sitting with the affected limb elevated on a chair or stool.

By following the PRICE protocol, you can help to manage pain and inflammation and promote the healing process. It is important to seek medical attention if the injury is severe or does not improve with initial treatment.

CHAPTER 6

TEST, MEASUREMENT AND EVALUATION

P. 107–111

A. Objective Type/ Multiple-Choice Questions

I. Multiple-Choice Questions

1. "A test is a tool to evaluate the skill, knowledge, capacities or aptitudes of an individual or a group." Who gave this statement?

(a) John F Kennedy

(b) H M Barrow

(c) Webster Dictionary

(d) Jack Nelson

Ans. (c) Webster Dictionary

2. What is the systematic assessment of information using criteria governed by a set of standards that provides useful feedback about the performance of a sportsperson called?

(a) Assessment

(b) Evaluation

(c) Test

(d) Measurement

Ans. (b) Evaluation

3. ..... is the process of assessment of a content, which can be academics, skills, knowledge, concept, quality, quantity, vocabulary, etc.

(a) Test

(b) Measurement

(c) Evaluation

(d) Result

Ans. (a) Test

4. ..... refers to how well students do in tests and exams, whether on the field or in the classroom.

(a) Test

(b) Measurement

(c) Evaluation

(d) None of these

Ans. (b) Measurement

5. ..... is a process of analysing the measurements acquired based on test conducted.

(a) Test

(b) Measurement

(c) Evaluation

(d) Result

Ans. (c) Evaluation

6. The evaluation process can be ..... or .....

(a) theoretical, practical

(b) test, measurement

(c) formative, summative

(d) right, wrong

Ans. (c) formative, summative

7. Which one of the following developed Physical Fitness Test battery for Indian school children between the age group of 9 and 18 in 2019?

(a) Ministry of Education, India

(b) Fit India Mission

(c) Indian Olympic Association

(d) BCCI

Ans. (b) Fit India Mission

8. WHR is the measurement of the .....

(a) wrist circumference divided by height circumference.

(b) waist circumference divided by height circumference.

(c) waist circumference divided by hip circumference.

(d) wrist circumference divided by hip circumference.

Ans. (c) waist circumference divided by hip circumference.

9. If a person with a height of 1.5 m weighs 75 kg, which of these categories from the BMI chart will apply to him?

(a) Ideal

(b) Overweight

(c) Obesity Class I

(d) Obesity Class II

Ans. (a) Obesity Class I

10. If a 30-year-old man without any illness has a BMI of 18, which somatotype is he least likely to be among the following?

(a) Endomorph

(b) Mesomorph

(c) Ectomorph

(d) Data insufficient

Ans. (a) Endomorph

11. Which of the following is not a characteristic of endomorphs?

(a) Difficulty in losing weight

(b) Prone to knee and feet problems

(c) Underdeveloped muscles

(d) Thick bones and muscles

Ans. (d) Thick bones and muscles

12. What is skinfolds measurement?

(a) Manual technique of measuring body fat

(b) Manual technique of measuring body composition

(c) Manual technique of measuring body mass

(d) Manual technique of measuring body weight

Ans. (b) Manual technique of measuring body composition

13. What is the only instrument required for measuring body composition using the skinfold measurement method?

(a) Measuring tape

(b) Scissors

(c) Needle

(d) Calliper

Ans. (d) Calliper

14. According to the Heath-Carter measurement system for finding out the somatotype of a person, if the three-digit score of an endomorphic person is XYZ, which of the three digits X, Y and Z is likely to be greater than the other two?

(a) X

(b) Y

(c) Z

(d) Any digit can be greater than the other two

Ans. (a) X

15. Which of these health-related fitness components can be defined as the proportion of fat and fat-free mass in the body?

(a) Muscular Strength

(b) Body composition

(c) Flexibility

(d) Cardiorespiratory endurance

Ans. (b) Body composition

II. Match the following:

List I – Fitness Component	List II – Measurement Test
(a) Cardiorespiratory Endurance	(1) Partial curl-up
(b) Core Strength	(2) Sit and Reach test
(c) Muscular Endurance	(3) 600 m Run/Walk
(d) Flexibility	(4) Push-ups

Select the correct set of options:

(a) (i)–(1), (ii)–(3), (iii)–(2), (iv)–(4)

(b) (i)–(3), (ii)–(1), (iii)–(4), (iv)–(2)

(c) (i)–(4), (ii)–(1), (iii)–(3), (iv)–(2)

(d) (i)–(3), (ii)–(4), (iii)–(1), (iv)–(2)

Ans. (c) (i)–(4), (ii)–(1), (iii)–(3), (iv)–(2)

III. Assertion-Reason Type Questions: CBQ

Given below are the two statements labelled Assertion (A) and Reason (R).

A: In the field of sports, objectives are set to decide which goals to achieve, and how to motivate and build self-confidence to successfully achieve them.

R: Test, measurement and evaluation are not important factors involved in this process.

In the context of the two statements given above, which one of the following is correct?

(a) Both (A) and (R) are true and (R) is the correct explanation of (A).

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

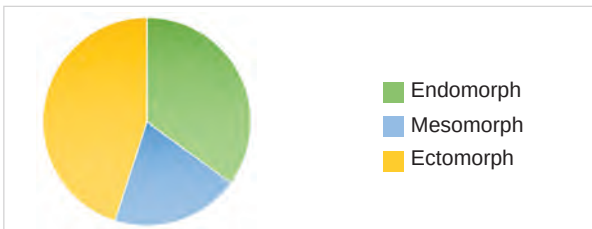
(c) (A) is true, but (R) is false.

(d) (A) is false, but (R) is true.

Ans. (c) (A) is true, but (R) is false.

IV. Data-Based Questions: CBQ

A class of students was divided into three categories and the percentage of each category is as follows:



On the basis of the pie-chart given above, answer the following questions:

1. Which of the following categories do maximum percentage of children fall?

(a) Endomorph (b) Ectomorph

(c) Mesomorph (d) Both (a) and (b)

2. What are the characteristics of the children who fall in Mesomorph category?

(a) Lean (b) Muscular

(c) Fat abdomen (d) Both (a) and (b)

3. A soft and round body shape with short arms, legs and neck is an example of a/an .....

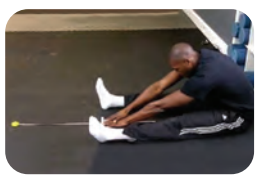
(a) Endomorph (b) Mesomorph

(c) Ectomorph (c) All of these

Ans. **1.** (c) Ectomorph; **2.** (d) Both (a) and (b);
3. (a) Endomorph

V. Picture-Based Questions: CBQ

Identify the following fitness test items:

1. 

.....

2. 

.....

3. 

.....

4. 

.....

Ans. **1.** V-sit Test; **2.** Push-ups; **3.** Partial Curl-up; **4.** VO_2 Max Test

VI. Case-Based Questions: CBQ

1. In 2019, Fit-India Mission developed Physical Fitness Test battery for Indian school children in the age group of 9–18.

On the basis of the case given, answer the following questions.

(a) What are the various health-related fitness components?

(b) Sit and reach test the .....

(c) 600 m Run/Walk test the .....

(d) How should the tests be classified?

Ans. (a) Body composition, cardiorespiratory endurance, muscular strength and flexibility; (b) Flexibility (c) muscular strength (d) These test can be classified into various categories or components. These components typically include assessments of body composition, strength, endurance and flexibility.

2. The BMI for three adults was calculated to be A – 56; B – 27; C – 13.

On the basis of the case given, answer the following questions:

1. Person 'A' is .....

(a) underweight. (b) normal.

(c) overweight. (d) extremely obese.

2. Person 'B' should workout to .....

(a) increase his BMI to 29.

(b) decrease his BMI to 17.

(c) increase his BMI to 31.

(d) decrease his BMI to 21.

3. What should be the least ideal BMI for person C?

(a) 32.5. (b) 25.5

(c) 18.5 (d) 15.5

Ans. **1.** (d) extremely obese; **2.** (d) decrease his BMI to 21; **3.** (c) 18.5

B. Very Short Answer Type Questions

1. Define test.

Ans. A test may be defined as a tool, a question or an examination which is used to measure a particular characteristic of an individual or a group of individuals.

2. Define measurement.

Ans. Measurement is an act or a process that involves the assignment of numerical values to whatever is being tested.

3. Define evaluation.

Ans. Evaluation is a process of analysing the measurements acquired based on test conducted.

4. Mention the three steps involved in evaluation process.

Ans. Objectives, learning experiences and behaviour modification.

5. In which year did the Fit-India Mission develop Physical Fitness Test battery? Which age group is it meant for?

Ans. The Fit-India Mission developed the Physical Fitness Test battery in the year 2019. It is meant for Indian school children in the age group of 9-18 years.

6. What is BMI and how is it measured?

Ans. BMI (Body Mass Index) is a statistical measurement which uses an individual's height and weight for comparison so that their healthiness can be determined.

7. Who is an obese person as determined on the body mass index?

Ans. As determined on the BMI index is:

Obesity class 1. BMI = 30–34.9

Obesity class 2. BMI = 35–39.9

Extreme obesity 3. BMI > 40.

8. Define Waist-Hip Ratio.

Ans. Waist-Hip Ratio is the measurement of the waist circumference divided by hip circumference. It can be calculated as:

$$\text{WHR} = \frac{\text{Waist circumference}}{\text{Hip circumference}}$$

9. What is a somatograph?

Ans. A somatograph is a graph that represents the somatotype of an individual on a two dimensional scale.

10. Who is (a) an endomorph, (b) a mesomorph, and (c) an ectomorph?

Ans. (a) **Endomorph:** It is characterised by a soft and round body shape with short arms, legs and neck. Endomorphs have a wide bone structure and their body fat, the upper half of the arms and legs are thicker than the lower halves.

(b) **Mesomorph:** A mesomorph is lean and muscular with a flat abdomen. Their shoulders are broad, arms and legs proportionate, bones and muscles thick.

(c) **Ectomorph:** Ectomorphs have a tall and slender body. They have narrow shoulders and hips, flat chests and elongated limbs and muscles.

11. Define body composition.

Ans. Body composition is a physiological characteristic that affects the individual's capacity of doing daily activity. In other words, the productivity of human body performance depends directly upon the composition of the body.

12. Why is the skinfold measurement method for finding out body composition considered an approximate method?

Ans. Skinfold measurement is an appropriate method for finding out body composition as it being taken from various sites of the body like – biceps, triceps, forearms, sub scapularies, suprailliac region, inner thigh, calf and so on.

C. Short Answer Type-I Questions

1. Define the term test with example.

Ans. In the context of assessment, a test refers to a method or tool used to measure a person's knowledge, skills, abilities, or other attributes. For example, a multiple-choice test in mathematics assesses a student's understanding of mathematical concepts by presenting questions with several answer choices to select from.

2. Write briefly on the importance of test, measurement and evaluation in sports.

Ans. We can understand the importance of tests, measurements and evaluations in the field of sports and physical education as under:

- **Classification of athletes:** We can classify the athletes as it is very difficult to have all sportspersons having the same physical aptitudes and attributes.
- **Identification of skill sets:** Tests, measurements and evaluations can help trainers to identify an athlete's physical and technical assets and direct them in the right sporting area best suited for their potential.
- **Improvement of performance:** Enable the trainers to redesign the programmes for more effective results.
- **Motivation:** Tests, measurements and evaluations motivate sportspersons from aspiring students to adult professionals by setting and showing records of the levels of their own previous standards as well as the standards of others for competitive purposes.
- **Goal setting:** Test, measurement and evaluation helps in setting goals for the students which involves mental skills such as imagery which in turn can help with skill learning, strategies, presentation and working through competitive anxiety.
- **To predict performance potential:** Using the results made through tests, measurements and evaluations, the performance potential of an athlete can be predicted in advance.
- **For finding out athlete's needs:** A training can only be effective when the students' needs are discovered and addressed.

  Fulfilling these needs will empower them towards both physically and mentally, and push them towards greater achievements.
- **For research purpose:** Tests, measurements and evaluations contribute

data to help researchers to develop new techniques, bring further improvement and predict performance in the field of physical education. (*any three*)

3. How is BMI calculated and what are its uses?

Ans. BMI can be calculated by using the following formula:

$$\text{Body Mass Index} = \frac{\text{Body weight}}{\text{height} \times \text{height}}$$

In this formula the weight of an individual is measured in kilograms and the height in metres.

BMI shows how much body weight a person has in relation to their height, which can further demonstrate if their weight is excessive for their stature or lacking. It helps in finding our ideal weight.

4. How is WHR calculated and how can it be used to assess the healthiness of a person?

Ans. WHR means Waist-Hip Ratio. It is the measurement which can be calculated by measuring the circumference of the waist and hips using a measuring tape. The measurements are then used to calculate WHR as under:

$$\text{WHR} = \frac{\text{Waist circumference}}{\text{Hip circumference}}$$

Measurements are taken in inches or centimetres. WHR can be used to assess the risk levels of a person's health with respect to heart diseases, hypertension and type-II diabetes.

5. Briefly explain the somatotypes.

Ans. The number of people inhabiting the earth runs into billions, no two persons have the same physique and physical features – not even identical twins. The differences may be seen in height, weight, distribution of weight, bone structure, muscular build, skin type, etc. It is, therefore, very difficult to have body classification. As per the view of the experts somatotype classification has also proven useful in the field of physical education and sports.

Therefore, somatotype describes the present shape and composition of a human body.

6. Discuss the traits of ectomorphs.

Ans. The traits of ectomorphs are:

- Tall and slender, narrow shoulders and hips, flat chest and elongated limb and muscles and has soft and round body shape with short arms, legs and neck. Joints are small.
- Have low fat content.
- Have thin and fragile appearance.
- Have fast metabolism.

7. Briefly describe the skinfolds measurement method for measuring body composition.

Ans. This is a manual technique of measurement of the body composition. In this technique the superficial lower fold of the skin is picked up without piercing and the thickness of the picked skin is measured with the help of a skinfold calliper. Skinfold measurement is an appropriate method for finding out body composition as it is being taken from various sites of the body like – biceps, triceps, forearms, sub scapularies, suprailliac region, inner thigh, calf and so on. The sum of the skinfold measurements is then tallied with the norms. This is an approximate method because the reading depends upon the mastery of the person taking skinfold measurements.

8. Enlist any three of the components of health-related fitness.

Ans. The fitness components that are directly related to health or in other words, whose imbalance will create an ill-effect in the maintenance of good health are termed as Health Related Fitness Components. The three of these components are as follow:

(a) **Cardiorespiratory Endurance:** VO_2 Max test, Endurance Run/Walk (1 mile), Harvard step test 1 mile Rockport test, 1.6 km run, 12 minute Cooper test, etc.

(b) **Muscular Strength:** Partial push-ups, weightlifting, pull ups, modified push-ups, partial curl up, etc.

(c) **Muscular Endurance:** Sit ups, push ups, pull ups, running on treadmills, etc.

D. Short Answer Type-II Questions

1. Describe the importance of test, measurement and evaluation in the field of sports.

Ans. The Importance of tests, measurements and evaluation in the field of sports is:

- Tests, measurements and evaluations can help trainers to identify an athlete's physical and technical assets and direct them in the right sporting area best suited for their potential.
- Tests, measurements and evaluations motivate sportspersons from aspiring students to adult professionals by setting and showing records of the levels of their achievements against their own previous standards as well as the standards of others for competition. These help in setting goals for the students which involves while using mental skills such as imagery which in

turn can help with skill learning, strategies, presentation and working through competitive anxiety.

- Using the results made through tests, measurements and evaluations, the performance potential of an athlete can be predicted in advance.
- Tests, measurements and evaluations contribute data to help researchers to develop new techniques, bring further improvement and predict performance in the field of physical education.

2. Write an essay on the three somatotypes classified by W H Sheldon.

Ans. The three somatotypes classified by W H Sheldon are:

- **Endomorphy:** It is a characterised by a soft and round body shape with arms, legs and neck. They have a wide bone structure and their body fat is distributed mainly on the arms and thighs. The upper half of the arms and legs are thicker than the lower halves.

  It usually finds difficult to lose weight and are greater risk of becoming obese as their metabolism is lower and thus capacity of fat storage is higher than other body. Their muscles are underdeveloped and hidden under layers of fat. They are prone to knee and feet problems.
- **Mesomorphy:** The person is lean and muscular with a flat abdomen. The shoulders are broad, their arms and legs are proportionate and their bones and muscles are thick.

  These are able to build muscles quickly and with greater ease. Their body fat is low and evenly distributed. These have strong and agile bodies, good metabolism and respond well to exercise.

  These can do strong cardio workouts, unlike endomorphs and apply themselves to all types of power sports.
- **Ectomorphy:** They have low fat content which is responsible for their thin and fragile appearance and find it difficult to gain weight and muscle mass due to fast metabolism. Their joints are small. The sports suitable for them are badminton, tennis, table tennis, gymnastics, track and field, etc.

3. What are the differences between endomorphy and mesomorphy?

Ans. The difference between endomorphy and mesomorphy is that an endomorphy is characterised by a soft and round body shape with short arms, legs and neck. While mesomorphs have strong and agile bodies, good metabolism and respond well to exercise, attributes that fit the physiology of a sportsperson.

A mesomorph is lean and muscular with a flat abdomen while an endomorph is characterized by a soft and round shape with short arms, legs and neck.

Endomorphs have a wide bone structure and their body fat is distributed mainly on the arms and thighs while a mesomorph can do strong cardio workouts unlike endomorphs and apply themselves to all types of power sports.

E. Long Answer Type Questions

1. Explain the importance of test, measurement and evaluation in detail.

Ans. Refer to pages 98-99 of the book.

2. What is BMI? Explain the method of calculating BMI.

Ans. BMI is a statistical measurement which uses an individual's height and weight for comparison so that their healthiness can be determined.

The BMI can be calculated using the following method:

$$\text{Body Mass Index (BMI)} = \frac{\text{Body weight}}{\text{Height} \times \text{Height}}$$

In this formula, the weight of an individual is measured in kilogram and the height in metres.

For example, the weight of a person is 60 kg and height is 1.65 m.

$$\text{So,} \quad \text{BMI} = \frac{60 \text{ kg}}{1.65 \text{ m} \times 1.65 \text{ m}} = 22.03 \text{ kg/m}^2.$$

Thus, the BMI of the person is 22, which is ideal.

3. Briefly explain the Heath-Carter somatotype measurement system with the help of a somatograph.

Ans. Health-Carter measurement system is used for finding out the somatotype of a person. It includes ratings for all three somato types and it uses a range of anthropometric measurements in its calculation.

An individual is classified on a scale of 1 to 7 in each category, with 1 being the minimum rating and 7 being the maximum rating.

The three ratings together give a somatotype number, with endomorphy being the first score, followed by mesomorphy and ectomorphy.

Scores are plotted in a shield diagram, also known as somatography which represents the somatotype of the individual on a two dimensional scale.

It can be said that all individuals have some combination of all the three somatotypes to a certain degree. If an individual has a score of 361 on the somatograph, it includes that they are a mesomorph since 6 is a higher score than 3 or 1.

By using the results of a somatograph, athletes can be matched with suitable sports types.

For example a statistic of 375 is suitable for a footballer and 172 for bodybuilder.

CHAPTER 7

FUNDAMENTALS OF ANATOMY AND PHYSIOLOGY IN SPORTS

P. 124–128

A. Objective Type/ Multiple-Choice Questions

I. Multiple-Choice Questions

1. The study of the structure of living organisms is called .....

(a) physiology (b) anatomy

(c) sociology (d) psychology

Ans. (b) anatomy

2. The study of how living systems function is called .....

(a) psychology (b) physiology

(c) kinesiology (d) radiology

Ans. (b) physiology

3. The adult human body has ..... bones.

(a) 96 (b) 106

(c) 206 (d) 306

Ans. (c) 206

4. Which of these is not one of the classifications of bones based on shape and formation?

(a) Flat bones (b) Regular bones

(c) Sesamoid bones (d) Short bones

Ans. (b) Regular bones

5. What are immovable joints also called?

(a) Synarthrosis (b) Amphiarthrosis

(c) Synchrondrosis (d) Diarthrosis

Ans. (a) Synarthrosis

6. Which of these joints of the human body is an example of a hinge joint?

(a) Wrist joint (b) Hip joint

(c) Knee joint (d) Thumb joint

Ans. (c) Knee joint

7. What are muscles made of?

(a) Blood vessels

(b) Bones

(c) Actin and myosin proteins

(d) Nerves

Ans. (c) Actin and myosin proteins

8. Which property enables muscles to return to their normal resting length and shape after contraction and extension?

(a) Excitability (b) Contractility

(c) Extensibility (d) Elasticity

Ans. (d) Elasticity

9. Which type of muscle helps in the circulation of blood?

(a) Skeletal muscle (b) Smooth muscle

(c) Cardiac muscle (d) Involuntary muscle

Ans. (c) Cardiac muscle

10. What is the function of skeletal muscles in regulating body temperature?

(a) To help the body retain internal temperature

(b) To increase blood flow to the skin

(c) To limit the supply of blood to the skin

(d) To contract and produce heat inside the body

Ans. (d) To contract and produce heat inside the body

11. The largest artery in the body is .....

(a) aorta (b) pulmonary artery

(c) conducting artery (d) muscular artery

Ans. (a) aorta

12. Which part of the human body can cover the distance around the earth twice, if laid end to end two times?

(a) Skin cells (b) Blood vessels

(c) Epicardium (d) Atriums

Ans. (b) Blood vessels

13. Pharynx, larynx and diaphragm are a part of which system?

(a) Skeletal system

(b) Cardiovascular system

(c) Respiratory system

(d) Circulatory system

Ans. (c) Respiratory system

14. Which part of the human respiratory system is also known as the 'windpipe'?

(a) Trachea (b) Larynx

(c) Bronchi (d) Pharynx

Ans. (a) Trachea

15. Which of the following is not a function of respiration?

(a) Enables inhalation and exhalation

(b) Produces energy inside the body

(c) Enables olfaction

(d) Filters blood

Ans. (d) Filters blood

II. Match the following:

List I – Types of Bones	List II – Name
(a) Long Bone	(1) Tarsal
(b) Flat Bone	(2) Sternum
(c) Sesamoid Bone	(3) Femur
(d) Short Bone	(4) Patella

Select the correct set of options:

(a) (i)–(4), (ii)–(1), (iii)–(3), (iv)–(2)

(b) (i)–(2), (ii)–(3), (iii)–(1), (iv)–(4)

(c) (i)–(3), (ii)–(2), (iii)–(4), (iv)–(1)

(d) (i)–(4), (ii)–(3), (iii)–(2), (iv)–(1))

Ans. (c) (i)–(3), (ii)–(2), (iii)–(4), (iv)–(1)

III. Assertion-Reason Type Questions: CBQ

Given below are the two statements labelled Assertion (A) and Reason (R).

A: Anatomy and physiology are not really important in sports and physical education.

R: Using anatomy and physiology exercise methods and diet can be evaluated and altered for better performance and safety.

In the context of the two statements given above, which one of the following is correct?

(a) Both (A) and (R) are true and (R) is the correct explanation of (A).

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

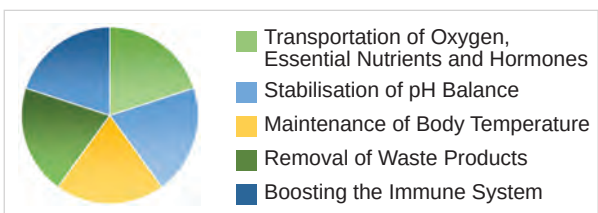
(c) (A) is true, but (R) is false.

(d) (A) is false, but (R) is true.

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

IV. Data-Based Questions: CBQ

A class was being taught about the functions of circulatory system:



On the basis of the pie-chart given, answer the following questions:

1. Which of the following gases does circulatory system throw out of our body?

(a) CO (b) Hydrogen

(c) CO_2 (d) Nitrogen

2. What is the ideal pH range in our blood plasma?

(a) 4 to 6 (b) 3.5 to 5.5

(c) 5.5 to 7.5 (d) 7.35 to 7.45

3. A rise in body temperature is controlled by the blood vessels close to the .....

(a) body surface (b) heart

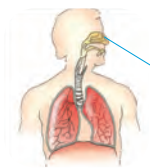
(c) respiratory system (d) all of these

Ans. 1. (c) CO_2; **2.** (d) 7.35 to 7.45; **3.** (a) body surface

V. Picture-Based Questions: CBQ

Identify the following parts of the respiratory system:

1.



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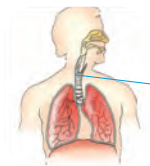
2.



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3.

.....

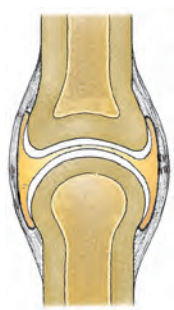
4.

.....

Ans. 1. Nasal Cavity; **2.** Trachea; **3.** Lungs; **4.** Diaphragm

VI. Case-Based Questions: CBQ

1. Look at the given figure and answer the following questions.



(a) The figure shows .....

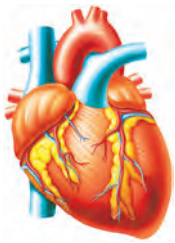
(b) What is the fluid between the adjoining bones called?

(c) The adjacent ends of the bones are covered with ..... and the entire joint is surrounded by a capsule of .....

(d) Give two examples of the above kind.

Ans. (a) Synovial Joint (b) Synovial fluid (c) hyaline cartilage, connective tissue (d) Knees and elbows

2. Look at the given figure and answer the following questions.



(a) The heart is divided into two sides by a partition known as .....

(b) How many chambers are there in the heart? What are these?

(c) The ..... are smaller in size and their walls are thinner and less muscular.

(d) How many layers are there in the wall of the heart? What are these?

Ans. (a) Interventricular septum; (b) Four chambers, atriums and ventricles; (c) atriums; (d) Three layers; epicardium, myocardium and endocardium

B. Very Short Answer Type Questions

1. Define anatomy.

Ans. Anatomy is the branch of biology that studies the structure and organisation of living organisms, including their organs, tissues and systems, through dissection, examination and observation.

2. Define physiology.

Ans. Physiology is the branch of biology that studies the functions and processes of living organisms and their parts, focusing on how organs, tissues and systems work together to maintain homeostasis and carry out various biological functions.

3. How many bones does an adult human body have?

Ans. An adult human body typically has 206 bones, including those in the axial skeleton (skull, vertebral column and ribcage) and the appendicular skeleton (limbs and their girdles).

4. How are RBCs and lymphocytes produced?

Ans. Some bones have bone marrow in the middle. This jelly-like part makes up 4% of total human body mass. It continuously produces red blood cells (RBCs) and lymphocytes.

5. How is the movement of body possible?

Ans. The skeleton is closely associated with skeletal muscles, which are attached to the skeleton by tendons and ligaments. Together they make movements of the body possible.

6. Give two examples of irregular bones.

Ans. Vertebra and hip bones.

7. What are joints?

Ans. Joints are the points where bones intersect. They hold the skeleton together and help it to carry out movements.

8. What are immovable joints also called?

Ans. Immovable joints are also known as *synarthrosis*.

9. Give one example of hinge joint.

Ans. Knee is the example of hinge joint.

10. Give one example of ball and socket joint.

Ans. Hip joint is the example of ball and socket joint.

11. What enables contraction in muscles?

Ans. Actin and myosin proteins.

12. What is the function of smooth muscles in regulating body temperature?

Ans. To restrict the supply of blood to the skin.

13. How are arteries divided?

Ans. Arteries are divided into different categories based on their size and branching patterns. They are classified as conducting arteries, muscular arteries and arterioles, each with varying amounts of elastic fibres, smooth muscle and diameter.

14. Mention two functions of circulatory system.

Ans. (i) The circulatory system's most important function is the non-stop transportation of oxygen, essential nutrients and hormones to the rest of the human body.

(ii) By releasing hormones and WBCs at the injured sites, the circulatory system also boosts the resistance of our body and protects us from diseases.

15. What is voice box?

Ans. The larynx is responsible for the production of sound so, it is also known as 'voice box'.

16. What are the types of respiration?

Ans. The two types of respiration are external respiration and internal respiration. External respiration refers to the exchange of gases

(oxygen and carbon dioxide) between the lungs and the external environment, while internal respiration involves the exchange of gases at the cellular level within body tissues.

17. Mention two functions of respiration.

Ans. Two functions of respiration are:

(i) **Oxygenation:** Respiration enables the intake of oxygen into the body, which is essential for cellular metabolism and energy production.

(ii) **Elimination of Carbon Dioxide:** Respiration facilitates the removal of carbon dioxide, a waste product of cellular metabolism, from the body.

C. Short Answer Type-I Questions

1. What is anatomy? What are its different types?

Ans. Anatomy is the study of the structure of living organisms. It is divided into gross or macro and microscopic anatomy. Systemic, regional and surface anatomy are subdivision of gross anatomy. Microscopic anatomy includes cytology and histology.

2. What is physiology? How is it divided?

Ans. Physiology is the study of how living systems function. Physiology is further divided into human physiology, cellular and systemic physiology.

3. What is the importance of anatomy and physiology in the selection of sports?

Ans. Sports should be chosen based on individual anatomical and physiological characteristics. Factors such as bone structure, organ placement and physical capabilities differ among individuals. For instance, sprinting suits tall athletes with fast twitch fibres, while weightlifting is more suitable for shorter individuals. Gymnastics requires flexibility rather than muscular build, attracting those with nimble bodies. Swimmers typically have long torsos and a slender physique. Therefore, considering these factors helps unleash the potential of athletes in their chosen sports.

4. What is the importance of anatomy and physiology in sports? Give two examples.

Ans. Anatomy and physiology play a crucial role in sports by providing a deeper understanding of the body's structure and function. This knowledge is vital for optimising performance, preventing injuries and designing effective training programs. For example, understanding the biomechanics of joint movements helps improve technique in sports like tennis or golf. Knowledge of energy systems and muscle physiology allows athletes to enhance endurance and optimise nutrition for events like marathons. Overall, anatomy and physiology provide the foundation for informed training, performance analysis and injury prevention in sports.

5. What are the different types of skeletal system?

Ans. The skeletal system can be classified into two main types: the axial skeleton and the appendicular skeleton. The axial skeleton consists of the skull, vertebral column and ribcage, providing support and protection for vital organs. The appendicular skeleton includes the bones of the upper limbs (arms), lower limbs (legs), pectoral girdle (shoulder) and pelvic girdle (hips), facilitating movement and locomotion. These two types of skeletal systems work together to maintain the body's structure, protect organs, and enable various physical activities.

6. Mention any three functions of skeletal system.

Ans. Refer to page 114 of the book.

7. Classify bones on the basis of their shape and formation.

Ans. Refer to page 114 of the book.

8. Classify joints according to their range of motion.

Ans. Refer to pages 114- 115 of the book.

9. Give the structural classification of joints.

Ans. Joints can be classified structurally into three main types: fibrous joints, cartilaginous joints and synovial joints. Fibrous joints are characterised by dense connective tissue and allow little to no movement, such as the sutures in the skull. Cartilaginous joints have cartilage between the bones and allow limited movement, like the intervertebral discs. Synovial joints are the most common and complex, with a joint capsule, synovial fluid and articular cartilage, allowing a wide range of movements, such as the hinge joint of the elbow or the ball-and-socket joint of the hip.

10. What is excitability in muscles? How is it triggered?

Ans. Excitability is the responsiveness of muscle cells to stimulation by nerves and hormones. It is triggered when nerve impulses cause the release of acetylcholine, a neurotransmitter, at the nerve-muscle junction.

11. What is contractility in muscles? How does it work in skeletal muscles?

Ans. Contractility is the ability of muscle cells to contract forcefully when stimulated. In skeletal muscles, when a muscle is excited, the nerve impulse travels through the muscle cells and causes calcium channels from within the cell to open. The calcium ions bind to troponin, a protein molecule, and change the shape and position of other proteins in the muscle cell, such as myosin, actin and tropomyosin. Finally, myosin binds to myofilaments, which are tiny strands in the cell and pulls them, causing the cell to contract.

12. How does pharynx serve as a part of digestive system too?

Ans. The pharynx serves as a part of the digestive system by facilitating the passage of food from the mouth to the esophagus. It plays a crucial role in the process of swallowing. When food is chewed and mixed with saliva in the mouth, it forms a bolus. The pharynx acts as a muscular tube that receives the bolus and propels it downward into the esophagus through a coordinated muscular movement called peristalsis. Thus, the pharynx acts as a conduit, allowing the passage of food from the oral cavity to the digestive tract.

13. Mention the different types of circulation.

Ans. The different types of circulation of blood include systemic circulation, pulmonary circulation and coronary circulation. Systemic circulation involves the circulation of oxygenated blood from the heart to the body tissues and the return of deoxygenated blood back to the heart. Pulmonary circulation is responsible for the exchange of oxygen and carbon dioxide between the heart and the lungs. Coronary circulation supplies oxygenated blood to the heart muscle itself. These circulatory pathways ensure the efficient delivery of oxygen, nutrients, and waste removal throughout the body and maintain proper functioning of vital organs.

14. Manish is an athlete. What condition of heart does he have?

Ans. Manish is an athlete. In general, athletes tend to have a larger heart with certain adaptations compared to non-athletes. This is known as athlete's heart or athletic heart syndrome. The left ventricle, responsible for pumping oxygenated blood to the body, is often enlarged. The increased size is a result of regular exercise and training, which leads to improved cardiac output. Other adaptations may include increased thickness of the heart muscle and lower heart rate at rest. However, it is important to note that these changes are considered normal physiological adaptations to exercise in athletes rather than pathological conditions.

15. Mention briefly the mechanism of respiration.

Ans. Refer to pages 122-123 of the book.

D. Short Answer Type-II Questions

1. How does anatomy differ from physiology?

Ans. The difference between the two can be enumerated as under:

- **Anatomy:** It is the study of the structure of living organisms. It is derived from two Greek words *ana* and *tomia*. *Ana* means up and *tomia* means cutting. Therefore, the word anatomy means cutting up, which implies that the focus of anatomy is not just the body that we see outside but the internal placement and arrangement of organs, tissues, bones, muscles, etc. of that body.
- **Physiology:** On the other hand, physiology is the study of how living systems function. 'Physiology' studies the nature while anatomy studies the physical aspects of body components, unravels the function of those components and their interrelationship.

2. How is the skeletal system classified?

Ans. Skeletal system can be classified as under:

It is a combination of all bones in the body together with the structure that supports them.

The adult human body has 206 bones of various shapes and sizes joined together by tendons, ligaments and cartilage.

- **Axial skeleton:** It consists of the vertebral column, the rib cage and the skull. It is responsible for maintenance of upright posture carrying the weight from the head to the hip points. It has a total of 80 bones in the axial skeleton: skull 28, vertebral column 26, hyoid bone 1, sternum 1 and ribs 24.
- **Appendicular skeleton:** It consists of the upper and lower limbs and pectoral and pelvis girdles. Their functions are to make movements of the limbs possible in addition to protecting internal organs. They are a total of 126 bones – upper limbs 64 and lower limbs 62.

3. What are the functions of the skeletal system?

Ans. The functions of the skeletal system are:

- **Locomotion:** It is closely associated with skeletal muscles which are attached to them by tendons and ligament. Together they make movement of the body possible.

- **Support:** It lends support to the whole body.
- **Protection:** Bones like the skull and pelvis protect vital organs.
- **Calcium storage:** Bones and teeth store most of the calcium supply of the body.
- **Acting as levers:** Our bones are the levers of our body.
- **Endocrine regulation:** The bones cells release a hormone called osteocalcin. It controls regulation of glucose and fat deposition.

4. How are bones classified?

Ans. Bones can be classified on the basis of their shape and formation as under:

- **Long bones:** These bones are found mainly in the upper and lower limbs. They have a long shaft and two expanded ends on each side. The shafts have a cavity here bone marrows can be found.
- **Short bones:** These bones are found in the wrist and ankle. They are short and have geometrical shapes.
- **Flat bones:** These are protective bones which resemble shallow plates.
- **Sesamoid bones:** These bones are small and independent which take the form of nodules attached to tendons and joint capsules.
- **Irregular bones:** These bones like vertebra, hip and at the base of the skull do not have well defined shapes and are known as irregular bones.

5. How would you differentiate between the skeletal system and bones?

Ans. The skeletal and bones can be differentiated as under:

The skeletal system is a combination of all the bones in the body together with the structures that support them. The adult human body has 206 bones of various shapes and sizes. They are joined together by tendons, ligaments and cartilage. This system is further divided into two more types like axial skeleton consisting of the vertebral column, the ribs cage and the skull.

It is responsible for the maintenance of upright posture, consisting of the upper and lower limbs, and pectoral and pelvic girdles. Their functions are to make movements of the limbs possible. We can say that bones jointly form the skeletal system.

6. Create a mind map on joints and their types.

Ans. Refer to pages 114-115 of the book.

7. How do muscles regulate body temperature?

Ans. Skeletal muscles help our body to retain its internal temperature when exposed to condition that might lower it. When it gets suddenly cold, our body starts shivering. This is a sign of skeletal muscles contracting to produce heat inside the body. Smooth vessels of the blood vessels restrict supply of blood to the skin so that loss of body heat on the surface is limited.

In the opposite situation, these muscles relax to increase blood flow and loss of heat through the surface.

8. What is the role of muscles in maintaining body posture?

Ans. Muscles hold the numerous bones together and support them to give the shape of the human body. Even when we are sitting, the position is made possible by muscles of the legs, trunk and neck.

9. How do involuntary muscles work in the body?

Ans. Involuntary muscles work for the smooth functioning of internal organs, such as the movement of food in the body, expulsion of urine, etc.

10. Briefly describe the heart.

Ans. Refer to pages 117-118 of the book.

11. How do arteries differ from veins?

Ans. Arteries and veins are two types of blood vessels with distinct characteristics. Arteries carry oxygenated blood away from the heart, while veins transport de-oxygenated blood back to the heart. Arteries have thicker walls, with a prominent tunica media comprising smooth muscle and elastic fibres, allowing them to withstand high pressure. Veins have thinner walls, larger lumens, and contain valves to prevent backflow. Arteries typically have a pulsatile flow due to the pumping action of the heart, while veins have a steady, non-pulsatile flow aided by skeletal muscle contractions.

12. What are the different types of capillaries?

Ans. Refer to page 120 of the book.

13. Write a short note on the lymphatic system.

Ans. Refer to page 120 of the book.

14. Write down the functions of the circulatory system.

Ans. Refer to page 121 of the book.

15. Discuss the three types of circulation performed by the heart.

Ans. Refer to pages 118-119 of the book.

16. Describe the structure of arteries.

Ans. Arteries have a distinct structure that allows them to withstand high pressure and efficiently transport oxygenated blood away from the heart. They consist of three main layers: the tunica intima (innermost layer), tunica media (middle layer) and tunica adventitia or externa (outer layer). The tunica intima is composed of a single layer of endothelial cells. The tunica media is predominantly made up of smooth muscle cells and elastic fibres, providing strength and elasticity. The tunica externa is composed of connective tissue that provides support and protection. Arteries also have a central lumen through which blood flows.

17. What are the different categories of arteries? What are their functions? Present in a tabular form.

Ans. Here's a tabular representation of different categories of arteries and their functions:

Artery Category	Description	Function
Elastic Arteries	Large arteries closest to the heart	Recoil and maintain blood pressure, propel blood forward
Muscular Arteries	Medium-sized arteries branching from elastic arteries	Distribute blood to specific organs and tissues
Arterioles	Smallest arteries branching from muscular arteries	Regulate blood flow and control blood pressure

18. Why is it better to breathe through the nose than through the mouth?

Ans. Breathing through the nose is generally considered better than breathing through the mouth for several reasons. The nose acts as a natural air filter, warming and humidifying the air while trapping particles and allergens. It also produces nitric oxide, which helps dilate blood vessels and improve oxygen uptake. Nasal breathing promotes slower and deeper breaths, enhancing the exchange of oxygen and carbon dioxide in the lungs. Additionally, it promotes better oral health by reducing dryness and bacterial growth in the mouth.

19. What are the functions of respiratory system?

Ans. The respiratory system performs vital functions necessary for the body's survival. Its primary functions include the exchange of gases (oxygen and carbon dioxide) between the air and blood, providing oxygen for cellular respiration and eliminating carbon dioxide waste. It helps regulate pH balance in the body by controlling the levels of carbon dioxide. The respiratory system also aids in vocalization and speech production. Additionally, it plays a role in immune defence by filtering and removing harmful particles from the air and producing antibodies in the respiratory tract.

20. How do the circulatory and respiratory systems work together?

Ans. The circulatory and respiratory systems work closely together to ensure the efficient exchange of oxygen and carbon dioxide in the body. During respiration, the respiratory system brings in oxygen and removes carbon dioxide from the lungs. The circulatory system, specifically the pulmonary circulation, transports oxygen-depleted blood from the body to the lungs where it picks up oxygen and releases carbon dioxide. The oxygen-rich blood is then pumped by the heart into the systemic circulation, delivering oxygen to body tissues and organs while collecting carbon dioxide for elimination. This coordinated effort ensures the continuous supply of oxygen and removal of carbon dioxide throughout the body.

E. Long Answer Type Questions

1. Briefly discuss the importance of anatomy and physiology in sports and physical education.

Ans. The importance of anatomy and physiology in sports and physical education are:

- It gives the knowledge of human body.
- It helps in the selection of sports.
- It helps in the prevention of sports injuries.
- Augmenting rehabilitation and first aid.
- Preparation of training programmes.
- Understanding the differences between male and female.
- Correct sports massage therapy.
- Proper physical fitness development.
- Cultivating a culture of knowledge.

2. Explain the classification of the skeletal system and bones.

Ans. The classification of the skeletal system and bones are:

- **Axial skeleton:** This system consists of the rib cage and the skull. It is responsible for maintenance of upright posture, carrying the weight from the head to the hip joint.
- **Appendicular skeleton:** It consists of the upper and lower limbs, and pectoral and pelvic girdles.

The classification of the bones:

- **Long bones:** These type of bones are found in the upper and lower limbs. They act as levers and execute movement. They have a long shaft and two expanded ends on each side.
- **Short bones:** These are found in the wrist and ankle. They are short and have geometrical shapes.
- **Flat bones:** These are protective bones which resemble shallow plates.
- **Sesamoid bones:** These are small and independent bones which take the form of nodules attached to tendon and joint capsules.
- **Irregular bones:** Bones such as vertebra, hip, bones and bones at the base of the skull. These do not have defined shape and are known as irregular bones.

3. Describe the classification of joints.

Ans. Joints are classified into three groups. They are:

- **Immovable joints:** These joints are known as synarthrosis joints also. These include skull sutures, facial bones except the mandible and the joint between the first pair of ribs and the sternum. They are sometimes called fibrous joints as they are connected by fibrous tissues.
- **Slightly movable joints:** These joints unite bones with cartilage which give them another name cartilaginous joints. They are further divided into two types: Symphysis which connects two long bones with a broad, flat. Synchrondrosis which are found in the epiphyseal plates of growing bones in children.
- **Freely movable joints:** These joints are freely movable as they have a cavity filled with synovial fluid between the adjoining bones. These bones are further divided into joints like: gliding joints, hinge joints, condyloid joints, saddle joints, ball and socket joints and pivot joints.

4. Explain the various functions of muscles in the human body.

Ans. Muscles perform various functions in the human body. They produce physical movements of every kind, maintain body posture, protect internal organs, circulate blood, execute internal organ functions and regulate body temperature. Skeletal muscles enable voluntary movements like running, walking, and lifting, while cardiac muscles pump blood throughout the body. Smooth muscles work involuntarily to help the body execute internal organ functions like moving food in the body, expelling urine, etc. Muscles also help regulate the body's internal temperature by contracting and producing heat inside the body when exposed to cold conditions.

5. Discuss the circulatory system and its components.

Ans. The circulatory system is a vital network of organs and vessels that work together to transport blood, nutrients, hormones, oxygen, antibodies and lymph throughout the body. By continuously supplying these substances and removing waste products such as carbon dioxide, it maintains homeostasis and fights diseases.

The components of circulatory system are:

- Heart
- The three vessels
- Lymph system

Refer to pages 117-118 for more details.

6. What are the functions of circulatory system?

Ans. Refer to page 121 of the book.

7. Write a note on the various parts of the respiratory system.

Ans. Refer to pages 121-122 of the book.

8. Make a table on the mechanism of respiration.

Ans. Refer to pages 122-123 of the book.

9. Discuss the two types of respiration.

Ans. Refer to page 123 of the book.

CHAPTER 8

FUNDAMENTALS OF KINESIOLOGY AND BIOMECHANICS IN SPORTS

P. 137–141

A. Objective Type/ Multiple-Choice Questions

I. Multiple-Choice Questions

1. Kinesiology is the study of .....

(a) kinetics (b) movement

(c) health (d) psychology

Ans. (b) movement

2. Neuroplasticity is the ..... change in the brain which occurs as per our changing interactions with our environment.

(a) physiological (b) neurological

(c) psychological (d) anatomical

Ans. (a) physiological

3. Which of the following outlines the importance of biomechanics in sports?

(a) Improvement of training

(b) Understanding of the human body

(c) Development of new methods

(d) All of these

Ans. (d) All of these

4. Biomechanics helps in which of the following? **(CBSE 2020)**

(a) In improving technique

(b) In improving designs of sports equipment

(c) In improving performance

(d) All of these

Ans. (d) All of these

5. What is sports biomechanics?

(a) The study of motion in sports.

(b) The study of forces in sports.

(c) The study of injuries in sports.

(d) The study of strategies in sports.

Ans. (a) The study of motion in sports.

6. What is Kinematics in sports biomechanics?

(a) The study of forces acting on the body.

(b) The study of relationships between forces and motion.

(c) The geometry of motion without reference to forces.

(d) The study of displacement, velocity and acceleration.

Ans. (c) The geometry of motion without reference to forces.

7. What is Kinetics in sports biomechanics?

(a) The study of forces acting on the body.

(b) The study of relationships between forces and motion.

(c) The geometry of motion without reference to forces.

(d) The study of displacement, velocity and acceleration.

Ans. (a) The study of forces acting on the body.

8. What are fundamental kinematic quantities?

(a) Time, force, motion, acceleration

(b) Time, position, displacement, velocity, and acceleration

(c) Displacement, velocity, speed, acceleration

(d) Force, motion, position, velocity

Ans. (b) Time, position, displacement, velocity, and acceleration

9. Which one of the following is a correct term for flexion?

(a) Turning (b) Twisting

(c) Bending (d) Straightening

Ans. (c) Bending

10. A decrease in the angle between the femur and the tibia because of the movement of the knee is an example of which type of movement?

(a) Flexion (b) Extension

(c) Abduction (d) Adduction

Ans. (a) Flexion

11. ..... increases the angle between two body parts.

(a) Flexion (b) Abduction

(c) Extension (d) Adduction

Ans. (c) Extension

12. Circumduction is a ..... movement of a body part.

(a) vertical (b) conical

(c) horizontal (d) none of these

Ans. (b) conical

13. This axis is perpendicular to the coronal plane.

(a) Frontal axis (b) Sagittal axis

(c) Vertical axis (d) None of these.

Ans. (b) Sagittal axis

14. What is the name of the plane which divides the body into left and right parts?

(a) Vertical plane (b) Coronal plane

(c) Sagittal plane (d) Transverse plane

Ans. (c) Sagittal plane

15. Which of the following planes passes through the human body?

(a) Sagittal (b) Coronal/frontal

(c) Transverse or horizontal (d) All of these

Ans. (d) All of these

II. Match the following:

List I – Motion	List II – Gross Movements
(a) Flexion	(1) Throwing
(b) Abduction	(2) Star Jump
(c) Internal Rotation	(3) Walking
(d) Horizontal Flexion	(4) Baseball Swing

Select the correct set of options:

(a) (i)–(3), (ii)–(4), (iii)–(2), (iv)–(1)

(b) (i)–(2), (ii)–(1), (iii)–(3), (iv)–(4)

(c) (i)–(1), (ii)–(3), (iii)–(4), (iv)–(2)

(d) (i)–(3), (ii)–(2), (iii)–(1), (iv)–(4)

Ans. (c) (i)–(1), (ii)–(3), (iii)–(4), (iv)–(2)

III. Assertion-Reason Type Questions: CBQ

Given below are the two statements labelled Assertion (A) and Reason (R).

A: In sports, biomechanics has a crucial role both in injury prevention and enhancement of performance.

R: The laws of mechanics are applied to understand the activities and techniques of the players and the implications that mechanics have for human movements using quantitative data for its analysis, obtained through mathematical modelling, measurement, computer simulation, etc.

In the context of the two statements given above, which one of the following is correct?

(a) Both (A) and (R) are true and (R) is the correct explanation of (A).

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

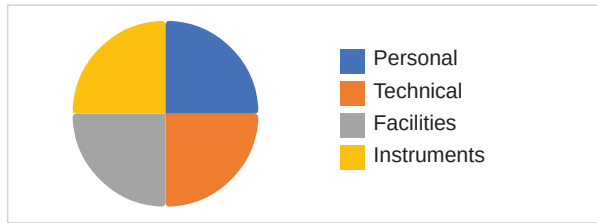
(c) (A) is true, but (R) is false.

(d) (A) is false, but (R) is true.

Ans. (a) Both (A) and (R) are true and (R) is the correct explanation of (A).

IV. Data-Based Questions: CBQ

Biomechanics has proved useful in the development of the equipment in the following areas.



On the basis of the pie-chart given above, answer the following questions:

1. Which of the following equipment can be classified as personal?

(a) Shoes (b) Gears

(c) Helmets (d) All of these

2. Which of the following equipment is not technical?

(a) Bats (b) Pen

(c) Wickets (d) Racing cars

3. Equipment like heart rate monitor, accelerometer and stopwatch are .....

Ans. 1. (d) All of these; **2.** (b) Pen; **3.** Instruments

V. Picture-Based Questions: CBQ

Identify the types of body movements in the following pictures.

1.

.....

2.

.....

3.

.....

4.

.....

Ans. 1. Extension; **2.** Abduction; **3.** Rotation; **4.** Supination

VI. Case-Based Questions: CBQ

1. Every sportsperson does at least one of the six types of body movements at a time when she/he engages in a game.

On the basis of the case given, answer the following questions:

(a) Which body part falls in the exception zone of flexion?

(b) When the sportsperson squats, which movements will she/he be performing?

(c) If a sportsperson flaps her/his arms to warm up, she/he performing .....

(d) If a sportsperson flexes her/his elbow, she/he is performing .....

Ans. (a) Thumb (b) flexion (c) abduction and adduction of the arms. (d) flexion at the elbow joint.

2. Look at the figures and answer the following questions.

Figure A

Figure B

(a) Figure A depicts ..... position.

(b) Figure B depicts ..... position.

(c) Describe pronation and supination of the forearm.

(d) Describe pronation and supination of the foot.

Ans. (a) Pronation (b) Supination (c) Pronation at the forearm is a rotational movement wherein the hand and upper arm are turned inwards. Supination of the foot refers to turning of the sole of the foot inwards, shifting weight to the lateral edge. (d) Pronation of the foot refers to turning of the sole outwards, so that the weight is borne on the medial part of the foot. Supination of the foot refers to turning of the sole of the foot inwards, shifting weight to the lateral edge.

B. Very Short Answer Type Questions

1. What is the study of movements called?

Ans. The study of movements is called as kinesiology.

2. Mention one scope for the practice of Kinesiology as per CKA.

Ans. One scope for the practice of Kinesiology as per CKA is enhancing occupational performance and promoting workplace health through the application of ergonomic principles.

3. Mention any two importance of Kinesiology in sports and physical education.

Ans. (i) Kinesiology is an inclusive subject that covers personal, public and environmental health. A lot can be learned about the nature of motor functions through familiarisation with this subject.

(ii) Kinesiology involves application of biomechanics, anatomy, physiology and psychology to examine how the human body responds to physical activity.

4. What are the two crucial roles of biomechanics in sports?

Ans. The two crucial roles of biomechanics in sports are:

(i) **Enhancing performance:** Biomechanics helps optimise technique, efficiency and movement patterns to maximise performance and minimise the risk of injuries.

(ii) **Injury prevention and rehabilitation:** Biomechanical analysis helps identify injury mechanisms, design interventions and aid in the rehabilitation process for athletes.

5. Mention one broad aim of biomechanics in sports.

Ans. One broad aim of biomechanics in sports is to understand and improve the mechanical aspects of human movement to enhance athletic performance, prevent injuries and optimise training and technique.

6. Mention any two main principles of biomechanics.

Ans. (i) **Principle of Force–Motion:** This principle says that an unbalanced forces (and the subsequent torques they induce) create or tend to modify the motion. For example, standing still–forces acting on a person are equal and because of this there is no movement.

(ii) **Principle of Force–Time:** According to this principle, modification of movement depends on the time period of force application (Impulse = Force × Time). For example, using the sweep shot in hockey wherein more force and time are applied giving it much more power than a hit.

7. What is the difference between Kinematics and Kinetics in sports biomechanics?

Ans. Kinematics is the study of motion without

reference to forces, while Kinetics is the study of forces that cause motion.

8. What is the importance of accurate motion measurement in sports biomechanics?

Ans. Accurate motion measurement is essential in sports biomechanics to accurately describe the motion and analyse it.

9. What are the different types of body movement?

Ans. The different types of body movement include flexion (bending), extension (straightening), abduction (moving away from the body), adduction (moving towards the body), rotation (turning) and circumduction (circular movement).

10. What are the three kinds of axis?

Ans. The three kinds of axis in human body movement are the sagittal axis (divides the body into left and right halves), the frontal axis (divides the body into front and back halves) and the longitudinal axis (divides the body into top and bottom halves).

11. What are the three planes that pass through the human body?

Ans. The three planes that pass through the human body are the sagittal plane (divides the body into left and right halves), the frontal plane (divides the body into front and back halves), and the transverse plane (divides the body into upper and lower halves).

C. Short Answer Type-I Questions

1. Define Kinesiology.

Ans. Kinesiology is the study of movements, whether of the human body or of non-human animals. It is a multifaceted subject which covers an array of sub-disciplines, such as psychology of physical activity, biomechanics, exercise physiology, history of physical activity, measurement of physical activity, motor development, motor learning and control, philosophy of physical activity, physical activity and public health, physical education pedagogy, etc.

2. What are the three main scopes of practice of Kinesiology?

Ans. The three main scopes of practice of Kinesiology are:

(i) **Adaptation through Exercise:** Use of exercises to improve overall health and physical fitness of individuals.

(ii) **Neuroplasticity:** Neuroplasticity is the physiological change in the brain which occurs as per our changing interactions with our environment. The neural network of the brain expands with the addition of new experiences. This aspect of brain function is a salient part of kinesiology, since we not only learn but also need to remember and adjust our motor skills.

(iii) **Motor Redundancy:** According to this concept, any physical task which can be performed by the human body can be done so in unlimited number of ways.

3. Write any four importance of Kinesiology in sports and physical education.

Ans. Four important aspects of Kinesiology in sports and physical education are:

(i) **Performance enhancement:** Kinesiology helps optimise technique, movement efficiency and training methods to enhance athletic performance.

(ii) **Injury prevention:** By understanding biomechanics and movement patterns, Kinesiology aids in identifying injury risks and implementing strategies to minimize them.

(iii) **Rehabilitation:** Kinesiology techniques are used in the rehabilitation of injuries, helping individuals regain mobility and strength.

(iv) **Movement analysis:** Kinesiology provides a scientific basis for analysing and improving movement skills in sports and physical education settings.

4. Define biomechanics.

Ans. The word 'biomechanics' is an amalgamation of two Greek words: 'bio' for 'life' or 'living things', and 'mechane' for 'machine'. It has been defined as the science that deals with the study of the effects produced by internal and external forces when they act on a biological system.

5. Write any four importance of biomechanics in sports and physical education.

Ans. Refer to page 131 of the book.

6. Write any four main principles of biomechanics.

Ans. Refer to pages 131-132 of the book.

7. Define Kinematics in sports biomechanics.

Ans. Kinematics in sports biomechanics is the study of motion without reference to forces. It describes the geometry of motion in terms of displacement, velocity, and acceleration.

8. Define Kinetics in sports biomechanics.

Ans. Kinetics in sports biomechanics is the study of forces acting on the body and how those forces

affect motion. It considers the interaction of various objects and how they react with one another.

9. Rubina was warming-up for the exercise and extended her elbow till the angle between ulna and humerus increased until it reached 180° and arm became straight. What is this body movement?

Ans. The body movement described in the scenario is extension of the elbow joint. When Rubina extended her elbow, increasing the angle between the ulna (forearm bone) and humerus (upper arm bone) until it reached 180°, her arm became straight. Extension refers to the movement that increases the angle between two body parts, in this case, straightening the arm at the elbow joint.

10. What is circumduction?

Ans. Circumduction is a conical movement of a body part, such as a ball and socket joint or the eye. This body movement is a combination of flexion, extension, adduction and abduction.

11. What is supination?

Ans. When a person is laying face-up on a surface, it is supination. Supination is a rotational movement of the forearm or foot that turns the palm or sole upward or forward, respectively. In the context of the forearm, supination involves the rotation of the radius bone so that the palm faces upward or forward. This movement is commonly observed when turning a doorknob or holding a cup with the palm facing upward.

12. Define axis.

Ans. An axis is an imaginary straight line about which a body rotates. Movement at the joint takes place in a plane about an axis.

13. Define plane.

Ans. In the context of biomechanics and anatomy, a plane is an imaginary two-dimensional surface or flat area that is used as a reference for describing movements or dividing the body into sections. The three main planes in human anatomy are the sagittal plane, frontal plane and transverse plane. These planes are used to analyse and describe the various motions and positions of body parts in relation to each other.

D. Short Answer Type-II Questions

1. What is Kinesiology? What is the importance of Kinesiology in sports and physical education?

Ans. Refer to pages 129-130 of the book.

2. What is biomechanics? What is the importance of biomechanics in sports and physical education?

Ans. Refer to pages 130-131 of the book.

3. Discuss the principles of biomechanics.

Ans. Refer to pages 131-132 of the book.

4. What are the fundamental kinematic quantities?

Ans. The fundamental kinematic quantities include time, position, displacement (distance), velocity (speed) and acceleration.

5. What is the kinematic sequence plot in sports biomechanics?

Ans. The kinematic sequence plot is based on the angular velocity patterns of body segments, lines, and clubs. It helps in analysing and improving the motion of the body and the equipment used in sports.

6. Make a table and differentiate between flexion and extension, and abduction and adduction.

Ans. Table differentiating between flexion and extension, and abduction and adduction:

Movement	Definition	Example	Body Part
Flexion	Decreasing angle between body segments	Bending the elbow joint	Elbow joint, knee joint
Extension	Increasing angle between body segments	Straightening the elbow joint	Elbow joint, knee joint
Abduction	Moving away from the midline of the body	Moving the arm to the side	Shoulder joint, hip joint
Adduction	Moving towards the midline of the body	Bringing the arm back towards the body	Shoulder joint, hip joint

7. Create a mind map on the concept of axis and plane and their application in body movements.

Ans. Refer to pages 135-136 of the book.

E. Long Answer Type Questions

1. Discuss the concept and application of Kinesiology.

Ans. Kinesiology is the study of movements, whether of the human body or that of non-human animals. The word is a combination of the Greek word for 'movement' (Kinesis) and study (logos).

It is a multifaceted subject which covers an array of sub-disciplines such as, psychology of physical activity, biomechanics, exercise physiology, history of physical activity, and measurement of physical activity. Motor development, motor learning and control, philosophy of physical activity, physical activity and public health, physical education pedagogy, etc. Kinesiology is applied in strength training, sports conditioning, physical and occupational therapy and occupational health and safety.

2. Discuss in detail the importance of biomechanics in sports.

Ans. Refer to page 130 of the book.

3. Discuss in detail the principles of biomechanics.

Ans. Refer to pages 131-132 of the book.

4. Explain the difference between Kinematics and Kinetics with examples from sports biomechanics.

Ans. Kinematics in sports biomechanics is the study of motion without reference to forces. It describes the geometry of motion in terms of displacement, velocity, and acceleration. For example, in the study of the golf swing, kinematics focuses on details of the swing 'motion' such as the shape of the club-head, its path, position of the body and club at various swing events, velocities of the body parts and club, and the timing of slow-down of the body for speed-up of the club.

Kinetics in sports biomechanics is the study of forces acting on the body and how those forces affect motion. It considers the interaction of various objects and how they react with one another. For example, in the study of the high jump, kinetics focuses on the forces that cause the body to move over the bar. It considers the interaction between the athlete's body and the ground, the angle of take-off, and the forces exerted by the athlete's muscles to propel them upwards. Additionally, kinetics also examines the impact forces experienced by the body upon landing after clearing the bar, which is crucial for understanding injury risk and optimizing performance. Overall, while kinematics describes the motion itself, kinetics provides insight into the underlying forces driving that motion, making them complementary aspects of sports biomechanics analysis.

5. Discuss any four major movements accomplished by the human body.

Ans. Refer to pages 133-134 of the book.

6. Make a table to differentiate between pronation and supination.

Ans. Table differentiating between pronation and supination:

Movement	Definition	Example	Body Part
Pronation	Rotational movement of the forearm/ foot inward or downward, resulting in the palm/ sole facing downward or backward	Rotating the forearm medially, palm facing backward	Forearm, Foot
Supination	Rotational movement of the forearm/ foot outward or upward, resulting in the palm/sole facing upward or forward	Rotating the forearm laterally, palm facing upward	Forearm, Foot

7. What is axis? Discuss its various types.

Ans. In the context of biomechanics and anatomy, an axis refers to an imaginary line around which a body or body part rotates or moves. It serves as a reference point for describing the direction and plane of movement. There are three main types of axes:

(i) **Sagittal Axis:** This axis runs horizontally from front to back and is perpendicular to the frontal plane. Movements occurring around this axis include flexion and extension, where the body or body part bends or straightens along the sagittal plane. For example, bending and extending the elbow or knee.

(ii) **Frontal Axis:** This axis runs horizontally from side to side and is perpendicular to the sagittal plane. Movements occurring around this axis include abduction and adduction, where the body or body part moves away from or towards the midline along the frontal plane. For example, moving the arm out to the side (abduction) or bringing it back towards the body (adduction).

(iii) **Vertical or Longitudinal Axis:** This axis runs vertically from top to bottom and is perpendicular to the transverse plane. Movements occurring around this axis include rotation, where the body or body part turns or twists along the transverse plane. For example, rotating the head, trunk, or torso.

Understanding these axes helps in describing and analysing the movements of the human body in different planes and directions. They provide a useful framework for studying biomechanics, assessing movement patterns and designing effective exercise and rehabilitation programs.

8. What is plane? Discuss its various types.

Ans. In biomechanics and anatomy, a plane refers to an imaginary two-dimensional surface or flat area that is used as a reference for describing movements or dividing the body into sections. There are three main types of planes:

(i) **Sagittal Plane:** The sagittal plane divides the body into left and right halves. Movements occurring within this plane are primarily forward and backward. Examples of movements in the sagittal plane include flexion (bending), extension (straightening), and plantar flexion of the foot.

(ii) **Frontal Plane:** The frontal plane divides the body into front and back halves. Movements occurring within this plane are primarily side-to-side or lateral movements. Examples of movements in the frontal plane include abduction (moving away from the midline) and adduction (moving towards the midline).

(iii) **Transverse Plane:** The transverse plane divides the body into upper and lower halves. Movements occurring within this plane are primarily rotational or twisting movements. Examples of movements in the transverse plane include rotation of the head, trunk or limbs.

CHAPTER 9
PSYCHOLOGY AND SPORTS

P. 153–158

A. Objective Type/Multiple-Choice Questions

I. Multiple-Choice Questions

1. Which of these branches of science deals with the study of behaviour?

(a) Kinesiology

(b) Physiology

(c) Psychology

(d) Anatomy

Ans. (c) Psychology

2. "Sports psychology explores one's behaviour in athletics." Who gave this statement?

(a) Singer

(b) John Lauther

(c) Clark and Clark

(d) K M Burns

Ans. (a) Singer

3. The mental aspects used in sports psychology are

(a) energy, balance, focus, flow and motivation.

(b) imagery, focus, simulation and stability.

(c) energy, balance, focus, simulation and stability.

(d) imagery, focus, simulation, flow and motivation.

Ans. (d) imagery, focus, simulation, flow and motivation.

4. What aspect of sports psychology involves training a person in an environment that imitates the actual conditions the player will face during a competition?

(a) Simulation

(b) Stimulation

(c) Virtual reality

(d) Simulcasting

Ans. (a) Simulation

5. According to the characteristics of growth and development, which of the following is true?

(a) Development moves from specific to general.

(b) Changes occur only in old age.

(c) Rate of development is the same for all individuals.

(d) Genetic structure and environment influence growth and development.

Ans. (d) Genetic structure and environment influence growth and development

6. Which of the following is an example of an orderly sequence in human development?

(a) Development of specific skills before general skills

(b) Development of legs before head

(c) Development of motor skills in a child starts with crawling, then standing, then sitting

(d) Development of emotional skills before social skills

Ans. (c) Development of motor skills in a child starts with crawling, then standing, then sitting

7. Which of these is not one of the correct ways to manage problems faced by adolescents?

(a) Encouraging them to get involved in physical activities

(b) Ordering them to resolve their issues

(c) Instructing parents and teachers on engaging constructively with them

(d) Discussing their concerns with them in a safe environment

Ans. (c) Instructing parents and teachers on engaging constructively with them

8. Seventeen-year-old Derek has always been known for his healthy habits. However, after moving to a hostel, he saw that his new friends would stay up late every night and then bunk classes. Derek didn't want to stand out as an odd person, so he began doing it too. As a result, his grades began suffering. Which of the problems faced by adolescents is this an example of?

(a) Physiological changes

(b) Peer pressure

(c) Clash between expectation and reality

(d) Hero worship

Ans. (b) Peer pressure

9. Developing healthy eating and exercise habits at adolescence age is a foundation for ..... in adulthood.

(a) good health

(b) emotional well-being

(c) sexual development

(d) emotional challenges

Ans. (a) good health

10. Which of the following is/are an area/s of team cohesion?

I. Logical cohesion

II. Task cohesion

II. Social cohesion

Now choose the correct answer:

(a) Only I

(b) Only II

(c) I and II

(d) II and III

Ans. (d) II and III

11. During which stage of team cohesion, there is a close bond among the team members and a general want for one another to succeed?

(a) Forming

(b) Storming

(c) Norming

(d) Performing

Ans. (d) Performing

12. What is attention in sports?

(a) Ability to focus on the task at hand

(b) Physical ability of athletes

(c) Ability to communicate with teammates

(d) Ability to remember past experiences

Ans. (a) Ability to focus on the task at hand

13. Which type of attention focus allows athletes to perceive several occurrences simultaneously?

(a) Narrow attention focus

(b) Broad attention focus

(c) External attention focus

(d) Internal attention focus

Ans. (b) Broad attention focus

14. What is mental toughness in sports?

(a) Ability to lift heavy weights

(b) Ability to cope with challenges and adversities

(c) Ability to run fast

(d) Ability to score goals

Ans. (b) Ability to cope with challenges and adversities

15. What is resilience in sports?

(a) Ability to recover from failures and injuries

(b) Ability to score goals

(c) Ability to lift heavy weights

(d) Ability to run fast

Ans. (a) Ability to recover from failures and injuries

II. Match the following:

List I	List II
(a) Forming	(1) A phase characterised by conflict over who has control and infighting.
(b) Storming	(2) A period in which there is a close bond among the team members and a general want for one another to succeed.
(c) Norming	(3) A learning period for old and new members, acquainting and reacquainting themselves.
(d) Performing	(4) A period in which the team comes to a consensus about what is acceptable and what is not acceptable.

Select the correct set of options:

(a) (i)–(4), (ii)–(1), (iii)–(3), (iv)–(2)

(b) (i)–(3), (ii)–(1), (iii)–(4), (iv)–(2)

(c) (i)–(3), (ii)–(2), (iii)–(4), (iv)–(1)

(d) (i)–(4), (ii)–(3), (iii)–(2), (iv)–(1)

Ans. (b) (i)–(3), (ii)–(1), (iii)–(4), (iv)–(2)

III. Assertion-Reason Type Questions: CBQ

Given below are the two statements labelled Assertion (A) and Reason (R).

A: A strong body must be accompanied by a strong mind to succeed in sports.

R: With the application of sports psychology, the player's strengths and weaknesses can be assessed and their sense of positivity can be amplified by instilling self-confidence and a healthy awareness of their own potential.

In the context of the two statements given above, which one of the following is correct?

(a) Both (A) and (R) are true and (R) is the correct explanation of (A).

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

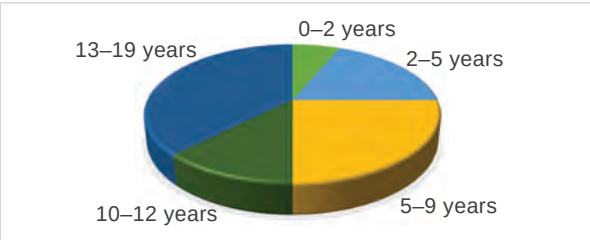
(c) (A) is true, but (R) is false.

(d) (A) is false, but (R) is true.

Ans. (a) Both (A) and (R) are true and (R) is the correct explanation of (A).

IV. Data-Based Questions: CBQ

A housing society had children of various age groups, the numbers have been given below:



On the basis of the pie-chart given above, answer the following questions:

1. What are the children falling in the 2–5 Years category called?
   (a) Toddlers (b) Children
   (c) Infants (d) Kids
2. What sort of activities do the children in the age group of 5–9 years indulge in?
   (a) Catching, hitting and bouncing
   (b) Reaching, rolling and sitting
   (c) Running, hopping and striking
   (d) Hiking, trekking and swimming
3. Which age group faces the problems of peer pressure, emotional and physiological changes?
   (a) 13–19 Years (b) 2–5 Years
   (c) 5–9 Years (d) all of these

Ans. **1.** (c) Infants; **2.** (c) Running, hopping and striking; **3.** (a) 13–19 Years

V. Picture-Based Questions: CBQ

Identify the activities and write the age group for which they are best suited:

1. 
   .....
2. 
   .....
3. 
   .....
4. 
   .....

Ans. **1.** Playing Badminton - Child (10–12) Years;
2. Sitting - Infant (0–2) Years;
3. Trekking - Teenager (13–19) Years;
4. Striking for Accuracy - Child (5–9) Years

VI. Case-Based Questions: CBQ

1. Of late a teenage boy has been behaving erratically.

   On the basis of the information given, answer the following questions:
   (a) What could be some of the possible reasons for such a behaviour?
   (b) ..... is a way of managing problems faced by adolescents.
   (c) What should be done to channelise the boy's energy in the right direction?
   (d) ..... changes can bring about emotional turmoil in adolescents.

Ans. (a) There could be several possible reasons for the teenage boy's erratic behaviour. Some common factors that could contribute to such behaviour include hormonal changes, peer pressure, stress and anxiety, etc. (b) Involvement in physical activities (answer may vary) (c) Open communication; Engage in open and non-judgmental conversations to understand the underlying issues and concerns the boy may be experiencing; Encourage involvement in constructive activities; Set goals and create structure; Provide guidance and support, etc. (d) Hormonal changes

2. Rohit is physically fit but he cannot cope with the pressures of performing well and winning the competition.

   On the basis of the information given, answer the following questions:
   (a) Rohit is physically fit but his ..... is weak.
   (b) How can sports psychology help Rohit?
   (c) Rohit might be suffering from emotions like ....., ..., and .....
   (d) Is it enough for a player to be only physically fit?

Ans. (a) self-confidence (b) Sports psychology can help Rohit in several ways: By strengthening mental power, through goal setting, visualisation, imagery and motivation, etc. (c) anxiety, self-doubt, fear of failure (d) No, it is not enough for a player to be only physically fit. While physical fitness is important for sports performance, mental strength and psychological well-being are equally crucial.

B. Very Short Answer Type Questions

1. Define sports psychology.

Ans. Sports psychology for physical education is that branch of psychology which deals with the physical fitness of an individual through his participation in games and sports.

2. Mention two mental aspects used in sports psychology.

Ans. Two mental aspects used in sports psychology are:

(i) **Imagery:** Improvement of performance by mental visualisation.

(ii) **Focus:** Removal of distractions so that full attention may be given to the performance.

3. Mention two importance of sports psychology.

Ans. (i) Sports psychology aids in the development of physiological capacities by motivating athletes to reach their full physical potential, adhere to training and fitness routines and embrace new techniques.

(ii) It also complements the physiological aspect by supporting athletes through challenging processes and facilitating the learning of motor skills for optimal performance.

4. Apart from being physically fit, what other skill must a player possess to succeed?

Ans. Apart from physical fitness, a player must possess mental skills such as focus, resilience, decision-making abilities, self-confidence, discipline, adaptability and the ability to handle pressure to succeed in their respective sport.

5. What are the four main areas of growth and development?

Ans. The four main areas of growth and development are physical, mental, social and emotional.

6. What does the characteristic of continuity mean in growth and development?

Ans. Continuity means that changes begin from infancy and continue till old age, whether they are internal or external.

7. What is the age group of adolescents?

Ans. The age group of adolescents typically ranges from 10 to 21 years old.

8. Mention two problems faced by adolescents.

Ans. Two problems commonly faced by adolescents are emotional changes and peer pressure.

9. Mention any two ways of managing problems faced by adolescents.

Ans. Two ways of managing problems faced by adolescents are involving in physical activities and encouraging to build new hobbies.

10. What are the four stages of team cohesion?

Ans. The four stages of team cohesion are forming, storming, norming and performing.

11. Mention one way benefit of team cohesion.

Ans. Team cohesion is useful for the improvement of performance and motivation of a team.

12. What is the importance of attention in sports performance?

Ans. Attention is essential for athletes to perform well in sports, as it helps them to focus on their role in relation to other teammates, set of situations, and specific stimuli on the playfield, which increases their readiness to receive and respond to the situation involved.

13. What are the different types of attention focus?

Ans. The different types of attention focus are narrow and broad attention focus, and external and internal attention focus.

C. Short Answer Type-I Questions

1. How is psychology different from sports psychology?

Ans. Psychology is the broader field that encompasses the study of the human mind and behaviour in various contexts. It examines psychological processes, mental health, cognitive functioning and social interactions. Sports psychology, on the other hand, is a specialised branch that focuses specifically on the psychological aspects of sports and athletic performance, addressing motivation, confidence, focus, teamwork and mental well-being unique to athletes and sports environments.

2. Mention four mental aspects used in sports psychology.

Ans. Refer to page 143 of the book.

3. How is sports psychology helpful in the learning of motor skills?

Ans. Sports psychology aids in the learning of motor skills by introducing specific routines and practice methods. Through dedicated practice and guidance, athletes can develop precise motor responses and send correct motor messages to their muscles. This facilitates improved coordination, execution of movements and the acquisition of efficient and effective motor skills.

4. How does sports psychology strengthen minds of players?

Ans. Sports psychology plays a crucial role in strengthening the mind of athletes. While physical skill is important, victory can be elusive if the mind is weak and unable to handle the pressures of competition. By fostering self-confidence, cultivating a positive mind-set and establishing a strong connection between thoughts and actions, sports psychology helps athletes focus on performance. It equips them to effectively manage emotions like stress, fear and anger, and promotes a rational outlook. Additionally, relaxation techniques and stress management are incorporated into training programs. Sports psychology also motivates athletes, stimulates their intelligence, and corrects behaviour to enhance their potential and performance.

5. Explain the characteristic of 'general to specific' in growth and development.

Ans. The characteristic of 'general to specific' means that development moves from broad and general abilities to more specific and refined ones. For example, a child's language development starts with babbling, then progresses to simple words and sentences, and finally to complex and grammatically correct language.

6. How do individual differences in the rate of development affect growth and development?

Ans. Individual differences in the rate of development mean that some individuals may develop faster or slower than others, even if they are going through the same process. This can lead to challenges or advantages for individuals in different areas of growth and development.

7. What are the physiological changes faced by the adolescents?

Ans. Physiological changes during adolescence include increased weight and height, changes in body shape, voice deepening and facial hair growth in boys, and menstruation and breast development in girls. The development of sexual organs is a significant characteristic of this stage. These rapid and complex changes can have psychological effects on adolescents, such as feelings of fear, shame, withdrawal, boredom and anxiety.

8. What are the emotional issues faced by the adolescents?

Ans. Adolescents face emotional challenges due to hormonal changes. They seek validation, conformity to beauty standards, and yearn for love and appreciation. Emotions like lust, envy, anger and dissatisfaction can lead to impulsive actions, violent reactions, obsessive behaviours and emotional breakdowns. Adolescents are susceptible to health issues such as eating disorders, bipolar disorder, mood disorders, and depression, reflecting their intense emotional lives with fluctuations between excitement and depression.

9. How does academic pressure affect adolescents?

Ans. Academic failure puts a lot of pressure on students. The challenge of coping with the workload from school, along with the anxiety over social approval, sexual awakening, adds to the mental struggles of adolescents. Sometimes, parents contribute to their unhappiness and low self-esteem by demanding that they perform better, excel and outdo their peers. When their self-worth is so irreversibly tied with their academic scores, it is little wonder that the failure to meet expectations in this context makes them think their life is useless.

10. How does creation of a suitable environment of learning help manage problems faced by the adolescents?

Ans. The environment at school and at home should enable adolescents to learn as much as possible. Proper facilities for experimentation and exercises, provision of balanced diet and healthy nutrition, creative freedom, recreational opportunities, liberty to raise questions and address their doubts, are a few of the factors that can develop the ideal environment of learning. Their concerns and opinions should be encouraged and discussed; ordering them and forcing them around only harms the relationship between them and the adult figures in their lives.

11. Rumi is 13 years old. She has conflicts with her parents at home. What should be done to address Rumi's problem?

Ans. To address Rumi's conflicts with her parents, it is important to promote open communication and understanding. Encourage Rumi and her parents to have regular, respectful conversations to express their thoughts and feelings. Active listening and empathy should be practiced by both parties. Family therapy or counselling may be beneficial to facilitate healthier communication patterns and help navigate the

challenges of adolescence. Creating a safe and supportive environment where Rumi's concerns are acknowledged and addressed can contribute to resolving the conflicts.

12. What is team cohesion?

Ans. Team cohesion may be defined as the degree to which players are driven to practise, compete as a team, and 'hang out' as part of a sports team.

13. What is task cohesion?

Ans. Task cohesion refers to a team's ability to work together to complete a task (for example, teamwork and task completion in sports, such as working together to win a championship).

14. What is social cohesion?

Ans. Social cohesion refers to the degree of harmony, cooperation and solidarity within a society or community or a team. It encompasses the bonds and relationships between individuals or groups, as well as the shared values, norms, and sense of belonging that contribute to a cohesive society. Social cohesion is characterised by mutual trust, respect and support among members of a community, promoting social stability, inclusivity and collective well-being. It is often associated with positive outcomes such as reduced crime rates, improved social integration and increased resilience in the face of challenges.

15. What is the role of broad attention focus in sports?

Ans. Broad attention focus allows athletes to perceive several occurrences simultaneously, which is useful in team sports and dynamic sports like soccer, basketball and hockey.

16. How does mental toughness help athletes in sports?

Ans. Mental toughness enables athletes to cope better than their opponents with the many demands that sports place on them, and be more consistent and better than their opponents in remaining determined, focused, confident and in control under pressure.

D. Short Answer Type-II Questions

1. Write in detail about the meaning and definition of sports psychology.

Ans. Sports psychology has been explained by experts as follows:

"Sports psychology is an area which attempts to apply psychological facts and principles to learning performance and associated human behaviour in the whole field of sports."

– John Luther

"Sports psychology is an applied psychology. It is more concentrated with the personalities, emotional or motivational aspects of sports and physical activities. It employs many of the techniques used in psychology."

– Clark and Clark

"Sports psychology explores one's behaviour in athletics".

– Singer

By observing and analysing a player's response to demand and pressure, a sports psychologist can discover and interpret the psychological factors involved in their performance.

2. What are the mental aspects used in sports psychology?

Ans. Refer to page 143 of the book.

3. Give three reasons why sports psychology is important.

Ans. Refer to page 143 of the book.

4. How do heredity and environment influence growth and development?

Ans. Heredity refers to the genetic structure of an individual, which can impact the physical and mental abilities and limitations of that individual. Environment refers to the external factors, such as family, culture, and socio-economic status that can impact growth and development. Both heredity and environment interact to influence an individual's growth and development.

5. Why is adolescence considered a difficult period?

Ans. Adolescence is considered a difficult period due to numerous factors. Rapid physical, hormonal and emotional changes, along with the quest for identity and increased peer pressure, contribute to the challenges. Adolescents often face academic stress, body image issues, relationship complexities and psychological turmoil. Navigating these transitions and managing societal expectations can lead to feelings of confusion, self-doubt, and emotional instability, making it a challenging phase of development.

6. Create a mind map on problems faced by the adolescents and management of these problems.

Ans. Illustrative Mind Map:

Problems Faced by Adolescents and their Management	
Problems	***Management***
• Emotional Challenges • Identity Formation • Peer Pressure • Body Image Issues • Academic Stress • Relation-ship Issues	• Open Communication • Emotional Support • Positive Parenting • Healthy Coping Mechanisms • Self-Esteem Building • Stress Management Techniques • Mental Health Awareness • Seeking Professional Help • Education on Healthy Relationships • Developing Resilience and Assertiveness Skills

7. How is team cohesion useful for a team?

Ans. Team cohesion is useful and it can improve performance and motivation of a team. If a team works together, it improves their team cohesion, thus, improves team's performance. This leads to personal satisfaction. So, improvement in team cohesion drives a team in an upward direction.

8. What is storming stage in team cohesion?

Ans. The storming stage in team cohesion typically occurs a few weeks into the season when the initial excitement fades away. It is characterised by conflicts over control, status positions and attention from the coach. Athletes with poor work ethics or bad attitudes may emerge, and personality and goal conflicts among team members become evident. While it may seem counterproductive, the storming phase is unavoidable and can be utilised for effective team building. Coaches should be vigilant in identifying conflicts, fostering open communication and resolving issues promptly. Successful resolution can enhance self-esteem, respect for team-mates, trust and communication skills within the team.

9. Make a table explaining the main stages of team cohesion.

Ans. Refer to pages 151-52 of the book.

10. What is the role of narrow attention focus in sports?

Ans. Narrow attention focus is the ability of the athlete to focus on a particular or important task when surrounded by multiple cues, which is useful in individual sports like archery, golf, and shooting.

11. What are the key components of mental toughness?

Ans. The key components of mental toughness include values, attitudes, cognitions, emotions, and behaviours.

E. Long Answer Type Questions

1. Make a table to discuss in detail the importance of sports psychology.

Ans. Sports psychology is important for the following reasons:

• Development of physiological capacities:	Sports psychology motivates players to push themselves further and use their full physical potential.
• Aiding the learning of motor skills:	One important application of sports psychology is its role in complementing the psychological readiness of the player.
• Development of strategies and plans:	It enables the instructor to diagnose the approach of their instruction and detect the flaws so that measures can be taken to rectify them.
• Understanding the behaviour of players:	It is vital to have a full knowledge of the player's behaviour, attitudes, instincts, interest and drives, in order to help her/ him grow into a better, wiser, stronger sportsperson.
• Strengthening the mind:	It trains the players to boost their self-confidence by building a positive mind-set, to focus on the performance and to open up a powerful link between thought and action.
• Development of team spirit and goal setting:	Sports psychology can instruct Sportspersons to learn the skills of good communication and cohesion. It also motivates them to set goals and work towards achieving it with the development of a focused and practical mind.

2. Explain how the four main areas of growth and development are interconnected.

Ans. The four main areas of growth and development (physical, mental, social, and emotional) are interconnected and influence each other. For example, physical development can impact mental development, such as a child's motor skills influencing their ability to learn and think. Mental development can impact social development, such as a child's cognitive abilities influencing their ability to form and maintain relationships with others. Social development can impact emotional development, such as a child's experiences with others influencing their emotional responses and regulation. Emotional development can impact physical development, such as stress affecting the body's immune system and overall health. Therefore, it is important to consider all four areas of growth and development when assessing an individual's overall well-being and progress.

3. What are the problems faced by adolescents and how can these be managed?

Ans. **Problems faced by adolescents are:**

(a) Physiological changes

(b) Emotional changes

(c) Sexual development

(d) Clash between expectation and reality

(e) Peer pressure

(f) Academic pressure

(g) Hero worship

(h) Struggle with self-esteem

Management:

(a) Involvement in physical activities

(b) Sex education

(c) Encouraging hobbies

(d) Vocational Hobbies

(e) Instruction in Morals and ethics, etc.

(For detailed description refer to pages 147–149 of the book)

4. Explain in detail about the management of problems faced by adolescents.

Ans. Management of problems faced by adolescents:

- **Involvement in physical activities:** Physical activities provide a healthy and productive distraction from the emotional issues faced by adolescents.
- **Sex education:** Sex education should be given high priority in the design of school curricula. Students should also be fully informed of the consequences of unprotected sexual activities such as pregnancy and contraction of STDs and reminded that their urges are a natural part of growing up. It also encourages teenagers of opposite sexes/genders to respect each other as individuals.
- **Encouraging hobbies:** Music, theatre and dance, etc. are not strictly academic in nature, but provide the benefit of nurturing the passion and talents of teenagers, thereby enabling them to employ their mind in emotionally fulfilling pursuits.
- **Vocational guidance:** Vocational guidance can be very useful to aid in this area, keeping in view the adolescent student's interest, intelligence, aptitude and capabilities.

Besides, there are many ways of management like instruction morals and ethics, creation of a suitable environment and educating parents and teachers.

5. Write a brief note on the following:

(a) Emotional changes in adolescents.

(b) Physiological changes in adolescents.

Ans. (a) **Emotional changes in adolescents:** Hormonal changes can bring about emotional turmoil in adolescents. They are filled with the desire to impress, to conform to what is the ideal standard of beauty, to be loved and appreciated. Lust, envy, anger and dissatisfaction with oneself, triggering impulsive actions, aggressive reactions, obsessive habits and emotional breakdowns. Teenagers frequently fall prey to health issues like eating disorders, bipolar disorder, mood disorders, depression, etc.

As Ross puts it, "The adolescent lives an intensely emotional life, in which we can see once more the rhythm of positive and negative phases of behaviour in his constant alternation between intense excitement and deep depression".

(b) **Physiological changes in adolescents:** These changes are marked by increase in height and weight, change of voice and growth of facial hair in boys, menstruation and enlargement of breasts in girls. Development of sexual organs also occurs which is considered one of the most significant characteristics.

All these rapid and complex changes affect the adolescents psychologically and induce feelings of fear, shame, and withdrawal from society, boredom, anxiety, etc.

6. Write short notes on:

(a) Vocational guidance

(b) Peer pressure

Ans. (a) **Vocational guidance:** To have a clear and precise idea of what one wants to be in future can direct an adolescent towards a fruitful, ambitious and disciplined lifestyle. Teachers can provide vocational guidance to aid them in this area, keeping in view the adolescent student's interest, intelligence, aptitude and capabilities.

(b) **Peer pressure:** Adolescents have a keen yearning to impress their peers. They form groups and gangs and build their own social hierarchy. In their need for appreciation and acceptance, they risk the danger of taking part in substance abuse and even minor criminal activities.

7. What are the benefits of team cohesion?

Ans. Refer to pages 150–151 of the book.

8. Describe the various stages of team cohesion.

Ans. Refer to pages 151–152 of the book.

9. Explain the concept of resilience in sports and its importance.

Ans. Resilience is the ability of athletes to cope with life's challenges and adapt to them by integrating a wide range of traits, habits, and skills. A resilient athlete is one who has the ability to recover from failures, injuries, and other challenges they may face in their sporting careers. Resilience is essential for athletes as it helps them to bounce back from setbacks, remain motivated and focused, and maintain high levels of performance despite the difficulties they may encounter.

CHAPTER 10
TRAINING AND DOPING IN SPORTS

P. 174–178

A. Objective Type/Multiple-Choice Questions

I. Multiple-Choice Questions

1. Surekha's gymnastics coach told her that, to get better in her sport, she would have to develop interest in the steps he was teaching her and focus on practising the steps on her own. Which principle of sports training was he indirectly referring to?

(a) Principle of Overload
(b) Principle of Cyclicity
(c) Principle of Active Involvement
(d) Principle of Variety

Ans. (c) Principle of Active Involvement

2. Which principle of sports training is related to the training plan?

(a) Principle of Individual Differences
(b) Principle of Progression of Load
(c) Principle of Periodisation
(d) Principle of Overload

Ans. (c) Principle of Periodisation

3. Which principle of sports training states that the load on the body during training should be above the normal range of load of the player?

(a) Principle of Overload
(b) Principle of Progression of Load
(c) Principle of Rest and Recovery
(d) Principle of Individual Differences

Ans. (a) Principle of Overload

4. Which principle of sports training is based on the fact that the effect of exercise or load varies from one sportsperson to another?

(a) Principle of Periodisation
(b) Principle of Continuity
(c) Principle of Rest and Recovery
(d) Principle of Individual Differences

Ans. (d) Principle of Individual Differences

5. Which principle of sports training states that the only way to develop a particular component of the body is by improving its strength and skills to the maximum?

(a) Principle of Specificity
(b) Principle of General and Specific Preparation
(c) Principle of Variety
(d) Principle of Cyclicity

Ans. (a) Principle of Specificity

6. Which of the following is a symptom of overload manifesting in performance?

(a) Movement coordination
(b) Competitive qualities
(c) Physiological systems
(d) All of these

Ans. (d) All of these

7. Which of the following is not a symptom of overload?

(a) Increase in the interest in sports
(b) Loss of concentration
(c) Lack of desire
(d) Sleep disturbance

Ans. (a) Increase in the interest in sports

8. How much time does it usually take for adaptation during sports training?

(a) 24 hours
(b) One week
(c) Four to six weeks
(d) Six months

Ans. (c) Four to six weeks

9. Which method of warming-up is meant to improve the flexibility of muscles?

(a) Jogging
(b) Stretching
(c) Wind sprints
(d) Striding

Ans. (b) Stretching

10. Warming-up is necessary for preparing the body .....

(a) physically
(b) mentally
(c) emotionally
(d) Only (a) and (b)

Ans. (d) Only (a) and (b)

11. A lawn tennis player is very good at her service. Which of these types of skills would she be said to possess in relation to her service?

(a) Coactive skill

(b) Continuous skill

(c) Individual skill

(d) Discrete skill

Ans. (d) Discrete skill

12. Handspring in gymnastics is an example of .....

(a) tactics

(b) technique

(c) skill

(d) all of these

Ans. (c) skill

13. ..... defined technique as "The most rational and effective form to perform exercises."

(a) Grosser

(b) Ozolin

(c) Jersild

(d) Sadler

Ans. (b) Ozolin

14. What is the primary objective of tactics in sports?

(a) To achieve a long-term goal

(b) To win the competition

(c) To enhance the skills of the players

(d) To develop a team's morale

Ans. (b) To win the competition

15. What is the difference between strategy and tactics?

(a) Strategy involves mental drills, while tactics involve physical exercises.

(b) Strategy is the overall plan, while tactics refer to the actual realisation of strategy in practice.

(c) Strategy is a short-term objective, while tactics are a long-term objective.

(d) Strategy is individual-focused, while tactics are team-focused.

Ans. (b) Strategy is the overall plan, while tactics refer to the actual realisation of strategy in practice.

16. Doping comprises which of the following violations?

(a) Presence of a prohibited substance or method.

(b) Evading, refusing or failing of sample collection after being notified.

(c) Trafficking or attempted trafficking in any prohibited substance or method.

(d) All of these.

Ans. (d) All of these.

II. Match the following:

List I	List II
(a) Endurance Abilities	(1) Tactical Component
(b) Blocking, Bowling	(2) Physical Component
(c) Strategising and Planning	(3) Psychological Component
(d) Enhance Mental and Emotional Intelligence	(4) Technical Component

Select the correct set of options:

(a) (i)–(2), (ii)–(4), (iii)–(1), (iv)–(3)

(b) (i)–(2), (ii)–(3), (iii)–(1), (iv)–(4)

(c) (i)–(1), (ii)–(2), (iii)–(3), (iv)–(4)

(d) (i)–(4), (ii)–(3), (iii)–(2), (iv)–(1)

Ans. (a) (i)–(2), (ii)–(4), (iii)–(1), (iv)–(3)

III. Assertion-Reason Type Questions: CBQ

Given below are the two statements labelled Assertion (A) and Reason (R).

1. A: The coach introduces variety in the training process such as changing the session timing and duration, the volume and intensity of workout, the environment, etc.

R: As the training progresses, the monotony of load and recovery causes sportspersons as well as coach to lose interest, and sessions become dull.

2. A: Warming-up is an intricate part of any training or sports.

R: It ensures the efficiency of an activity by preparing the body physically, mentally and psychologically.

In the context of the two statements given above, which one of the following is correct?

(a) Both (A) and (R) are true and (R) is the correct explanation of (A).

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

(c) (A) is true, but (R) is false.

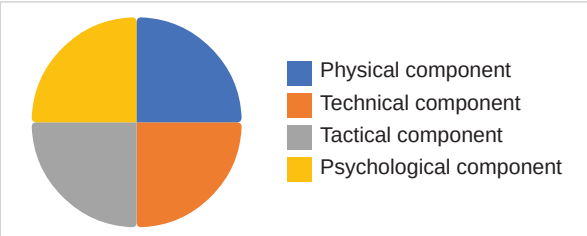
(d) (A) is false, but (R) is true.

Ans. 1. (a) Both (A) and (R) are true and (R) is the correct explanation of (A).

2. (a) Both (A) and (R) are true and (R) is the correct explanation of (A).

IV. Data-Based Questions: CBQ

In a school, the PE teacher introduced sports training for students by developing their expertise in the following areas.



On the basis of the pie-chart given above, answer the following questions:

1. Which of the following is a part of physical component?

(a) Endurance abilities

(b) Speed abilities

(c) Flexibility

(d) All of these

2. Which of the following is not a part of the technical component?

(a) Blocking (b) Flexibility

(c) Running (d) Bowling

3. The psychological component boosts the

(a) mental and emotional intelligence of the athletes.

(b) physiological ability of athletes.

(c) social skills of athletes.

(d) muscular abilities of athletes.

Ans. **1.** (d) All of these; **2.** (b) Flexibility; **3.** (a) mental and emotional intelligence of the athletes.

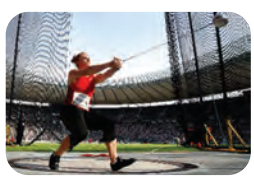
V. Picture-Based Questions: CBQ

Identify the following activities and classify on the basis of skills:

1.

.....

2.



.....

3.

.....

4.

.....

Ans. **1.** Shooting – Discrete Skill; **2.** Hammer Throw – Individual Skill; **3.** Swimming – Continuous Skill; **4.** Football – Interactive Skill

VI. Case-Based Questions: CBQ

1. Ritesh was doing cardio workout. His coach instructed him to take rest in between the sessions.

On the basis of the information given, answer the following questions:

(a) The above case is based on the Principle of .....

(b) A cardio workout is followed by an elongated phase of .....

(c) How would you describe this phase?

(d) Why is this principle important in sports training?

Ans. (a) Rest and Recovery. (b) metabolic recovery (c) During metabolic recovery phase the increased heart rate and oxygen consumption take hours to return to the normal rate in an individual's body. (d) An athlete's body needs rest and recovery to refresh and become better and stronger than earlier. So, this principle is important in sports training.

2. A set of players tried to enhance their performance by unnatural means (doping) for an international tournament.

On the basis of the information given, answer the following questions:

(a) Which agency is responsible to set-up rules and regulations against such unnatural performance enhancement practices?

(b) How did the need for an independent international body to set strict and fool-proof standards for anti-doping arise?

(c) WADA was set up on ..... is in Switzerland and is the acronym for .....

(d) The WADA developed a code known as the ..... to set anti-doping policies, rules and regulations.

Ans. (a) World Anti-Doping Agency (WADA) (b) The need for an independent international body to set strict and fool-proof standards for anti-doping arose due to several reasons. Prior to the establishment of WADA, there were inconsistencies and variations in anti-doping policies and regulations across different sports and countries. This lack of uniformity made it easier for athletes to exploit loopholes or

inconsistencies in the system. Additionally, the use of performance-enhancing substances and methods became a significant concern in international sports, undermining the integrity of fair competition. To address these issues and promote clean and fair sport globally, the establishment of an independent international body like WADA was necessary. (c) 10 November 1999; World Anti-Doping Agency (d) WADA Code

B. Very Short Answer Type Questions

1. What is sports training?

Ans. Sports training is the process through which the athlete's overall physiological efficiency is maximised in a specific sports discipline and its accompanying rules and limitations.

2. What is the technical component of sports training?

Ans. The technical components include technical skills such as blocking, running, bowling, etc.

3. What is the psychological component of sports training?

Ans. The psychological component, which boosts the mental and emotional intelligence of the athletes, grooming their personality for the better.

4. What are the three phases of Principle of Periodisation?

Ans. Preparatory Phase, Competitive Phase and Transition Phase are the three phases of the Principle of Periodisation.

5. What is training load?

Ans. Training load is the physiological and psychological pressure placed on individuals by subjecting them to exercise in order to enhance and elevate their capabilities during performance.

6. Mention one psychological symptom of overload.

Ans. Increased irritability and a tendency to lash out at others.

7. Define the term skill.

Ans. Skill is the ability to execute the right technique at the right moment to achieve desired results.

8. What is the meaning of technique?

Ans. Technique is the manner of applying a skill in a game setting.

9. What do you understand by the term 'style'?

Ans. Style is the expression of technique in motor action.

10. What do you mean by limbering down?

Ans. Limbering down is also known as warming down also. It is the process of cooling down the body to restore it to its normal condition after a training or game. It is an integral part of every training and game.

11. What are the two types of warming-up?

Ans. The two types of warming-up are:

- Passive warming-up
- Active warming-up.

12. Make a list of the guiding principles of warming-up.

Ans. The list of guiding principles of warm-up are:

- Simple to complex
- Exercise for all the parts of body
- Stretching and loosening exercises should be included
- Intensive enough to raise body temperature
- Age and sex specific
- Activity or sports specific
- Warming-up should be timed accurately.

13. Why was there a need for anti-doping body?

Ans. The need for an anti-doping body arose to ensure fairness and integrity in sports by detecting and preventing the use of performance-enhancing drugs. It helps maintain a level playing field, protect athletes' health and preserve the spirit of competition.

14. What is the full form of NADA? When was it established?

Ans. Set-up on 24 November 2005, the National Anti-Doping Agency (NADA) works towards a vision of dope free sports in India.

C. Short Answer Type-I Questions

1. Which components should sports training focus on?

Ans. Sports training should focus on multiple components to enhance overall performance. These include developing strength, speed, agility, endurance, flexibility and power. Skill acquisition, technique refinement, tactical understanding and mental preparation are also crucial. Additionally, injury prevention, proper nutrition, adequate rest and recovery, and sport-specific conditioning are essential for optimising athletic performance and minimising the risk of injuries.

2. What is the Principle of Progression of Load?

Ans. The Principle of Progression of Load states that increase of overload should be a gradual process at a reasonable rate. A rapid increase can cause serious complications such as muscle damage or injury. Moreover, there should be ample time for rest and recovery in order to avoid exhaustion and injury.

3. What is the Principle of Rest and Recovery?

Ans. The Principle of Rest and Recovery is a fundamental concept in sports training that emphasises the importance of allowing adequate time for the body to recover and adapt to the stresses of physical activity. It recognises that rest and recovery periods are essential for physiological repair, muscle growth and performance improvement. Proper rest periods, sleep and active recovery techniques help prevent overtraining, reduce the risk of injuries and optimise athletic performance.

4. What do you mean by training load?

Ans. Training load refers to the amount and intensity of physical stress placed on an athlete's body during training or competition. It encompasses various factors such as the duration, frequency and intensity of training sessions or matches. Training load is an essential consideration in sports performance as it influences adaptation, conditioning and the risk of injury. Monitoring and managing training load help optimise performance and prevent overtraining or undertraining.

5. Define adaptation.

Ans. The adjustment of physical and psychological functioning systems to the training load is referred to as adaptation. Adapting to a load leads to an increase in performance capacity. As a result of the adaptation process, a sportsperson might improve her/his performance. The adaptation process necessitates that a sportsperson trains consistently.

6. Sameer used to do 10 laps in swimming in the given time. His coach asked him to do 20 laps in the same time. Sameer used to feel exhausted initially but slowly did the needful. How would you explain this?

Ans. Sameer's coach implemented a progressive overload strategy in his training. By increasing the number of laps from 10 to 20, the coach challenged Sameer's body to adapt to a higher training load. Initially feeling exhausted is normal as the body adjusts to the increased demand. However, with consistent training and gradual adaptation, Sameer was able to improve his endurance and successfully complete the 20 laps within the given time. This demonstrates the principle of gradual progression in sports training.

7. Define recovery.

Ans. Recovery refers to the process of allowing the body to rest, repair and restore itself after physical exertion. It involves activities and strategies aimed at reducing fatigue, inflammation and muscle damage while promoting physiological and psychological restoration. Adequate recovery is essential for optimising performance, preventing overtraining, reducing the risk of injuries and ensuring long-term athletic development. It includes elements such as rest periods, sleep, nutrition, hydration, stretching and other active recovery techniques.

8. What does a SWOT analysis involve in sports strategy?

Ans. A SWOT analysis involves analyzing the team's strengths, weaknesses, opportunities and threats to identify the best approach for winning.

9. Why is warming-up important? Give five points.

Ans. Warming-up is important because all the experts have agreed that performance in sports can be remarkably improved by warming-up. The five point are as under:

- **To raise the body temperature:** When the body is warmed-up properly the temperature of muscles increases. This improves the flexibility of muscles and strengthens contraction force. The rate of contraction and relaxation also increases. Therefore the body becomes ready for intensive activities without the risk of damage such as tearing of muscle fibres.
- **To decrease the viscosity of muscles:** At the start of an exercise, concentration of previously unused muscles is irregular and weak and the relaxation is incomplete. As the activity progresses, the contraction becomes stronger and regular and the relaxation is complete. This is the result of reduction in the viscosity of muscles.
- **To increase the speed of the nerve impulses:** During warming-up the body is stimulated and the speed of nerve impulses increases. This enhances reaction time which is an important factor in every sport.
- **To reduce muscle capillaries resistance:**

Many studies indicate that warming-up reduces muscle capillaries resistance.

- **To reduce anxiety and tension:** Warming-up helps athletes to suppress anxieties and tensions by bringing up their confidence level, more importantly at the games.

10. Differentiate between passive warming-up and active warming-up.

Ans.
- **Passive warming-up:** When a body is subjected to increase in temperature through external means and without undergoing any physical activity, then this process is known as passive warming-up. It can be done by wearing heavy uniforms, massage, hot water, steam, sunlight, hot drinks etc. As no energy is used in this process, it is an efficient method. But it should be accompanied by active warming-up in order to achieve positive outcomes.
- **Active warming-up:** Active warming-up involves direct participation of an athlete in various physical exercises like jogging, stretching etc. In short, these activities help sportspersons to perform better.

11. Give two examples of stretches used for limbering down.

Ans. The two stretches used in limbering down are:

- **Hamstrings:** Lie on your back, then raise and stretch one leg directly above the hips. Holding the calf or thigh, press the heel of the stretched leg towards the ceiling as you lower the leg back towards the chest. Repeat the same stretch with the other leg.
- **Chest:** Stand erect and interlace your fingers behind your back. Straighten your arms as you lift your chin towards the ceiling.

12. What is the aim of tactical preparation in sports?

Ans. The aim of tactical preparation in sports is to inspire and encourage cognitive and competitive tactics, enabling athletes to make the best use of their motor and technical abilities during competitions.

D. Short Answer Type-II Questions

1. Briefly describe the concept of sports training.

Ans. Sports training is a systematic and structured process of preparing athletes physically, mentally, and skilfully for their respective sports. It involves a combination of exercises, drills, and activities aimed at improving various components such as strength, speed, endurance, agility, technique and tactical understanding. The word 'sport training' has been basically defined as the training in which an individual is taught knowledge and skills required for a particular task. In the context of the sports, training has been defined as under:

According to Harre, "A training based on scientific knowledge and a pedagogical process of sports perfection which, through systematic effect on psycho-physical performance ability and performance readiness, aims at leading a sportsman to top level of performance."

2. Differentiate between the Principle of Continuity and the Principle of Cyclicity.

Ans. The Principle of Continuity: This principle stresses on the importance of a continuous training process. According to it, there should not be prolonged periods of inactivity between each training session. Discontinuity often results in decreased physical abilities of sportspersons.

The Principle of Cyclicity: In sports training, there are different types of training cycles such as marcocycle, mesocycle and microcycle. Macrocycle is the longest and its period is almost 3 to 12 months. Mesocycle has medium period of three to six weeks while microcycle is the shortest of them as it has duration of only three to ten days.

3. How would you differentiate between the Principle of Specificity and the Principle of Variation?

Ans. The Principle of Specificity: The basis of this principle is that the only way to develop a particular component of the body is by improving its strength and skills to the maximum.

The Principle of Variation: As the training progresses, the monotony of load and recovery causes sportspersons as well as the coach to lose interest and the sessions become dull. To avoid this the coach must introduce variety in the process such as changing the session timing and duration, the volume and intensity of the workout, the environment, etc. It helps in preserving the interest and enthusiasm of the athlete.

4. Create a mind map explaining the Principles of Sports Training.

Ans. Refer to pages 159-160 of the book.

5. What is the meaning of overload?

Ans. In the context of sports training, overload refers to the deliberate application of a greater physical or physiological stress than what the athlete is accustomed to. It involves challenging

the body's existing capacities and pushing beyond its comfort zone to promote adaptation and improvement. By gradually increasing the intensity, duration, or volume of training, overload stimulates the body to make physiological changes, such as increased muscle strength, cardiovascular endurance, or skill acquisition. However, it is essential to balance overload with appropriate recovery to prevent overtraining and minimise the risk of injuries.

6. Make a table and list the performance related symptoms of overload.

Ans. Find below the table listing performance- related symptoms of overload:

Performance-Related Symptoms of Overload
Lack of rhythm and flow in movement
Slowness in correction and differentiation
Inability to focus
Tense movements
Re-occurrence of previously corrected error and tendency to make technical errors
Decrease in strength, speed, and endurance abilities,
Slow recovery
Reduced motivation and enthusiasm
Decreased concentration and focus
Mood disturbances, irritability or mood swings

7. Discuss the concept of warming-up and its types.

Ans. Refer to pages 163–164 of the book.

8. Describe the methods of warming-up that you have learned.

Ans. Refer to pages 164–165 of the book.

9. Enumerate and explain the guiding principles of warming-up.

Ans. Refer to page 167 of the book.

10. Write an essay on the classification of skills.

Ans. Refer to page 170 of the book.

11. How does strategising improve team synchronisation?

Ans. Strategising aligns each member of the team with the same end goal, enhancing morale and motivation.

12. What factors can affect tactics in sports?

Ans. Factors that can affect tactics in sports include the opposition, including their strengths and weaknesses, players available for selection, the significance of the game or match and possibly even the weather.

E. Long Answer Type Questions

1. Make a list of the principles of sports training and describe at least eight of them.

Ans. The principles of sports training are:

- The principle of continuity
- The principle of Periodisation
- The principle of overload
- The principle of progression of Load
- The principle of rest and recovery
- The principle of individual differences
- The principle of general and specific preparation
- The principle of specificity
- The principle of active involvement
- The principle of variety
- The principle of warm-up and cool down
- The principle of ensuring results
- The principle of cyclicity.

Description:

- **The principle of general and specific preparation:** It plays an important role in improving performance. It acts as a frame work for specific preparation.
- **The principal of active involvement:** It is necessary to gain the advantage of a training programme. The combined efforts of an athlete and her/his coach determine the degree of the performance.
- **The principle of specificity:** The basis of this principle is that the only way to develop a particular component of the body is by improving its strength and skills to the maximum.
- **The principle of rest and recovery:** An athlete's body needs rest and recovery to revitalise and become better and stronger than earlier. A training programme should include proper rest and a recovery period between each session.
- **The principle of warm-up and cool down:** Warm-up is a process of increasing blood flow to the working muscles which in turn raises the body temperature and prepare the body for more intense exercises. On the

other hand, cooling down facilitates the flow of blood to vital organs and eliminates waste products after each training.

- **The principal of cyclicity:** There are different types of training cycles such as macrocycle, mesocycle and microcycle.

  Macrocycle is the longest and lasts up to three to 12 months. Mesocycle has a medium period of three to six weeks. Microcycle is the shortest of all the cycles. It has duration only three to ten days.

2. Discuss the importance of warming-up in sports.

Ans. The importance of warming-up are as under:

- raises the body temperature
- Decreases the viscosity of muscles
- Increases the speed of the nerve impulses
- Reduces muscle capillaries resistance
- Increases the speed of transfer of oxygen
- Increases metabolic rate
- Reduces anxiety and tension
- Boosts cooling efficiency
- Reduces the blood lactic acid
- Avoids injury
- Increases the speed of muscles
- Increases flexibility
- Increases strength
- Increases endurance
- Increases explosive power
- Improves specific skills
- Improves neuromuscular coordination
- Warming-up brings second wind more readily

For brief explanation, refer pages 165–166 of the textbook.

3. What are the physiological bases of warming-up?

Ans. Physiological bases of warming-up are as under:

- Increases body temperature
- Decreases the viscosity of muscles
- Increases the speed of nerve impulses
- Decreases the resistance in muscle capillaries
- Increases the speed of transfer of oxygen and fuel to tissues
- Increases the metabolic rate
- Reduces the blood lactic acid
- Increases the working capacity.

For more details, refer pages 166–167 of the textbook.

4. Discuss the importance of limbering down in sports.

Ans. Limbering down restores the body's normal temperature, i.e. when normal temperature exceeds due to intense and vigorous activity or competition then the proper cooling brings it down to its normal value. The importance of limbering down in sports are:

- It eliminates waste products
- It helps in reducing tensions
- It also decreases the chances of dizziness or fainting
- Helps in supplying oxygen
- Decreases adrenaline in the blood
- It does not allow muscles to remain stiff
- Above all it helps to get heart rate to a normal state.

5. What are the key differences between tactics and strategy in sports, and how can they be effectively utilised together to achieve success?

Ans. Tactics refer to the skills and methods used by players or teams to outwit opponents and achieve the overarching objective of winning the competition. On the other hand, strategy involves setting long-term goals and creating a plan to achieve them, including identifying the team's strengths and weaknesses and developing a game plan to win. While tactics are the actual realization of strategy in practice, strategy provides the overall framework for successful participation.

To achieve success, it is essential to effectively utilise both tactics and strategy, with tactics being adapted during the game to adapt to the opposition's strategies while keeping the overall strategy in mind. By aligning each member of the team with the same end goal and enhancing morale and motivation, strategising can improve team synchronisation, resulting in improved performance.

6. Discuss the various symptoms of overload.

Ans. Refer to page 162 of the book.

7. Briefly discuss the relationship between recovery and adaptation.

Ans. Refer to page 163 of the book.

8. What is WADA? What is its role in doping? Discuss in detail.

Ans. WADA stands for the World Anti-Doping Agency. It is an international independent organisation created to promote, coordinate and monitor the fight against doping in sports. WADA's role in doping is comprehensive and multifaceted. Here are the key aspects of its work:

(i) **Code and Standards:** WADA developed the World Anti-Doping Code, a set of rules and regulations harmonising anti-doping policies globally. The Code establishes the framework for anti-doping practices, including prohibited substances and methods, testing protocols, athlete whereabouts requirements, therapeutic use exemptions and sanctions for violations.

(ii) **Prohibited List:** WADA publishes and updates the List of Prohibited Substances and Methods annually. This list outlines substances and methods banned both in and out of competition to ensure fair play and protect athletes' health.

(iii) **Testing and Research:** WADA coordinates and supports anti-doping testing programs worldwide. It works with sports organisations and national anti-doping agencies to conduct both in-competition and out-of-competition testing. WADA also promotes research to improve detection methods and enhance anti-doping techniques.

(iv) **Education and Prevention:** WADA focuses on educating athletes, coaches and support personnel about the dangers and consequences of doping. It develops educational resources and programs to raise awareness, promote clean sport values, and prevent doping through ethical decision-making and integrity.

(v) **Compliance Monitoring:** WADA monitors compliance with the World Anti-Doping Code by overseeing the implementation of anti-doping programs by national anti-doping organisations, international federations and major event organisers. It reviews policies, procedures and testing protocols to ensure consistency and effectiveness.

(vi) **Investigations and Intelligence:** WADA is involved in investigating allegations and collecting intelligence on potential anti-doping rule violations. It collaborates with law enforcement agencies, conducts inquiries, and provides support to anti-doping organisations in gathering evidence.

(vii) **Code Compliance and Sanctions:** WADA has the authority to declare a country or sport non-compliant with the World Anti-Doping Code. Non-compliance can lead to consequences such as restrictions on participation in international competitions. WADA also adjudicates appeals related to anti-doping rule violations and applies appropriate sanctions.

Overall, WADA plays a crucial role in the global fight against doping, ensuring fair and clean sport by establishing standards, conducting testing, promoting education, monitoring compliance and taking actions against those who violate anti-doping regulations.

9. What is doping? What are its disadvantages?

Ans. Doping refers to the use of prohibited substances, methods, or practices by athletes to gain an unfair advantage in sports performance. It involves the administration of substances such as anabolic steroids, hormones, stimulants, or blood doping to enhance physical strength, endurance, or recovery.

The disadvantages of doping are significant. Firstly, it undermines the spirit of fair play and integrity in sports, eroding the essence of true competition. Doping also poses serious health risks, including cardiovascular problems, organ damage, hormonal imbalances, and psychological disorders. It creates an uneven playing field, compromising the legitimacy of results and denying clean athletes their rightful achievements. Doping tarnishes the reputation of athletes, sports organisations, and the overall credibility of the sport, eroding public trust and fan engagement.