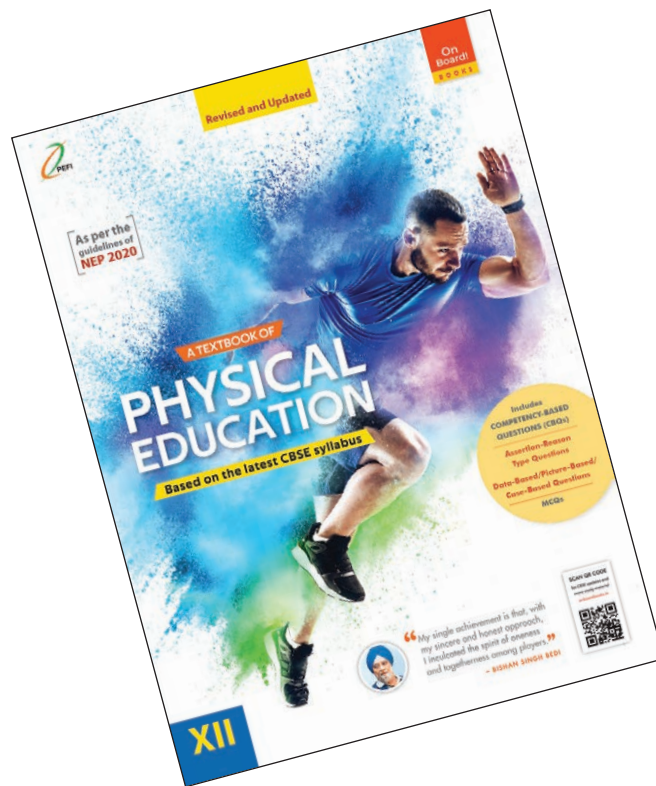


TEACHER'S HANDBOOK

A TEXTBOOK OF PHYSICAL EDUCATION Book 12



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CHAPTER 1
MANAGEMENT OF SPORTING EVENTS

P. 28–32

A. Objective Type/ Multiple-Choice Questions

I. Multiple-Choice Questions:

1. Identify which one of these is not the objective of planning? (CBSE SP 2021 Term 1)
 - (a) Enhance creativity
 - (b) Increase efficiency
 - (c) Reduce chances of mistake
 - (d) Facilitates poor coordination

Ans. (d) Facilitates poor coordination
2. What is the meaning of staffing?
 - (a) Interviewing staff
 - (b) Selecting and recruiting staff
 - (c) Promoting staff
 - (d) All of these

Ans. (b) Selecting and recruiting staff
3. Which of the following are salient aspects of a tournament?
 - (a) Nurturing social skills
 - (b) Means of recreation
 - (c) Promoting national and international integration
 - (d) All of these

Ans. (d) All of these
4. Which fixture is also known as 'Berger system'? (CBSE SP 2021 Term 1)
 - (a) Knockout fixture
 - (b) Round Robin fixture
 - (c) Combination fixture
 - (d) Challenge tournament

Ans. (b) Round Robin fixture
5. What is the formula to determine number of matches in League fixture for even number of teams? (CBSE SP 2024)
 - (a) $\frac{N+1}{2}$
 - (b) $\frac{N-1}{2}$
 - (c) $\frac{N(N-1)}{2}$
 - (d) $\frac{N(N+1)}{2}$

Ans. (c) $\frac{N(N-1)}{2}$
6. Knockout tournament is also known as (CBSE 2023)
 - (a) elimination tournament.

- (b) Round Robin tournament.
- (c) league tournament.
- (d) challenge tournament.

Ans. (a) elimination tournament.

7. The formula for determining the number of rounds in a single league fixture when the number of teams is even? (CBSE SP 2021 Term 1)

- (a) N
- (b) $(N - 1)/2$
- (c) N - 1
- (d) $N(N - 1)/2$

Ans. (c) N - 1

8. What is the formula to divide an odd number of teams in the upper half for a knockout fixture? (CBSE SP 2021 Term 1)

- (a) $(N + 1)/2$
- (b) $(N - 1)/2$
- (c) $N(N - 1)/2$
- (d) $N(N + 1)/2$

Ans. (a) $(N + 1)/2$

9. Formula for determining the number of bye in the lower half of a knockout fixture when number of byes are odd? (CBSE SP 2021 Term 1)

- (a) $(NB + 1)/2$
- (b) $(NB - 1)/2$
- (c) $NB / 2$
- (d) $NB + 1$

Ans. (a) $(NB + 1)/2$

10. How many byes will be given if there are 17 teams? (CBSE SP 2022)

- (a) 1
- (b) 8
- (c) 15
- (d) 12

Ans. (c) 15

11. How many total matches will be played in a knockout fixture of 19 teams? (CBSE 2023)

- (a) 18
- (b) 17
- (c) 20
- (d) 16

Ans. (a) 18

12. Which one of the following is an advantage of Round Robin tournament? (CBSE 2020)

- (a) Time consuming
- (b) More number of officials
- (c) Expensive
- (d) Decides the real strong team

Ans. (d) Decides the real strong team

13. The total number of matches in a knockout tournament of 34 teams are (CBSE 2020)

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

Ans. (c) 33

14. How many rounds will be played if the number of teams are 29 in the knockout fixture?

(CBSE SP 2021 Term 1)

- (a) 5 (b) 6
(c) 7 (d) 3

Ans. (d) 3

15. Mr Gopi, Physical Education Teacher of a reputed CBSE school has decided to conduct an Inter School Kabaddi tournament in his school premises after proper drawing of fixtures. He consulted the Management and the Principal to conduct the Tournament of Inter School Kabaddi pattern but the Physical Education Teacher was not aware of Inter School Kabaddi Tournament. So, he discussed with the National Kabaddi Referee Association. Which of the following is the best method to organise this kind of tournament?

(CBSE SP 2024)

- (a) Knockout (b) League
(c) Ladder (d) Pyramid

Ans. (b) League

16. Which of these is not one of the methods used for fixtures in League or Round Robin tournaments?

- (a) Cyclic method (b) Spiral method
(c) Staircase method (d) Tabular method

Ans. (b) Spiral method

17. Consolation tournaments are a part of which type of fixture?

(CBSE SP 2021 Term 1)

- (a) Knockout (b) League
(c) Combination (d) None of these

Ans. (a) Knockout

18. What are the major objectives of intramurals?

- (a) To establish physical education
(b) To accommodate greater number of participants
(c) To promote positive values in students
(d) All of these

Ans. (a) To establish physical education

19. The primary goal of Intramural competition is

(CBSE 2020)

- (a) to provide opportunity for mass participation of students.
(b) to participate in inter-school competition.
(c) to provide intra-school competition.
(d) all of these.

Ans. (a) to provide opportunity for mass participation of students.

20. Which of the following is not a category of run?

- (a) Run for identity
(b) Run for fun
(c) Run for specific causes
(d) Run for unity

Ans. (a) Run for identity

21. What is the purpose of a sports day in Indian schools?

- (a) To focus heavily on academics.
(b) To spread awareness of physical health.
(c) To establish a sports culture and perfect physical skills of the students.
(d) To promote health and well-being among people of all ages.

Ans. (c) To establish a sports culture and perfect physical skills of the students.

II. Match the following:

List I – Category

- (i) Technical committee
(ii) Finance committee
(iii) Transport committee
(iv) First aid committee

List II – Name

- (1) To provide shifting facility
(2) To resolve dispute
(3) To deals with money and expenditure
(4) To provide medical facilities

Select the correct set of options:

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

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

III. Assertion-Reason Type Questions:

CBQ

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

1. A: Knockout tournaments save cost and time and make each match intensive.

R: In this type of format, players or teams have to consistently give their best performance to avoid elimination.

2. A: Planning is the foremost function in sports.

R: Planning gives a view of future course of action.

(CBSE SP 2020)

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

Given below is the tournament fixture procedure of national competition. (CBSE 2023)

1-2								
1-3	2-3							
1-4	2-4	3-4						
1-5	2-5	3-5	4-5					
1-6	2-6	3-6	4-6	5-6				
1-7	2-7	3-7	4-7	5-7	6-7			
1-8	2-8	3-8	4-8	5-8	6-8	7-8		

On the basis of the above fixture, answer the following questions:

1. Which method is shown in the picture to draw fixture in league tournament?
2. What is the formula to calculate number of matches?
3. In league or Round Robin tournament winner will be decided on the basis of
4. If 7 teams participate in a league tournament, number of matches will be played.

- Ans.** (a) Staircase Method
 (b) $\frac{N(N-1)}{2}$
 (c) The team with the highest points wins the tournament.
 (d) 21

V. Picture-Based Questions: CBQ

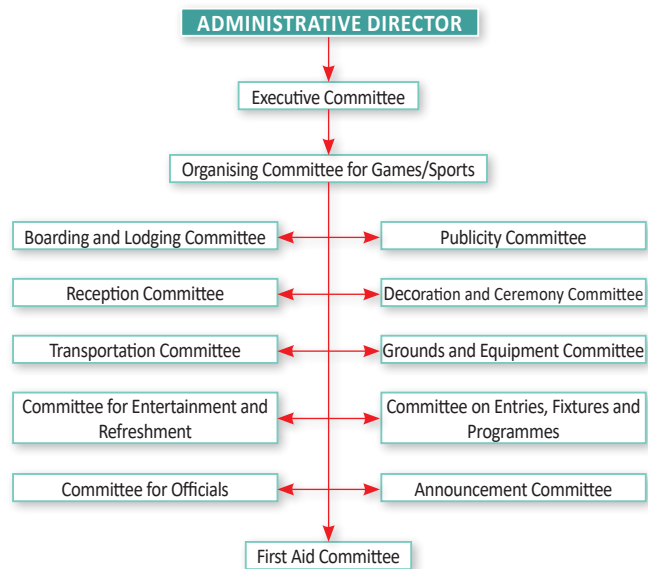
Your school is organising annual sports day. To make this event successful, write the names of any four important committees with one responsibility.



- Ans.** (i) **Publicity Committee:** Advertise the event
 (ii) **Finance Committee:** To deal with money and expenditure
 (iii) **Reception Committee:** To welcome chief guest and players
 (iv) **Announcement Committee:** Make announcements regarding opening and closing ceremony.

VI. Case-Based Questions: CBQ

1. While organising sports events for the Annual Sports Day, Arjun and Ravi being the captain and vice captain of sports, formed various committees as shown below:



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

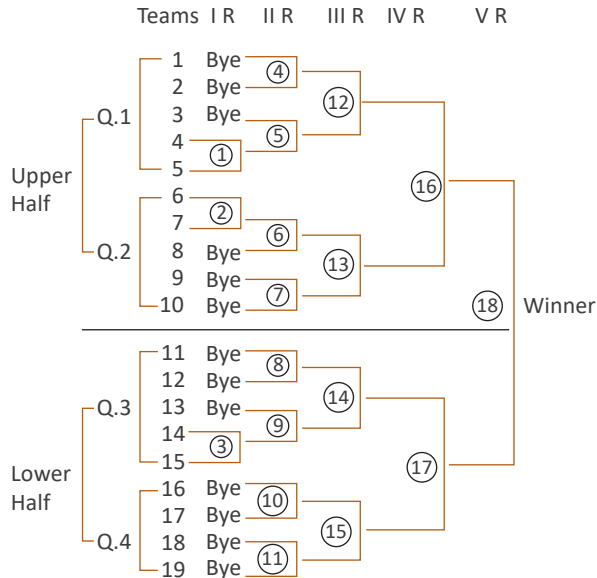
- (a) The members of this committee are responsible for welcoming guests and spectators
- (b) The Committee responsible for liaison with print media is the Committee.
- (c) Purchase of sports equipment is a work of the Committee.
- (d) Publication of rules and regulations should be done by

OR

- (d) To prepare a proper score sheet for record is responsibility.

- Ans.** (a) Logistic Committee
 (b) Marketing Committee
 (c) Finance Committee
 (d) Pre Event
- OR
- (d) During Responsibility

2. On the basis of fixture given below, answer the following questions: (CBSE SP 2022)



- Total number of matches in second round are
- What is the formula for calculating the total number of matches?
- The fourth round in this case can also be called as
- What is the formula for calculating the number of byes?

OR

- The formula for calculating number of rounds is

Ans. (a) 8, (b) $N - 1$, (c) Semi-final, (d) $2^n - N$

B. Very Short Answer Type Questions

1. What do you mean by planning? (CBSE 2016)

Ans. Planning is a course of action in order to reach a definite goal.

2. Round Robin tournament is of two types. Name them and give one major difference between them. (CBSE 2017)

Ans. Single league tournament and double league tournament. In single league tournament, each team/player plays against every other participant once. In double league tournament, each team/ player plays against every other participant twice.

3. Fixtures are the schedule, fixed for the matches. What is a bye? (CBSE 2017)

Ans. A bye is a dummy team that participates in the second round to even out the number. The number of byes in a fixture is the difference

between the number of participants and the next highest number which is the power of 2.

4. What is seeding? (CBSE 2011, 2012)

Ans. Seeding is a tactic used in sports events in which specific teams are sorted into a bracket in such a way that the strongest teams meet later in the tournament.

5. Write the formula for giving a bye. (CBSE 2016)

Ans. The number of byes in a fixture is the difference between the number of participants and the next highest number which is the power of 2. If there are two very strong teams, one will be placed on the top of the upper half and the other at the bottom of the lower half. If there are four strong teams, then the third will be placed on the top of the lower half, and the fourth at the bottom of the upper half. This usually works if the number of teams to be seeded are the power of 2. Save for seeded teams, the rest are divided by drawing lots.

6. What is a consolation tournament?

Ans. A consolation tournament is held to give second chance to defeated players in knockout tournaments.

7. What is the meaning of the word 'intramural'?

Ans. The word 'intramural' is derived from Greek: 'intra' for 'within', and 'mural' for 'walls'.

8. What are the two important considerations when selecting intramural activities?

Ans. The facilities available at the school and the interests of the students.

9. What are the advantages of sports days in schools?

Ans. The advantages of sports days are establishing a sports culture in the school, scouting talents, strengthening the role and importance of physical education, inculcating attractive qualities in students, unifying students, and providing a healthy and active source of recreation.

10. What is the purpose of a run for specific causes?

Ans. The purpose of a run for specific causes is to raise funds for chosen causes and act as awareness campaigns.

C. Short Answer Type-I Questions

1. Define sports management.

Ans. Sports management can be defined as the coordination of resources, technologies, processes, personnel and situational contingencies for the efficient production and exchange of sports services.

2. What is a short-term planning? Explain giving a suitable example.

Ans. Short-term planning is setting goals that the organisation hopes to achieve within the next few months to a year. For example, an athletic shoe firm could aim to buy enough inventory of a specific model of shoe so that its salesperson can stock suppliers with enough shoes to match customer demand for the future year.

3. State the responsibilities of finance committee.

Ans. Finance Committee is primarily related to financial management for the sport event. It prepares budget to purchase equipment, medals, etc. before the sport event. During the event, the finance committee checks the cash flow, payments, remuneration of officials, etc. This committee settles all the bills, prepares report, etc. once the event is over.

4. What are the different types of league tournaments?

Ans. There are two types of league tournament. Single league tournament, in which each team player plays against every other participant once or double league tournament, in which each team/player plays against every other participant twice.

5. Write any two advantages of league tournament.

Ans. Advantages of League or Round Robin Tournaments

- Leagues give each participant a chance to prove itself against every opponent involved in the tournament. As such, there is no question of missed opportunities. It is a fair way of determining the best and most consistent competitor. Many footballs and cricket tournaments use this approach.
- There is no such thing as getting lucky in round robins. Even if a team defeats another in the first round due to sheer luck, it will still have to outperform the others.

6. Define the term fixture. (CBSE 2018)

Ans. Fixture is a sport event or its date. Further, it is a process of arranging the team in systematic order in various groups for competitive fights for physical activity.

7. How are byes fixed in a knockout tournament?

Ans. First of all, lots will be drawn and the total number of teams will be divided into 2 two halves. Following that, byes will be fixed in the following manner:

- The first bye goes to the last team of the lower half, and the second to the first team of the upper half.

- The third bye goes to the first team of the lower half, and the fourth to the last team of the upper half.

- This sequence will be followed while assigning the next bye or byes.

8. Explain briefly the cyclic method.

Ans. Cyclic method: Cyclic method has different applications for even and odd numbers of teams. In the former case, the 1st team is placed at the top of the right hand side. The remaining team numbers are put in ascending order consecutively and then upward on the left side. In the latter, the bye is fixed on the top of the right side, and then followed by the rest of the procedure. Teams are rotated from right to left.

If N (number of teams) is even, the number of rounds will be $(N - 1)$.

9. What is the role of intramural competitions in promoting physical education in schools?

Ans. Intramural competitions promote physical education by teaching students to associate exercise with fun. They make sports an exciting part of their lives in which they can excel. This way, physical education also earns a more vital role in the school curriculum.

10. How do intramural competitions promote positive values in students?

Ans. Regular organisation of intramurals instils positive values in the students since their involvement in sports increases. These values are about cooperation, leadership, grit, mental alertness and determination.

11. What is the role of community sports in promoting health and well-being?

Ans. Community sports promote health and well-being among people of all ages, including school children, adults, elders and vulnerable populations. They serve as a foundation for health promotion initiatives within a community.

12. What are the benefits of health runs?

Ans. The benefits of health runs are promotion of health and physical fitness, unification of people from various social groups and communities, and the fact that anyone can participate.

D. Short Answer Type-II Questions

1. Create a mind map depicting the functions of sports management.

Ans.



2. Briefly explain the functions of directing and controlling to organise sport event. (CBSE 2023)

Ans. Directing in organising a sports event involves providing leadership, coordination, motivation, decision-making and problem-solving to guide stakeholders towards the event's objectives. Controlling entails monitoring, quality assurance, risk management, feedback collection and budget management to ensure the event progresses smoothly, meets standards, manages risks, gathers input for improvement, and remains within budget constraints.

3. Your school is organising 'Run for Unity'. Explain the responsibilities of accreditation, technical and finance committee. (CBSE 2016)

Ans.

- **Accreditation committee:** This committee registers all the participants with an operational role. The production, distribution and validation of passes is the duty of this committee.
- **Technical committee:** Technical committee looks after the technical aspects of the tournament. It ensures that the field is safe for play for all participants. It ensures the quality of equipment.
- **Finance committee:** This committee prepares the budget of the tournament and maintains every expenditure related to tournament.

4. What should be the role of technical and marketing committee while organising the event?

Ans. The technical committee oversees sport-specific aspects like rules, officiating and venue preparation to ensure fairness and adherence to standards. The marketing committee promotes the event, manages branding, ticketing, and sponsorship to maximize visibility, attendance,

and revenue. Both committees collaborate closely to harmonise technical requirements with marketing strategies for a successful and engaging sports event.

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

(CBSE 2020)

Ans. League or Round Robin tournament, as opposed to knockouts, allows each team or player to compete against every other participant in the tournament. A league tournament is a better way to determine the best team in a tournament because each team has the most opportunities to show its efficiency. Teams and players have a lot of chances to show and improve her/his performance. The teams which score more points are eligible for next matches in the tournament.

- Leagues give each participant a chance to prove itself against every opponent involved in the tournament. As such, there is no question of missed opportunities. It is a fair way of determining the best and most consistent competitor. Many footballs and cricket tournaments use this approach.
- There is no such thing as getting lucky in round robins. Even if a team defeats another in the first round due to sheer luck, it will still have to outperform the others.
- Since leagues accurately measure the performances of a particular team or player, their strengths and weaknesses can be evaluated with greater certainty.
- League tournaments tend to be popular and also earn a lot of revenue. Fans get to cheer their players/teams through a greater number of matches. (any three)

6. Make a table explaining is the difference between Round Robin and knockout.

Ans.	Round Robin	Knockout
	League or round Robin tournament, as opposed to knockouts, allows each team or player to compete against every other participant in the tournament. This can be either of two variations: single league tournament, in which each team/player plays against every other participant once or double league tournament, in which each team/player plays against every other participant twice.	In knockout tournaments, the defeated team or player is eliminated with no scope of participating further. As for the winner, they continue competing against other opponents until they eventually lose or win the tournament.

7. Define bye. Explain the rules of giving bye with the help of an example. (CBSE SP 2022)

Ans. Bye: When a team or a player does not face an opponent in the primary round due to allotment of draws, random lottery system is used to give a bye to any participating team/player. In a tournament, the organising committee assigns byes to the teams due to many reasons. They are as follows:

- Uneven distribution of teams in tournament
- Keeping previous winners in different pool to create balanced competition
- Avoiding one particular team from playing more matches on a single day than the other teams.

First of all, lots will be drawn and the total number of teams will be divided into 2 two halves. Following that, byes will be fixed in the following manner:

- The first bye goes to the last team of the lower half, and the second to the first team of the upper half.
- The third bye goes to the first team of the lower half, and the fourth to the last team of the upper half.
- This sequence will be followed while assigning the next bye or byes.

8. Draw a fixture of 11 football teams participating in a tournament on the basis of a knockout.

(CBSE 2016)

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

9. How many rounds will be there in a knockout of (a) 10 teams and (b) 13 teams?

Ans. (a) When the number of participating teams or players (N) is the power of two (i.e. 2, 4, 8, 16, 32, and so on), then number of rounds will be the number of 2's making up N. For instance, when

N = 10, number of rounds will be

$$2 \times 2 \times 2 \times 2 = \text{three } 4\text{s} = 4,$$

(b) N = 13, number of rounds will be

$$2 \times 2 \times 2 \times 2 = \text{four } 2\text{s} = 4.$$

When N is not the power of 2, the number of rounds will be based on the next highest power of 2.

10. Differentiate between the cyclic method and staircase method.

Ans. Cyclic method: Cyclic method has different applications for even and odd numbers of

teams. In the former case, the 1st team is placed at the top of the right hand side. The remaining team numbers are put in ascending order consecutively and then upward on the left side. In the latter, the bye is fixed on the top of the right side, and then followed by the rest of the procedure. Teams are rotated from right to left.

If N (number of teams) is even, the number of rounds will be $(N - 1)$.

Staircase method: In this type, fixtures are arranged in such a way that it resembles a ladder or a staircase. There is no need to give byes to any team as there is no issue of odd or even number of teams.

11. Why should intramurals be encouraged and made an annual event in the school calendar in India?

Ans. In India, where physical education does not enjoy the kind of importance it has in western schools, intramurals should be encouraged and made an annual event in the school calendar. Parents should get involved in the organisation and the competitions should be properly planned and carried out.

12. Write three differences between intramurals and extramurals. (CBSE 2017)

Ans. Intramurals and extramurals are both types of sports programs, but there are some differences between them. Here are three differences:

(i) **Definition and Scope:** Intramurals are sports programs that are held within a single institution or organisation, such as a school or a workplace. On the other hand, extramurals are sports programs that involve multiple institutions or organisations competing against each other.

(ii) **Level of Competition:** Intramurals are usually less competitive than extramurals, as they are designed to be more inclusive and allow for participation by individuals of all skill levels. Extramurals, on the other hand, are more competitive and typically involve more skilled athletes competing against each other.

(iii) **Purpose:** The purpose of intramurals is to promote physical fitness, health and well-being, and social interaction among the members of a single institution or organisation. In contrast, the purpose of extramurals is to provide opportunities for competitive sports and to foster a sense of pride and identity among the members of different institutions or organisations.

13. What are the points to keep in mind while participating in health runs?

Ans. The points to keep in mind while participating in health runs are: exercise regularly in advance, stay hydrated, relax arms, shoulders, necks, hips, etc., use the right breathing technique, keep torso erect, and avoid swift running.

14. How is a run for fun different from a health run?

Ans. Run for fun is light-hearted and recreational, while health runs focus on promoting physical fitness and unification of people.

E. Long Answer Type Questions

1. Describe how various planning committees function in sports events.

Ans. Various planning committees function in the following manner in a sports event.

- **Publicity committee:** The publicity committee completes this preparation before the games. During the games they maintain the interest level for the games with proper advertisement. They also coordinate with the media for coverage during and after the games.
- **Boarding and lodging committee:** This committee takes care of accommodation and meals for the players, officials, and other members involved in the event. Before the games, they confirm the bookings. Once the tournament has started, they keep track of all boarding and lodgings, switches between departures and new arrivals, etc.
- **Transport committee:** The transport committee handles transportation facilities for the players, officials, etc. They arrange for buses and other vehicles to take the players and officials to the venue of the games from the places where they are staying.
- **Grounds and equipment committee:** This committee has the responsibility of ensuring that the grounds, fields, courts, etc. are in top condition. They also check the equipment and other gears to be used in the games to ensure that no mishap occurs and that plenty of equipment is available for all the players.
- **Refreshment and entertainment committee:** They supply drinks and refreshments to the guests, players, officials and other invitees. The entertainment programmes, such as opening song, closing dance, etc. are also arranged by this committee in advance.

- **Reception committee:** The reception committee welcomes the guests, players, officials, audiences, etc. during the opening and closing ceremonies.

- **Decoration and ceremony committee:** They decorate the viewing areas and stages so that the venue looks attractive. This committee is also charged with arranging for certificates, medals and trophies.

- **Committees on entries and programmes:** The committee on entries and programmes are tasked with sending out entry forms to various institutions early so that the latter can send in their applications on time. The committee then allots slots to the competitors, prepares fixtures if required, build a clear-cut schedule of the programmes and prints it so that it may be distributed to all involved parties.

- **Committee for officials:** There are many officials involved in a sporting event: judges, referees, umpires, recorders, starters, time keepers, lap scorers, clerks of the course, announcers, commentators, etc. The committee for officials selects and manages them for smooth functioning of the sports event.

- **Announcement committee:** The announcement committee is responsible for making announcements during the opening and closing ceremonies, games, important information like when an event is going to take place or changes in schedules, names of officials and players, running commentaries, etc.

- **First aid committee:** One of the most important committees in a sports event, the first aid committee works under the supervision of a medical expert. It provides first aid to injured players and ensures that they receive advanced medical attention if the need arises. The first aid team makes all necessary arrangements before the commencement of the sports event.

2. Explain pre-, during and post-game responsibilities of officials of various committees for organising a sports tournament smoothly.

(CBSE 2020)

Ans. Pre-, during and post-game responsibilities of officials of various committees are as follows:

(i) **Technical committee:** Pre-sports event/ tournament: Before the event, it is the job of the technical committee to put forward a requisition to purchase equipment, invitation and confirmation from officials to

conduct sports event, cleaning and layout of the fields, arrangement of equipment and stationery, preparation of fixtures, rules and regulation of the sports event.

- **During sports event/tournament:** While the tournament is in progress, the Technical Committee is responsible for conducting matches, presence of the jury, cleaning and layout of the fields, collection of score sheets and other related papers from officials, preparation of merit list, etc.
- **Post sports event/ tournament:** After the event is over, the Technical Committee arranges for the cleaning and layout of the fields, maintenance of the field, and placing of all equipment back to store.

(ii) **Finance Committee:** Pre sports event/ tournament: Before the event, It is the responsibility of Finance Committee to prepare the budget, to purchase sports equipment, stationery, medals, certificates, and other requirements as desired by the other committees, as well as preparing and finalizing the MoU with sponsors.

- **During sports event/tournament:** During the course of the event, the Finance Committee keeps a check on the outflow and inflow of finances including payment and remuneration to officials.
- **Post sports event/tournament:** Once the event is over, the Finance Committee examines all records related to settlement of the bills and accounts, and prepares the financial report. Refer to textbook for detail.

3. What is a knockout tournament? Explain different types of knockout tournaments. Draw a fixture of 21 teams on a knockout basis.

(CBSE 2012, 2015)

Ans. In boxing, a match is finished when an opponent is knocked down and unable to rise and return to the game within a certain time limit. This is called knockout. The concept of knockout tournaments is somewhat similar. In this type of tournament, the defeated team or player is eliminated with no scope of participating further. As for the winner, they continue competing against other opponents until they eventually lose or win the tournament.

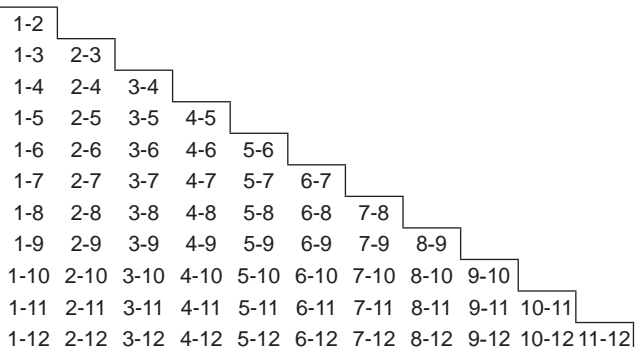
Single knockout tournament, consolation tournament and double knockout tournament are different types of knockout tournament.

See page 19 of the textbook for a fixture of 21 teams on a knockout basis.

4. Draw a fixture of 12 teams on a league basis according to the staircase method. How will you decide a winner in league tournament?

(CBSE 2019)

Ans. Fixture of 12 Team on the basis of staircase method



$$\text{No. of Rounds} = N - 1 = 12 - 1 = 11$$

$$\begin{aligned} \text{No. of matches} &= \frac{N(N-1)}{2} = \frac{12(12-1)}{2} \\ &= \frac{12 \times 11}{2} = \frac{132}{2} = 66 \end{aligned}$$

The following way is used to decide a winner:

- The team that wins the match gets = 2 points.
- The team that loses the match gets = 0 point.
- If match draws then each team gets = 1 point.

After the tournament, all the teams are awarded the score as per their performance and the team which scores maximum is declared winner.

If the points of two teams are equal, then a match is held again between both teams.

5. Mention all calculations and steps involved to draw a knockout fixture of 19 teams, where 4 teams are to be seeded. (CBSE 2018)

$$\text{Ans. Total no. of teams} = 19 (N = 19)$$

$$\begin{aligned} \text{No. of matches} &= (N - 1) \\ &= 19 - 1 = 18 \end{aligned}$$

$$\text{No. of teams in upper half} = \frac{(N + 1)}{2} = 10$$

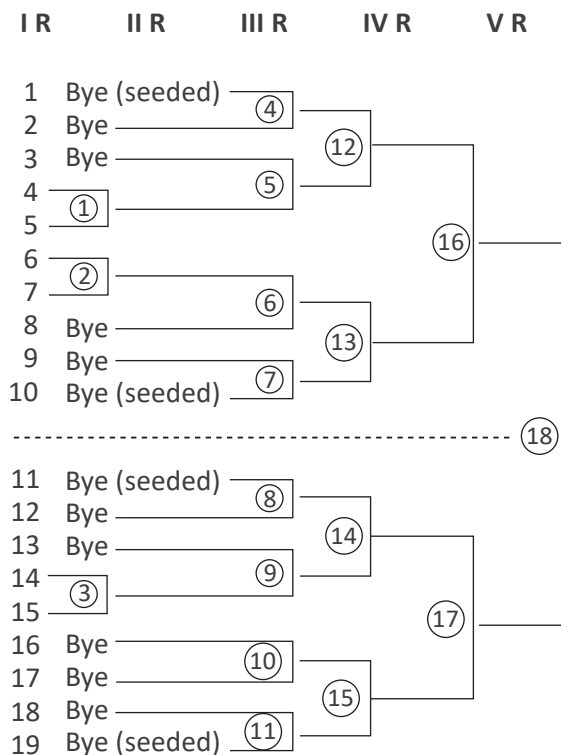
$$\text{No. of teams in lower half} = \frac{(N - 1)}{2} = 9$$

$$\begin{aligned} \text{Total no. of byes (NB)} &= \text{next power of } 2 - N \\ &= 32 - 19 = 13 \end{aligned}$$

$$\text{No. of byes in upper half} = \frac{NB - 1}{2} = 6$$

$$\text{No. of byes in lower half} = \frac{NB + 1}{2} = 7$$

Seeding – 2 teams in upper half with byes
2 teams in lower half with byes



6. Being sports captain of the school, prepare five important committees with their responsibilities to conduct one day Run for Health Race.

(CBSE 2015)

- Ans. (i) **Publicity committee:** The publicity committee completes this preparation before the games. During the games they maintain the interest level for the games with proper advertisement. They also coordinate with the media for coverage during and after the games.
- (ii) **Boarding and lodging committee:** The boarding and lodging committee takes care of accommodation and meals for the players, officials, and other members involved in the event. Before the games, they confirm the bookings. Once the tournament has started, they keep track of all boarding and lodgings, switches between departures and new arrivals, etc. They ensure that the guests are taken care of wherever they are staying. After the event is over, they are in charge of settling the bills and other fees incurred by the guests during their stay.
- (iii) **Transport committee:** The transport committee handles transportation facilities for the players, officials, etc. They arrange for buses and other vehicles to take the players and officials to the venue of the games from the places where they are

staying. Though preparations for logistics begin before the games start, it is during the tournament that the transport committee is at its busiest.

- (iv) **Grounds and equipment committee:** This committee has the responsibility of ensuring that the grounds, fields, courts, etc. are in top condition. They also check the equipment and other gears to be used in the games to ensure that no mishap occurs and that plenty of equipment is available for all the players. Their responsibilities start before the games. During the games, they have to maintain the grounds and equipment, and once the competition is over, they ensure that everything is in place and damaged equipment and areas reported for replacements or repairs.
- (v) **Refreshment and entertainment committee:** They are different from the boarding and lodging committee. They supply drinks and refreshments to the guests, players, officials and other invitees. The entertainment programmes, such as opening song, closing dance, etc. are also arranged by this committee in advance.

7. Explain the major objectives of intramurals in detail.

Ans. There are six major objectives of intramurals:

- (i) **Establishing Physical Education:** Intramurals promote physical education by teaching students to associate exercise with fun. They make sports an exciting part of their lives in which they can excel. In this way, physical education also earns a more vital role in the school curriculum.
- (ii) **Accommodating Greater Number of Participants:** In inter-school competitions, only the best players are handpicked and allowed to compete to bring honour to the school. Intramurals close this gap.
- (iii) **Promoting Positive Values in Students:** Sports have a positive effect on students. These are about cooperation, leadership, grit, mental alertness and determination. Regular organisation of intramurals instils these values in the students since their involvement in sports increases.
- (iv) **Providing Healthy Recreation:** Intramurals are a healthy means of recreation which the students, teachers, school officials and even family members can enjoy and share.

(v) **Introducing New Games:** Intramurals introduce new games to the students which they might not have been aware of previously. In India especially, most children are exposed to only a few variety of games like cricket, football, boxing and badminton. There are many other sports that should be encouraged so that Indians can excel in a greater number of sports.

(vi) **Development of Sportsmanship:** Intramurals develop the spirit of sportsmanship in young students. Students learn how to respect their opponents and the officials overseeing the games, understand the importance to show courage in the face of defeat and accept victories with humility; these are the qualities that lend fortitude to their character.

8. What is the significance of community sports, and how do they help in building social connections and promoting health?

Ans. Community sports play a vital role in society by connecting individuals with opportunities

to participate in sports, exercise and fitness activities. By participating in community sports, individuals can connect with others who share their interests, leading to conversations and social interactions. Regular community sports activities such as cricket, volleyball, football, basketball, and mass activity programs like yoga, aerobics, morning walks, and jogging can help individuals get to know their neighbours and community members better. They can also bond with them over training sessions, practices, victories, and defeats. These activities promote health and well-being among people of all ages, including school children, adults, elders, and vulnerable populations. Community sports can serve as a foundation for health promotion initiatives within a community, making it easier for people to lead an active lifestyle and stay healthy. In conclusion, community sports are significant in building social connections and promoting health, thereby benefiting individuals and society as a whole.

CHAPTER 2
CHILDREN AND WOMEN IN SPORTS

P. 50–52

A. Objective Type/Multiple-Choice Questions

I. Multiple-Choice Questions:

1. What is physical activity according to the WHO?
 - (a) Any movement produced by smooth muscles that requires energy expenditure
 - (b) Any movement produced by skeletal muscles that requires energy expenditure
 - (c) Any movement produced by cardiac muscles that requires energy expenditure
 - (d) None of these

Ans. (b) Any movement produced by skeletal muscles that requires energy expenditure

2. What is the leading risk factor for global deaths according to the WHO?
 - (a) Lack of physical activity.
 - (b) Poor nutrition.
 - (c) Smoking.
 - (d) Excess physical activity.

Ans. (a) Lack of physical activity.

3. Recommended sleep hours for 3–4 years children are

(a) 10–13 hours.	(b) 12–14 hours.
(c) 9–11 hours.	(d) 11–14 hours.

Ans. (a) 10–13 hours.

4. The deformity shown in figure is caused due to
 - (a) malnutrition.
 - (b) illness.
 - (c) rickets.
 - (d) all of these.



Ans. (d) all of these.

5. Which of the following is not a cause of lordosis?

(a) Imbalanced diet	(b) Cancer
(c) Obesity	(d) Physical inactivity

Ans. (b) Cancer

6. Which of these asanas is suggested for relief from lordosis?

(a) Chakrasana	(b) Vajrasana
(c) Halasana	(d) Matsyasana

Ans. (c) Halasana

7. Which of the following are counted amongst the commonly known postural deformities?
 - (a) Spinal curvature
 - (b) Flat foot
 - (c) Bow legs
 - (d) All of these

Ans. (d) All of these

8. Running on an uneven terrain can cause

(a) lordosis.	(b) kyphosis.
(c) scoliosis.	(d) none of these.

Ans. (c) scoliosis.

9. Which yogic poses help in correcting round shoulders?
 - (a) Bhujangasana and Ustrasana
 - (b) Gomukhasana and Padmasana
 - (c) Ardh Matsyendrasana and Garudasana
 - (d) Chakrasana and Dhanurasana

Ans. (a) Bhujangasana and Ustrasana

10. In which postural deformity is there an abnormal lateral curvature of the spine?

(a) Kyphosis	(b) Lordosis
(c) Fibrosis	(d) Scoliosis

Ans. (d) Scoliosis

11. Kyphosis is also known as

(CBSE SP 2024)

- | | |
|------------------|-----------------------|
| (a) hallow back. | (b) hunch back. |
| (c) curve back. | (d) both (a) and (b). |

Ans. (b) hunch back.

12. What is the name of the postural deformity caused due to increase in the curve at the lumbar region? **(CBSE SP 2021 Term 1)**

- | | |
|-----------------|--------------|
| (a) Knock knees | (b) Bow legs |
| (c) Kyphosis | (d) Lordosis |

Ans. (c) Kyphosis

13. Which postural deformity has convexities right or left? **(CBSE SP 2021 Term 1)**

- | | |
|---------------|-----------------|
| (a) Flat foot | (b) Knock knees |
| (c) Kyphosis | (d) Scoliosis |

Ans. (d) Scoliosis

14. Which postural deformity is related to posterior curve of the spine? **(CBSE SP 2021 Term 1)**

- | | |
|---------------|-----------------|
| (a) Scoliosis | (b) Kyphosis |
| (c) Lordosis | (d) Knock knees |

Ans. (b) Kyphosis

15. Which exercise should be done to cure this deformity? (CBSE SP 2021 Term 1)

- (a) Skipping
- (b) Walking on heels
- (c) Both (a) and (b)
- (d) Hanging on horizontal bar



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

16. Scoliosis is a postural deformity related with (CBSE 2020)

- (a) foot.
- (b) leg.
- (c) vertebral column.
- (d) hand.

Ans. (c) vertebral column.

17. What are some obstacles faced by women athletes?

- (a) Lower pay and less media coverage
- (b) High pay and extensive media coverage
- (c) Equal pay and equal media coverage
- (d) None of these

Ans. (a) Lower pay and less media coverage

18. What organisation encourages participation in National Olympic Committees and International Federations?

- (a) International Football Association
- (b) International Olympic Committee
- (c) International Basketball Federation
- (d) Sports Authority of India

Ans. (b) International Olympic Committee

19. What is one physical benefit of women's participation in sports?

- (a) Reduced stress levels
- (b) Improved emotional control
- (c) Increased bone density
- (d) Enhanced leadership skills

Ans. (c) Increased bone density

20. What is one social benefit of women's participation in sports?

- (a) Improved coordination
- (b) Reduced risk of obesity
- (c) Boosted self-esteem
- (d) Better emotional control

Ans. (a) Improved coordination

21. Menarche is defined as the

- (a) ending of menstrual period in women.
- (b) beginning of menstrual period in women.
- (c) time of pregnancy.
- (d) beginning of pregnancy. (CBSE 2020, 2023)

Ans. (b) beginning of menstrual period in women.

22. If the menstruation cycle does not begin at puberty, the condition is called (CBSE SP 2024)

- (a) Primary amenorrhoea.
- (b) Secondary amenorrhoea.
- (c) Oligomenorrhoea.
- (d) Dysmenorrhoea.

Ans. (a) Primary amenorrhoea.

23. Which of the following is not a female athlete triad? (CBSE 2020)

- (a) Amenorrhoea
- (b) Eating disorder
- (c) Obesity
- (d) Osteoporosis

Ans. (c) Obesity

24. Amenorrhoea, dysmenorrhoea and menorrhagia are the types of

- (a) menarche.
- (b) menstrual dysfunctions.
- (c) osteoporosis.
- (d) anorexia nervosa.

Ans. (b) menstrual dysfunctions.

25. If the menstrual periods go more than days, it is oligomenorrhoea.

- (a) 15
- (b) 25
- (c) 35
- (d) 45

Ans. (c) 35

26. Weakening of bones due to loss of bone density and improper bone formation is known as (CBSE SP 2022)

- (a) amenorrhoea.
- (b) anorexia nervosa.
- (c) osteoporosis.
- (d) lordosis.

Ans. (c) osteoporosis.

27. Which of these is an eating disorder in which patients have an obsessive fear of gaining weight?

- (a) Bulimia
- (b) Amenorrhoea
- (c) Leukaemia
- (d) Anorexia

Ans. (d) Anorexia

II. Match the following:**1. List I**(i) Knock knee/
Genu Valgum

(ii) Kyphosis

(iii) Lordosis

(iv) Bow legs

List II(1) Increase
exaggeration of
backward curve(2) Wide gap between
the knees when
standing with
feet together(3) Knees touch each
other in normal
standing position.(4) Inward curvature of
the spine**Select the correct set of options:**

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

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

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

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

Ans. (a) (i)–(3), (ii)–(1), (iii)–(4), (iv)–(2)**2. List I****Asanas**

(i) Garudasana

(ii) Gomukhasana

(iii) Chakrasana

(iv) Naukasana

List II**Postural Deformity**

(1) Round shoulder

(2) Lordosis

(3) Bow legs

(4) Knock knees

Select the correct set of options:

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

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

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

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

Ans. (a) (i)–(3), (ii)–(4), (iii)–(1), (iv)–(2)**3. List I****Postural Deformity**

(i)



(ii)



(iii)



(iv)

**List II****Corrective measure**

(CBSE SP 2021 Term 1)

(1)



(2)



(3)



(4)

**Select the correct set of options:**

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

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

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

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

Ans. (b) (i)–(1), (ii)–(4), (iii)–(3), (iv)–(2)**III. Assertion-Reason Type Questions:****CBQ****Given below are the two statements labelled Assertion (A) and Reason (R).**

1. A: Lordosis is the excessive inward curvature of spine in the lower back.

R: Halasana and toe touching exercises are helpful in correcting lordosis.

2. A: Physical activities as corrective measure are very effective in functional deformity in comparison to structural deformity.

R: Muscles and ligaments are affected in functional deformity. (CBSE SP 2021 Term 1)

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).

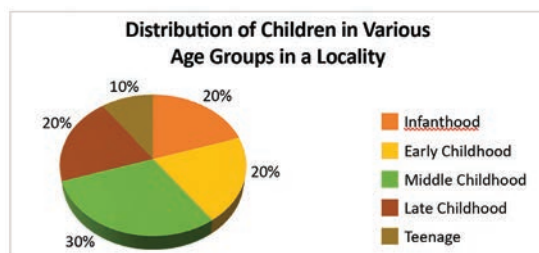
(b) Both (A) and (R) are true but (R) is not the correct explanation of (A).

(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****Given below is the chart which depicts the distribution of children in various age groups in a locality:****On the basis of the pie chart given above, answer the following questions:**

1. The locality has a gym. Which age group(s) do you think it would benefit?

(a) Infants and toddlers

- (b) Teenagers
- (c) Adults between 20 and 64 years
- (d) Both (b) and (c)

Ans. (d) Both (b) and (c)

2. The age group that indulges in interactive floor-based activities is
- (a) infants and toddlers.
 - (b) children between 5 and 8 years.
 - (c) children between 9 and 12 years.
 - (d) teenagers.

Ans. (a) infants and toddlers.

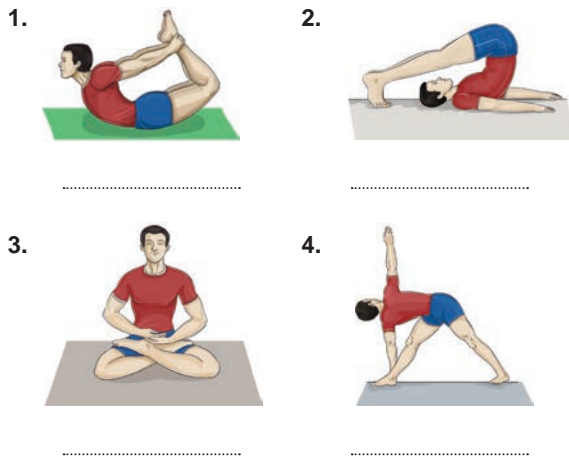
3. All games and sports can be played at this age group.
- (a) Infants and toddlers
 - (b) Teenagers
 - (c) Children between 9 and 12 years
 - (d) Children between 5 and 8 years

Ans. (b) Teenagers

V. Picture-Based Questions:

CBQ

Identify the following asana and write the name of the postural deformity that it is helpful in treating:



Ans. 1. Dhanurasana – Kyphosis; 2. Halasana – Lordosis; 3. Padmasana – Knock Knee; 4. Trikonasana – Scoliosis

VI. Case-Based Questions:

CBQ

1. Sandy is diagnosed with postural adaptation of the spine in lateral direction. The curve is identified as convexity right. It happened due to Sandy's underdeveloped legs and carrying heavy loads on one side only.

(CBSE SP 2021 Term 1)

What kind of postural deformity doctors found in Sandy?

- (a) Scoliosis
- (b) Kyphosis
- (c) Bow Legs
- (d) Flat foot

Ans. (a) Scoliosis

2. Posture plays a very significant role in our daily activities. Correct posture means the balancing of the body in an accurate and proper manner. Various types of postural deformities can be identified in individuals. (CBSE SP 2021 Term 1)



From the following picture, the deformities seen on the left most is caused due to deficiency of which nutrient?

- (a) Iron
- (b) Calcium
- (c) Vitamin D
- (d) Both (b) and (c)

Ans. (d) Both (b) and (c)

3. A female athlete has an abnormal eating behaviour and suffers from Anorexia Nervosa. On the basis of the case given, answer the following questions:
- (a) What could possibly be a reason behind the behaviour?
 - (b) Which symptoms confirm Anorexia Nervosa?
 - (c) can possibly help the athlete manage her condition.
 - (d) Anorexia Nervosa comprises type of Anorexia and type of Anorexia.

Ans. (a) Massive weight lossz
 (b) Fatigue and insomnia
 (c) Psychotherapy
 (d) restricting, purging

4. In relation to the picture, answer the following questions.



- (a) Which deformity is shown here?
- (b) Mention two factors that lead to this condition.
- (c) people mostly suffer from this condition.
- (d) Doing (yoga asana) can correct this condition.

OR

- (d) Mention two precautionary measures for preventing this condition.

- Ans.** (a) Lordosis
 (b) Imbalanced diet, obesity
 (c) Obese
 (d) Halasana

OR

- (d) Two precautionary measures:
 - (i) Good nutrition will help in controlling pain, disability and will keep spine healthy. Therefore, a well balanced diet must be taken.
 - (ii) While carrying a heavy load, the person has to lean forward which results in a bad posture. Even if carrying weight, one should align her/his body in straight position.

B. Very Short Answer Type Questions

- 1. What are some of the diseases that can be prevented or managed with regular physical activity?

Ans. Heart disease, stroke, diabetes and several cancers.

- 2. What should be the maximum duration for which infants should be restrained in prams/strollers or high chairs?

Ans. Infants (less than 1 year) should not be restrained for more than 1 hour at a time.

- 3. Define posture.

Ans. Posture can be defined as synchronising body movement which allows a quick and easy transition into the next relevant movement.

- 4. What do you mean by knock knee? (CBSE 2011)

Ans. Knock knee is a condition of postural deformity where the knees knock or rub together while walking or standing and the feet and ankles are far apart than normal.

- 5. State the common postural deformities.

(CBSE 2017)

Ans. The common postural deformities are:

- Spinal curvature
- Flat Foot
- Knock Knees

- Bow Legs
- Round Shoulder.

- 6. What is scoliosis? (CBSE 2011)

Ans. Scoliosis is the abnormal lateral curvature of the spine. It can be bending, twisting or rotating of the spine.

- 7. What is the main cause of scoliosis?

(CBSE 2012, 2018)

Ans. The main causes of scoliosis are diseases in the joints of bones, polio, rickets, infantile paralysis, cerebral palsy and juvenile osteoporosis or other diseases. These conditions are also often associated with poor posture, partial deafness and carrying heavy loads on one shoulder.

- 8. What is 'an abnormal curvature of spine at front' termed as? (CBSE 2015)

Ans. An abnormal curvature of spine at front is termed as lordosis.

- 9. Suggest any two free hand exercises for correcting round shoulder. (CBSE 2015)

Ans. The two free hand exercises for correcting round shoulder are:

- Place both tips of fingers on the shoulders and start encircling the elbows in a clockwise and anticlockwise direction.
- Hang on the horizontal bar for some time.

- 10. Suggest any two exercises for correcting flat foot. (CBSE 2016)

Ans. The two exercises for correcting flat foot are:

- Walking on the lateral border of the foot.
- Heel walking involves walking on the heels with whole body weight on the heels.

- 11. Name the deformity for which horse riding can be used as corrective measure. (CBSE SP 2016)

Ans. The deformity for which horse riding can be used as a corrective measure is knock knee deformity. It would help naturally in making a gap between the knees.

- 12. What are some psychological constraints that hindered women's participation in sports?

Ans. Low self-confidence and self-esteem, higher levels of stress and anxiety.

- 13. What are some psychological benefits of women's participation in sports?

Ans. Some psychological benefits of women's participation in sports include stress management, improved emotional control, confidence, self-esteem and leadership.

- 14. What can women do to participate in sports and live a better, healthier life?

Ans. Women can participate in sports and live a better, healthier life by getting proper facilities, appointing women coaches, eliminating cultural and social negativity, and having support from families, media and society.

C. Short Answer Type-I Questions

1. What are some of the physical activities that toddlers should engage in according to the WHO guidelines?

Ans. Toddlers (1–2 years of age) should spend at least 180 minutes in a variety of types of physical activities at any intensity, including moderate-to vigorous-intensity physical activity, spread throughout the day. Physical activities include standing up, moving around, running, jumping, throwing, riding a bike and so on.

2. What are the WHO's recommendations for the amount of moderate-to vigorous-intensity physical activity that children and adolescents aged 5-17 should do?

Ans. They should do at least an average of 60 minutes per day of moderate to vigorous-intensity, mostly aerobic, physical activity, across the week. They should incorporate vigorous-intensity aerobic activities, as well as those that strengthen muscle and bone, at least 3 days a week.

3. What are the types of physical deformities related to spine?

Ans. There are several types of physical deformities related to the spine, including scoliosis (abnormal sideways curvature), kyphosis (rounded upper back) and lordosis (swayback or excessive inward curvature of the lower back). These conditions can affect posture, mobility, and overall physical health and well-being, and may require medical intervention or physical therapy to manage.

4. What is the main cause of bow legs?

Ans. Bow legs – a condition where the legs appear to curve outwards. Rickets is one of the main causes of bow legs. Children with rickets do not get enough calcium, phosphorus and vitamin D all of which are vital for healthy growth of bones.

5. Which yogic poses are recommended to cure round shoulders?

Ans. Several yogic poses can help correct rounded shoulders, including:

- Ustrasana
- Chakrasana
- Dhanurasana
- Bhujangasana

These poses help to stretch and strengthen the muscles of the upper back, chest, and shoulders, improving posture and reducing pain and discomfort associated with rounded shoulders. It is recommended to practice these poses under the guidance of a qualified yoga instructor.

6. What are some skills that can be developed through sports participation?

Ans. Communication, teamwork, leadership, respect, social interaction, sportsmanship, etc.

7. What is the Constitution of India's stance on gender bias in sports?

Ans. The Constitution of India provides gender equality and ensures elimination of any type of gender bias or hindrance.

8. How can women benefit physically from participating in sports?

Ans. Women can benefit physically from participating in sports by reducing the chances of lifestyle diseases such as diabetes, high blood pressure and obesity. Sports can also help increase bone density, tone muscles, and improve the cardiovascular system.

9. What is premenstrual syndrome?

Ans. Experiencing symptoms like, pain in the back legs or abdomen, acne, irritability, mood swings, water retention, tender breasts, headaches, constipation, depression or emotional stress, etc. before the onset of menstrual periods is called premenstrual syndrome. A female may have one or more symptoms a few days before her periods.

10. List the revised terms to describe the female athlete triad.

Ans. The revised terms to describe the female athlete triad are

- (i) Low energy availability with or without eating disorder
- (ii) Dysfunction of menstruation
- (iii) Low bone density.

11. What kind of diet should a woman athlete suffering from osteoporosis take? Why?

Ans. A woman athlete suffering from osteoporosis should consume a diet rich in calcium, vitamin D, and other bone-healthy nutrients to support bone health and prevent further bone loss. This may include calcium-rich foods such as dairy products, leafy greens and fortified foods, as well as vitamin D-rich foods such as fatty fish, eggs and mushrooms. It is also important to consume adequate protein, which is essential for bone

and muscle health. In some cases, a calcium or vitamin D supplement may be necessary to meet recommended daily intake levels.

12. What are the major eating disorders?

Ans. The major eating disorders include anorexia nervosa, bulimia nervosa and binge eating disorder. Anorexia nervosa is characterised by a distorted body image and an extreme fear of gaining weight, leading to severe calorie restriction and weight loss. Bulimia nervosa involves cycles of binge eating followed by purging behaviours such as vomiting or excessive exercise. Binge eating disorder involves consuming large amounts of food in a short period of time, often accompanied by feelings of shame and guilt.

D. Short Answer Type-II Questions

1. What are the WHO's recommendations for the amount of moderate-intensity aerobic physical activity that adults aged 18-64 should do?

Ans. They should do at least 150–300 minutes of moderate-intensity aerobic physical activity or at least 75–150 minutes of vigorous-intensity aerobic physical activity; or an equivalent combination of moderate- and vigorous-intensity activity throughout the week.

2. What are the WHO's recommendations for the physical activity that older adults should undertake?

Ans. In their weekly physical activity, older adults should undertake a variety of multicomponent physical activity that lays stress on functional balance and strength training at moderate or greater intensity, on 3 or more days a week, to enhance functional capacity and to prevent falls.

3. Write about the deformities of spinal curvature.

(CBSE 2016)

Ans. The lumbar spine is characterised by a moderate anterior hyperextension curve, i.e. everybody's spine has some form of curvature. Spinal curve helps our backs absorb shock. A healthy spine should run however straight down the centre. Sometimes, abnormal spinal curvatures are formed. They are associated with the abnormality in the formation, alignment or shape of the vertebral column or spine. These deformities are the result of carrying excessive weight beyond capacity of the body. We have three types of spinal curvatures:

- Kyphosis
- Lordosis
- Scoliosis

4. Enlist the spinal postural deformities. Explain the cause of kyphosis and precautions to avoid it. (CBSE SP 2016)

Ans. The list of spinal posture deformities are:

- Kyphosis
- Lordosis
- Scoliosis

Causes of kyphosis: Kyphosis is caused by malnutrition, illness, deficiency of pure air, insufficient exercises, rickets, carrying heavy loads, poorly shaped furniture, weak muscles, ageing, spinal injury, arthritis and other degenerative bone diseases and the habit of doing work by leaning forward.

Precautions: It can be prevented by following correct posture while sitting, standing and walking from an early age. Proper exercise and diet are also important measures.

5. Briefly explain lordosis, its causes and remedial and preventive measures.

Ans. Lordosis is the excessive inward curvature of spine resulting in a forward curve in the lumbar region. The body becomes stiff and painful.

Causes: It can be caused because of imbalanced diet, improper environment, improper development of muscles, obesity and diseases affecting vertebrae and spinal muscles like spondylitis and osteoporosis. Physical inactivity and excessive intake of food are also the major causes.

Precautions: The following are the precautionary and remedial measures:

- Good nutrition
- By weight control especially at an early age.
- While carrying a heavy load, the person has to lean forward which results in a bad posture. Even if carrying weight one should align her/his body in straight position.
- Stand straight with the feet and shoulder width apart.
- Bend your knee and hold your ankle. When you pull your back, tilt your pelvis forward. Hold this position for 25-30 seconds.
- Lie down on the floor facing the ceiling and put your feet on the floor; tilt your pelvic back by pushing the lower back into the floor. Lift your torso off the floor to 30° angle by supporting your neck with your hands. Come back slowly to starting position and repeat exercises 10 times.
- Lie down your back on the floor facing upward with the flexion of knees while keeping your feet flat on the floor apart from each other.

Squeeze your gluteus and lift up your hip upward as much as you can. Hold for 20 to 30 seconds and return to starting position. Repeat this exercise 20 times a day.

- Toe touching exercises, sit up and halasana should be performed regularly.
- For performing head to knee exercises, remain seated on the mat with your legs stretched forward. Slowly, lower your head and try to touch your forehead to your knees. Hold to count of 10 and repeat it for 10 to 15 times.

6. Briefly explain scoliosis, its causes and preventive and remedial measures.

Ans. Scoliosis is the abnormal lateral curvature of the spine. It can be bending, twisting or rotating of the spine. People with scoliosis develop additional sideways curves on either side of the body and may be called scoliotic curves. These curves are defined in terms of their convexities and identified as right convexities and left convexities.

Primary causes: The primary causes are diseases in the joints of bones, polio, rickets, infantile paralysis, cerebral palsy and juvenile osteoporosis or other diseases.

Precautionary measures:

- An unhealthy diet and low levels of specific minerals can contribute to scoliosis progression.
- Carrying heavy things especially on one side should be avoided as it adds to natural pull of gravity and compresses the spine further.
- Long distance running on uneven terrain and prolonged running can result spinal compression, may bend or rotate your curve and cause greater risk of scoliosis progression. Thus, running should be limited.

Remedies:

- Lie down facing the ground, bend your elbow, and support your body with your toes. Squeeze your abs in and hold this position for 5 seconds. Repeat technique step 10 times.
- Scoliosis can be cured by breast stroke or butterfly technique of swimming.
- Yoga has been one of the best practices to cure any ailment and also helps in enhancing overall physical strength. It maintains a balance for the body in case of scoliosis.
- Use a firm quality mattress. Avoid the soft mattresses and use extra pillows for comfort instead.

- Sitting or standing in one place for prolonged period stresses the spine. Stretch or take a walk as often as possible. Choose a chair with good support if you sit for extended period.
- For mild scoliosis football is another great exercise that can strengthen the core muscle. All positions except goalkeeper are fine.

7. Write in brief the corrective measures of bow leg, knock knee and flat foot. (CBSE SP 2024)

Ans. Corrective measures of bow leg, knock knee and flat foot.

Bow Legs: Use of braces and modified shoes can be along with sufficient intake of balanced diet can prove to be of help. Walking on the inner edge of the feet may also help.

Knock Knees: Treatment for Genu valgum largely depends on the cause and severity of the problem. Exercises like horse-riding and keeping the pillow between the knees and standing erect for some time are the best. For most people with Genu valgum, Yoga and exercise can help realign and stabilize the knees. Performing padmasana and gomukhasana regularly can help strengthen muscles of the legs and realign the knees. Strengthening exercises can be simple, such as leg raises while seated or lying down. Using of walking callipers is also a big help at pre-puberty stage.

Flat Foot: Exercises like walking, standing or jumping on toes and heels in all four directions, skipping rope, strengthens the muscles of foot which help to develop the arch in the foot. Activities like picking up marbles with toes, writing numbers in the sand with the toes will also help in developing the arch. Yoga asanas like Adhomukhsavasana performed in Surya Namaskar, Vajrasana and other therapeutic massages are also helpful in developing the arch.

8. What do you mean by round shoulders? Suggest any four physical activities for correcting round shoulders. (CBSE 2015, 2020, 2023)

Ans. This postural abnormality is characterised by a drooping shoulder which appears round and a slight forward bending of the back.

Causes: There are many factors which promote development of rounded shoulders:

- Heredity factors led to rounded shoulders.
- Tight clothing and shoes affect posture.
- High-heeled shoes, tight fitting clothes, wide belt, etc. change the centre of gravity which ultimately leads to poor posture.

- Poor posture of sitting, standing and walking, improper furniture, excessive weight training like bench press, bicep curls and shoulders press exercises result in rounded shoulders.
- Complete lack of exercises which are concerned with shoulders also affects the shoulders, leaving them vulnerable to rounded shoulder.

Precautions and remedies:

- Never slouch while sitting and walking and always stand flat back position.
 - Those who have rounded shoulders should not wear tight fitting clothes and avoid high heeled shoes.
 - Avoid sitting on faulty furniture which is not comfortable.
 - Place the tips of fingers of both hands on shoulders and encircle the elbows in a clockwise and anticlockwise direction.
 - Hang on the horizontal bar for some time.
 - Perform yogic techniques especially chakrasana and dhanurasana on a regular basis.
9. Suggest at least two exercise methods for treating (a) lordosis, (b) round shoulder, (c) flat feet, (d) scoliosis, (e) kyphosis, (f) knock knee, and (g) bow legs.

Ans. (a) Lordosis:

- First lie down in a prone position with hands under abdomen. Then keep hips and shoulder down and gently press hands upon abdomen and raise the lower back.
- Bend knees forward while allowing hips to bend back behind. Keeping the back straight and knees pointed in the same direction as feet, lower your body until thighs are parallel to floor. Extend the same from the starting position.

(b) Round shoulder:

- Place the tips of fingers of both hands on shoulders and encircle the elbows in a clockwise and anticlockwise direction.
- Hang on the horizontal bar for some time.

(c) Flat feet:

- Practise jumping on toes for some time.
- Rope skipping exercise.

(d) Scoliosis:

- Lie down in prone position. Raise right arm upward and left arm at the side. After this position, bring right arm towards the left over

the head, by pressing down with left hand and then slide the left hip up.

- Stand erect with feet few inches apart. Lift up the left and hip. Extend the right arm and bend the arm towards the left over head while pressing the left side of rib by the left hand.

(e) Kyphosis:

- Lie down in a prone position with hands on hips. After that raise your head and chest several inches from the ground and tuck your chin during this exercise. Hold this position for some time and return to previous position. Repeat this exercise at least 10 times.
- Sit in a normal position with a stick held in horizontal position over the head and trunk, hands well stretched. After that lower the stick and then raise it behind head and shoulders. Repeat this exercise 10 to 12 times.

(f) Knock knee:

- Daily cycling for 20 to 30 minutes and horse riding would help naturally in making a gap between the knees.
- Perform the padmasana and gomukhasana daily that may counteract the effects of knock knee.

(g) Bow legs:

- Bow-legged persons should try to walk for some distance on the inner edge of the feet.
- Do yogic exercises like garudasana and ardha matsyendrasana regularly.

10. How has women's participation in sports changed in recent times?

Ans. Women's participation and popularity in sports have increased dramatically, reflecting changes that emphasize gender parity.

11. How can sports participation help women manage stress levels?

Ans. Sports participation can help women manage stress levels by releasing hormones that help reduce stress. Physical activity can also distract the mind from stressors and help with relaxation.

12. How can women's participation in sports help them develop leadership skills?

Ans. Women's participation in sports can help them develop leadership skills by giving them opportunities to take charge and make decisions on the field. They can also learn to work with others and inspire their teammates to achieve common goals.

13. How does intensive exercise impact menarche?

Ans. It has been found that intensive exercise and sports activities can cause abnormalities, like

delayed menarche and amenorrhoea. Such activities create physiological stress which affects the reproductive process and disrupts the normal patterns. It is true that menstrual abnormalities or other health issues are frequent among women who are involved in intensive exercises and sports activities.

14. Write briefly about menstrual dysfunctions and their effect on sports participation of female athletes. (CBSE 2018)

Ans. Menstrual Dysfunction

The average menstrual cycle consists of 21–35 days and menstrual bleeding or periods occur during the first 2–7 days of the cycle. Each cycle ends on the first day of the next menstrual bleeding. Any abnormality or irregularity in this process is termed as menstrual dysfunction. It is reported that about 9 – 30% of women suffer from menstrual dysfunction of one form or the other. Some common types of menstrual dysfunction are listed below:

Amenorrhoea

A case of delayed menarche or a case of absence of menstrual period for 6 months or more after the last period is called amenorrhoea. Sometimes, it may be absent for years.

Dysmenorrhoea

A menstrual period accompanied by sharp pain or cramps in the lower abdomen and pelvic area is called dysmenorrhoea or painful menstruation. During menstruation, the muscles of the uterus contract due to release of molecular compounds called prostaglandins and other inflammatory mediators.

Premenstrual Syndrome

Experiencing symptoms like, pain in the back legs or abdomen, acne, irritability, mood swings, water retention, tender breasts, headaches, constipation, depression or emotional stress, etc. before the onset of menstrual periods is called premenstrual syndrome. A female may have one or more symptoms a few days before her periods.

Menorrhagia or Heavy Periods

Normally the menstrual flow is heavy at first and then gradually decreases. But increased and heavy flow at regular intervals or a loss of more than 80 mL of blood during each menstrual bleeding indicates menorrhagia or heavy periods.

Irregular Periods

Mostly, menstrual cycles form a regular pattern of every 21–35 days after 1–3 years from the

first bleeding or menarche. For some females, periods might skip altogether for months or come earlier than expected.

Prolonged Periods

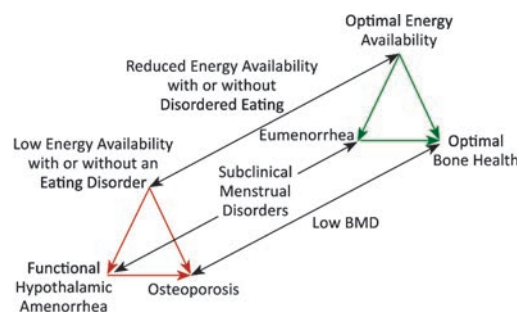
On an average, the menstrual bleeding or periods lasts about 2–7 days. Prolonged periods are longer than this duration and occur at unpredictable intervals.

Delay in Menarche

The average age of menarche in a female ranges from 12–14 years. If it is later than 14 years and above, it is a case of delayed menarche, which is also termed as primary amenorrhoea. At times, it may be as late as in 18 years of age or more.

15. Create a mind map describing female athletes triad and its causes.

Ans.



16. What is the meaning of female athletes triad? Explain any two in brief. (CBSE SP 2022)

Ans. It is a serious disorder of three interrelated medical conditions; energy deficiency with or without eating disorders; menstrual disturbances; and reduced bone mineral density which is likely to cause osteoporosis. The triad usually affects teenage girls who consume less calories and exercise excessively. They may develop eating disorders and become obsessed with exercise to achieve low body weight and enhance and performance in sports. Therefore, they are at greater risk of suffering from this syndrome. Energy deficiency leads to menstrual disturbances like amenorrhoea which is associated with low oestrogen levels. Low oestrogen levels contribute to a decrease in bone density and lack of calcium and vitamin D in the body. This is one of the main causes of osteoporosis. A women is likely to have the other two conditions if she is suffering from one condition of the triad

Amenorrhoea: A case of delayed menarche or a case of absence of menstrual period for 6 months or more after the last period is called amenorrhoea. Sometimes, it may be absent for years.

Osteoporosis: The National Institutes of Health (USA) defines osteoporosis as “a skeletal disorder characterised by compromised bone strength predisposing a person to an increased risk of fracture”. It is a condition in which the density and strength of the bone is reduced, making it vulnerable to frequent fractures, like, stress fracture and other bone injuries. This is why osteoporosis is fatal to female athletes and their athletic careers.

17. What are the causes of osteoporosis?

(CBSE 2019)

Ans. Osteoporosis can be caused due to:

- **Calcium Deficiency:** Calcium is a key component in building the density and strength of bones. The recommended daily requirement of calcium is 1000-1500 mg. Insufficient calcium in the body can have lifelong consequences for bones. Insufficient amount of calcium in the body causes other organs such as heart, muscles, nerves, etc. to use up the calcium stored in the bones. This results in depletion of calcium in the bones, decreasing their density and hardness, therefore causing osteoporosis.
- **Amenorrhoea:** Our bones are constantly breaking down and rebuilding again to maintain their structure and strength. Oestrogen is essential to keep a balance between the two and helps absorption of calcium. Since women suffering from amenorrhoea have decreased oestrogen level in the body, it also disrupts the remodelling process in bones. Formation of abnormal bone structure and loss of calcium deposit takes place. Bones become weak, porous and prone to fractures. Therefore amenorrhoea can also cause osteoporosis.

18. Briefly explain eating disorders and classify them.

Ans. Eating disorders are a range of psychological disorders in which a person's eating behaviour is abnormal. It may include inadequate or excessive food intake which can ultimately harm an individual's well-being. It is commonly exhibited along with conditions such as anxiety, depression and other addictive or self-destructive behaviours. It can be either Anorexia Nervosa or Bulimia Nervosa.

- (a) Anorexia Nervosa is an eating disorder in which the patients have an obsessive fear of gaining weight.
- (b) Bulimia Nervosa is an eating disorder in which the patient consumes a large

quantity of food within a short period and subsequently ejects it from the body through vomiting, or with the help of laxatives or diuretics.

19. Explain the meaning of anorexia nervosa and cite its types.

Ans. It is an eating disorder in which the patients have an obsessive fear of gaining weight. They have an unrealistic fear of gaining weight. They have an unrealistic perception of body image and view themselves as overweight even when they are clearly underweight. It usually begins during the teens and is more common in women than men. It may become a lifelong disease without intervention at the initial stage. This disorder can have damaging health consequences such as heart problems, brain damage, multiple organ failure, osteoporosis and infertility. It should, however, be noted that anorexia nervosa does not necessarily mean loss of appetite. The patient can retain their appetite and suppress it systematically. It is of two types:

- **Restricting type:** In this form, consumption of food is severely restricted in various ways like maintaining a calorie count that is too low for the body's requirement. The patient reduces her/his weight effectively through obsessive rules like drastic exercising.
- **Purging/Binge eating type:** In this type, the restriction of food intake is accompanied by binge-eating and purging phases.

20. Explain briefly about eating disorder bulimia.

(CBSE 2019)

Ans. Bulimia nervosa or simply bulimia, is an eating disorder in which the patient consumes a large quantity of food within a short period and subsequently ejects it from the body through vomiting, or with the help of laxatives or diuretics. The term 'bulimia' means 'the ravenous hunger of a fox', a reference to the voracious appetite of the patient. When a person suffers from bulimia, she/he is under the grip of a hunger that is induced by psychological reasons, physiological ones.

E. Long Answer Type Questions

1. What are the benefits of regular physical activity according to the WHO? Discuss the recommendations provided by the WHO for different age groups and specific population groups.

Ans. According to the WHO, regular physical activity can help prevent and manage non-communicable and lifestyle diseases such as heart disease, stroke, diabetes and several

cancers. It also helps prevent hypertension, maintain healthy body weight and can improve mental health, quality of life and well-being. The WHO recommends different levels and types of physical activity for different age groups and specific population groups. For infants, less than 1 year of age, they should not be restrained for more than 1 hour at a time in prams/strollers or high chairs. For toddlers aged 1-2 years, they should spend at least 180 minutes in a variety of types of physical activities at any intensity, including moderate-to vigorous-intensity physical activity, spread throughout the day. Refer to textbook for more details.

2. Explain any five postural deformities.

(CBSE 2012)

Ans. Any five postural deformities are as follows:

- (i) **Kyphosis:** This is a postural deformity characterised by an excessive forward curvature of the upper back, resulting in a rounded or hunched-over appearance. It can be caused by poor posture, osteoporosis or spinal fractures.
- (ii) **Lordosis:** This is an inward curvature of the lower back that results in a swayback appearance. It is commonly caused by poor posture or excessive weight on the abdomen, such as during pregnancy or obesity.
- (iii) **Scoliosis:** This is a lateral curvature of the spine, which can be either C-shaped or S-shaped. It often develops during childhood or adolescence, and can be caused by genetic factors or poor posture.
- (iv) **Round shoulders:** This postural deformity is characterised by a forward rounding of the shoulders, which can lead to a hunchback appearance. It can be caused by poor posture, weak back muscles, or spending too much time hunched over a computer or phone.
- (v) **Knock knees:** This is a condition where the knees angle inwards, causing the feet to be farther apart than the knees when standing with the feet together. It can be caused by genetics, poor posture, or a lack of muscle tone in the legs.

3. Explain the causes and corrective measures for knock knee and scoliosis.

(CBSE 2019)

Ans. **Causes of Knock Knee:**

- Lack of vitamin D and minerals like calcium and phosphorus.
- Problems associated with the development

of bones and joints like rickets, osteoporosis and arthritis also contribute to knock knee.

- Other possible factors include obesity, flat foot, an injury or infection affecting the knees or leg bones and carrying a heavy load at an early age.

Corrective measures

- Daily cycling for 20 to 30 minutes and horse riding would help naturally in making a gap between the knees.
- Keep a pillow between the legs while sleeping, walking or sitting daily for 15 to 20 minutes.
- Knock knees' special shoes, night braces and walking calipers may prevent knocking.
- Perform the padmasana and gomukhasana yogic poses daily.
- Supplement of vitamins D like cod liver oil and minerals like calcium and phosphorus should be taken for strengthening the bones.

Causes of Scoliosis

- The primary causes are diseases in the joints of bones, polio, rickets, infantile paralysis, cerebral palsy and juvenile osteoporosis or other diseases.
- An unhealthy diet and low levels of specific minerals can contribute to scoliosis progression.
- Carrying heavy things especially on one side should be avoided as it adds to natural pull of gravity and compresses the spine further.
- Long distance running on uneven terrain and prolonged running can result spinal compression, may bend or rotate your curve and cause greater risk of scoliosis progression. Thus, running should be limited.

Corrective measures

- Lie down facing the ground, bend your elbow, and support your body with your toes. Squeeze your abs in and hold this position for 5 seconds. Repeat technique step 10 times.
- Scoliosis can be cured by breast stroke or butterfly technique of swimming.
- Yoga has been one of the best practices to cure any ailment and also helps in enhancing overall physical strength. It maintains a balance for the body in case of scoliosis.
- Use a firm quality mattress. Avoid the soft mattresses and use extra pillows for comfort instead.
- Sitting or standing in one place for prolonged period stresses the spine. Stretch or take a

walk as often as possible. Choose a chair with good support if you sit for extended period.

- For mild scoliosis football is another great exercise that can strengthen the core muscle. All positions except goalkeeper are fine.

4. What are some initiatives taken by the Government of India to promote women's participation in sports, and how do they contribute to gender equity and empowerment?

Ans. In India, the Govt. runs programmes such as the Khelo-India scheme and the National Sports Talent Search Scheme (NSTSS) to mainstream women's participation in sports. Such initiatives contribute to gender equity and empowerment by promoting overall development and providing health benefits to women. Moreover, sports participation can significantly contribute to developing skills like communication, teamwork, leadership, respect, social interaction, sportsmanship, etc. Additionally, international organizations such as the International Olympic Committee encourage participation not only in playing sports but also in National Olympic Committees and International Federations, providing further opportunities for women's participation and empowerment.

5. How can women's participation in sports be encouraged and supported at all levels?

Ans. Women's participation in sports can be encouraged and supported at all levels by conducting awareness programs, providing proper facilities and equipment, appointing women coaches, and offering financial incentives. Families, media, and society should also encourage and support women's participation in sports. Eliminating cultural and social negativity and providing equal opportunities for women to participate in competitive sports can also increase their participation. By doing so, women can benefit from the physical, psychological, and social benefits of sports and make significant contributions to their country's success.

6. Discuss menstrual dysfunction and its types.

Ans. Menstrual dysfunction: The average menstrual cycle consists of 21–35 days and menstrual bleeding or periods occur during the first 2–7 days of the cycle. Each cycle ends on the first day of the next menstrual bleeding. Any abnormality or irregularity in this process is termed as menstrual dysfunction. Its types can be:

- **Amenorrhoea:** A case of delayed menarche or a case of absence of menstrual period

for 6 months or more after the last period is called amenorrhoea. Sometimes, it may be absent for years.

- **Dysmenorrhoea:** A menstrual period accompanied by sharp pain or cramps in the lower abdomen and pelvic area is called dysmenorrhoea or painful menstruation.
- **Premenstrual syndrome:** Experiencing symptoms like, pain in the back legs or abdomen, acne, irritability, mood swings, water retention, tender breasts, headaches, constipation, depression or emotional stress, etc. before the onset of menstrual periods is called premenstrual syndrome.
- **Menorrhagia or heavy periods:** Normally the menstrual flow is heavy at first and then gradually decreases. But increased and heavy flow at regular intervals or a loss of more than 80 mL of blood during each menstrual bleeding indicates menorrhagia or heavy periods.
- **Irregular periods:** Mostly, menstrual cycles form a regular pattern of every 21–35 days after 1–3 years from the first bleeding or menarche. For some females, periods might skip altogether for months or come earlier than expected.
- **Prolonged periods:** On an average, the menstrual bleeding or periods lasts about 2–7 days. Prolonged periods are longer than this duration and occur at unpredictable intervals.
- **Delay in menarche:** The average age of menarche in a female ranges from 12–14 years. If it is later than 14 years and above, it is a case of delayed menarche, which is also termed as primary amenorrhoea.

7. Describe the relationship between menstruation, women's health and sports participation.

Ans. Relationship between menstruation, women's health and sports participation can be discussed as under:

- It is commonly believed that taking part in exercises and sports activities during menstruation causes serious damage to health and affects women's sports performance. There have been a number of discussions on the subject and, therefore, we cannot overlook this reproductive process during training, planning, schedules and preparing for competitions, etc. But we cannot take it as final. It is simply a normal cycle every healthy woman experiences during her reproductive years. A woman has two menstrual cycles each of different schedules

and it is during the second phase, i.e. luteal phase the oestrogen rises and causes changes in body temperature, metabolism and recovery time. During the bleeding period, there is a slight drop in a woman's weight but it has been found that women perform even better during their periods.

- The fact is effects of menstruation have different mechanism in different women and women does not always respond to it in similar cases in most cases. Performance can be poor but better at any time.
- Lastly, exercises and sports activities are essential for every individual to lead a healthy life and the overall well-being.

8. Discuss female athletes triad in detail.

(CBSE 2016)

Ans. It is a serious disorder of three interrelated medical conditions: energy deficiency with or without eating disorders; menstrual disturbances; and reduced bone mineral density which is likely to cause osteoporosis. The triad usually affects teenage girls who consume less calories and exercise excessively. They may develop eating disorders and become obsessed with exercise in their efforts to maintain their physique. Female athletes often restrict calorie intake and perform intensive training and exercise to achieve low body weight to enhance sports performance. Therefore, they are at greater risk of suffering from this syndrome.

Energy deficiency leads to menstrual disturbances like amenorrhoea which is associated with low oestrogen levels. Low oestrogen levels contribute to a decrease in bone density and lack of calcium and vitamin D in the body. This is one of the main causes of osteoporosis. A female is likely to have the other two conditions if she is suffering from one condition of the triad. In this endeavour, the help of coaches, trainers, physicians and fitness experts is crucial.

9. Make a table discussing eating disorders, their causes, symptoms and management.

Ans. Eating disorders are a range of psychological disorders in which a person's eating behaviour is abnormal. Eating disorders may include inadequate or excessive food intake which can ultimately harm an individual's well-being. It is commonly exhibited along with conditions such as anxiety, depression and other addictive or self-destructive behaviours. Patients of eating disorders are often obsessed with food, body image and weight. Eating disorders are serious emotional and physical problems that can have life-threatening consequences, it is dangerous to view them as a lifestyle choice. Any one can fall prey to it at any stage. It severely undermines growth and development inflicting side effects like malnutrition and electrolyte imbalance. Major eating disorders include anorexia nervosa and bulimia nervosa.

Anorexia nervosa	Bulimia nervosa
<p>Anorexia nervosa is an eating disorder in which the patients have an obsessive fear of gaining weight.</p> <p>Causes of anorexia nervosa</p> <ul style="list-style-type: none"> • Psychological factors • Social factors • Biological factors <p>Symptoms:</p> <ul style="list-style-type: none"> • Physical symptoms • Emotional symptoms <p>Management of anorexia:</p> <ul style="list-style-type: none"> • It is paramount to accept the reality of the situation. The patients must realise their own condition and accept that they have to recover. The physical aspects of the treatment can only start after this acceptance. • The main goal is to regain the appropriate weight as per the individual's height and age. This can be achieved with the help of a psychologist and a fitness expert. 	<p>Bulimia nervosa, or simply bulimia, is an eating disorder in which the patient consumes a large quantity of food within a short period and subsequently ejects it from the body through vomiting, or with the help of laxatives or diuretics.</p> <p>Causes of bulimia:</p> <p>The factors that cause or contribute to bulimia are:</p> <ul style="list-style-type: none"> • Genetics • Psychological factors • Performance pressure in sports • Social factors <p>Symptoms:</p> <ul style="list-style-type: none"> • The affected individuals visit the bathroom after every meal to immediately vomit and purge themselves. • They become dehydrated due to repeated vomiting. Another side effect is inflammation of the food pipe. • The individuals eat until they begin to experience abdominal pain and discomfort. • They undergo extreme exercise routines to control their weight. <p>Treatment of bulimia</p> <p>Psychological treatment Healthy weight and proper nutrition Exercise correctly</p>