Royal Rajasthan Public School

तेजस्विनावधितमस्तु

ABU ROAD

Question Bank

Physical Education

Class:-12th **Session:-2024-25**

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CBSE SYLLABUS 2024-25

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Chapter- 1

MANAGEMENT OF SPORTING EVENT

1. Functions of Sports Events Management (Planning, Organising, Staffing, Directing & Controlling)

2. Various Committees & their Responsibilities (pre; during & post)

3. Fixtures and their Procedures – Knock-Out (Bye & Seeding) & League (Staircase, Cyclic, Tabular method) and Combination tournaments.

4. Intramural & Extramural tournaments – Meaning, Objectives & Its Significance

5. Community sports program (Sports Day, Health Run, Run for Fun, Run for Specific Cause & Run for Unity)

FUNCTIONS OF SPORTS EVENTS MANAGEMENT (PLANNING, ORGANISING, STAFFING, DIRECTING & CONTROLLING)

FUNCTIONS	CHARECTERISTICS
PLANNING	It is the purpose of ascertaining in advance **what is supposed to be done** and **who has to do it**. This signifies establishing goals in advance and promoting a way of delivering them effectively and efficiently.
ORGANISING	It is the administrative operation of **specifying grouping tasks**, duties, authorising power and designating resources needed to carry out a particular system.
STAFFING	It is obtaining the best resources for the right job. A significant perspective of management is to make certain that the **appropriate people with the apt skills** are obtainable in the proper places and times to achieve the goals.
DIRECTING	It involves directing, **leading and encouraging** the employees to complete the tasks allocated to them. This entails building an environment that inspires employees to do their best.
CONTROLLING	It is the management operation which focus towards the *accomplishment of organisational goals*. Basically it describe the procedure to be followed while performing a task and make necessary changes where ever require. E.g. while marking a Kabaddi court whether the measurement is of standard nature or not? Whether the ground is suitable or not?

VARIOUS COMMITTEES & THEIR RESPONSIBILITIES (PRE, DURING & POST)

COMMITTEE	RESPONSIBILITIES		
	PRE	DURING	POST
ORGANIZING COMMITTEE	Plans all aspects of the event	Oversees the execution of the event	Evaluates the event's success
COMPETITION COMMITTEE	competition format, and schedule	Manages the actual competitions	
MARKETING AND PROMOTION COMMITTEE	Creates marketing strategies, promotional materials, and secures media coverage.	Manages promotional activities, advertising, and fan engagement	
BOARDING & LODGING COMMITTEE	Preparing staying arrangement, arranging and distribution of materials for stay, preparing menu.	Controlling the quality and hygiene of food, timely distribution of meals and cleanliness of boarding items.	Collection of materials for stay.
DECORATION AND CEREMONY COMMITTEE	Decorates the playing venue and place of stay.	Executes the opening and closing ceremony in a befitting manner.	
MEDICAL AND SAFETY		Provides medical support, handles injuries, and ensures safety measures are in place.	
FINANCE COMMITTEE	Prepares Budget	Collection of Tournament fees etc.	Summarising expenditure and settlement of Bills etc.
WIND-UP COMMITTEE			To ensure that all the non-consumable items have been stored back / returned.

FIXTURES AND THEIR PROCEDURES – KNOCK-OUT (BYE & SEEDING) & LEAGUE (STAIRCASE, CYCLIC, TABULAR METHOD) AND COMBINATION TOURNAMENTS.

TYPE OF TOURNAMENT

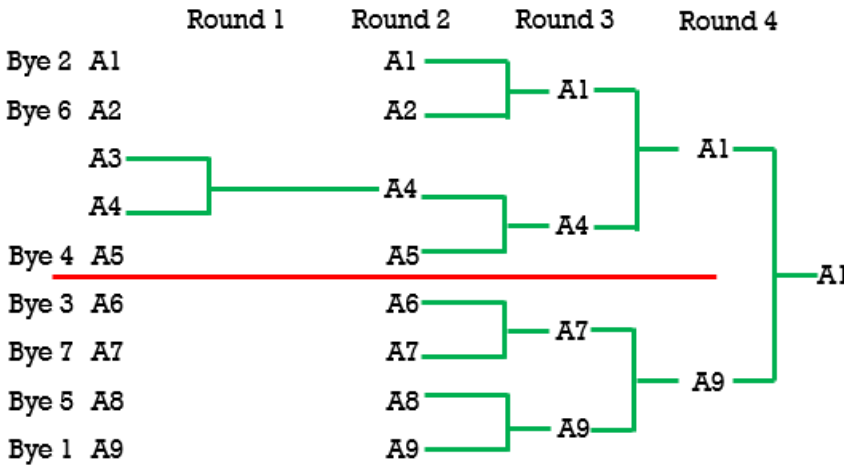
TYPE OF TOURNAMENT	DESCRIPTION	FIXTURE DRAWING METHOD
KNOCKOUT	It is a type of tournament in which a team gets eliminated if they lose a match. **Less number of matches** are played. Require **less time** to complete the Tournament	KNOCKOUT TABLE
LEAGUE	It is a type of tournament in which each team plays with all the other teams in the Group OR Tournament. **Large number of matches** are played. Require **more time** to complete the Tournament	STAIRCASE
		CYCLIC
		TABULAR
COMBINATION	It is a type of Tournament where the tournament is divided into two sub part where one part is played in Knockout format and the other part is played in League format. **Optimum number of matches** are played. Require **optimum time** to complete the Tournament	LEAGUE CUM KNOCKOUT
		KNOCKOUT CUM LEAGUE
		LEAGUE CUM LEAGUE
		KNOCKOUT CUM KNOCKOUT

STEPS TO DRAW FIXTURE USING KNOCK-OUT TABLE

1. Calculate number of Matches: N-1
2. Calculate Number of Rounds : Number of Rounds = k
   Where k is the next highest power of 2, such that $2^k \geq N > 2^{k-1}$
3. Calculate number of teams in Upper and Lower Half and divide the teams:
   Number of Teams in Upper Half (if Number of teams is Odd) = $\frac{(N+1)}{2}$ for Even $\frac{N}{2}$
   Number of Teams in Lower Half (if Number of teams is Odd) = $\frac{(N-1)}{2}$ for Even $\frac{N}{2}$
4. Calculate number of Byes: = $2^k - N$
5. Allocate in proper sequence
   i. Last Team of Lower Half
   ii. First Team of Upper Half
   iii. First Team of Lower Half
   iv. Last Team of Upper Half
6. Draw Layout of Fixture

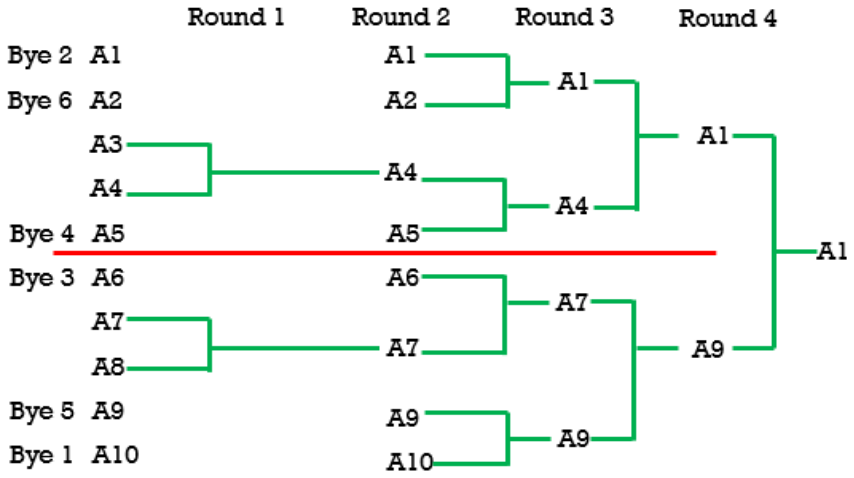
Example: Drawing a Knockout Fixture of 9 Teams

Number of Matches = (N-1) = 9-1 =8 Matches
Number of Rounds = [2^1=2, 2^2=4, 2^3=8, 2^4=16],
$16 \geq N > 8$, So k =4
Number of Teams in Upper Half
= $\frac{(N+1)}{2}$ =$\frac{(9+1)}{2}$ = 5
Number of Teams in Lower Half
= $\frac{(N-1)}{2}$ =$\frac{(9-1)}{2}$ = 4
Number of Byes = $2^4 - 9$ = 16-9 = 7



Example: Drawing a Knockout Fixture of 10 Teams

Number of Matches = (N-1) = 10-1 =9 Matches
Number of Rounds = [2^1=2, 2^2=4, 2^3=8, 2^4=16],
$16 \geq N > 8$, So k =4
Number of Teams in Upper Half and Lower Half
= $\frac{(N)}{2}$ =$\frac{(10)}{2}$ = 5
Number of Byes = $2^4 - 10$ = 16-10 = 6



STEPS TO DRAW FIXTURE USING CYCLIC METHOD
(EVEN NUMBER OF TEAMS)

Number of Matches $= \frac{N(N-1)}{2}$
Number of Rounds $= N - 1$

Example: Drawing a Fixture of 6 Teams

Number of Matches $= \frac{N(N-1)}{2}$ $= \frac{6(6-1)}{2}$ = 15 Matches
Number of Rounds $= N - 1$ = 6-1 = 5 Rounds

Round 1	Round 2	Round 3	Round 4	Round 5
A6 — A1	A5 — A1	A4 — A1	A3 — A1	A2 — A1
A5 — A2	A4 — A6	A3 — A5	A2 — A4	A6 — A3
A4 — A3	A3 — A2	A2 — A6	A6 — A5	A5 — A4

STEPS TO DRAW FIXTURE USING CYCLIC METHOD
(ODD NUMBER OF TEAMS)

Number of Matches $= \frac{N(N-1)}{2}$
Number of Rounds $= N$

Example: Drawing a Fixture of 5 Teams

Number of Matches $= \frac{N(N-1)}{2}$ $= \frac{5(5-1)}{2}$ = 10 Matches
Number of Rounds $= N$ = 5 = 5 Rounds

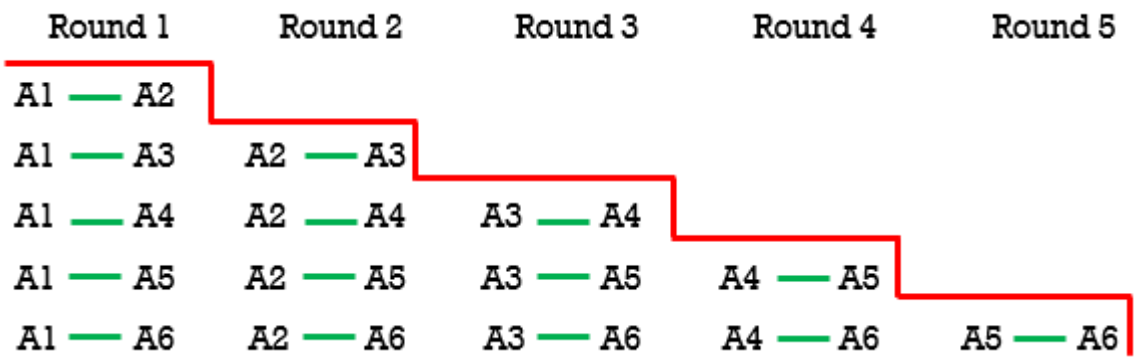
Round 1	Round 2	Round 3	Round 4	Round 5
A5 — Bye	A4 — Bye	A3 — Bye	A2 — Bye	A1 — Bye
A4 — A1	A3 — A5	A2 — A4	A1 — A3	A5 — A2
A3 — A2	A2 — A1	A1 — A5	A5 — A4	A4 — A3

STEPS TO DRAW FIXTURE USING STAIRCASE MEHTOD

Number of Matches = $\frac{N(N-1)}{2}$
Number of Rounds = $N-1$

Example: Drawing a Fixture of 6 Teams

Number of Matches = $\frac{N(N-1)}{2}$ = $\frac{6(6-1)}{2}$ = 15 Matches
Number of Rounds = $N-1$ = 6-1 = 5 Rounds



FORMULA SUMMARY

		No. of Matches	No. of Round	Teams in Upper Half	Teams in Lower Half	Byes
Knockout Tournament	Knock Out-Odd	N-1	k	$\frac{(N+1)}{2}$	$\frac{(N-1)}{2}$	2^k-N
	Knock Out-Even	N-1	k	$\frac{(N)}{2}$	$\frac{(N)}{2}$	2^k-N
		where k is the next highest power of 2, such that 2^k>N>2^{k-1}				
League Tournament						
	Cyclic & Staircase (Odd)	$\frac{N(N-1)}{2}$	N			
	Cyclic & Staircase (Even)	$\frac{N(N-1)}{2}$	N-1			

INTRAMURAL & EXTRAMURAL TOURNAMENTS – MEANING, OBJECTIVES & ITS SIGNIFICANCE

FUNCTIONS	INTRA-MURAL	EXTRA-MURAL
MEANING	**Intra- Within** **Mural- Wall** Competition which is played within the wall of an institution. e.g. Inter House Tournament in a Kendriya Vidyalaya	**Extra- Outside** **Mural- Wall** Competition which is played outside the wall of an institution. e.g. Regional Sports Meet / National Sports Meet in Kendriya Vidyalaya Sangathan
OBJETIVE	Promote Fitness Build Community Skill Development Inclusivity Fun and Recreation	Competition Compete for Recognition Skill Showcase Networking Achievement
SIGNIFICANCE	Intramural tournaments contribute to the overall well-being of the organization by promoting physical health, team spirit, and a positive social environment	Extramural tournaments offer opportunities for individuals and institutions to showcase their abilities, promote their brand, and compete at a higher level, contributing to a sense of pride and achievement

COMMUNITY SPORTS PROGRAM (SPORTS DAY, HEALTH RUN, RUN FOR FUN, RUN FOR SPECIFIC CAUSE & RUN FOR UNITY)

Community sports programs includes a variety of events and initiatives that **aim** to **promote physical activity**, **community engagement**, and **social causes**.

SPORTS DAY:

Objective: To bring the community together through a day of sports and recreational activities.

Significance: Fosters community bonding, encourages physical fitness, and provides a platform for friendly competition.

HEALTH RUN:

Objective: To promote health and wellness through organized running events.

Significance: Encourages people to adopt an active lifestyle, raise awareness about the importance of exercise, and improve cardiovascular health.

RUN FOR FUN:

Objective: To create a fun and enjoyable running experience for participants of all ages and fitness levels.

Significance: Promotes physical activity without the pressure of competition, making it accessible to a wide range of individuals.

RUN FOR SPECIFIC CAUSE:

Objective: To raise awareness and funds for a particular social or environmental cause.

Significance: Combines fitness with philanthropy, allowing participants to contribute to a meaningful cause while pursuing their fitness goals.

RUN FOR UNITY:

Objective: To celebrate unity, diversity, and harmony among community members.

Significance: Promotes a sense of togetherness, regardless of differences, and emphasizes the importance of a united community.

SELF PRACTISE QUESTIONS

MULTIPLE CHOICE QUESTIONS: 01 Marks

Q1. Which of the following is/are the functions of Sports Management.

a) Planning
b) Staffing
c) Controlling
d) All of these

Q2. Which of the following Sports Management process involves in recruitment of personnel.

a) Planning
b) Staffing
c) Controlling
d) All of these

Q3. Which of the following is NOT a committee to conduct a tournament or competition?

a) Committee for Publicity
b) Committee for releasing a film
c) Committee for Boarding and Lodging
d) Committee for First-aid

Q4. Which of the following is/are the function(s) of organising committee?

a) Planning and Advisory function
b) Executive function
c) Both of these
d) None of these

Q5. Which of the following method is used to draw fixtures in league tournaments?

a) Staircase
b) Tabular
c) Cyclic
d) All of the above

Q6. Which one of the following methods is NOT used for drawing fixtures in league tournaments?

a) Cyclic method
b) Staircase method
c) Knockout Method
d) Both (a) and (b)

Q7. Which of the following is formula to calculate number of teams in League Tournament:

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

Q8. Which of the following is formula to calculate number of teams in Knockout Tournament?

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

Q9. Which of the following is a significance of Extramural Competition?

a) Promoting Physical Education
b) Positive social environment
c) For competing at higher level
d) Promotion of health

Q10. Which of the following is a Community Sports Programme?

a) Health Run
b) Run for Fun
c) Run for Unity
d) All of the above

VERY SHORT ANSWER QUESTION 2 Marks

Q1. Meaning of Intramural and Extramural.

Answer:

Intramural- The word is derived from the combination of two word- 'Intra' & 'Mural', which means within the wall. This is basically the competitions which is played **within** the organization. E.g. School, College etc.

Extramural- The word is derived from the combination of two word- 'Extra' & 'Mural', which means outside the wall. This is basically the competitions which is played **between** the organizations. E.g. Inter-college tournament, Inter University Tournament.

Q2. Describe the Management principle- 'Staffing'.

Answer:

Staffing is one of the management principle which is focused on assigning right work to the right people. This may also involve recruitment of new personnel based on the requirement for completion of the task in proper manner.

Q3.Name of any two community sports program.

Answer:

The community sports programme are organised to spread any social message among the citizens and make them aware regarding certain concepts.

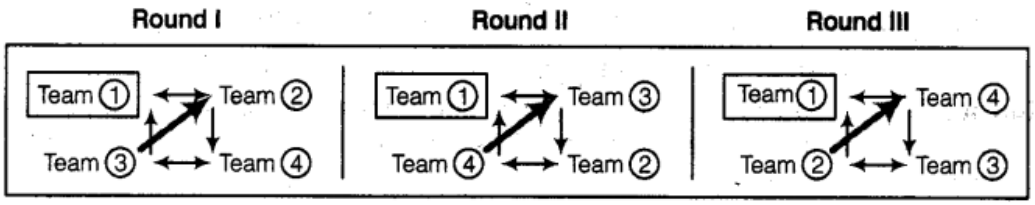
Run for Unity- This type of community programme is organised for promoting the sense of 'Unity' among the citizens of India.

Run for Health- This type of community programme is organised for spreading the message of healthy habits among the residents of a community.

SHORT ANSWER QUESTION 3 Marks

Q1. Draw a League Fixture of 4 teams using 'Cyclic' Method.

Answer:



$$\text{Total matches} = \frac{N(N-1)}{2} = \frac{4(4-1)}{2} = \frac{4\times 3}{2} = \frac{12}{2} = 6 \text{ (2 matches in each round)}$$

where team 1 is fixed.

Q2. Draw a League Fixture of 7 teams using 'Staircase' Method.

Answer:

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	

$$\text{Total matches} = \frac{N(N-1)}{2} = \frac{7(7-1)}{2}$$

$$= \frac{7\times 6}{2} = \frac{42}{2} = 21 \text{ matches}$$

CASE STUDY BASED QUESTIONS 4 Marks

Q1. A school has divided all the students in four groups and named them as- Shakti House, Shanti House, Jyoti House & Kirti House. In the month of December the school planned to conduct an Inter-house Football competition. The school student council formed a committee and successfully conducted the tournament.

a) The committee formed by school student council can be called as _____?
b) If the school conducts a League tournament how many matches will be played?
c) If the school conducts a Knockout Tournament how many matches will be played?
d) This type of event will be considered as Intramural or Extramural Competition?

Answer:

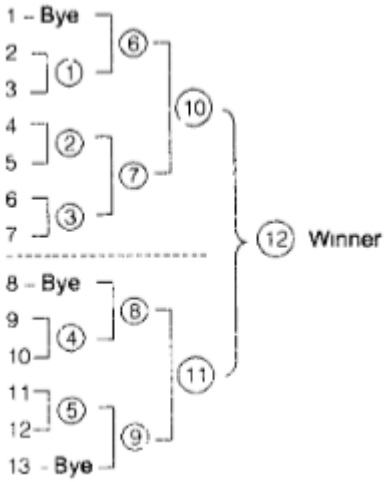
a) Organizing Committee
b) 6 Matches
c) 3 Matches
d) Intramural Competition

LONG ANSWER QUESTION **5 Marks**

Q1. Draw a Knockout Fixture of 13 teams.

Answer:

7. Number of Matches : 13-1= 12
8. Number of Rounds : 4
   as $2^4 \geq 13 > 2^{4-1}$ i.e. $16 \geq 13 \geq 8$
9. Number of teams in Upper and Lower Half and divide the teams:
   Number of Teams in Upper Half = $\frac{(13+1)}{2}$ = 7
   Number of Teams in Lower Half = $\frac{(13-1)}{2}$ = 6
10. Number of Byes: = $2^k - N == 2^4 - 13$ = 3



Chapter- 2

CHILDREN & WOMEN IN SPORTS

1. Exercise guidelines of WHO for different age groups.
2. Common postural deformities-knock knees, flat foot, round shoulders, Lordosis, Kyphosis, Scoliosis, and bow legs and their respective corrective measures.
3. Women's participation in Sports – Physical, Psychological, and social benefits.
4. Special consideration (menarche and menstrual dysfunction).
5. Female athlete triad (Osteoporosis, Amenorrhea, eating disorders)

EXERCISE GUIDELINES OF WHO FOR DIFFERENT AGE GROUPS

AGE GROUP	ACTIVITY	DURATION
Less Than 1 Year	Interactive floor-based play	Physically active several times a day including 30 minutes of tummy time.
1-2 Years	variety of types of physical activities including moderate to vigorous-intensity physical activity	At least 180 minutes spread throughout the day
3-4 Years	variety of types of physical activities at any intensity, of which at least 60 minutes is moderate to vigorous intensity physical activity.	At least 180 minutes spread throughout the day

Parameters	Age group-5 to 17 years	Age group-18 to 64 years	65 years and above
INTENSITY	Moderate to vigorous	Moderate to vigorous	Moderate or greater intensity
VOLUME/ DURATION	At least 1 hour in a day/more than 60 minutes daily	150 to 300 minutes /week for healthy adults	150 to 300 minutes /week for healthy adults
TYPES OF ACTIVITIES	**1.Aerobic:** At least 3 days of the week **2.Muscle-strengthening:** At least 3 days of the week **3.Bone-Strengthening:** At least 3 days of the week	**1.Aerobic:** 150 to 300 minutes /week **(Moderate intensity)(** At least 10 minute per day) **75** to 150 minutes /week **(vigorous intensity)** **2.Muscle-strengthening:** At least 2 days of the week **3.Balance-enhancing activities :** At least 3 days of the week	Varied **multi component physical activity** for 1.**Aerobic** 150 to 300 minutes /week **(Moderate intensity)** **75** to 150 minutes /week **(vigorous intensity)** 2.**muscle-strengthening and** 3. **Balance-enhancing:** 3 or more days a week

BENEFITS	Develop Muscular-skeletal system, cardiovascular system, Neuromuscular system Helps to develop psychological and sociological aspect including promote academic performance.	Helps to lower the risk of all causes of mortality and communicable diseases and depression. Improve cardio respiratory and muscular fitness along with healthy body composition and bone health.	To enhance functional capacity and to prevent falls.
ACTIVITICS	Play, games, sports ,recreation ,physical education ,unplanned to planned exercise programme with or within family, school and community.	Walking, Jogging, dancing, weight training swimming, cycling. Occupational and household work. Games, sports ,recreation planned exercise programme with or within family and community	like walking, swi mming, stretching , dancing, gardening,hiking, cycling, or participating in organized exercise sessions.

COMMON POSTURAL DEFORMITIES

This refers to the deformation in the skeletal structure or where the body parts are not aligned that result in some kind of postural deformities. People having postural deformities cannot perform their work efficiently.

KNOCK KNEE (GENU VALGUM)

In Knock knees, both knees knock or touch each other while standing in a normal position.

CAUSES

Overweight body.
Lack of balanced diet.
Lack of vitamin D, calcium and phosphorus.
Weakness of muscles and ligaments.

PRECAUTIONS

Balance diet should be taken.
Do not force the babies to walk at early age.

CORRECTIVE MEASURES

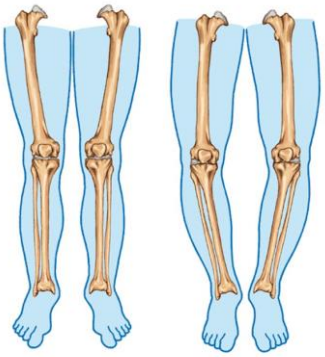
- Horse Riding
- Keep Pillow between knees for some time.
- Use walking callipers
- Perform **Padmasana** and **Gomukhasana**.
- Take nutritious meals.

BOW LEGS (GENU VARUM)

It is the opposite of the knock knees position. If there is a wide gap between knees while standing in a normal position it is bow legs.

CAUSES

Putting extra weight on leg muscles.
Lack of balanced diet and deficiency of calcium and phosphorus.
Improper way of walking.
Forcing babies to walk at a very early age.



PRECAUTIONS

Balanced diet should be taken.
Do not force the babies to walk at early age.

CORRECTIVE MEASURES

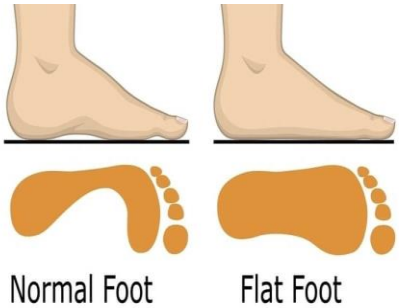
Never stand for a long time.
Walk by bending the toes inward.
Walk on the inner edge of the feet.
Stand erect with feet joined together.
Perform Garudasana, Ardha chakrasana and Ardhmatseyendrasana.

FLAT FOOT (PES PLANUS)

It is a condition in which the arches on the inside of the feet flatten when pressure is put on them.

CAUSES

Heaviness of the body.
Standing for a long time,
Use of poor quality footwear not having an arch.
Faulty posture.



PRECAUTIONS

Wear shoes of proper shape and size.
High heeled shoes or walking barefoot for long durations should be avoided.

CORRECTIVE MEASURES

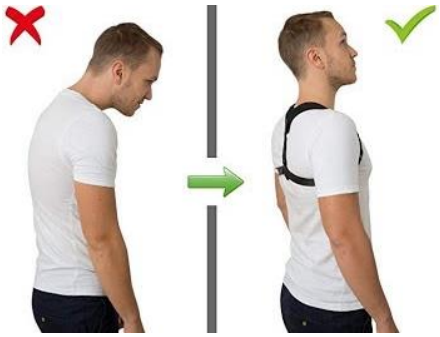
Walk on heels and toes.
Pick up marbles with toes.
Perform Vajrasana and Tadasana
Walk on wooden staircase.
Jumping Rope
Jumping on toes.

ROUND SHOULDERS

The term rounded shoulders is used to describe a resting shoulder position that has moved forward from the body's ideal alignment. Also known as ‘Mom Posture’.

CAUSES

Poor posture in work, particularly in a desk job.
Faulty furniture.
Wrong habit of standing and sitting.
Carrying heavy load on shoulders.



PRECAUTIONS

Do not sit, stand or walk in bent position.
Avoid tight fitting clothes

CORRECTIVE MEASURES

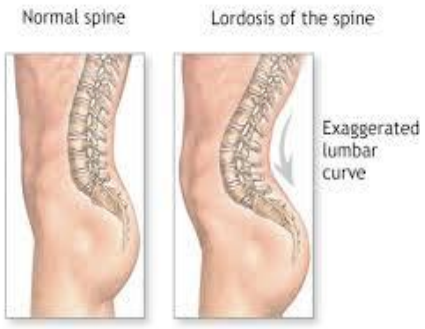
Stand in correct posture.
Hold horizontal Bars
Keep tips of fingers on your shoulder and rotate your hand in the clockwise and anti-clockwise direction.
Perform Chakrasana & Dhanurasana.

LORDOSIS (SWAYBACK)

Lordosis is the decrease in inward curvature of the spine. It creates problem in standing and walking. It can be corrected in the initial stage. Also Known as Hollow Back.

CAUSES

Habitual over-eating.
Improper environment.
Diseases affecting vertebrae.
Improper development of muscles.
Lack of exercise.



PRECAUTIONS

Take a balanced diet.
Keep the body straight while carrying weights.
Avoid walking too long with weight on one hand.
Don’t walk, sit or stand in bent position.

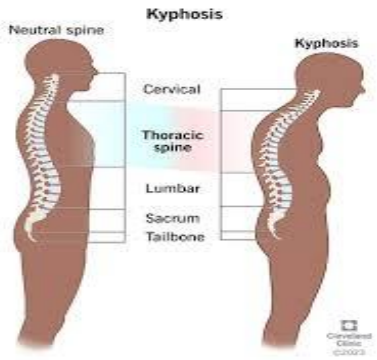
CORRECTIVE MEASURES

Perform Halasana and Paschimottasana.
Do sit-ups slowly.
Stand to attention and touch the feet with the hands repeatedly.
Lie on your back and lift feet vertically.

KYPHOSIS (HUNCHBACK)

Kyphosis implies an increase of a backward curve or decrease of forward curve. Depression of the chest is common in kyphosis.

Causes
Malnutrition, illness.
Carrying heavy load on shoulders.
Habit of bending while walking.
Wearing light and shapeless clothes.



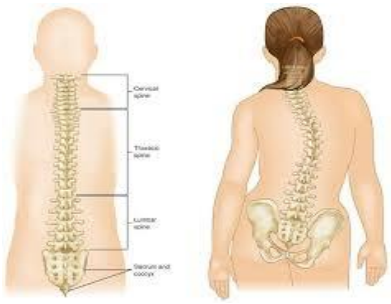
Precautions
Take a balanced diet.
Keep the body straight while carrying weights.
Avoid walking too long with weight on one hand.
Don't walk, sit or stand in bent position.

Corrective Measures
Bend head backwards in standing position.
Perform Chakrasana Dhanurasana,and Bhujangasana.
Hold arms at shoulder level and bending elbows.

SCOLIOSIS

Postural adjustment of the spine in a lateral direction is called scoliosis. A single curve to the left is called the C curve. It can also be found in an S shape.

CAUSES
Short leg of one side.
One side flat foot.
Carrying heavy loads on one shoulder.
Heredity defects.
One side paralysis of spinal muscles.



PRECAUTIONS
Take a balanced diet.
Keep the body straight while carrying weights.
Avoid walking too long with weight on one hand.
Don't walk, sit or stand in bent position.

CORRECTIVE MEASURES
Avoid walking with a heavy weight.
Lie down in a prone position
Stand erect with feet few inches apart.
Tadasana & Trikoanasana
Pull Ups
Note This problem can be controlled by an expert doctor.

WOMEN'S PARTICIPATION IN SPORTS – PHYSICAL, PSYCHOLOGICAL, AND SOCIAL BENEFITS

PHYSCAL BENEFITS	PSYCHOLOGICAL BENEFITS	SOCIAL BENEFITS
- Improved cardiovascular health - Increased muscle strength and endurance - Weight management - Reduced risk of chronic diseases	- Improved mood - Increased self-esteem - Reduced stress	- Increased social support - Increased social connectedness - Increased leadership skills

SPECIAL CONSIDERATION (MENARCHE AND MENSTRUAL DYSFUNCTION)

Special care should be taken by sportswomen because of the problems associated with their physiology.

MENARCHE

- Menarche is a girl's first menstrual period. It can happen as early as age 9 or up to age 15.
- During this time, girls feel tense and emotional.
- Special attention should be given at this time.
- As a sportsperson, a young woman has to take special care of herself at that time.

MENSTRUAL DYSFUNCTION

Long distance running and other sports may lead to alterations in androgen, oestrogen and progesterone hormones, which in some women may directly or indirectly result in **amenorrhea** (absence of menstrual periods) or infertility.

SPECIAL CONSIDERATIONS	
Education	Providing education about menstrual health and hygiene
Flexible Training and Competition Schedules	Flexibility in training and competition schedules to accommodate menstrual cycles
Proper Attire	Comfortable and supportive undergarments and menstrual products should be provided
Supportive Environment	Supportive and non-judgmental environment to discuss and manage their menstrual health concerns.
Inclusion	Ensure that girls and women with menstrual dysfunction are not excluded from participation in physical activities and sports.

FEMALE ATHLETE TRIAD
(OSTEOPOROSIS, AMENORRHEA, EATING DISORDERS)

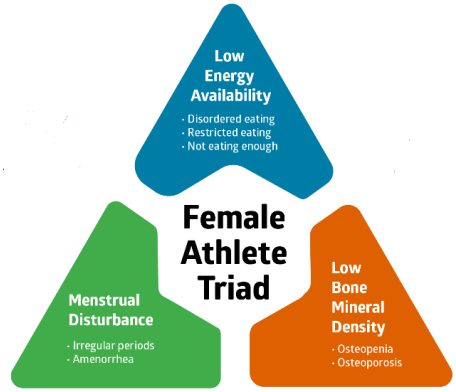
FEMALE ATHLETE TRIAD

The female athlete triad (the triad) is an interrelationship of **menstrual dysfunction**, **low energy availability** (with or without an eating disorder), and **decreased bone mineral density**. It is relatively common among young women participating in sports.

A female athlete can have one, two, or all three parts of the triad.

OSTEOPOROSIS

It is a condition in which bones become weak and brittle. It occurs when the body loses too much bone, makes too little bones or both.



Causes:

- Menopause
- Advanced age
- Diet low in Calcium
- Eating disorder
- Bad eating habit

AMENORRHOEA

It is the absence of menstruation periods that can-happen for many reasons.

Main causes are:

- Genetic abnormalities
- Excessive exercise
- Extreme physical or psychological stress.
- Malnutrition and eating disorder

EATING DISORDERS

It refers to either eating in excessive amounts or eating in very little amounts.
This disorder is related to mental illness and affects a – person's physical and. mental health.

Types of Eating Disorder:

1. Anorexia Nervosa: The person restrict the amount of food because of fear of gaining weight.

2. Bulimia Nervosa: A person eats excessive amount of food and then vomits it in order not to gain weight.

SELF PRACTISE QUESTIONS

MULTIPLE CHOICE QUESTIONS: 01 Marks

Q1. WHO has recommended _____ min of Moderate to vigorous exercise for 5-17 years?

a) 60
c) 50
b) 40
d) 30

Q2. Knock knee is known as:

a) Genu varum
c) Genu Valgum
b) Pigeon Chest
d) None of the above

Q3. Bow leg is known as:

a) Genu Varum
c) Genu Valgum
b) Pigeon Chest
d) None of the above

Q4. Participation of women in Physical activity leads to

a) Intrinsic Motivation
c) Reduced stress
b) Extrinsic Motivation
d) All of the above

Q5. Which of the following is part of 'Female Athlete Triad'?

a) Osteoporosis
c) Eating disorder
b) Amenorrhoea
d) All of the above

Q6. Which of the following is part of eating disorder?

a) Anorexia Nervosa
c) Both (a) and (b)
b) Bulimia Nervosa
d) None of the above

Q7. 'Dhanurasana' is beneficial in management of which postural deformity?

a) Kyphosis
c) Bow leg
b) Flat foot
d) Scoliosis

Q8. 'Tadasana' is beneficial in management of which postural deformity?

a) Kyphosis
c) Bow leg
b) Flat foot
d) Scoliosis

Q9. Keeping pillow between the legs helps in the management of:

a) Knock knee
c) Bow leg
b) Flat foot
d) Scoliosis

Q10. 'Round Shoulder' is known as?

a) Genu Varum
c) Genu Valgum
b) Pigeon Chest
d) Mom Posture

Q11. Assertion-Reason Type Questions

Assertion (A): "Achieving health for all means doing is best for health right from the beginning of people's lives," says WHO Director-General Dr Tedros Adhanom Ghebreyesus.

Reason (R): For children at least 180 minutes of Physical activities of which 60 minutes is moderate to vigorous intensity physical activity should be planned.

In the context of the above two statements, 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 and (R) is not the correct explanation of (A).
c) (A) is true but (R) is false.
d) (A) is false but (R) is true.

Q12. Assertion-Reason Type Questions

Assertion (A): Flat foot refers to a change in foot shape in which the foot does not have a normal arch when standing.

Reason (R): Yoga asanas like Chakrasana and Dhanurasana,are also helpful in developing the arch in case of flat foot.

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

Q13. Matching Type Questions

List-1	**List-2**
I) Knock Knee	1.Increase exaggeration of backward curve
II) Kyphosis	2.wide gap between the knees when standing
III) Lordosis	3.Knee touch each other in normal standing positions
IV) Bow Leg	4.Inward curvature of the spine

Choose the correct option from the following:

	I	II	III	IV
a)	**3**	**1**	**4**	**2**
b)	1	3	4	2
c)	4	2	1	3
d)	2	3	4	1

Q14. Match the postural deformities with their names

List-1


I


II


III


IV

List-II

1. Scoliosis 2. Flat foot 3. Lordosis 4. Knock Knee

Choose the correct option from the following:

	I	II	III	IV
a)	1	2	3	4
b)	**3**	**1**	**4**	**2**
c)	3	4	1	2
d)	1	3	4	2

VERY SHORT ANSWER QUESTION 2 Marks

Q1. What kind of activity should be a part of exercise and of what duration for individuals of age group of 5-17 years children?

Answer:

WHO has recommended minimum duration and frequency of exercise for all the age groups. The recommendations for children of 5-17 years are as follows:

- Moderate to vigorous aerobic physical activity (MVPA) for 60 minutes daily.
- Vigorous aerobic activity should be performed at least 3 days a week.
- Muscle strengthening activity should be performed at least 3 days a week.

Q2. Name any two management of Knock Knee.

Answer.

Knock knee is a postural deformity and can be tried to be corrected with the following ways.

- By keeping a pillow in between legs while sleeping.
- Yoga asanas like Padmasana & Gomukhasana are also be beneficial

Q3. What is Menarche? Mention any one special consideration for women during menstruation dysfunction.

Answer:

'Menarche' is the onset of menstruation process in a girl and special attention should be given to female athletes during this period. However several menstrual dysfunctions can occur and for this proper education should be provided to the female athletes so that they can avoid such dysfunction and continue physical activity.

SHORT ANSWER QUESTION 3 Marks

Q1. Name three postural deformity and Asanas that can be beneficial in management of such deformity?

Answer:

(i) **Lordosis**.: When the inward curvature of the spine gets decreased it is known as Lordosis. It can be managed by performing *Halasana* regularly.

(ii) **Round shoulder**. The term rounded shoulders is often described as a resting shoulder position that has moved forward from the body's ideal alignment. *Dhanurasana* and *Chakrasana* is beneficial in this condition.

(iii) **Flat foot.** It is a condition in which the arches on the inside of the feet flatten when pressure is put on them. *Tadasana* is beneficial for management of Flat Foot.

Q2. Discuss the benefits for women while participating in Physical activity.

Answer:

Participation in physical activity has many advantages:

Physical benefits. It helps improving the various systems of the body and also helps in weight management. Further it reduces the risk of chronic heart diseases.

Psychological benefits. Participation in physical activity helps in regularization of mood and reduces stress. It further helps in improving the Self-Esteem.

Social benefits. It strengthens the social connection and social support and further enhance the Leadership skill in a women.

CASE STUDY BASED QUESTIONS 4 Marks

Q1. Mr. Alex, Physical education Teacher at Public School observed that a student of class VIII has a problem of Lumbar-Spine, which is bent in front beyond the normal level. He suggested some exercises to rectify this problem.

Based on this case study, answer the following questions.

a) What is this deformity known as?
b) The deformity referred by Mr. Alex is commonly known as _____.
c) The deformity referred by Mr. Alex related to _____.
d) Which asana can be beneficial in managing the deformity referred by Mr. Alex?

Answer:

a) Lordosis
b) Hollow Back
c) Vertebral Column
d) Halasana

LONG ANSWER QUESTION 5 Marks

Q1. What do you mean by correct posture? Explain the standing and sitting posture. What are the causes of bad posture?

Answer:

Correct posture may also be defined as that assumed position which enables the body to perform or function effectively and is alligned in normal position where weight is equally distributed among different segments of the body e.g. Right & left etc.

Correct Posture of Standing In standing position, both the heels of the feet should meet each other. The whole body should be erect, knees straight, chin inside, chest forward, belly backward and pressed inside with equal body weight on both feet. In this position, the complete body should be balanced.

Correct Posture of Sitting When we sit in a chair, our hips should be in a straight line and erect. Legs should touch the ground and should not be in hanging position. Thighs should be in horizontal position. The backbone should be erect with the upper region of the backbone straight against the back of the chair.

There are different factors which can impact on posture. Some common causes for bad posture are given below:

- Pain or past injuries
- Low nutrition
- Hereditary reasons
- Overweight and obesity
- Habit
- Type of job
- Lifestyle and fashion

Chapter- 3

YOGA AS PREVENTIVE MEASURE FOR LYFESTYLE DISEASE

1. Obesity: Procedure, Benefits & Contraindications for Tadasana, Katichakrasana, Pavanmuktasana, Matsayasana, Halasana, Pachimottansana, Ardha – Matsyendrasana, Dhanurasana, Ushtrasana, Suryabedhan pranayama.

2. Diabetes: Procedure, Benefits & Contraindications for Katichakrasana, Pavanmuktasana,Bhujangasana, Shalabhasana, Dhanurasana, Supta-vajarasana, Paschimottanasan-a, Ardha-Mastendrasana, Mandukasana, Gomukasana, Yogmudra, Ushtrasana, Kapalabhati.

3. Asthma: Procedure, Benefits & Contraindications for Tadasana, Urdhwahastottansana, UttanMandukasan-a, Bhujangasana, Dhanurasana, Ushtrasana, Vakrasana, Kapalbhati, Gomukhasana Matsyaasana, Anuloma-Viloma.

4. Hypertension: Procedure, Benefits & Contraindications for Tadasana, Katichakransan, Uttanpadasana, Ardha Halasana, Sarala Matyasana, Gomukhasana, UttanMandukasan-a, Vakrasana, Bhujangasana, Makarasana, Shavasana, Nadi- shodhanapranayam, Sitlipranayam.

5. Back Pain and Arthritis: Procedure, Benefits & Contraindications of Tadasan, Urdhawahastootansana, Ardh-Chakrasana, Ushtrasana, Vakrasana, Sarala Maysyendrsana, Bhujandgasana, Gomukhasana, Bhadrasana, Makarasana, Nadi-Shodhana pranayama.

LIFESTYLE DISEASES	PREVENTIVE ASANAS	
OBESITY "It is condition of body in which the amount of fat increases to extreme level" Can cause Diabetes, Hypertension, Cardio-vascular diseases, cancer, arthritis, flatfoot, respiratory problems, liver malfunction etc.	• Tadasana • Katichakrasana • Pavanmuktasana • Matsayasana • Halasana	• Pachimottansana • Ardha – Matsyendrasana • Dhanurasana • Ushtrasana • Suryabedhan Pranayama.
DIABETES It is the condition of the body in which the amount of sugar in the blood is prevented from being used by the cells and is build-up in the blood. **Type I-** (Rare) Pancreas do not produce sufficient Insulin **Type II-** (Common) The insulin hormone is not properly used by the body	• Katichakrasana • Pavanmuktasana • Bhujangasana • Shalabhasana • Dhanurasana • Supta-vajarasana • Paschimottanasana	• Ardha-Mastendrasana • Mandukasana • Gomukasana • Yogmudra • Ushtrasana • Kapalabhati.
ASTHMA It is a condition in which the airways gets blocked or narrowed causing difficulty in breathing • Allegic or Non-Allergic • Genetic factors	• Tadasana • Urdhwahastottansana • UttanMandukasan • Bhujangasana • Dhanurasana • Ushtrasana	• Vakrasana • Kapalbhati • Gomukhasana • Matsyaasana • Anuloma-Viloma.
HYPERTENSION It is the condition of increased blood pressure in the body 120/80 mmHg is considered normal. Reading beyond 140/90 mmHg is considered as a state of Hypertension	• Tadasana • Katichakransan • Uttanpadasana • Ardha Halasana • Sarala Matyasana • Gomukhasana • UttanMandukasana	• Vakrasana • Bhujangasana • Makarasana • Shavasana, • Nadi-shodhana Pranayam • Sitli Pranayam.
BACK PAIN AND ARTHRITIS	• Tadasan • Urdhawahastootansana • Ardh-Chakrasana • Ushtrasana • Vakrasana • Sarala Maysyendrsana	• Bhujandgasana • Gomukhasana • Bhadrasana • Makarasana • Nadi-Shodhana Pranayama.

ASANAS	OBESITY	DIABETES	ASTHAMA	HYPERTENSION	ARTHERITIS
Tadasana	•		•	•	•
Katichakrasana	•	•		•	
Pavanmuktasana	•	•			
Matsayasana	•		•		
Halasana	•				
Pachimottansana	•	•			
Ardha–Matsyendrasana	•	•			
Dhanurasana	•	•	•		
Ushtrasana	•	•	•		•
Bhujangasana		•	•	•	•
Shalabhasana		•			
Supta-vajarasana		•			
Mandukasana		•			
Gomukhasana		•	•	•	•
Urdhwahastottansana			•		
UttanMandukasan			•	•	
Uttanpadasana				•	
Ardha Halasana				•	
Sarala Matyasana				•	•
Makarasana				•	•
Shavasana				•	
Urdha Wahastootansana					•
Ardh Chakrasana					•
Bhadrasana					•
PRANAYAMA	OBESITY	DIABETES	ASTHAMA	HYPERTENSION	ARTHERITIS
Yogmudra		•			
Suryabedhan Pranayama	•				
Kapalabhati		•	•		
Nadi-shodhana Pranayam				•	•
Sitli Pranayam				•	
Anuloma-Viloma			•		

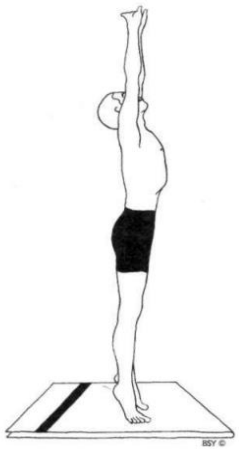


Fig: 2.1 Tadasana

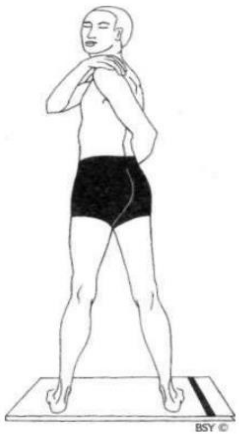


Fig: 2.2 Katichakrasana

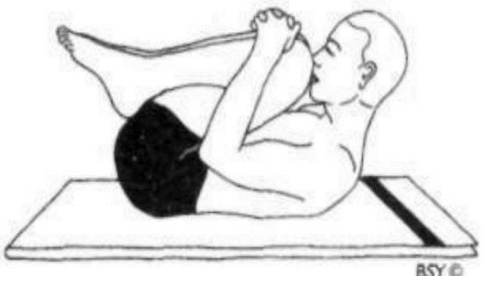


Fig: 2.3 Pavanmuktasana

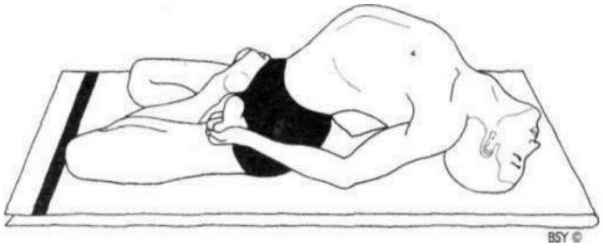


Fig: 2.4 Matsayasana

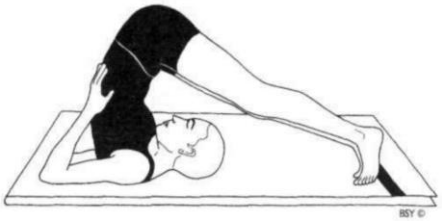


Fig: 2.5 Halasana

Fig: 2.6 Pachimottansana

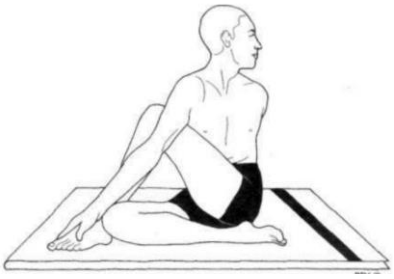


Fig: 2.7 Ardha–Matsyendrasana

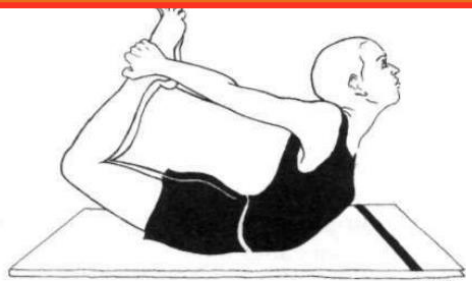


Fig: 2.8 Dhanurasana

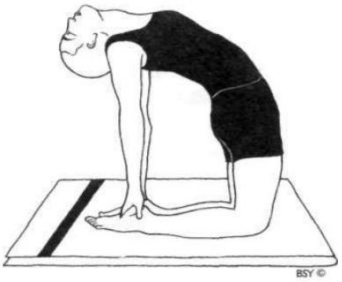


Fig: 2.9 Ushtrasana

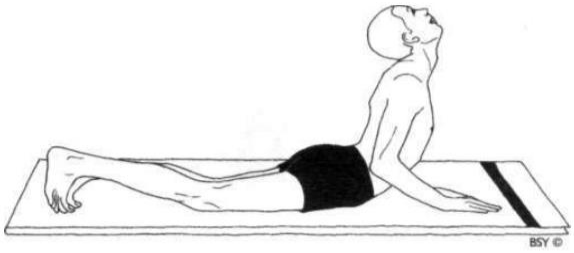


Fig: 2.10 Bhujangasana

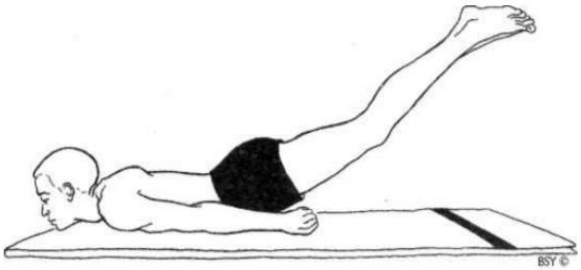


Fig: 2.11 Shalabhasana

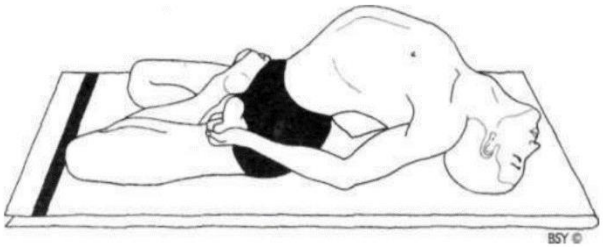


Fig: 2.12 Supta-vajarasana

Fig: 2.13 Mandukasana

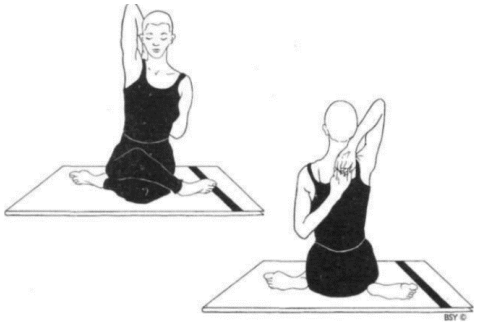


Fig: 2.14 Gomukhasana

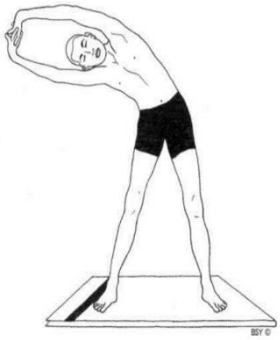


Fig: 2.15 Urdhwahastottansana

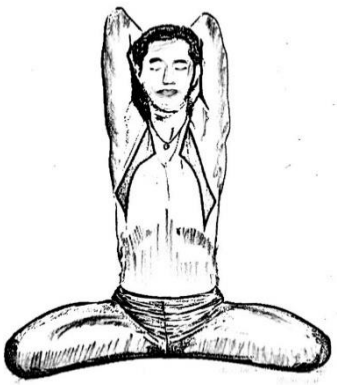


Fig: 2.16 UttanMandukasan

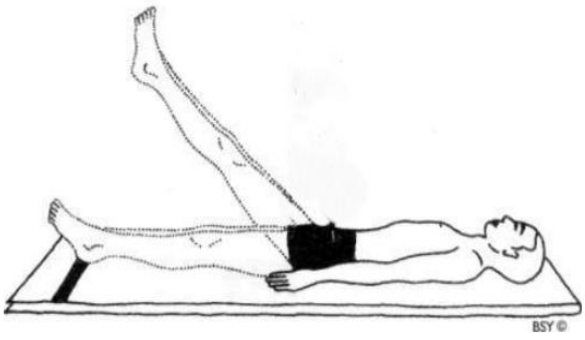


Fig: 2.17 Uttanpadasana

Fig: 2.18 Ardha Halasana

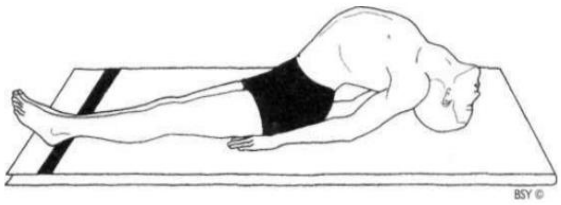


Fig: 2.19 Sarala Matyasana

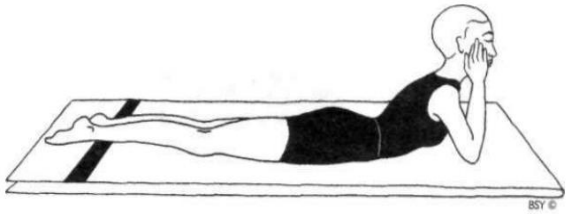


Fig: 2.20 Makrasana

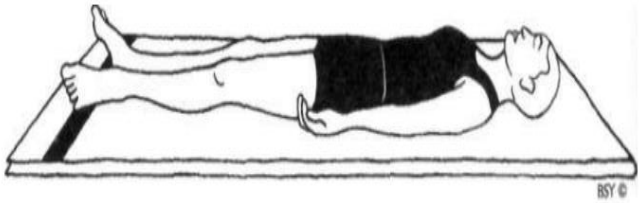


Fig: 2.21 Savasana

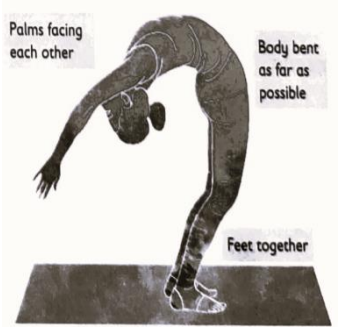


Fig: 2.22 Ardh Chakrasana

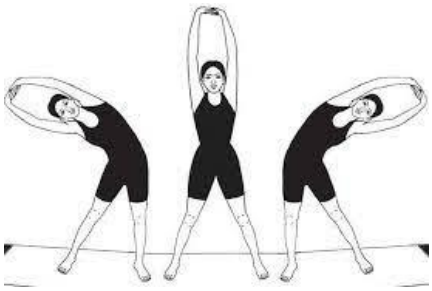


Fig: 2.23 Urdha Wahastootansana

Fig: 2.24 Bhadrasana

SELF PRACTISE QESTIONS

MULTIPLE CHOICE QUESTIONS: 01 Marks

Q1. Which of the following asanas is not recommended for diabetes patients?

a) Bhujangasana
b) Pawanmuktasana
c) Paschimottanasana
d) Tadasana

Q2. Which of the following asanas is practiced in lying (supine) position?

a) Shavasana
b) Tadasana
c) Chakrasana
d) All of these

Q3. Makarasana is beneficial for _____

a) Diabetes
b) Hypertension
c) Obesity
d) None of these

Q4. Which amongst the following is a sitting asana?

a) Ardha matsyendrasana
b) Padahastasana
c) Ardha chakrasana
d) Trikonasana

Q5. Which of the following should be performed for curing diabetes?

a) Dhanurasana
b) Bhujangasana
c) Pawanmuktasana
d) All of these

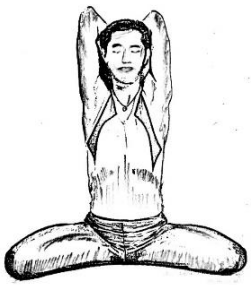
Q6. Which asana is helpful in maintaining normal blood pressure?

a) Shavasana
b) Padmasana
c) Shalabhasana
d) Vakrasana

Q7. One of the possible causes for obesity could be _____

a) Heredity
b) Excessive Eating
c) Fast metabolism
d) Both (a) & (b)

Q8. Identify the asana.



a) Uttan Mandukasana
b) Vakrasana
c) Uttan padasana
d) Ardha halasana

Q9. Given below are the two statements labelled as Assertion (A) and Reason(R)
Assertion (A) : Bhujangasana is beneficial for various life style diseases
Reason(R) : Bhujangaasana position gives a gentle massage to digestive system, and vertebrae muscles.
In the context of the above two statements, 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 and (R) is not the correct explanation of (A).
c) (A) is true but (R) is false.
d) (A) is false but (R) is true.

Q10. Given below are the two statements labelled as Assertion (A) and Reason(R)
Assertion (A) : High blood pressure is the blood flows forcefully into the arteries
Reason(R) : The extra pressure exerted on the arterial wall (surface) by the blood.
In the context of the above two statements, 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 and (R) is not the correct explanation of (A).
c) (A) is true but (R) is false.
d) (A) is false but (R) is true

VERY SHORT ANSWER QUESTION 2 Marks

Q1. What is the role of yoga in lifestyle diseases?
Answer:

- Yoga gives relief from physical and mental ailments.
- Regular practice of yoga relieves mental stress. Yoga makes a person free from anger, anxiety and emotional disturbances.
- Cold, cough, insomnia, asthma, constipation, arthritis, acidity, Diarrhea etc. can be prevented with the regular practice of yogic Asanas.
- Postural deformities can be prevented by the regular practice of yoga.

Q2. What is obesity? Is it a disease? Explain your answer.
Answer.

Obesity is defined as an excessive accumulation of fat [adipose tissue] that imparts health risk.

Obesity in itself is not a disease but the condition of obesity leads to many diseases caused by many factors including behaviours like eating patterns, lack of sleep, stress etc.

Q3. Explain the contraindications of Matsyendrasana
Answer:
Contraindications of Ardha Matsyendrasan are as follows

- Avoid doing during pregnancy and menstruation due to the strong twist in the abdomen.
- People with heart, abdominal or brain surgeries should avoid this asana.
- Those who are having a peptic ulcer or hernia should avoid it.
- Those with severe spinal problems should avoid it.
- Those with mild slipped discs can do it but in severe cases it should be avoided.

SHORT ANSWER QUESTION **3 Marks**

Q1. 1. Explain the procedure of 'Bhujangasana'.

Answer:

The procedure of Bhujangasana is as follows:

(This is done in a lying posture)

- Lie on the stomach and rest your forehead on the floor.
- Keep the feet and toes together and touch the ground,
- Place the hands at shoulder level and palms on the floor.
- Inhale and lift the head, chest, and abdomen up towards the roof and keep the navel on the floor.
- Pull your torso back and off the floor with support of your hands.

Q2. What do you understand about hypertension? Describe the procedure for performing any one Yogic asana which reduces hypertension.

Answer:

Hypertension occurs when the blood pressure of a person becomes abnormally high i.e. beyond the acceptable limits. One Yogic asana which reduces hypertension is the **Tadasana** (Palm tree Pose). It is performed in the following ways

- Stand erect and place your legs slightly apart, with your hands hanging alongside your body. Make your thigh muscles firm.
- Then lift your kneecaps while ensuring you do not harden the lower part of your belly.
- Hold the pose for 10-20 seconds and return to normal position.

CASE STUDY BASED QUESTIONS **4 Marks**

Q1. Neeti along with her father was regular at District Park in early morning. She realized that most of the children are obese. She along with her few classmates wanted to help those children. She discussed with her physical education teacher and the Principal of the school. School decided to organize awareness rally for the neighbourhood.

a) Obesity causes

i. Underweight
ii. Diabetes
iii. Back Pain
iv. Both (b) & (c)

b) Which of the following Asana (posture) is not used for curing obesity.

i. Ardhmatsyendrasana
ii. Vajrasana
iii. Parvatasana
iv. Trikonasana

c) Choose the Asana which is used for curing obesity

i. Sukhasana
ii. Shavasana
iii. Vajrasana
iv. Shalabhasana

LONG ANSWER QUESTION **5 Marks**

Q1. Explain the contraindications of Pada hastasana, Matsyendrasana and Urdhva hastasana.

Answer:

Contraindication of Pada hastasana are as follows

- A person who is suffering from a spinal problem should avoid doing it.
- Also avoid, if you have any type of knee or neck injury.

Contraindications of Ardha Matsyendrasan are as follows

- Avoid doing during pregnancy and menstruation due to the strong twist in the abdomen.
- People with heart, abdominal or brain surgeries should avoid this asana.
- Those who are having a peptic ulcer or hernia should avoid it.
- Those with severe spinal problems should avoid it.
- Those with mild slipped discs can do it but in severe cases it should be avoided.

Contraindications of Urdhva Hastasana

- Avoid in case of shoulder or neck injuries.
- Avoid, if experiencing dizziness while staring upwards and in case of any other medical concerns.

Chapter- 4

PHYSICAL EDUCATION & SPORTS FOR CWSN

1. Organizations promoting Disability Sports (Special Olympics; Paralympics; Deaflympics)
2. Concept of Classification and Divisioning in Sports.
3. Concept of Inclusion in sports, its need, and Implementation
4. Advantages of Physical Activities for children with special needs.
5. Strategies to make Physical Activities assessable for children with special needs.

ORGANIZATIONS PROMOTING DISABILITY SPORTS (SPECIAL OLYMPICS, PARALYMPICS, DEAFLYMPICS)

SPECIAL OLYMPICS INTERNATIONAL:

Special Olympics International- Started by **Eunice Kennedy Shriver** (Sister of John F Kennedy, former president of USA)

Children with **intellectual disabilities** could be exceptional athletes/sports persons and that through sports they can realize their potential for growth & development. Founded in **1968**

SPECIAL OLYMPICS BHARAT

Special Olympics Bharat: Officially recognised body in India- for developing Sports Opportunity for people with intellectual disabilities.

Founded in **1987 as Special Olympics India** and later changed to **Special Olympics Bharat in 2001**.

PARALYMPICS

Category of disabilities: **Physical**, **Visual** & **Intellectual** impairment.

Held at an **interval of 04(four)** years following the Olympic Games and is managed by International Paralympic Committee.

Vision- "*To enable Paralympic athletes to achieve sporting excellence and inspire and excite the world*."

First Paralympic Games held in **Rome 1960**. First Winter Paralympic games held in 1976, Sweden.

DEAFLYMPICS

International Event where individuals who are **Deaf** can only participate. Also known as **World games for Deaf**.

All **signals are Visual** in form (e.g. Referee use different colour flags in place of whistle)

Held once in **four Years**. **First Game- 1924, Paris**

CONCEPT OF CLASSIFICATION AND DIVISIONING IN SPORTS

Classification and Divisioning is a process used in disability sports for providing even and fair competition for athletes with disability through grouping of athletes. The goal is of classification or divisioning is to reduce or minimize the effect of sports performance due to variable abilities.

CLASSIFICATION: It refers to the process of **grouping athletes** based on their **functional abilities**, **impairments**, or **characteristics**, rather than their skill level. This ensures that individuals with similar conditions compete against each other, creating a level playing field.

DIVISIONING: On the other hand, it involves **categorizing athletes** into **specific divisions** or classes **based on their classification**. This ensures that competitions are structured in a way that accommodates various levels of abilities.

CLASSIFICATION	DIVISIONING
• Loss of limb or limb deficiency • Leg length difference • Impaired muscles power • Impaired passive range of movement • Short stature(Low Height due to short leg, arm and trunk) • Hypertonia(abnormal increase in muscles tension and reduced ability of a muscles to stretch) • Ataxia (lack of coordination of muscles movement)	• Age- Team sports and Individual sports • Gender • Skill Ability:- • Maximum Efforts Rule -to achieve the intentions to fairness. Athletes are expected to give their max. efforts during divisioning process.

CONCEPT OF INCLUSION IN SPORTS, ITS NEED, AND IMPLEMENTATION

Inclusion in sports refers to the practice of creating an environment where everyone, regardless of their abilities, gender, race, or background, can participate and feel welcome.

NEED FOR INCLUSION

Promoting Equality	It encourage the feeling belongingness among the CWSN.
Empowering Individuals	Empowers individuals with disabilities or to participate actively in sports.
Breaking Stereotypes	Inclusion helps challenge stereotypes associated with certain sports or genders, proving that anyone can excel in any discipline if given the opportunity and support.
Social and Psychological Development.	For inproving Self Esttem, Social and communication Skill.

IMPLEMENTATIONS FOR INCLUSION IN SPORTS

Accessible Facilities	For hassle free participation. E.g. ramps, adaptive sports equipment, and wheelchair-friendly spaces.
Training and Education	Coaches, referees, and volunteers should undergo training to understand the needs of diverse athletes
Inclusive Policies	Inclusive policies that address discrimination, harassment, and unequal treatment, while actively promoting diversity in all aspects of the game
Supportive Programs	Creating outreach programs for CWSN. E.g. Scholarship Programme etc.

ADVANTAGES OF PHYSICAL ACTIVITIES FOR CHILDREN WITH SPECIAL NEEDS

- Development of Motor Skills
- Improved mental Health & enhance Self-Esteem & Self- Image
- Ensure participation in Physical Education Programmes
- Improve Physical Fitness
- Improved Emotional health
- Behavioural Benefits
- Increased Independence
- Improve Social Adjustments

STRATEGIES TO MAKE PHYSICAL ACTIVITIES ASSESSABLE FOR CHILDREN WITH SPECIAL NEEDS

STRATEGIES	DESCRIPTION
COMMUNICATION	• An appropriate Communication methods should be used. E.g. for children with Verbal and hearing impairment visual signals to be used.
SPACE	• The area play should be reduces and must be free of hazards.
EQUIPMENT	• Size should be bigger for easy handling. • Weight should be lighter. • Shape should be regular. • Height of goal post etc. should be lower.
MODIFICATION IN RULES	• To be modified to meet the requirements and include them with regular Physical education class.
GOAL SETTING	• Small and achievable goals should be set for avoid reduction in Motivation.
INTEREST BASED ACTIVITIES	• Choice should be given for ensuring comfort and adaptability.

SELF PRACTISE QUESTIONS

MULTIPLE CHOICE QUESTIONS: **01 Marks**

Q1. Which of the following is not included in Paralympics Values?

e) Courage
f) Determination
g) Equality
h) Emotion

Q2. Eligibility criteria to participate in Paralympics includes

a) Amputee
b) Cerebral Palsy
c) Visually impaired
d) All of these

Q3. How many colours are there in the Deaflympics Logo?

e) 2
f) 3
g) 4
h) 5

Q4. In which year, the last Summer Deaflympics was organized?

e) 2015
f) 2016
g) 2017
h) 2022

Q5. In which year, the Special Olympics India was founded?

a) 1947
b) 1984
c) 1987
d) 2010

Q6. In which year, Special Olympics Bharat was registered?

e) 1984
f) 1988
g) 1998
h) 2001

Q7. In which year, the first Deaflympics was organized?

e) 1924
f) 1949
g) 1950
h) 1952

Q8. Which of the following games were known as 'World Silent Games'?

a) Special Olympics
b) Deaflympics
c) Paralympics
d) Adaptive games

Q9. The symbol of Paralympic Games is comprised of

a) Three agitos.
b) Three fingers
c) Four hands
d) Five fingers

Q10. Which of the following sports is not included in the Winter Deaflympics?

a) Snowboarding
b) Ice Hockey
c) Curling
d) Shooting

Q11. Assertion Reason Type Question
Assertion (A): Children with disability have a special need.
Reason (R): The children are not able to participate in regular physical activities and exercises.

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

Q12. Assertion Reason Type Question
Assertion (A): Adaptive sports are designed for all the individual
Reason (R): Special Olympics Paralympics and Deaflympics are example of the adaptive Sports.

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

Q13. Assertion Reason Type Question
Assertion (A): In 1960 the Mandeville Games Federation (ISMGF) conducted his first official Paralympic Games in Italy, Rome featuring 400 athletes from 23 Nations.
Reason (R): In 1968 the world witnessed the first international Special Olympics game in Chicago, USA.

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

Q14. Assertion Reason Type Question
Assertion (A): The first summer Olympic Games were held in Paris in 1924.
Reason (R): The first winter Deaflympic Games were started in 1950.

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

Q15. Assertion Reason Type Question
Assertion (A): Classification process is a grouping process associated with Paralympics and Para Athletes.
Reason (R): Divisioning process is a grouping process associated with a Special Olympics.

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

Q16. **Match the following:**

List - I (sports)	**List-II (year of starting)**
i. Deaflympic	1. 1968
ii. Special Olympics	2. 1924
iii. Paralympics	3. 1988
iv. Special Olympic Bharat	4. 1960 -

Choose the correct option from the following:

	I	II	III	IV
(a)	2	1	3	4
(b)	**2**	**1**	**4**	**3**
(c)	2	3	1	4
(d)	2	4	1	3

Q17. Match the following:

List – I	**List-II**
i. Paralympic	1. Per Ludos Aequalitas (equality through sport)
ii. Special Olympic	2. Citius Altius Fortius (faster higher stronger)
iii. Deaflympics	3. Spirit in motion
iv. Modern Olympics	4. let me win but if I cannot win let me be brave in - the attempt

Choose the correct option from the following:

	I	**II**	**III**	**IV**
(a)	4	2	1	3
(b)	3	1	4	2
(c)	1	2	3	4
(d)	**3**	**4**	**1**	**2**

VERY SHORT ANSWER QUESTION 2 Marks

Q1. Enlist the objectives of Special Olympics Bharat.

Answer:

To achieve this mission, the Special Olympics Baharat has laid down the following objectives:

- Focus on holistic development and training that is based on 'learning-by- doing' approach and creating innovative opportunities.
- Motivate children with special needs to join school and reduce the drop-out rate.
- Create role models who will inspire the children to participate in sports and other extracurricular activities and also motivate their parents to support them.
- Train teachers to sensitize them to the needs of special children and create a cadre of physical education teachers from among the people with special It needs who can work with schools and in community centres.
- Involve the community in conducting activities and change negative attitudes and misperceptions to accept people with intellectual disabilities

Q2. Give the motto of Deaflympics. Why are Deaflympics organized differently from the modern Olympic or Paralympic games?

Answer.

The motto of Deaflympics is 'PER LUDOS AEQUALITAS', which means equality through sports. It was adopted as a means to empower the people with hearing impairment, to encourage them to defy the social barriers, create sportspersons who strive for higher standards of excellence and celebrate the spirit of sports for people with hearing impairment. The biggest difference between the Deaflympics, Olympics, Paralympics, and other main sporting events is the competitors cannot start a race with a bell, whistle, and bullhorn or cannot hear a referee call the play.

Q3. What is the eligibility criteria to participate in Paralympics?

Answer:

Athletes who participate have a range of disabilities including impaired muscle power, hypertonia, ataxia, vision impairment, intellectual impairment, etc.

SHORT ANSWER QUESTION 3 Marks

Q1. Why should we include CWSN in regular Physical Education?

Answer:

- Considering the following advantages, the CWSN should be included in regular physical education class.
- It promotes the sense of oneness and the CWSN do not feel secluded from others.
- It enhance the skill level of CWSN which provide them the confidence to participate in various competitions.

Q2. Mention the advantage of Physical activities for children with special needs.

Answer:

The advantage are as follows:

- Improve physical fitness- similar to other children the physical fitness is also a prime requirement for CWSN. Participation in physical activities helps them to achieve the same.
- Improve social adjustment- The participation in physical activities also helps them to socially adjust with other fellow children.
- Improve emotional condition-.The participation in physical activity removes the feeling of being secluded and hence helps in improving the mental and emotional health.

Q3. Describe the ‘maximum effort rule’ used in the Special Olympics.

Answer:

Maximum effort rule is used in the divisioning process in special Olympic competitions that athletes are competing against other athletes of similar ability. Therefore the maximum effort rule is

a) To provide a fair competitive environment for athletes
b) To provide a resource for official event directors to create a fair competitive environment.

An athletes are expected to give their maximum effort during the divisioning process and coaches are expected to motivate all athletes towards giving their best.

CASE STUDY BASED QUESTIONS **4 Marks**

Q1. Dev is a child with intellectual disability studding in ABC Public School. He has very good strength and shows interest in sports. His Physical education teacher and special educator encouraged him to take part in competitions.

e) Which organization conducts sporting events for persons with Intellectual disability?
f) When was that organization established in India?
g) Name a Sport in which Dev can take part.
h) Who founded the international body of that organization?

Answer:

e) Special Olympics Bharat
f) 1987
g) Powerlifting
h) Eunice Kennedy Shriver

Q2. In relation to the picture, answer the following question:

a) The symbol of Paralympic Games shown in the picture is composed of three asymmetrical crescent, called _____.
b) International Paralympic Committee (IPC) was formed on _____.
c) The Paralympic anthem is _____.
d) What is the vision of IPC?

Answer:

a) Agitos
b) 22 September, 1989
c) "Hymn de l'Avenir" or "Anthem of the Future"
d) To enable para athletes to achieve sporting excellence and to inspire and excite the world

LONG ANSWER QUESTION **5 Marks**

Q1. Mention strategies to make Physical education assessable for CWSN.

Answer:

The following strategies can be used to make Physical education accessable for CWSN:

- **Proper communication method**: based on their limitations a proper communication method should be used during physical activity. E.g. Using visual signals for persons with mute; using audio signals for blind individuals.
- **Proper equipment**: Instead of regular equipment a modified version should be used for CWSN. E.g. Bat / racquet of bigger size.

- **Modification in Rules**: The rules can be blended to include them in regular physical activity. E.g. the height of net can be reduced to make it easier for them to send the ball across the court.
- **Space**: The playing area should be made safe and can be reduced due to their limited mobility.
- **Interest based activities**: A variety of activities should be kept and the CWSN can choose the activity in which they feel confident.

Chapter- 5

SPORTS & NUTRITION

1. Concept of Balanced diet and Nutrition
2. Macro and Micro Nutrients: Food sources & functions
3. Nutritive & Non-Nutritive Components of Diet
4. Eating for Weight control – A Healthy Weight, The Pitfalls of Dieting, Food Intolerance, and Food Myths
5. Importance of Diet in Sports-Pre, During and Post competition Requirements

CONCEPT OF BALANCED DIET AND NUTRITION

NUTRITION

Nutrition is the process of taking in food and converting it into energy and other vital nutrients required for life

BALANCED DIET

A balanced diet is essential for ensuring that all the nutrients are consumed in the proper quantities and ratios. This means that meals from all the food groups should be included in a meal in such a way that all the nutrients are provided in sufficient amounts.

INCLUDES- Carbohydrate, Protein, Fats, Vitamins, Minerals, Roughage & Water.

MACRO AND MICRO NUTRIENTS: FOOD SOURCES & FUNCTIONS

MACRO NUTRIENTS

- **CARBOHYDRATE**
- **PROTEIN**
- **FATS**
- **ROUGHAGE**

MICRO NUTRIENTS

- **VITAMINS-**
  - **WATER SOLUBLE VITAMINS**
  - **FAT SOLUBLE VITAMINS**
- **MINERALS**
  - **MACRO MINERALS**
  - **MICRO MINERALS**

MACRO NUTRIENTS

NUTRIENT	FUNCTION	SOURCES
CARBOHYDRATES	Carbohydrates provide energy (4kcal/g) needed by the body and the nervous system, brain and red blood cells.	Fruits, cereal grains, milk, sugar, rice, vegetables, pasta, bread.
PROTEINS	Proteins build and repair body cells; form part of various enzymes, hormones, and antibodies. Also provides energy (4 kcal/g).	Milk and milk products, vegetables, grains, fish, eggs, poultry, meat, legumes.

NUTRIENT	FUNCTION	SOURCES
FATS	Fats provide energy (9kcal/g); carry fat-soluble vitamins; are part of cell membranes, membranes around nerves, hormones, bile (for fat digestion).	Meat, poultry, fish, milk and milk products, nuts and seeds, vegetable oils, desi ghee, vanaspati ghee, butter, margarine, cheese.
ROUGHAGE	Dietary fibre or roughage provides feeling of fullness i.e., one does not feel hungry soon after having a meal. It provides bulk to the diet, helps in smooth elimination of stool or faeces.	Whole grain cereals (whole wheat Flour, Dalia, oats etc.), Whole Pulses, Green leafy vegetables (GLVs), peas, beans and other vegetables, fruits like guava, orange, pineapple etc.

MICRO NUTRIENT- VITAMINS- WATER SOLUBLE

VITAMINS	IMPORTANT FUNCTIONS	SOURCES
Vitamin B1 (Thiamine)	Works as coenzyme (Thiamine pyrophosphate-TPP) needed for energy metabolism. Important for nerve function Needed for DNA and RNA synthesis	Whole-grain cereals, pulses, peanuts and seeds, mushrooms, green peas, beans, egg yolk and meat
Vitamin B2 (Riboflavin)	Important for normal vision and skin health	Milk and milk products; animal products like eggs, liver, kidney; green leafy vegetables e.g. Broccoli, Whole-Grain Cereals, Legumes.
Vitamin B3 (Niacin)	Important for nervous system, digestive system, and skin	Whole-grain cereals, pulses, meat, poultry, fish, vegetables (especially mushrooms).
Vitamin B5 (Pantothenic Acid)	Part of co-enzyme A (CoA) needed for energy metabolism.	Widespread in foods: milk, meat, peanuts, eggs

VITAMINS	IMPORTANT FUNCTIONS	SOURCES
Vitamin B6 (Pyridoxine)	It helps in making white blood cells and haemoglobin.	Whole-grain cereals, pulses, meat, poultry, fish vegetables (especially mushrooms).
Vitamin B7 (Biotin)	Functions as coenzyme in metabolic reactions.	Widespread in foods like organ meats, such as liver or kidney; egg yolk; nuts, such as almonds, peanuts, and walnuts; soybeans and other legumes.
Vitamin B9 (Folic acid / Folate)	Formation of neurotransmitters Needed for maintenance of normal blood pressure and reducing risk of cancer	Green leafy vegetables particularly spinach, pulses, oranges and orange juice, and liver.
Vitamin B12 (Cobalamin)	Needed for making new cells Important to nerve function	Meat, poultry, fish, seafood, eggs, milk and milk products.
Ascorbic acid (vitamin C)	Antioxidant, role in collagen formation hence in wound healing, part of an enzyme needed for protein metabolism. Important for immune system, helps in iron absorption	Found in fruits and vegetables, especially citrus fruits, fresh vegetables in the cabbage family, sprouts, Amla and guava.

MICRO NUTRIENT- VITAMINS- FAT SOLUBLE

VITAMINS	IMPORTANT FUNCTIONS	SOURCES
Vitamin A (Retinol)	Needed for vision in dim light, healthy skin and mucous membranes, growth of skeletal and soft tissues, immune system health.	Milk, cheese, cream, butter, egg yolk, liver, Betacarotene. Dark green leafy vegetables.
Vitamin D (Calciferol)	Needed for proper absorption of calcium and phosphorus; Deposition of calcium and phosphorus in bones	Egg yolks, liver, fatty fish, fortified foods. When exposed to sunlight, the skin can make Vitamin D.

VITAMINS	IMPORTANT FUNCTIONS	SOURCES
Vitamin E (Tocoferol)	Act as Antioxidant Protects cell walls	Polyunsaturated plant oils (soybean, Corn, Cottonseed, safflower); Green leafy vegetables; Wheat germ; Wholegrain products; Liver; Egg yolks; Nuts and Seeds
Vitamin K (Phytonadione)	Needed for proper blood clotting	Green leafy vegetables and Cabbage, Milk. Also produced in intestinal tract by bacteria

MICRO NUTRIENT- MINERALS- MACRO

MACRO MINERAL	IMPORTANT FUNCTIONS	SOURCES
SODIUM	Needed for proper fluid balance, regulating alkalinity and acidity of body fluids, nerve transmission, and muscle contraction.	Table salt, soy sauce; large amounts in processed foods; small amounts in milk, breads, green leafy vegetables, and unprocessed meats
CHLORIDE	Needed for proper fluid balance, stomach acid	Table salt, soya sauce; large amounts in processed foods; small amounts in milk, meats, breads, and vegetables
POTASSIUM	Needed for proper fluid balance, nerve transmission and muscle contraction	Meats, milk, fresh fruits and vegetables, whole grains, pulses
CALCIUM	Important for healthy bones and teeth; Important in nerve functioning, blood clotting, blood pressure regulation, immune system health	Milk and milk products; fish with bones (eg., sardines); fortified soya milk; greens (broccoli, mustard leaves); pulses

MACRO MINERAL	IMPORTANT FUNCTIONS	SOURCES
PHOSPHORUS	Important for healthy bones and teeth; found in every cell; Part of the system that maintains acid-base balance	Meat, fish, poultry, eggs, milk, processed foods
MAGNESIUM	• Found in bones; • Needed for making protein, muscle contraction, nerve transmission, immune system health	Nuts and seeds; pulses; leafy, green vegetables; seafood; chocolate
SULPHUR	Found in protein molecules	Occurs in foods as part of protein in meats, poultry, fish, eggs, milk, pulses, nuts

MICRO NUTRIENT- MINERALS- MICRO

MICRO MINERAL	IMPORTANT FUNCTIONS	SOURCES
IRON	part of haemoglobin that carries oxygen to every cell in the body; Part of myoglobin needed for muscle contraction,	Organ meats; red meats; fish; poultry; egg yolks; whole pulses and whole grain cereals; dried fruits; dark green leafy vegetables.
ZINC	Has a function in taste perception, wound healing, normal foetal development, important for immune system	Meats, fish, poultry, whole grains, vegetables
IODINE	Found in thyroid hormone, which helps regulate growth, development, and metabolism	Seafood, foods grown in iodine-rich soil, iodized salt, bread, dairy products
SELENIUM	Antioxidant	Meats, seafood, grains

MICRO MINERAL	IMPORTANT FUNCTIONS	SOURCES
COPPER	Needed for iron metabolism	Pulses, nuts and seeds, whole grains, organ meats, drinking water
MANGANESE	Part of many enzymes	Widespread in foods, especially plant foods.
FLUORIDE	Involved in formation of bones and teeth. Helps prevent tooth decay	Drinking water (either fluoridated or naturally containing fluoride), fish, and most teas
CHROMIUM	Works closely with insulin to regulate blood sugar (glucose) levels	Organ meats especially liver, whole grains, nuts, cheese
MOLYBDENUM	Part of some enzymes	Pulses, breads and grains; green leafy vegetables, milk; liver

NUTRITIVE & NON-NUTRITIVE COMPONENTS OF DIET

Nutritive Component:

- This directly provide nutrition
- Carbohydrate, Proteins, Fats, Vitamins & Minerals

Non Nutritive Component:

- This does not provide any nutrition but helps in the process of Digestion.
- Water & Roughage (Fibre)

Nutrient		Solubility	Requirement	Nutritive	Energy
Carbohydrate			Macro	Yes	Yes
Protein			Macro	Yes	Yes
Fat			Macro	Yes	Yes
Vitamins	A	Fat Soluble	Micro	Yes	No
	B	Water Soluble			
	C	Water Soluble			
	D	Fat Soluble			
	E	Fat Soluble			
	K	Fat Soluble			
Minerals			Micro	Yes	No
Roughage			For Hydration	No	No
Water			For Bowl Movement	No	No

EATING FOR WEIGHT CONTROL – A HEALTHY WEIGHT, THE PITFALLS OF DIETING, FOOD INTOLERANCE, AND FOOD MYTHS

HEALTHY WEIGHT

It is a state where the weight of an individual is in proportion to his/her weight. It is measured by BMI. Body Mass Index is a simple calculation using a person's height and weight.

The formula for is BMI = kg/m^2 where kg is a person's weight in kilograms and m^2 is their height in meters squared. If the BMI is between 18.5 to 24.9 the weight of an individual is said to be normal or healthy.

$$BMI = \frac{Weight\ (kg)}{\{Height\ (m)\}\text{^}2}$$

BMI	Classification
< 18.5	Under weight
18.5–24.9	normal weight
25.0–29.9	Overweight
30.0–34.9	class I obesity
35.0–39.9	class II obesity
≥ 40.0	class III obesity

PITFALLS OF DIETING

If Dieting is not practised in a proper and scientific manner then it causes more problems. Some pitfalls or danger of unplanned dieting are:

Extreme Reduction of Calories	Person reduces the diet considerably which causes low level of energy thus person feels tiredness body aches.
Skipping meals	People often skip meals to reduce weight where as in react meal they take large among of food
Low energy Diet:	The person take diet without fats and less carbohydrates by which health is affected
Not performing physical Activity:	People often consider that reducing diet for controlling weight but they neglect physical activities which is equally important for healthy Lifestyle.
Taking less Liquid	People often think that drinking water or liquid makes them to gain weight which is wrong.

FOOD INTOLERANCE

A food intolerance is when you have difficulty digesting certain foods or ingredients in food. It's not usually serious, but eating the food you're intolerant to can make you feel unwell.

The most common food intolerance is **lactose intolerance**.

Gluten (wheat, rye and barley) – found in foods like bread and pasta
Histamine – found in foods and drinks like wine and cheese
Caffeine – found in coffee, tea and some fizzy drinks
Sulphites – found in cider, beer and wine
Salicylates – found in some fruits, vegetables, herbs and spices
Monosodium glutamate (MSG) – found in ripened fruits, cured meats and savoury foods

FOOD MYTHS

MYTHS	TRUTH
Carbohydrates are bad	The right type of carbs are important for maintaining energy.
Eating once a day is a good way to lose weight.	Infrequent or inconsistent mealtimes can cause your body to go into starvation mode.
You have to stop eating at a certain time at night to lose weight	Your body doesn't shut down at night, however there just need be a proper gap between Dinner and going to bed.

MYTHS	TRUTH
Eating fat will make you fat	Natural fats (in limited quantity) should be part of a well-balanced diet.
A gluten-free diet is good for everyone	Gluten are essential only with Gluten intolerance may avoid consuming it
'Calories In, Calories out', is All That Matters for Weight management.	Balance diet with proportionate nutrients along with exercise is essential for Weight management.

IMPORTANCE OF DIET IN SPORTS-PRE, DURING AND POST COMPETITION REQUIREMENTS

PRE COMPETETION

- **AIM**- To store Energy
- Usually begins 01 Week before competition
- Includes Complex Carbohydrate to increase Glycogen Stores
- Low in Fat & Protein
- 1-2 Hours before competition- Carbohydrate energy drink.

DURING COMPETETION

- **AIM**- To maintain energy supply
- Usually depends on duration of competition
- Carbohydrate drinks in regular intervals
- Very light food with minimum Protein & Fats for Long duration events e.g. One Day Cricket

POST COMPETETION

- **AIM**- Recovery
- Water and Carbohydrate drinks
- Meal within 02 hours of Competition
- Preferably Carbohydrate & Lean Protein

SELF PRACTISE QUESTIONS

MULTIPLE CHOICE QUESTIONS: 01 Marks

1. Which food item has carbohydrates and fats
   (a) Bread and butters (c) Potato and Tomato
   (b) Rice and Pules (d) Tomato and Almond
2. Sources of Proteins includes
   (a) Fish (c) Potato
   (b) Spinach (d) Cucumber
3. Body needs vitamins and minerals because
   (a) They give the body energy
   (b) They help carry out metabolic reactions
   (c) They insulate the body's organs
   (d) They with draw heat from the body
4. In which category BMI comes in 20 BMI
   (a) Obesity I (c) Obesity II
   (b) Normal (d) Under weight
5. Which of the following Vitamin is soluble in water?
   (a) Vitamin A **(c) Vitamin C**
   (b) Vitamin E (d) Vitamin D
6. Methods to control healthy body weight
   (a) Not taking balanced diet
   (b) Regular physical activity
   (c) Excessive water consumption
   (d) Frequent eating
7. Symptoms of headaches, vomiting, stomach pain. loose motion.
   (a) Dieting (c) Food myths
   (b) Food intolerance (d) Lack of vitamins
8. Match the following:

1. Food Intolerance	(a) Do not drink water during meals
2. Food myths	(b) Vomiting
3. Balanced diet	(c) Loss in body weight
4. Dieting	(d) According to the needs of the person

	1	2	3	4
(a)	**b**	**a**	**d**	**c**
(b)	a	b	c	d
(c)	d	c	b	a
(d)	c	d	b	d

9. Assertion (A) - Balance diet is good for sports person as well as sedentary lifestyle peoples.
   Reason (R) - Balance Diet contains adequate amounts of all the necessary nutrients required for proper growth & maintenance of body.

   (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.

10. Assertion (A) - For endurance activity diet before competition should be more amount of complex carbohydrate like - whole-wheat bread, potatoes, sweet potatoes.
    Reason (R) - Complex carbohydrate improve athletic performance by delaying fatigue and allowing an athlete to compete at higher levels for longer.

    (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) Both A and R are false.

VERY SHORT ANSWER QUESTION 2 Marks

Q1. What is food intolerance?

Answer:

A food intolerance is described as the condition when an individual faces difficulty in digesting certain foods or ingredients in food. E.g. Lactose intolerance, Gluten Intolerance.

Q2. Name any two Fat soluble Vitamin & any Two water soluble Vitamin?

Answer:

Fat Soluble- Vitamin A & D,
Water Soluble- Vitamin B & C

Q 3. What is Balance Diet?

Answer:

A balanced diet is essential for ensuring that all the nutrients are consumed in the proper quantities and ratios. It should include Carbohydrate, Protein, Fats, Vitamins, Minerals, Roughage & Water in correct proportion as per requirement of an individual.

SHORT ANSWER QUESTION 3 Marks

Q1. Briefly explain the type of food that should be consumed before, during and after the Competition.

Answer:

PRE COMPETETION **:** Complex Carbohydrate to increase Glycogen Stores
DURING COMPETETION **:** Carbohydrate drinks in regular intervals
POST COMPETETION **:** Preferably Carbohydrate & Lean Protein

Q2. What do you understand by 'Macro' & 'Micro' Nutrients?

Answer:

Macro nutrients are components of Balance diet that are required in large amount and forms major proportion of the Food e.g. Carbohydrate, Fats & Proteins.

Micro nutrients are components of Balance diet that are required in less amount and forms very minor proportion of the Food e.g. Vitamins & Minerals.

Minerals are also further divided into Macro minerals and Micro Minerals based on their requirement in the body.

CASE STUDY BASED QUESTIONS 4 Marks

Q1. Mr. Dinesh is 40 years old and 1.75 mt. tall with a large frame. His weight was around 85 kg. From few days he started experiencing pain his knee and went to doctor. The doctor advised him to start moderate exercise and he reported that he was successful in losing 20 kg. in the last 6 months and weighs 65kg.

i) What was the initial BMI of Mr Dinesh?

ii) Initially Mr. Dinesh was in which category?

iii) After exercise what was the new BMI of Mr. Dinesh?

iv) Between Pre and Post BMI category which category was better for Mr. Dinesh?

Answer:

i) 27.7

ii) Overweight

iii) 21.2

iv) The Post exercise BMI of Mr. Dinesh is better as it is 'Normal' category whereas the previous BMI was in 'Overweight' category.

LONG ANSWER QUESTION 5 Marks

Q1. What is Balance Diet? Mention its Components along with any one food source.

Answer:

A *balanced diet* is essential for ensuring that all the nutrients are consumed in the proper quantities and ratios. This means that meals from all the food groups should be included in a meal in such a way that all the nutrients are provided in sufficient amounts.

The components of Balance Diet along with one source are:

- Carbohydrate - Rice
- Protein - Meat
- Fats - Ghee
- Vitamins - Fruits
- Minerals - Green vegetables
- Roughage - Carrot
- Water

Chapter- 6

TEST AND MEASUREMENT IN SPORTS

1. Fitness Test – SAI Khelo India Fitness Test in school
2. Measurement of Cardio-Vascular Fitness – Harvard Step Test
3. Computing Basal Metabolic Rate (BMR)
4. Rikli & Jones - Senior Citizen Fitness Test
5. Johnsen – Methney Test of Motor Educability

FITNESS TEST – SAI KHELO INDIA FITNESS TEST IN SCHOOL

Fitness Test - **SAI Khelo India Fitness** Test in school:

Age group 5-8 yrs./ Class 1-3:

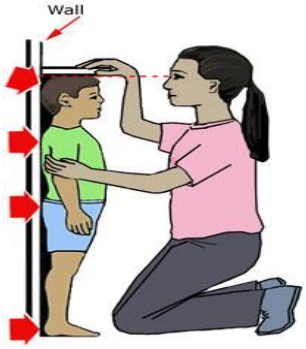
- BMI : To assess Body Composition Fig 6.1
- Flamingo Balance Test : To assess Balancing ability Fig 6.2
- Plate Tapping Test : To assess neuro muscular Coordination Fig 6.3

BODY COMPOSITION: BODY MASS INDEX

Equipment Required: Flat, Clean surface, Weighing Machine, Stadiometer/Measuring Tape pasted on a wall

Procedure:

Measuring Height: The measurement need to be taken while the participant stands with head, shoulders, buttocks, and heels touching the flat surface.



Measuring Weight: The participant were asked to remove shoes and heavy clothing, such as sweaters. Then they were asked to stand with both feet in the centre of the scale and to look straight.

Scoring:

$$\text{BMI} = \frac{\text{Weight (in kilograms)}}{\text{Height}^2 \text{ (in meters)}}$$

Height was recorded in cm. Weight was recorded in kilogram (kg). Weight was recorded to the nearest decimal fraction and the height to the nearest 0.1 centimetre.

FLAMINGO BALANCE TEST

Equipment Required: Non-slippery even surface, Stopwatch, can be done while standing on beam.

Scoring: The total number of falls or loss of balance in 60 seconds of balancing is recorded. If there are more than 15 falls in the first 30 seconds, the test is terminated.

PLATE TAPPING TEST

Equipment Required: Table (adjustable height), 2 yellow discs (20cm diameter), rectangle (30 x 20 cm), and stopwatch.

Procedure: The non-preferred hand is placed on the rectangle. The subject moves the preferred hand back and forth between the discs over the hand in the middle as quickly as possible. This action is repeated for 25 full cycles (50 taps).

Scoring: The time taken to complete 25 cycles is recorded

Age group 9- 18yrs/ Class 4-12:

BMI

(Same as described in the test of Age group 5-8 yrs./ Class 1-3)

50M SPEED TEST

Purpose: To assess the component of Speed

Procedure & Scoring: The individual runs a distance of 50 m with full speed and the time to cover this distance is recorded in seconds and milliseconds.

600MT RUN/WALK

Purpose: To assess Cardio-vascular endurance

Procedure & Scoring: The individual runs/walk a distance of 600 m and the time to cover this distance is recorded in minutes and seconds.

SIT & REACH FLEXIBILI1TY TEST

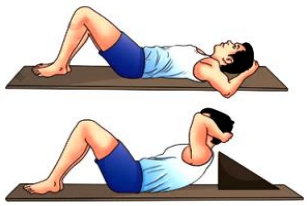
Purpose: To assess Flexibility

Procedure & Scoring: The individual sits in flat surface with the feet touching flat to the sit and reach box. He/she needs to extend the arm and bend forward to touch the measuring scale in the upper surface of the box, while keeping the knees straight. The distance is recorded in centimetres.

ABDOMINAL PARTIAL CURL UP

Purpose: To assess Muscular Endurance

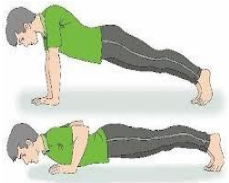
Procedure & Scoring: The individual lie on a flat surface with palm touching downward by te side of the body. He/she then raise body and slide the hand forward to the distance of 6" and moves back. Number of correct repetition is recorded for 30 sec.



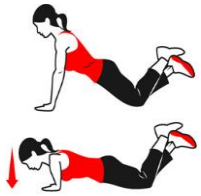
PUSH-UPS (FOR BOYS)

Purpose: To assess Muscular Strength

Procedure & Scoring: The individual lie on proline position with arm extended with palm by the side of the shoulder and the ankle, hip and shoulder in the same line. He/ She flex the arm to move down and comes back to the initial position. The number of correct repetition in 1 minute is recorded.



MODIFIED PUSH-UPS (FOR GIRLS)



Purpose: To assess Muscular Strength

Procedure & Scoring: Same as push with knees touching the ground.

MEASUREMENT OF CARDIO-VASCULAR FITNESS – HARVARD STEP TEST

Developed by Belgian-American physiologist **Lucien Brouha** and his associates in **1943** at the Harvard Fatigue Laboratories during World War II.

Objective: To measure cardio vascular efficiency OR Aerobic Fitness.

Equipment: Stopwatch, a platform 20 inches high (men), 18 inches for women.

Procedure: The participant is asked to step-up on the platform and down again at a rate of 30 steps/minute for 5 minutes continuously or until he gets exhausted.

Scoring: As soon as the participant completes the cycle, he is asked to sit-down and the total number of heartbeats are counted between 1 to 1.5 minutes, 2 to 2.5 minutes and 3 to 3.5 minutes. The score is based on following formula:

PEI = (Duration of exercise in seconds x 100)/ (5.5 x Pulse count of 1 – 1.5 min after Exercise)

Norms: **<49**- POOR; **50-80**: Average; **>81**: Good

COMPUTING BASAL METABOLIC RATE (BMR)

Basal metabolic rate (BMR) estimates the minimum number of calories a person needs to burn to sustain their basic life functions during a 24-hour period of rest.

Equipment : Stadiometer, Weight machine, Pen and paper

Procedure : Measure Height and Weight and put the values in the equations below

Formula used : The Mifflin-St Jeor BMR Equation

Male : (10 * weight (kg.)) + (6.25 * height (cm)) – (5 * age) + 5

Female : (10 * body weight (kg.)) + (6.25 * height (cm)) - (5 * age) – 161

RIKLI & JONES - SENIOR CITIZEN FITNESS TEST

The assessments was designed by **Rikli and Jones** in **2001** at California State University, Fullerton. The test items of Rikli & Jones Senior Citizen Fitness Test are:

ARM CURL TEST

Objective: To assesses upper-body strength.

Procedure: On the command "Go" the individual flexes the elbow or curls the arm with full range of motion then returns back to its initial position. (Dumbbell for men- 8 pounds (3.6kgs) and women- 5 pounds (2.3kgs)

Scoring: Maximum number of correct arm curls in 30 second

SCRATCH TEST OF THE BACK

Objective: To assess upper body flexibility.

Procedure: In standing position participant will place one hand over the shoulder and one hand middle of the back and try to touch or overlap each other.

Scoring: Measurement will be taken by measuring the distance between the tips of the middle fingers. If the fingertips touch, then the score is zero. If they do not touch, measure the distance between the finger tips (a negative score), if they overlap, measure by how much (a positive score).

CHAIR STAND TEST

Objective: To assess lower body strength.

Procedure: On the command "Go" the individual will stand up completely, then return back to the initial position.

Scoring: Maximum number of complete stands in 30 seconds.

CHAIR SIT & REACH TEST

Objective: To assess lower body flexibility.

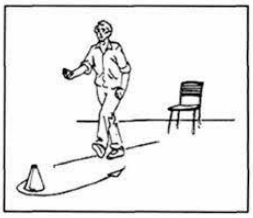
Procedure: Participant sits on the chair with one foot flat on the floor and the other leg extended forward with the knee straight, heel on the floor, and ankle bent at 90°. The participant, then, tries to touch the toe of that foot by bending at the hip and sliding her/his hands towards the toes.

Scoring: Measurement will be taken between extended long finger and tip of the toe and minimum to .5 inches will be recorded as score

EIGHT-FOOT UP AND GO TEST

Objective: To assess speed and agility.

Procedure: At the command "Go" he/she walks as fast as possible (not running) and returns back after walking to and around the cone which is placed 8 foot away from the chair.



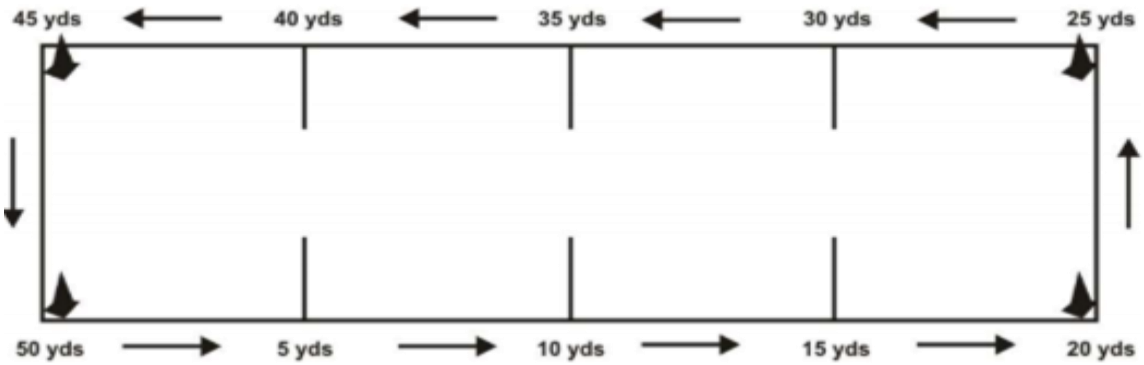
Scoring: Two attempts will be made and the best score will be taken for record. Fastest time taken between command "Go" and return to the chair will be recorded.

6 MINUTE WALK TEST

Objective: This is to assess aerobic fitness.

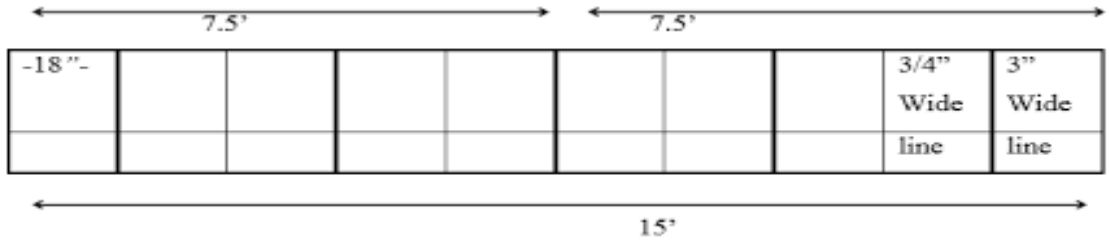
Procedure: Participant will start walking after the command "Go" and continuously walk on the track for 6 minutes.

Scoring: Maximum distance covered in 6 minutes will be recorded as score.



JOHNSEN – METHNEY TEST OF MOTOR EDUCABILITY

Johnson- Metheny Test battery is revised version of Johnson Educability Test which was designed in 1932. The purpose of the Johnson battery was to measure neuromuscular skill capacity which have ten items. In **1938** Methney studied the test and eliminated six test items.



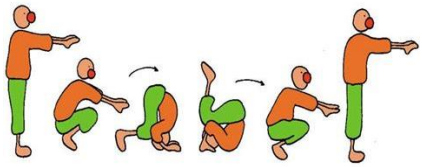
Layout of **Johnson- Metheny Test**

The test items of Johnson- Metheny Test battery are:

FRONT ROLL

Procedure: The subject is asked to start outside the marked area and perform two front rolls, one up to 7.5' i.e. 3" wide centre line and the second in the other half of 7.5'. The subject is to perform the rolls without touching the limits or over reaching the zones mentioned above.

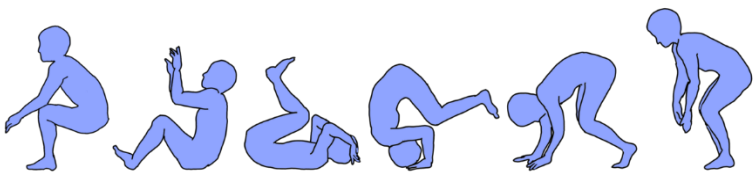
Scoring: Each correct roll gets 5 points, hence maximum of 10 points. Two points are deducted for over-reaching side line, right or left for each roll; one point is deducted for over reaching the end limit on each roll and full five points are deducted when the subject fails to perform a true front roll



BACK ROLL

Procedure: The subject is to start outside the marked chart area and is to 'perform two back rolls in the 2 feet lane area, one up to first half and the second back roll in the second half.

Scoring: Similar as Front Roll Test.



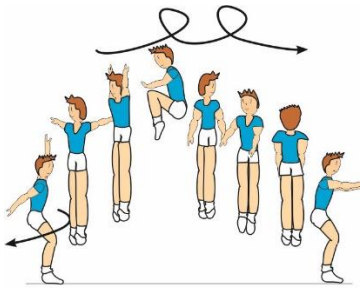
JUMPING HALF TURNS

Procedure: The subject is asked to start with feet on first 3" line, jump with both feet to second 3" wide line, executing a half turn either right or left; jump to third 3" line executing half turn in opposite direction to first half-turn and then to 4th and 5th 3" wide lines executing half turns, right or left alternatively.

Scoring: Perfect execution of four jumps is worth ten points. Only 2 points are deducted for each wrong jump when the subject either does not land with both feet on the 3" line or turns the wrong way or both.

JUMPING FULL TURN

Procedure: The subject is asked to start with the feet outside the marked area at about the centre of the lane. He/ She is required to jump with feet together to second rectangular space, executing a full turn with the body either right or left; continue jumping to alternate rectangular spaces across the marked mat executing full turns, rotating body in the same direction, landing on both feet every time.



SELF PRACTISE QUESTIONS

MULTIPLE CHOICE QUESTIONS: 01 Marks

1. Back scratch test is used to test fitness of
   a) Lower body part
   b) Shoulder only
   c) Upper body part
   d) Elbows only

2. The test used to measure fitness of senior citizens is
   a) Borrow motor fitness test
   b) Harvard step test
   c) Rikli and Jones fitness test
   d) General motor fitness test

3. What should be the height of chair required in chair sit and reach test?
   a) 40 cm
   b) 44 cm
   c) 42 cm
   d) None of the above

4. Which of following are part of In the SAI Khelo India Fitness test for age group 5-8?
   a) BMI
   b) Flamingo Balance Test
   c) Plate tapping test
   d) All of the above

5. Which one of the following is NOT linked accurately?
   a) Arm Curl Test-A test to measure the upper body strength
   b) Chair sit and reach test-A test to assess the upper body flexibility
   c) Chair stand test -A test to measure the lower body strength
   d) Eight foot up and go test-A test to evaluate speed and agility

6. In the back scratch test if the finger tips touch each other, then the score will be:
   a) Negative
   b) Zero
   c) Positive
   d) None of the above

7. Eight foot up and go test is conducted to check the Coordination and agility in
   a) Children
   b) Adolescent
   c) Aged people
   d) Youth

8. Which of the following test is part of Johnson- Metheny Test battery for Motor educability.
   a) Front Roll
   b) Back Roll
   c) Jumping half-turn
   d) All of the above

9. (10 * body weight (kg.)) + (6.25 * height (cm)) - (5 * age) – _____. Complete the formula for calculating the BMR for females.
   a) 141
   b) 151
   c) 161
   d) 171

10. Harvard step test was developed by:
   a) A.K. Jenifer
   b) Lucien Brouha
   c) A K Uppal
   d) J.F. Anderson

VERY SHORT ANSWER QUESTION **2 Marks**

Q1. What is body composition and how can be measured?

Answer:

From health and fitness perspective, body composition is basically the amount of Fat and Lean body mass in an individual.

BMI is very primitive and easy way of calculating body composition. It basically checks the weight of an individual in respect to his/her height. The BMI index categorise the individual as Underweight, Normal, Overweight, Obese I. Obese II and Obese III category.

Q2. If your grandmother feels she has reduced her upper body flexibility and therefore she wants to test herself. Which test would you suggest to her?

Answer.

I would suggest to my grandmother to take the Back Scratch Test for upper body flexibility under the Rikli and Jones Senior Citizen Fitness Tests.

Q3. What is motor educability test and how can be measured?

Answer:

Motor educability is the ability of an individual to learn motor skills. It measures the neuro-muscular skill of an individual and can be tested through Johnson- Metheny Test battery (revised).

The components are:

- Front Roll
- Back Roll
- Jumping Half-Turns
- Jumping Full

SHORT ANSWER QUESTION **3 Marks**

Q1. Give the names of the tests designed by Rikli and Jones for senior citizen fitness and state what each test is used to test.?

Answer:

The tests designed by Rikli and Jones for senior citizen fitness are

- Chair Stand Test — for lower body strength.
- Arm Curl Test — for upper body strength and endurance.
- Chair Sit and Reach Test — for lower body flexibility.
- Back Scratch Test — for upper body flexibility.
- Eight Foot Up and Go Test — for coordination and agility.
- Six Minute Walk Test — for aerobic fitness and endurance.

Q2. Discuss the components of SAI Khelo-India fitness test.

Answer:

Age group 5-8 yrs. / Class 1-3:

- BMI : To assess Body Composition
- Flamingo Balance Test : To assess Balancing ability
- Plate Tapping Test : To assess neuro muscular Coordination

Age group 9-18 yrs. / Class 4-12:

- BMI : To assess Body Composition
- 50m Speed test : To assess the component of Speed
- 600mt Run/Walk : To assess Cardio-vascular endurance
- Sit & Reach Flexibili1ty test : To assess Flexibility
- Abdominal Partial Curl Up : To assess Muscular Endurance
- Push-Ups (for boys) : To assess Muscular Strength
- Modified Push-Ups (for girls) : To assess Muscular Strength

CASE STUDY BASED QUESTIONS **4 Marks**

Q1. Hari aged 64 years worked as a civil engineer in a construction company he had to walk and Climb a lot as part of his job. After retirement he settled with his son, spending time with his grandchildren. Nowadays he is experiencing difficulty in doing certain chores which involve physical movement.

a) Which of the following tests would you recommend to check Mr. Hari's fitness?
b) How many series of tests are there in the prescribed fitness test for Mr. Hari?
c) Chair sit and reach test is done to check which component?
d) The eight foot up and go test is performed to access which component?

Answer:

a) Rikli and Jones senior citizen fitness test
b) Six
c) Flexibility
d) Agility

LONG ANSWER QUESTION **5 Marks**

Q1. Explain SAI Khelo India Fitness test for age group 9-18 yrs age group.

Answer:

SAI Khelo India Fitness Test is a fitness assessment program designed by the Sports Authority of India (SAI) and the Ministry of Youth Affairs and Sports for school students across India.

BMI (Body Mass Index): BMI is a simple and widely used method to assess if a person has a healthy body weight in proportion to their height. It is calculated by dividing a person's weight in kilograms by the square of their height in meters.

50-Meter Sprint Test **:** The 50-meter sprint test measures how quickly a student can run over a short distance. This test assesses the student's anaerobic power and speed.

600-Meter Run/Walk Test **:** The 600-meter run/walk test measures cardiovascular endurance. Students are required to run/walk the distance as quickly as possible, and their time is recorded.

Sit and Reach Flexibility Test **:** The sit and reach test measures the flexibility of the student's lower back and hamstring muscles. The student sits on the floor with their legs straight, and then reaches forward as far as possible while keeping their legs straight.

Partial curl up **:** Abdominal partial curl-up is a test of abdominal muscle endurance. The participant lies on their back with knees bent and feet on the floor. They cross their arms over their chest and curl up to touch their knees with their elbows. They repeat this movement as many times as possible within a specified time.

Push Ups **:** Push-ups are a test of upper body strength. For boys, they perform push-ups with their toes and hands on the ground, and they lower their body to touch the ground and then push themselves back up. For girls, they perform modified push-ups with their knees on the ground instead of their toes.

Chapter- 7

PHYSIOLOGY AND INJURIS IN SPORTS

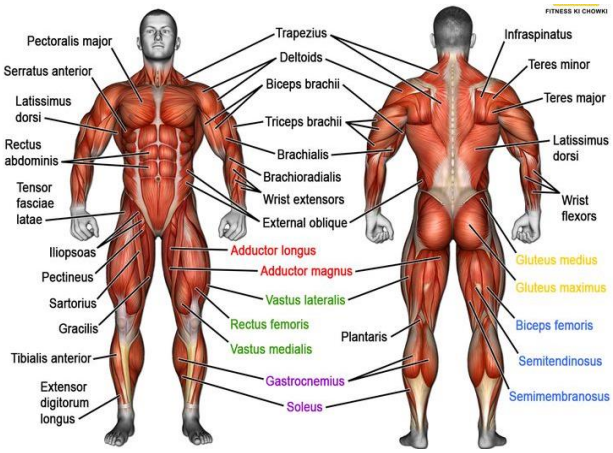
1. Physiological factors determining components of physical fitness
2. Effect of exercise on the Muscular System
3. Effect of exercise on the Cardio-Respiratory System
4. Physiological changes due to aging
5. Sports injuries: Classification

PHYSIOLOGICAL FACTORS DETERMINING COMPONENTS OF PHYSICAL FITNESS

COMPONENTS	PHYSIOLOGICAL FACTORS
STRENGTH	**Muscle Mass**: The amount of muscle tissue in your body. **Muscle Fibre Type**: The proportion of fast-twitch and slow-twitch muscle fibres. **Neuromuscular Efficiency**: How effectively your nervous system signals your muscles to contract.
CARDIOVASCULAR ENDURANCE	**Heart Health**: The health of your heart, including its ability to pump blood efficiently. **Lung Capacity**: The capacity of your lungs to take in and transport oxygen to muscles. **VO2 max**: Maximal oxygen consumption, which reflects your aerobic fitness level.
MUSCULAR ENDURANCE	**Muscle Fatigue Resistance**: The ability of muscles to sustain contractions over time. **Lactate Threshold**: The point at which lactic acid accumulates in muscles during exercise.
FLEXIBILITY	**Joint Range of Motion**: The degree to which your joints can move through their full range. **Muscle and Tendon Elasticity**: The ability of muscles and tendons to stretch and return to their original length.
SPEED	**Fast-Twitch Muscle Fibre Dominance**: The proportion of muscle fibres optimized for quick contractions. **Nervous System Coordination**: The efficiency of your nervous system in coordinating rapid movements.
AGILITY	**Joint Mobility**: The ability to move quickly and change direction. **Balance**: The capacity to maintain stability during rapid movements.
COORDINATION	**Motor Skills**: Your ability to control body movements accurately. **Hand-Eye Coordination:** The synchronization of visual input and motor responses.

EFFECT OF EXERCISE ON THE MUSCULAR SYSTEM

- Change in shape and size of muscles.
- Increase in number of capillaries.
- Improving the strength of connective tissues.
- Improving the efficiency of muscles.
- Delays fatigue.
- Activation of non-functioning fibres.
- Maintain correct body posture.
- Reduces reaction time (improves reaction).



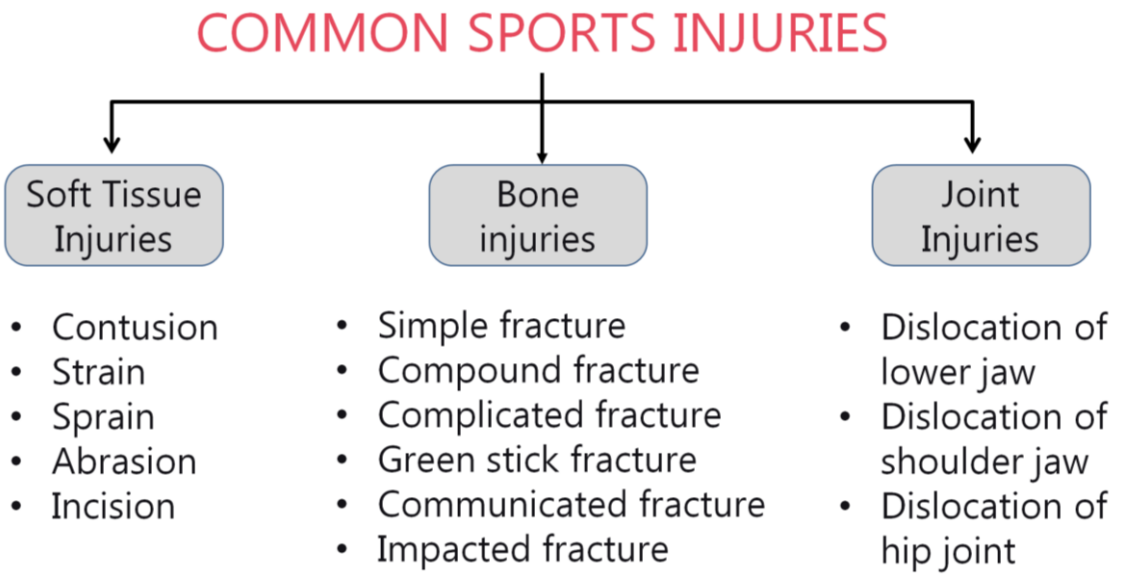
EFFECT OF EXERCISE ON THE CARDIO RESPIRATORY SYSTEM

IMMEDIATE EFFECTS	• Increase in Heart Rate • Increase in Stroke Volume • Increase in Cardiac Output • Increase in Blood Flow • Increase in Blood Pressure
LONG TERM EFFECT	• Increase in Size of Heart • Decrease in Resting Heart Rate • Stroke Volume Increases at Rest • Increased Blood Flow • Decrease in Blood Pressure • Increase in Blood Volume • Quick Recovery Rate • Reduced Risk of Heart Diseases

PHYSIOLOGICAL CHANGES DUE TO AGING

- Changes in Muscle size and Strength
- Change in Bone density
- Changes in Respiratory, Cardiovascular, nervous, Urinary and Gastrointestinal systems
- Change in Flexibility
- Change in Senses (vision, hearing, taste and smell)

SPORTS INJURIES: CLASSIFICATION



INJURIES	TYPES & CHARECTERISTICS	TREATMENT
SOFT TISSUE INJURIES	• **Contusion**- Muscle Injury resulting from direct hit. • **Strain**- Muscle injury resulting from rupture of muscle fibre • **Sprain**- Ligament injury rupture of Ligaments • **Abrasion**- Muscle injury resulting from friction with certain equipment or surface • **Bruises**- Muscle tissue and blood vessel injury resulting in Blueness	• Apply cold compression on the affected area. • If the bleeding foremost step to stop bleeding. • Apply a layer of antiseptic or antibiotic ointment. • It better to see a doctor.

Fig. 7.1 Contusion

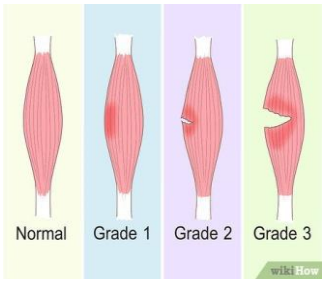


Fig. 7.2 Strain

Fig. 7.3 Sprain

Fig. 7.4 Abrasion

Fig. 7.5 Bruises

INJURIES	TYPES & CHARECTERISTICS	TREATMENT
BONE INJURIES	• **Simple Fracture**- Broken at one place without any would • **Compound Fracture**- Skin and muscles are damaged along with fracture • **Complicated Fracture**- Internal organs are damaged due to fracture • **Greenstick Fracture**- Fracture in bone of small children due to stress • **Commented Fracture**- Bone is broken into three or more pieces • **Impacted Fracture**- When end of the fractured bone enters another bone	• **External –** Casts • **Internal-** Surgery

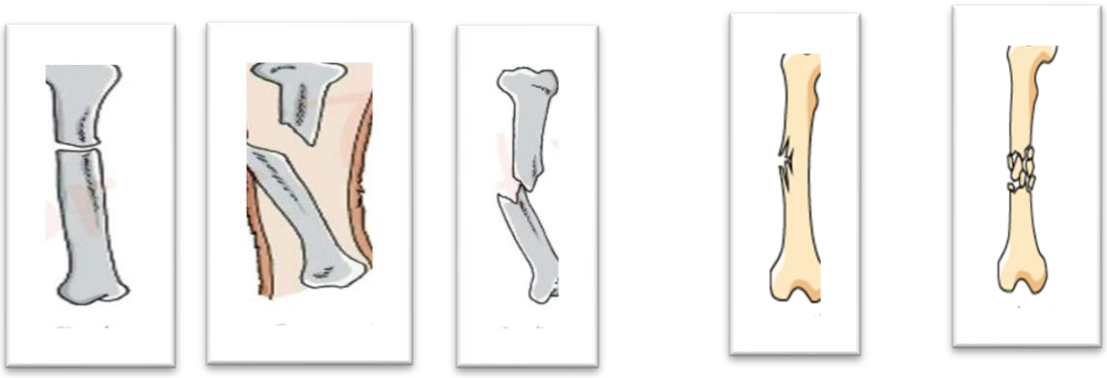


Fig 7.6 Types of Fractures

INJURIES	TYPES & CHARECTERISTICS
JOINT INJURY	They are known as joint dislocation. “Dislocation is the displacement of contiguous surfaces of two or more bones which are in a joint.” It is caused by an external force which forces the joint to move beyond the limits of a joint. If the joint is forced to move in an abnormal direction, this dislocation can be a complete or a partial displacement of the bones.

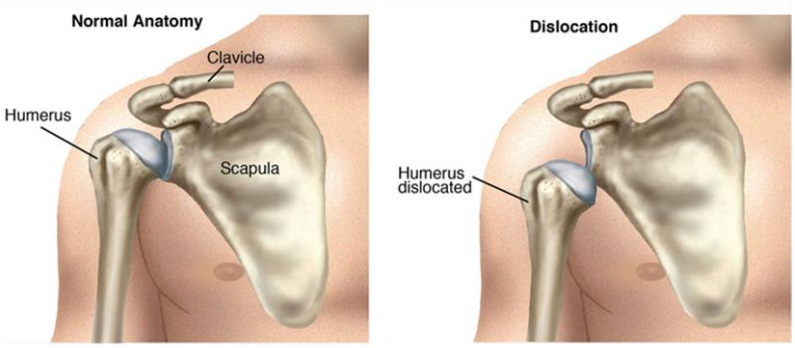


Fig. 7.7 Dislocation of Shoulder

SELF PRACTISE QUESTIONS

MULTIPLE CHOICE QUESTIONS: 01 Marks

Q1. Which of the following physiological factors determine 'Strength' of an individual?

a) Size of heart
b) Muscle fibre type
c) Vo2 Max
d) Lactate Threshold

Q2. Which of the following physiological factors determine 'Endurance' of an individual?

a) Size of heart
b) Muscle fibre type
c) Vo2 Max
d) Lactate Threshold

Q3. Cracking or breakage of bones is called?

a) Strain
b) Sprain
c) Fracture
d) Contusion

Q4. Sprain is an injury of the

a) Muscle
b) Ligament
c) Joint
d) Bone

Q5. Strain is an injury of the

e) Muscle
f) Tendons
g) Joint
h) Bone

Q6. Which one of the following is immediate effect of exercise on Cardio respiratory system?

a) Reduced Risk of Heart Diseases
b) Increase in Heart Rate
c) Increase in Blood Volume ICE
d) Stroke Volume Increases at Rest

Q7. The ability of an individual to resist fatigue is known as

a) Strength
b) Endurance
c) Flexibility
d) Speed

Q8. Contusion is a type of

a) Soft tissue Injury
b) Bone injury
c) Dislocation
d) None of the above

Q9. 'Green stick' is a type of

a) Soft tissue Injury
b) Fracture
c) Dislocation
d) None of the above

Q10. Residual volume is associated with which of the following?

a) Heart
b) Muscle
c) Lungs
d) Kidney

Q11. Given below are the statement labelled
Assertion (A) Flexibility decreases with the advancement of age
Reason(R) Gender also determines the flexibility as female tend to be more flexible than males

(a) Both (A) and (R) are true but (R) is not the correct example of (A)
(b) Both (A) and (R) are true but (R) is the correct example of (A)
(c) (A) is true bur (R) is false
(d) Both are false

VERY SHORT ANSWER QUESTION 2 Marks

Q1. Differentiate Sprain and Strain.
Answer:

SPRAIN	STRAIN
Sprain is an soft tissue injury which occurs in Ligament	Strain is an soft tissue injury which occurs in Tendons

Q2. Mention two physiological changes due to ageing.
Answer:

A lot of physiological changes occur in the human body during Ageing. Two of them are as mentioned below:

- The amount of muscle mass get reduced and as a result the strength of an individual also gets reduced.
- The amount of calcium deposition gets reduced and as a result the Bone density of the individual also gets reduced.

Q3. Mention two Physiological factor associated with the physical fitness component of 'Speed'.
Answer:

Fast-Twitch Muscle Fibre Dominance: An individual with higher the amount or proportion of Fast-twitching muscle fibre runs faster.

Nervous System Coordination: The efficiency of your nervous system in coordinating rapid movements. Faster the neural transmission – faster is the ability to run faster.

VERY SHORT ANSWER QUESTION 3 Marks

Q1. Mention the effect of Exercise on muscular system.
Answer:

With continuous exercise many positive changes occur in our muscular system.

- The size of the muscle gets increased and along with that the strength of an individual also get enhanced.
- It is also helps in activating the non-functioning fibres.

Q2. Mention the effect of exercise on Cardio respiratory system.
Answer:

The exercise has both immediate and long term impact on cardiorespiratory system. So of the immediate impact of exercise on cardiorespiratory system are:

- Heart rate becomes faster and stroke volume gets increased as demand for Oxygen increases suddenly.

- In long term the Recovery rate of the individual gets faster and the chances of heart disease also gets reduced.

CASE STUDY BASED QUESTIONS **4 Marks**

Ashish wanted to take part in 3000m run and went to his school coach for guidance. The coach said to Ashish that-"you need an Athlete's heart". The coach prepared a training schedule for bringing certain changes in his Physiological systems. However one day during training Ashish got an ankle twist.

a) What do you understand by athlete's heart?
b) The coach intended to improve which Physiological system?
c) During training Ashish encountered which kind of injury?
d) The injury have ruptured which kind of tissue?

Answer:

i) Due to regular exercise the size of the heart gets increased which is often termed as 'Athlete's Heart'
j) Cardio vascular System.
k) Soft tissue injury
l) Ligament

LONG ANSWER QUESTION **5 Marks**

Q1. Elaborate the different types of Sports injuries.

Answer:

SOFT TISSUE INJURY: It mainly occur in the Skin and the muscular tissues of the human body. They are further classified into the following cateories:

- **Contusion**- Muscle Injury resulting from direct hit.
- **Strain**- Muscle injury resulting from rupture of muscle fibre
- **Sprain**- Ligament injury rupture of Ligaments
- **Abrasion**- Muscle injury resulting from friction with certain equipment or surface
- **Bruises**- Muscle tissue and blood vessel injury resulting in Blueness

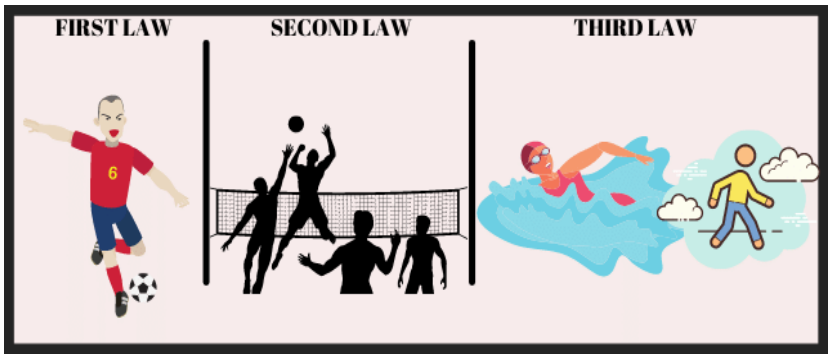
Chapter- 8

BIOMECHANICS AND SPORTS

1. Newton's Law of Motion & its application in sports
2. Types of Levers and their application in Sports.
3. Equilibrium – Dynamic & Static and Centre of Gravity and its application in sports
4. Friction & Sports
5. Projectile in Sports

NEWTON'S LAW OF MOTION & ITS APPLICATION IN SPORTS

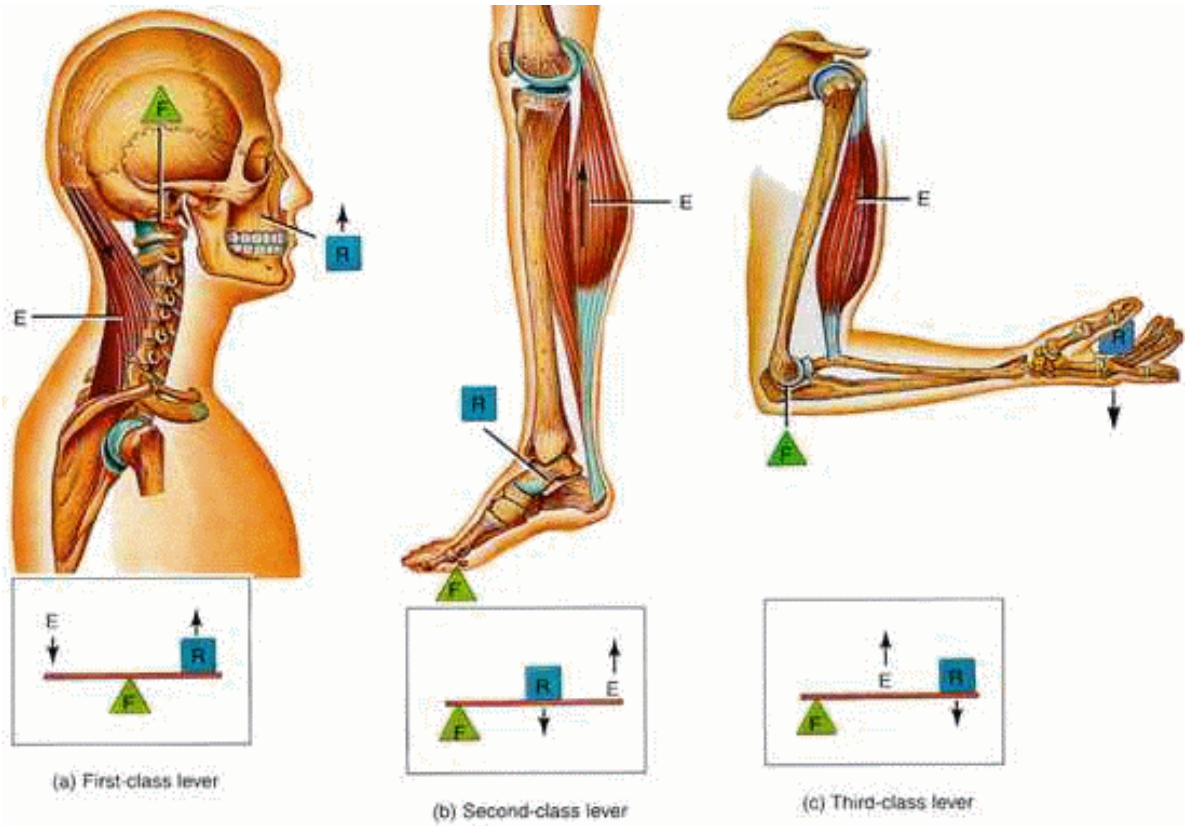
LAW	DEFINITION	APPLICATION
NEWTON'S FIRST LAW OF MOTION (LAW OF INERTIA)	"A body at rest will remain at rest and a body in motion will remain in motion at the same speed and in the same direction till any external force is applied on it to change that state"	FOOTBALL The ball at penalty spot will remain at its position (at rest) until it is kicked (external fore applied).
		HOCKEY A rolling ball (at motion) will come at rest due to the Gravity and frictional force of the ground (external force).
NEWTON'S SECOND LAW OF MOTION (LAW OF ACCELERATION)	"The rate of change in acceleration of an object is directly proportional to the force producing it and inversely proportional to its mass." *Force = Mass X Acceleration*	CRICKET If a batsman player hits a ball with double the force, the rate at which the ball will accelerate (speed up) will be doubled
		VOLLEYBALL SMASH Higher the force exerted by the player on the ball- faster it will travel and making it hard for opponent to receive the ball.
NEWTON'S THIRD LAW OF MOTION (LAW OF ACTION & REACTION)	"To every action, there is always an equal and opposite reaction."	SWIMMING **Action**: A swimmer applying backward force in water (propelling) **Reaction**: The body moves forward
		HIGH JUMP **Action**: Jumper applying force to the ground in downward direction. **Reaction**: The body moves upward



TYPES OF LEVERS AND THEIR APPLICATION IN SPORTS

Lever is a rigid bar which is capable of rotating about a fixed point called the fulcrum. Example: See-Saw, Scissors, Pulley etc. Skeletal & Muscular system together also acts like lever.

CLASS OF LEVER	DESCRIPTION	EXAMPLE
CLASS I	A first class lever has the fulcrum located between the force and the resistance.	See-saw A pair of scissors Rowing Tilting Head back
CLASS II	A second class lever has the load or resistance located between the fulcrum and the force.	Wheel barrow Straight Push-ups, Calisthenics Raising heel off ground
CLASS III	A third class lever has the force located between the fulcrum and the resistance.	Baseball bat Tennis racket Curling of biceps, etc. Bicep curl



(a) First-class lever (b) Second-class lever (c) Third-class lever

EQUILIBRIUM – DYNAMIC & STATIC AND CENTRE OF GRAVITY AND ITS APPLICATION IN SPORTS

Equilibrium is defined as a state of Balance or stable situation. Opposite forces cancel each other out and no changes takes place.

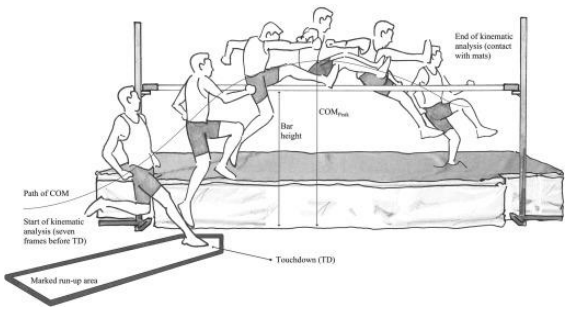
Factors affecting Equilibrium

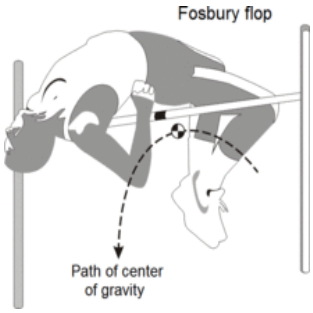
- **Broader** the base - **Greater** the Stability
- **Lower** the Centre of Gravity - **Higher** the stability
- **Heavier** the Body weight - **Greater** the Stability

TYPE OF EQUILIBRIUM	DEFINITION	APPLICATION
DYNAMIC EQUILIBRIUM	It is balance of a body during movement.	- An athlete running with constant velocity - Weightlifting
STATIC EQUILIBRIUM	It is balance of a body during rest.	- Hand Stand - Sirshasana

CENTRE OF GRAVITY

The centre of Gravity is the point in the body or the system around which it's Mass or Weight is evenly distributed or balanced.





In **Straddle Technique** Centre Of Gravity moves above the bar	In **Fosbury Flop** Centre Of Gravity moves below the bar .
The Jumper can clear the High Jump Bar at greater height by applying same force as he/she has to lift the Centre of Gravity to a lesser height.	

FRICTION & SPORTS

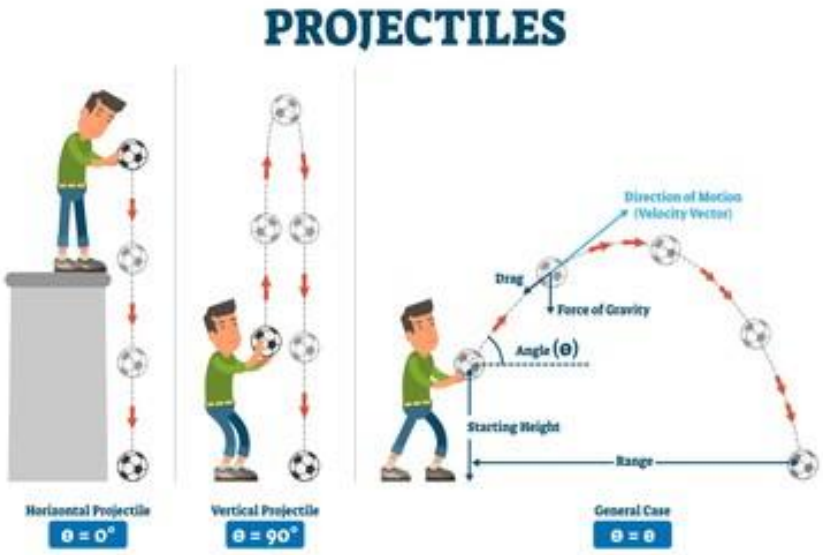
The force acting along two surfaces in contact which opposes the motion of one body over the other is called the force of friction.

TYPE OF FRICTION	DEFINITION
STATIC FRICTION	The opposing force that comes into play when one body tends to move over the surface but the actual motion has yet not started is called static friction.
DYNAMIC FRICTON	It is the friction between two surfaces that are in relative motion with respect to each other. It is the opposing force that comes into play when one body is actually moving over the surface of another body.

ADGANTAGE	DISADVANTAGE
• Hold or grip an object e.g. Racket • Keep object at their position Ball during penalty Kick / Shot. • FOOTBALL / HOCKEY Stop a moving ball. • WALKING / RUNNING It helps in Walking / Running by preventing slippage (wastage of force applied to ground)	Makes movement difficult - Wind blowing from opposite direction hakes it harder for running, Cycling, Kayaking etc. Waste of Energy - The energy of the player gets wasted in overcoming the resistance.
Methods of **Increasing** Friction •Using Rubber Grips in Bats & Racquets •Using Rubber soles, spikes, studs in shoes	Methods of **Reducing** Friction • Using aerodynamically designed equipment e.g. Helmet, Javelin etc. • Using advanced clothing material e.g. less water absorbing material in swimming costume.

PROJECTILE IN SPORTS

When an object is thrown into space either horizontally or at an angle under the action of Gravity is known as Projectile. The path followed by the Projectile is known as **Trajectory.**



Examples in sports:

- Football kick
- Javelin throw
- Discuss Throw
- Short Put

Factors affecting the projectile trajectory

- Propelling Force
- Force of Gravity
- Effect of air Resistance
- Angle of Release
- Height of Release

SELF PRACTISE QUESTIONS

MULTIPLE CHOICE QUESTIONS: 01 Marks

Q1. Which Newton's law applied when the athlete is in running position?

i) Newton's First Law
j) Newton's Second Law
k) Newton's Third Law
l) None of the above

Q2. Which Newton's law is best described in the picture?

a) Newton's First Law
b) Newton's Second Law
c) Newton's Third Law
d) None of the above

Q3. During Bicep Curl, which class of Lever is applied?

i) Class I Lever
j) Class II Lever
k) Class III Lever
l) None of the above

Q4. In which class of Lever the Resistance is between Fulcrum and Effort?

a) Class I Lever
b) Class II Lever
c) Class III Lever
d) None of the above

Q5. If the base of support is increased then the stability or equilibrium will _____.

e) Increase
f) Decrease
g) No change
h) Both (a) and (b)

Q6. During 'tilting of head', which class of Lever is applied?

i) Class I Lever
j) Class II Lever
k) Class III Lever
l) None of the above

Q7. Which principle of Physics helps in stopping the rolling ball?

i) Equilibrium
j) Newton's Laws of motion
k) Friction
l) Projectile

Q8. In which of the following sports skill the principle of Projectile motion is applied?

e) Pushing a Hockey ball
f) Sprinting 100m
g) Swimming
h) Long Jump

Q9. If angle of projection is changed from 0 to 90 degree, while keeping rest of parameters as constant what will be impact on distance covered by the body?

e) Initially increase and then decrease
f) Initially decrease and then increase
g) Will remain constant
h) Will change haphazardly

Q10. Newton's first law of motion is also known as?

e) Law of action & Reaction
f) Law of acceleration
g) Law of momentum
h) Law of Inertia

VERY SHORT ANSWER QUESTION 2 Marks

Q1. Briefly describe Equilibrium and its type with example?

Answer:

Equilibrium is defined as a state of Balance or stable situation i.e. when the net force acting on the body is zero it is said to be in state of equilibrium. Equilibrium is basically of two types:

- Dynamic Equilibrium
  Example: A sprinter while running with constant velocity in straight lane.
- Static Equilibrium
  Example: A gymnast while performing a 'Handstand'.

Q2. Briefly describe Friction and mention one situation in sports where increasing friction is beneficial and one situation where decreasing friction is beneficial.

Answer.

Friction is a type of force which is generated when the different surfaces are in contact. It is basically of two type:

- Static Friction
- Dynamic Friction

Situation where increasing friction is advantageous: Using a rubber grip in Bat increase the friction and prevents the bat from slippage.
Situation where decreasing friction is advantageous: Using specially designed swimming costume decreases the friction between water and body and helps in moving faster.

Q3. What do understand by Projectile motion? Briefly explain the effect of different projectile motion on the distance of the object.

Answer:

When an object is thrown into space either horizontally or at an angle under the action of Gravity is known as Projectile motion.
The various factors affecting projectile motion and its impact on distance covered is as follows:

Propelling Force	Higher the 'Propelling force', greater is the distance covered
Force of Gravity	Higher the 'Force of Gravity', lesser is the distance covered
Effect of air Resistance	Higher the force 'Air Resistance', lesser is the distance covered
Angle of Release	From 0 to 90 degree- Initially distance covered increases and then decreases
Height of Release	Higher the 'Height of Release', greater is the distance covered

SHORT ANSWER QUESTION **3 Marks**

Q1. Discuss the three kind of Lever with suitable example from the general life as well as from human body?

Answer:

(i) **Class I:** It is a kind of Lever when the Fulcrum is between Effort and Resistance. It is also known as balance lever.

Effort – Fulcrum - Resistance

(ii) **Class II**. It is a kind of Lever when the Resistance is between Fulcrum and Effort. It is also known as Power lever.

Fulcrum – Resistance - Effort

(iii) **Class III.** It is a kind of Lever when the effort is between Fulcrum and Resistance. It is also known as Speed lever.

Fulcrum – Effort - Resistance

	Example from daily life	Example from Human body
Class I	See-Saw	Forward and backward Neck movement
Class II	Wheel Barrow	Raising Heel
Class III	Fishing Rod	Biceps Curl

Q2. Explain why the angles of release for shot put, javelin and discus throw are different?

Answer:

To achieve maximum distance for any of these events, the athlete will have to balance three components – speed, technique and strength. As the angle of release increases, the athlete must expend more energy in overcoming the weight of the object thrown and so less effort is available to develop the release speed of the object.

Further, the structure of the body favours a throw in the horizontal direction. As the three objects are differing in weight, the athlete expends different amounts of energy in overcoming their weight. Accordingly, the athlete will release the javelin at a smaller angle of release than the shot put, as the javelin is lighter. The same reason holds for the discus.

CASE STUDY BASED QUESTIONS **4 Marks**

Q1. In Biomechanics class, Ramana, the teacher, brings the students to the physics lab of his school. The students get confused why they bring them in physics lab instead of going to field. But in lab they have their class. After the completion of the class they realize the fact.

i) Why does the teacher bring the students to physics lab for biomechanics class?
j) Biomechanics is associated with which branch of sciences.
k) Out of wet & dry surface which one would provide more friction?

Answer:

m) It deals with physics principles
n) Mechanics and Anatomy
o) Dry Surface

LONG ANSWER QUESTION **5 Marks**

Q1. Enumerate the laws of motion with application from Sports.

Answer:

Newton's First Law of Motion: This law is also known as law of inertia. This law states that a body at rest will remain at rest and a body in motion will remain in motion at the same speed and in the same direction till any external force is applied on it to change that state.

Example: During Weightlifting, heavier the weight, higher the amount of force will require to break the intertia and bring the bar into motion.

Newton's Second Law of Motion: This law states that the acceleration of an object is directly proportional to the force producing it and inversely proportional to its mass.

F = m X a, where m=Mass and a = Acceleration

Example: During Cricket stroke, if the batsman intend to hit a six then he/she will have apply more force where as if the intention is to take single run then contact of bat and ball is to be made lightly.

Newton's Third Law of Motion: This law states that to every action, there is always an equal and opposite reaction.

Example: During Kayaking higher the backward force is applied during propelling, faster the baot will more forward.

Chapter- 9

PSYCHOLOGY & SPORTS

1. Personality; its definition & types (Jung Classification & Big Five Theory)
2. Motivation, its type & techniques.
3. Exercise Adherence: Reasons, Benefits & Strategies for enhancing it
4. Meaning, Concept & Types of Aggressions in Sports
5. Psychological Attributes in Sports – Self-Esteem, Mental Imagery, Self-Talk, Goal Setting

PERSONALITY: IT'S DEFINITION & TYPES (JUNG CLASSIFICATION & BIG FIVE THEORY)

PERSONALITY:

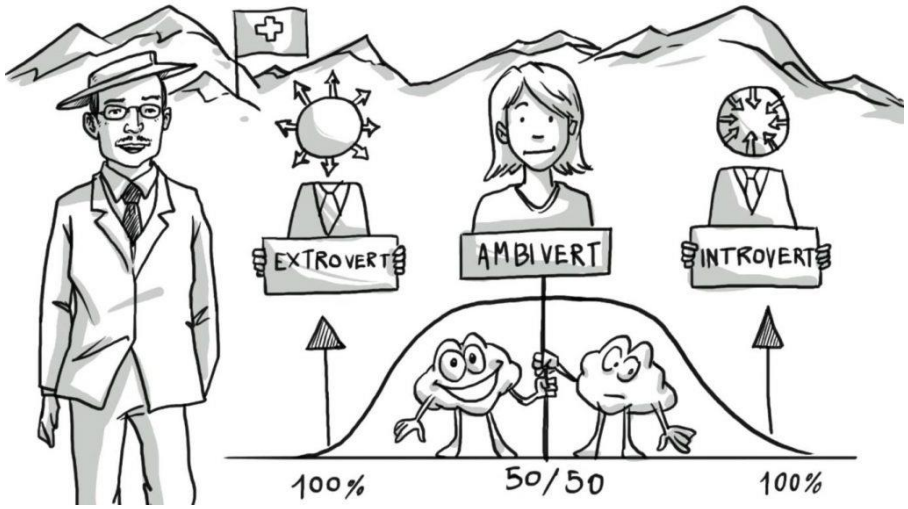
Derived from Latin Word- Persona (Masks). Personality is usually the set of characteristics possessed by a person.

"*Personality is the integration of all habits which determine the role and status of the person in society*"- **Burges**

JUNG'S CLASSIFICATION OF PERSONALITY

Carl Gustav Jung, a Swiss psychiatrist published a book Psychology Typen (Psychology Types) in 1921 and presented his own theory of personality by classifying personality based on two important aspects. First is personality attitude (introvert and extrovert) and second is personality functions (Sensing, Intuitive, Thinking, Feeling).

The Eight Preferences				
Where you prefer to focus your attention	E	EXTRAVERSION People who prefer extraversion tend to focus their attention on the outer world of people and thin	I	INTROVERSION People who prefer introversion tend to focus their attention on the inner world of ideas and impressions.
The way you prefer to take in information.	S	SENSING Peole who prfer sensing tend to take in information through the five senses and	N	INTUITION People who prefer intuition tnnd to take in information from pattern and the big picture and focus on future possibilities.
The way you prefer to make decisions	T	THINKING People who prefer thinking tend to make decision based primarily on logic and on objective analysis of cause and effect.	F	FEELING People who prefer feeling tend to make decision based primarily on values and on subjective evaluation of person-centered concern.
How you prefer to deal with the outer world	J	JUDGING People who prefer Judging tend to like a planning and organized approach to life and prefer to have things settled.	P	PERCEIVING People who prefer perceiving tend to like a flexible and spontaneous approach to life and prefer to keep their options open



INTROVERT	EXTROVERT	AMBIVERT
An individual exhibiting- **Contemplative, Exploring, Theoretical, Independent, Idealistic & Visionary** Characteristics	An individual exhibiting- **Analytical, Strategic, Planning, Organiser, Adventurous & Innovative** Characteristics	They possess mixed characteristics of Both Introvert and Extrovert.

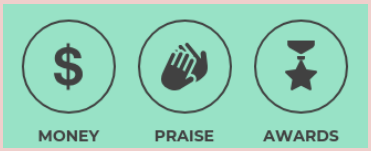
BIG FIVE PERSONALITY THEORY

TRAIT	CHARECTERISTICS
OPENNESS	Being curious, Intellectual, Creative & open to new ideas.
CONSCIENTIOUSNESS	Being organised, Systematic, Punctual, achievement oriented and dependable.
EXTROVERSION	Being Outgoing, Talkative, sociable and enjoying social situations.
AGREEABLENESS	Being Affable, tolerant, sensitive, trusting, kind and warm.
NEUROTICISM	Being Anxious, irritable, temperamental and moody

MOTIVATION, ITS TYPE & TECHNIQUES.

The term **Motivation** is derived from Latin word 'Movere' meaning 'to move'. It is combination of thought, feeling or condition that causes one to act.

"*Any condition, that might energise and direct our actions*"- **Crooks & Stein**

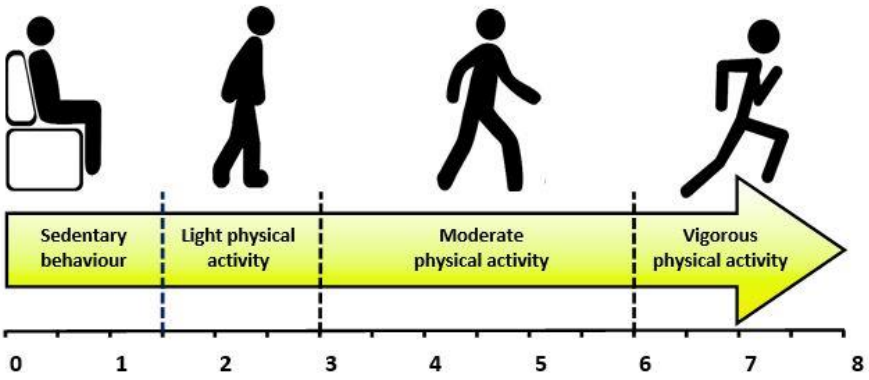
INTRINSIC MOTIVATION	EXTRINSIC MOTIVATION
When the force/urge to something comes from within	When the force/urge to do something arises due to external factors.
	

TECHNIQUES OF MOTIVATION

- Goal Setting
- Arrangement of Event
- Spectator
- Verbal Comments
- Environment
- Outcome
- Praise/Blame
- Prizes
- Music
- Attitude
- Self-Talk

EXERCISE ADHERENCE: REASONS, BENEFITS & STRATEGIES FOR ENHANCING IT

Exercise adherence is the extent to which a patient acts in accordance with the advised interval, exercise dose, and exercise dosing regimen.



STRATEGIES FOR ENHANCING EXERCISE ADHERENCE

- Simple Exercise at Beginning
- Select interesting Exercise
- Select Variety of Exercise
- Exercise in Morning
- Concentrate on Yourself
- Setting appropriate Goal
- Support of Other
- Thanks yourself
- Make a schedule & be punctual
- Tracking your Progress

MEANING, CONCEPT & TYPES OF AGGRESSIONS IN SPORTS

Aggression is range of behaviours that can result in both Physical and Psychological harm to oneself, others or objects in the Environment.

HOSTILE AGGRESSION	INSTRUMENTAL AGGRESSION	ASSERTIVE AGGRESSION
• The intension is to cause harm to someone else • Physical or Mental Harm • Reactive aggression often accompanied by anger • E.g. Harming other sportsmen when losing a game	• Displaying aggressive behaviour in the pursuit of a non-aggressive goal • Channelled aggression and not accompanied by anger • Often visible in contact sports e.g. Wrestling, Boxing etc.	Use of verbal force to achieve one's purpose E.g. Sledging in Cricket or other sports

PSYCHOLOGICAL ATTRIBUTES IN SPORTS
(SELF-ESTEEM, MENTAL IMAGERY, SELF-TALK, GOAL SETTING)

ATTRIBUTES	CHARECTERISTICS
SELF-ESTEEM	• The amount of value and competence we place in ourselves determines our level of self-esteem. • By having a good perception of our bodies and the physical talents and abilities we develop, we can improve our self-esteem through sport.
MENTAL IMAGERY	• An athlete uses mental imaging when they visualise oneself in a setting and engaging in a certain activity.
SELF-TALK	• The verbalization or words that athletes repeat to themselves before or during performing a skill are referred to as self-talk. • By using these methods, you can enhance your focus and slow down your brain, allowing it to allocate more "power" to the current work at hand.
GOAL SETTING	• One of the most important abilities to impart on athletes in order to assist them to improve their performance is goal planning. • Athletes can develop confidence and self-belief by setting SMART goals.

SELF PRACTISE QUESTIONS

MULTIPLE CHOICE QUESTIONS: 01 Marks

Q1. Which of the following Personality trait is part of Jung's classification?

m) Ambivert
n) Mesomorph
o) Openness
p) None of the above

Q2. Which of the following Personality trait is part of Big Five classification?

e) Ambivert
f) Mesomorph
g) Openness
h) None of the above

Q3. A talkative, sociable and outgoing person refers to which personality trait?

m) Openness
n) Agreeableness
o) Extroversion
p) Neuroticism

Q4. Performing a task for 'money' resembles which kind of Motivation?

i) Intrinsic Motivation
j) Extrinsic Motivation
k) None of the above
l) Both (a) and (b)

Q5. Performing a task for 'Joy' resembles which kind of Motivation?

i) Intrinsic Motivation
j) Extrinsic Motivation
k) None of the above
l) Both (a) and (b)

Q6. Which of the following is NOT a strategy for enhancing exercise adherence?

m) Simple Exercise at Beginning
n) Variety of Exercise
o) Setting appropriate Goal
p) Avoid Tracking Progress

Q7. 'Sledging' is which kind of aggression?

m) Hostile
n) Instrumental
o) Assertive
p) All of the above

Q8. Which of the following is a kind of aggression?

i) Hostile
j) Instrumental
k) Assertive
l) All of the above

Q9. Visualising one in a setting and engaging in a certain activity is known as-

i) Mental Imagery
j) Self-Esteem
k) Goal setting
l) Self-Exteem

Q10. The word 'Persona' refers to which language?

i) Canadian
j) Indian
k) Hindi
l) Latin

VERY SHORT ANSWER QUESTION 2 Marks

Q1. What is the role of psychology in sports?

Answer:

Psychology plays a vital role in enhancing the performance of players to a great extent. Psychological factors like learning, interest, attitude, motivation, emotion, stress, etc., largely affect the performance of players.

Q2. What is meant by motivation? Explain any two techniques of motivation for higher achievement in sports.

Answer.

Motivation means a process through which an individual is inspired or stimulated to act in a particular fashion or manner towards a particular direction. Techniques of motivation for higher achievement in sports are as follows:

- Active Participation
- Announcing Rewards

Q3. Distinguish between instrumental and hostile aggression

Answer:

The difference between instrumental and hostile aggression are as follows:

INSTRUMENTAL AGGRESSION	HOSTILE AGGRESSION
It arises from the need to excel and to do better.	It arises from insults, hurt feelings, jealousy and threats.
Here, the aim is to excel by improving their own performance	Here, the aim is to excel but by devising ways to reduce the performance of others.

SHORT ANSWER QUESTION 3 Marks

Q1. What are the types of aggression?

Answer:

(i) **Instrumental Aggression**. The main aim is to achieve a goal by using aggression. For example, a footballer using aggression to tackle his opponent by high intensity play without harming anyone.

(ii) **Hostile Aggression**. The main aim is to cause harm or injury to the opponent. It is usually an unplanned, impulsive reaction. For example, a bowler throwing a bouncer to deliberately injure the batsman.

(iii) **Assertive Behaviour.** It is also referred to as assertive aggression. It is generally seen as a positive form of aggression. In ground, it simply means to stand up for your values in an unthreatening manner, and involves the use of legitimate physical or verbal force to achieve one's goals.

Q2. Discuss in detail any three techniques of motivation.

Answer:

The advantage are as follows:

Knowledge of the Goal. It is one of the most important techniques of motivation. A person should be made aware about the attainment of the goal. **Equipment and**

Surroundings. Modern equipment and healthy surroundings like well-maintained playgrounds, latest sports equipment, etc., act: as motivating factors for high performance.

Positive Attitude. Positive attitude enhances the level of intrinsic motivation and helps in accepting external motivation, Sportsperson with a positive attitude gives his/her best to win the game.

CASE STUDY BASED QUESTIONS 4 Marks

Q1. Vijay is a football player of Kennedy School. He is famous for his aggressive play in the field. Because of his aggression he scored many goals. Due to his behaviour often the opponent use 'sledging'. A lot of time, he was punished for his aggressive behaviour with his opponent. The coach of the team found that he is very temperamental and moody.

l) Which type of aggression is exhibited by Vijay?
m) Which type of aggression is exhibited by the opponent?
n) Vijay has dominantly which kind of personality trait?
o) Vijay's personality is exhibited by which theory?

Answer:

p) Hostile Aggression
q) Assertive Aggression
r) Neuroticism
s) Big Five Personality Theory

LONG ANSWER QUESTION 5 Marks

Q1. What is 'Big Five' personality trait? Explain about the related theory in detail.

Answer:

Personality trait refers to the quality or characteristics that describe a personality. In order to classify different personalities, they are divided into five parts which is known as the big five personality model.

Each part of the model describes a personality trait which is as follows

- **Openness**. Refers to how a person is inclined to face cultural norms. Its characteristics are imagination, insight. creativity, adventurous and abstract thinking. They are open to change.
- **Conscientiousness**. Refers to dutiful and disciplined life. The characteristics include high level of thoughtfulness, good impulse control, goal directed behaviors and risk taking ability.
- **Extroversion**. It refers to the type of emotional expression and attitude. It's characteristics include sociability, talkative and assertiveness. It shows how social a person is, or how loving, caring and warm.
- **Agreeableness.** Refers to the attributes like cooperation, kindness, trust, affection and other social behaviors. It also shows a dependable, trustworthy and caring personality.
- **Neuroticism.** Refers to nervousness, worrying nature and anxiety. The characteristics are sadness, moodiness, emotional instability and irritability.

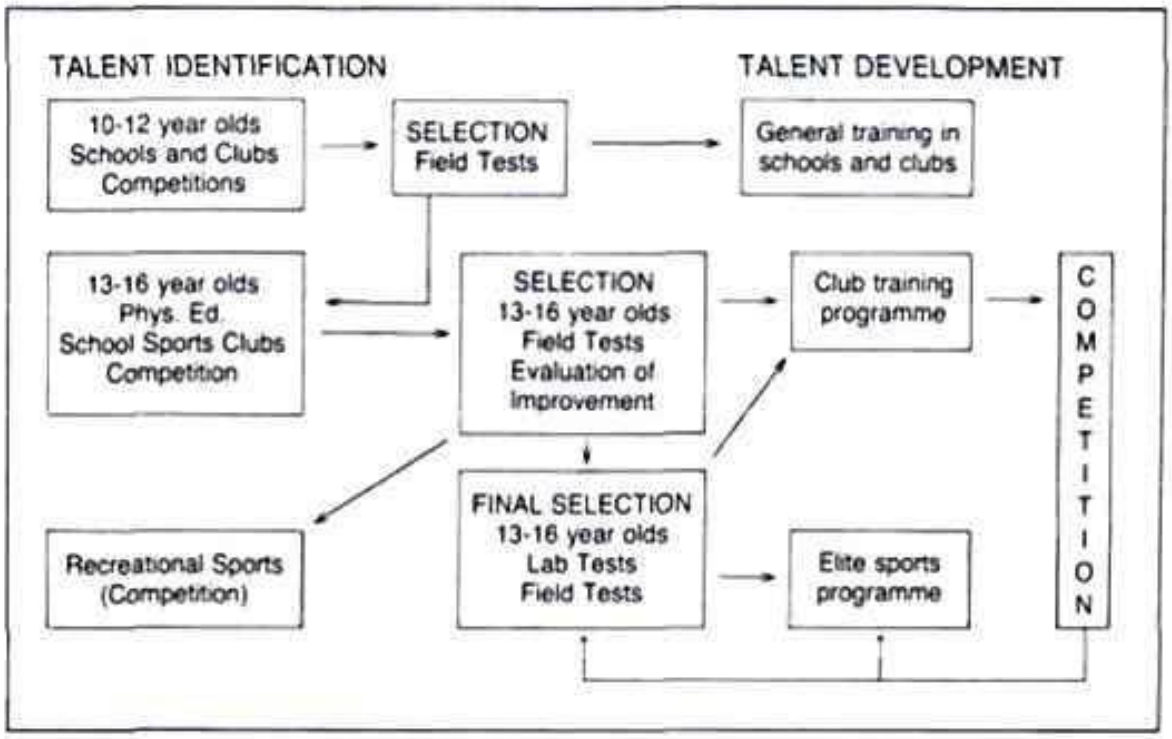
Chapter- 10

TRAINING IN SPORTS

1. Concept of Talent Identification and Talent Development in Sports
2. Introduction to Sports Training Cycle – Micro, Meso, Macro Cycle.
3. Types & Methods to Develop – Strength, Endurance, and Speed.
4. Types & Methods to Develop – Flexibility and Coordinative Ability.
5. Circuit Training - Introduction & its importance

CONCEPT OF TALENT IDENTIFICATION AND TALENT DEVELOPMENT IN SPORTS

TALENT IDENTIFICATION	• Recognizing current participants with the potential to become elite performers. Predicting performance over various periods of time by measuring Physical, Physiological, Psychological and sociological attributes.
TALENT DEVELOPMENT	• Talent development refers to a process of developing & improving selected children to their maximum potentialities in competitions.



INTRODUCTION TO SPORTS TRAINING CYCLE – MICRO, MESO, MACRO CYCLE

The whole training period is initially divided into three periods:

- **Preparatory Period-** It involves preparation long before the staring of a competition.
- **Competition Period-** It involves preparation during competition.
- **Transition/Recovery Period-** It involves active recovery & rest to cope up body for training in next season.

Each of these periods in turns is again divided into various training cycles depending on the target training outcomes like improving specific fitness components, specific technique etc.

TRAINING CYCLE	DURATION	CHARECTERISTICS
MACRO CYCLE	A macrocycle is a **yearly** strategy that aims to peak for the year's primary competition.	The purpose of the macrocycle is to enable the sportsperson to improve the performance capacity to put up an optimal performance, at a specific time, during the competition. A macrocycle again comprises several Mesocycles.
MESO CYCLE	From two to six weeks	It comprises of 3 to 6 Micro cycles. The purpose of this cycle is to tackle specific training tasks
MICRO CYCLE	3 to 10 Days	It is the smallest Phase and is focussed on detailed layout of the Training Schedule.

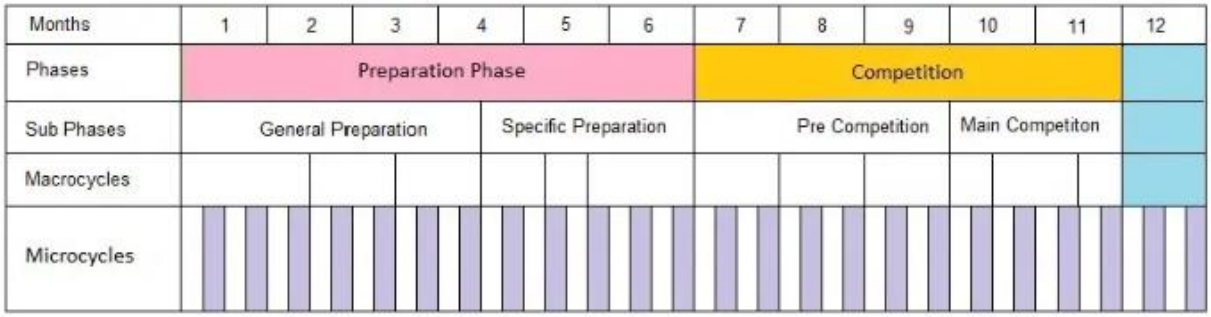
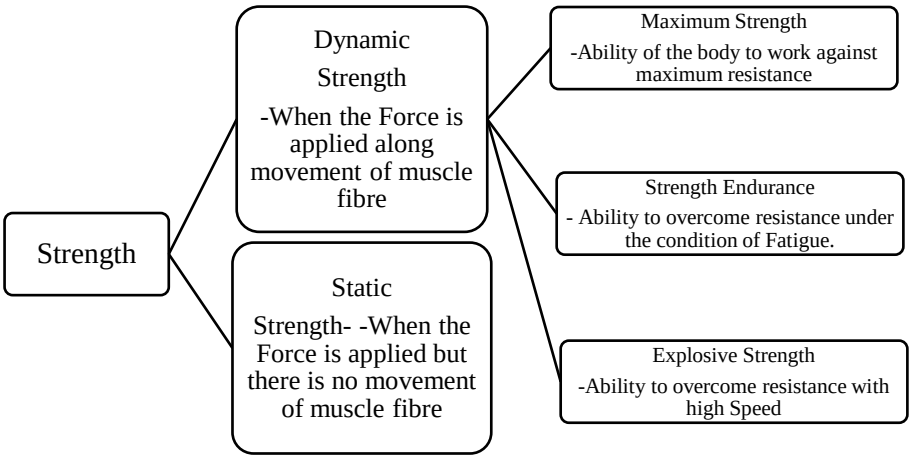


Fig. 10.1 Training Cycles

TYPES & METHODS TO DEVELOP – STRENGTH, ENDURANCE, AND SPEED, FLEXIBILITY AND COORDINATIVE ABILITY

STRENGTH



METHOD TO DEVELOP STRENGTH

ISOMETRIC EXERCISES

'Iso'= Same/No Change

'Metric'= Measurement

Exercises where there is no change in Muscle Length.

Here Force is exerted by the Muscles but no visible movements takes place.

E.g. Holding a Dumbbell/ weight for certain duration of Time

ISOTONIC EXERCISES

'Iso'= Same/No Change

'Tonic'= Pressure/ Resistance

Exercises where there is no change in Resistance being applied on the Muscles.

Force is exerted by the muscles with visible Movements throughout a Range of Motion

E.g. Bicep Curl, Tricep Curl etc.

ISOKINETIC EXERCISES

'Iso'= Same/No Change

'Kinetic'= Movement/Motion

Exercises where there is no change in Force/ being applied on the Muscles throughout the Range of Motion.

Force is exerted by the muscles with visible Movements throughout a Range of Motion

E.g. Bicep Curl with Specialized Machines

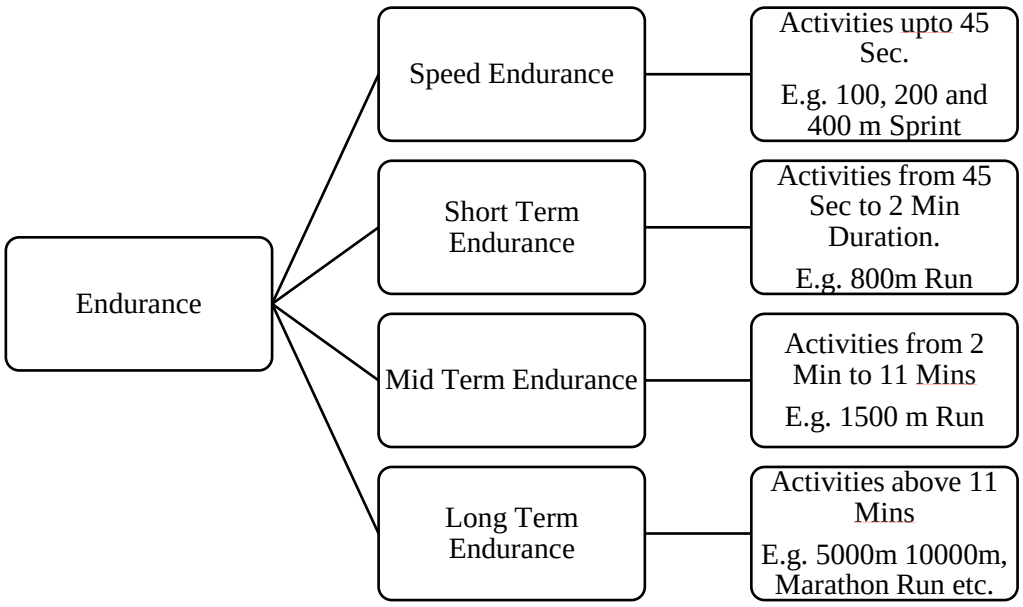
Plank Pose

Fig. 10.1 Isometric Exercise Exercise

Fig. 10.2 Isotonic Exercise

Fig. 10.3 Isokinetic

ENDURANCE



METHOD TO DEVELOP ENDURANCE

CONTINUOUS METHOD

Exercise is performed for a long duration without any break.

Intensity of exercises remains low.

Duration should not be less than 30 Min.

Heartbeat between 140-160 beats per minute.

Variation:

Slow Continious

Fast Continious

INTERVAL METHOD

Exercise is performed in Intervals. Repeation of Movement over and again with a period of rest in between.

Intensity of exercises should be High.

Heartbeat between 160-180 beats per minute and then rest upto 120-140.

Introduced by ***Bikila*** in 1920.

FARTLEK METHOD

Exercise is performed for a long duration without any break in diferent terrain.

Intensity is not preplanned and varies with Terrain.

Duration should not be less than 45 Min.

Heartbeat between 140-180 beats per minute.

Introduced by ***Gosta Holmer*** in **1937**. Also known as ***Speed Play.***

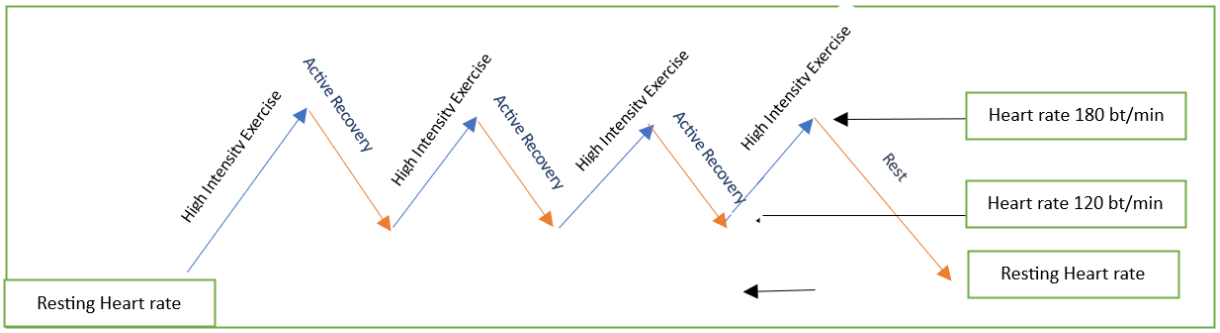
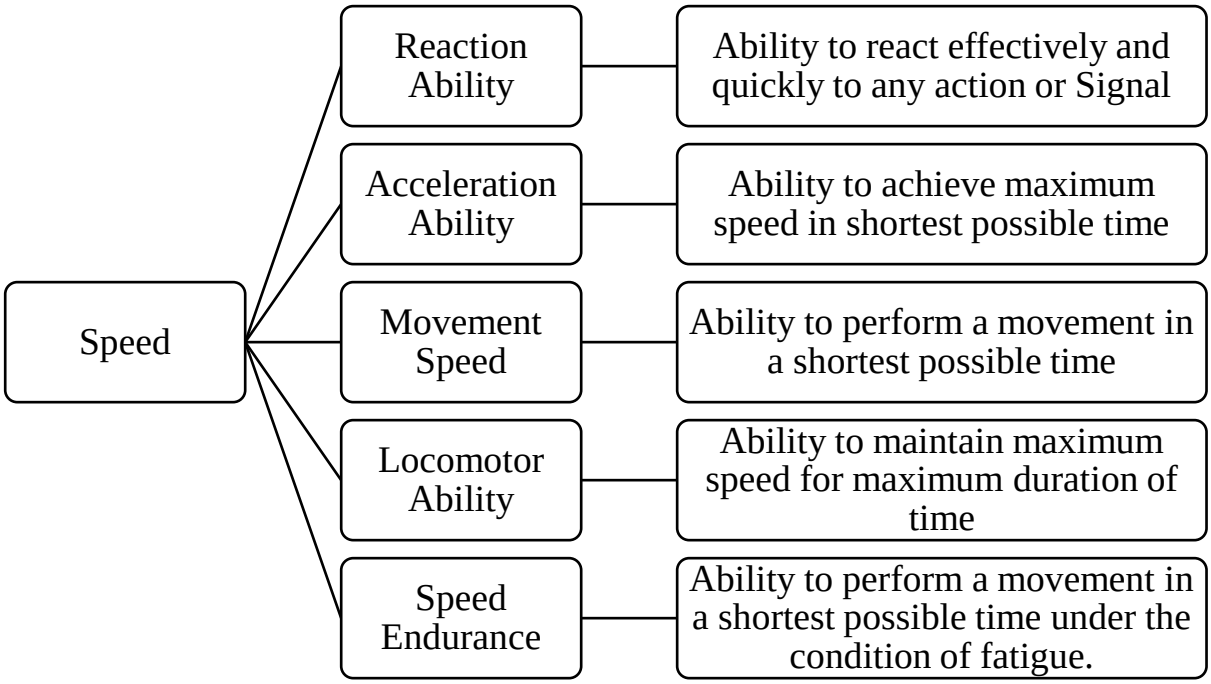
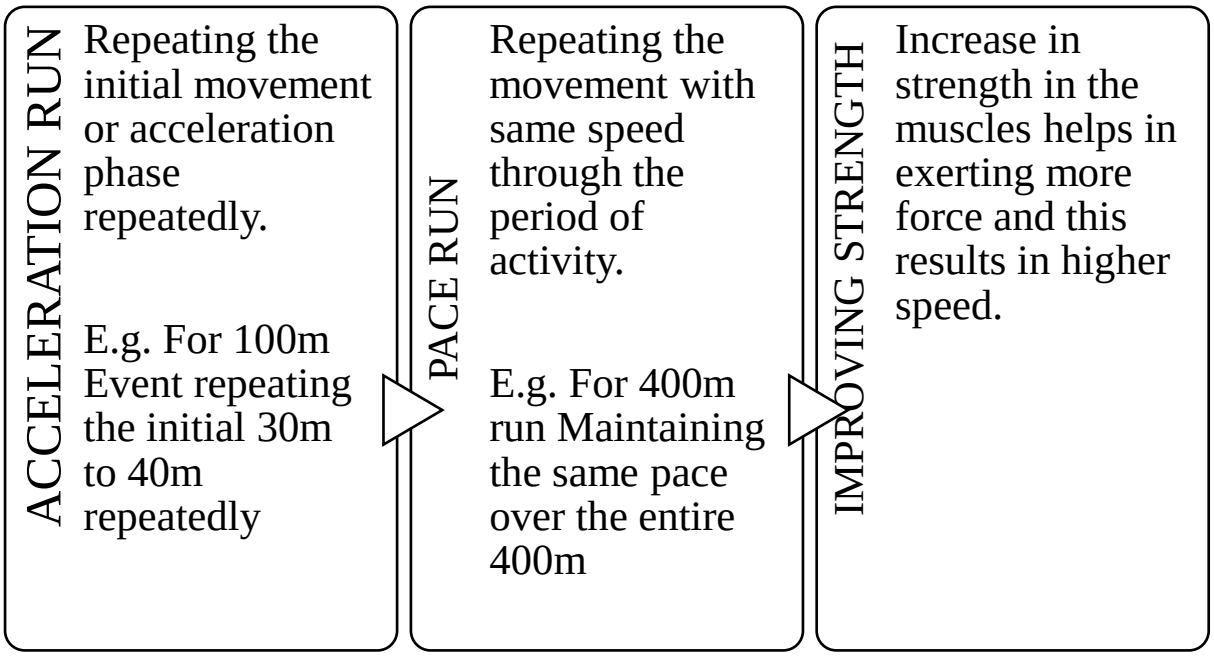


Fig. 10.2 Sample Layout of Interval Training Method

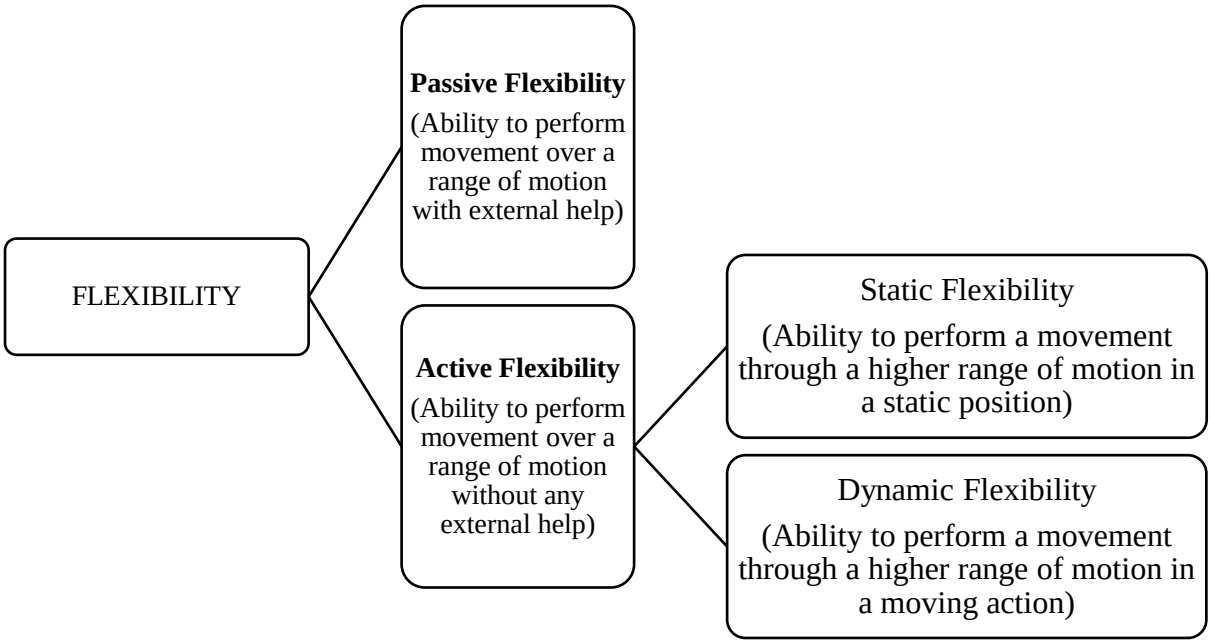
SPEED



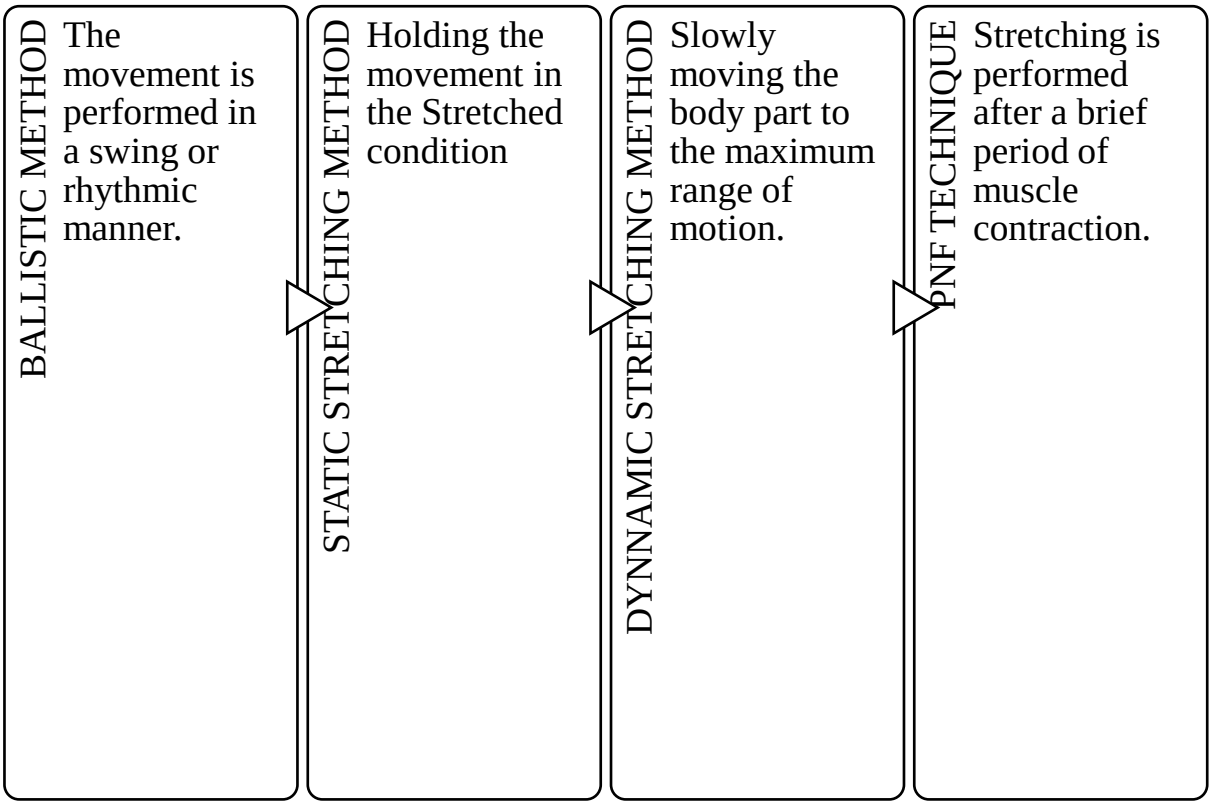
METHOD TO DEVELOP SPEED



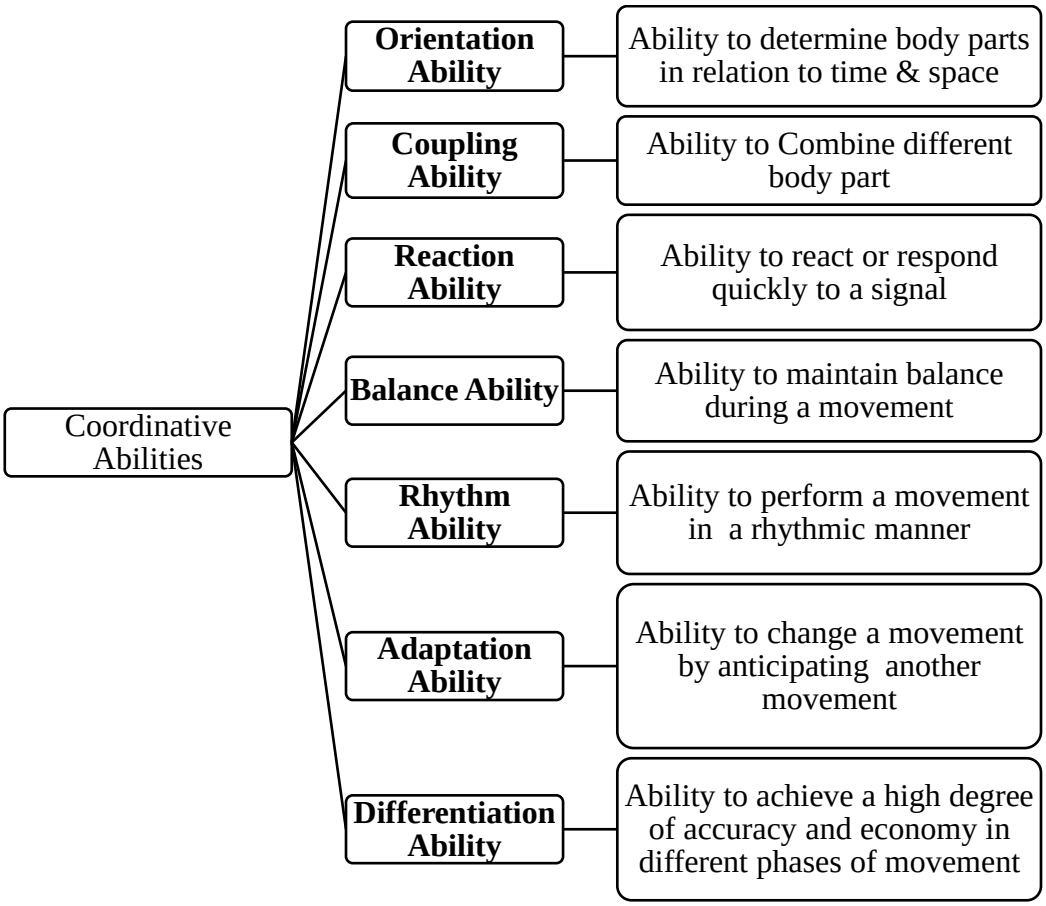
FLEXIBILITY



METHOD TO DEVELOP FLEXIBILITY



COORDINATIVE ABELITIES



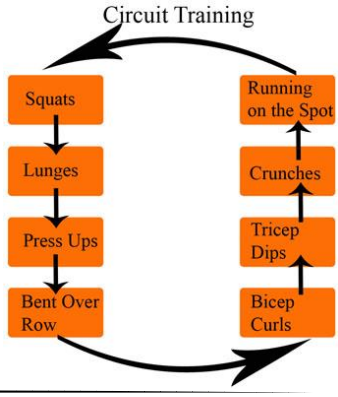
CIRCUIT TRAINING - INTRODUCTION & ITS IMPORTANCE

Circuit Training was developed by **R.E. Morgan** and **G.T. Anderson** in **1953** at the **University of Leeds in England**. Circuit training involves resistance exercises that work multiple muscle groups, it helps to build overall strength and improves muscular endurance. The exercises are selected based on the target training outcome and the athlete needs to perform those exercises in a particular sequence. Between each exercise an incomplete active recovery period of 10-30 sec. is provided.

Different stations are designed with different set of exercise. Groups may be divided as per the number of stations and a round is complete when a group performs exercise of all the stations. It is an example of **High Volume-Low Intensity** workout.

IMPORTANCE

- Improves muscular endurance.
- Increases strength and muscle growth.
- Improves heart health
- Offers a full-body workout.
- Its time efficient.
- Improves exercise adherence.
- May promote weight loss.



SAMPLE PRACTISE QUESTIONS

MULTIPLE CHOICE QUESTIONS: 01 Marks

Q1. Isokinetic method was developed by.

a) HC Buck
b) Joy Perrny
c) J.J. Perrine
d) JJ Coubertin

Q2. In which kind of exercise no movement of muscle fibre takes place.

a) Isometric
b) Isotonic
c) Isokinetic
d) Isonomic

Q3. Under which kind of strength would you require for Shotput?

a) Strength Endurance
b) Explosive Strength
c) Maximum strength
d) Speed Strength

Q4. 400m sprint event comes under

a) Speed Endurance
b) Short Endurance
c) Medium Endurance
d) Long Endurance

Q5. In which kind of activity there will be NO variation in speed?

a) Fartlek Method
b) Continuous Method
c) Interval Method
d) None of Above

Q6. Which is not a type of Flexibility?

a) Active
b) Passive
c) Ballistic
d) Stretch

Q7. Ability to coordinate body part movements with one another and in relation to a definite goal oriented body movement is known as:

a) Balance Ability
b) Adaptation Ability
c) Rhythm Ability
d) Coupling Ability

Q8. Circuit Training Method was designed by:

a) Adamson and Morgan
b) Morgan and Morgan
c) Adamson and Adamson
d) None of Above

Q9. Ability to attain high level of fine tuning of movement phases is known as:

a) Differentiation Ability
b) Orientation Ability
c) Adaptation Ability
d) Coupling Ability

Q10. In which method of stretching, movement is done in a rhythmic way?

a) Slow stretch
b) Slow stretch and hold
c) Ballistic method
d) PNF

Q11. Match the following

a. Explosive Strength	(i) Endurance
b. Continuous method	(ii) To overcome Resistance with speed
c. Post Isometric Stretch Method	(iii) coordinative Abilities
d. Help to do movement effectively	(iv) Flexibility

(a) a – iv, b – iii, c – ii, d – i
(b) a – ii, b – i, c – iii, d – iv
(c) a – ii, b – i, c – iv, d – iii
(d) a – i, b – ii, c – iv, d – iii

Q12. Match the following

a. Isometric method	(i) Heart rate 140 b/m to 180 b/m
b. Fartlek method	(ii) Speed
c. Circuit training	(iii) Length of muscle remains same
d. Pace Run method	(iv) to exercise without any break

(a) a – iv, b – iii, c – ii, d – i
(b) a – i, b – iii, c – ii, d – iv
(c) a – iii, b – i, c – ii, d – iv
(d**) a – iii, b – i, c – iv, d – ii**

Q13. Assertion-Reason Based Questions
Each of the following questions consists of two statements labelled Assertion (A) and Reason (R) and has the following four choices (a), (b), (c) and (d)
13.1.
Assertion (A): For improvement of performance in long distance running, continuous training is effective
Reason (R): Continuous method of training improves basic endurance.

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

13.2.
Assertion (A): Maximum strength is used by the athlete in a single effort, repetition or single maximal voluntary contraction to overcome maximum resistance.
Reason (R): The ability of muscle to overcome resistance under fatigue or for as long as possible is called Maximum strength.

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

13.3.
Assertion (A): The amount of force muscle can produce to complete a task is known as Strength.
Reason (R): It is a conditional ability that depends on energy liberation process in the muscle.

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

13.4.
Assertion (A): In isometric exercise, there is no change in muscle length.
Reason (R): Isometric exercises involve muscle carrying out tension against the other group of muscles.

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

13.5.
Assertion (A): Basic endurance is the ability of a person to resist fatigue in which the load is of medium intensity and involves aerobic muscular metabolism.
Reason (R): Jogging, cycling and swimming for more than 30 min. are example of basic endurance exercises.

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

13.6.
Assertion (A): Fartlek training is usually conducted over a hilly region track, river bed, forest & muddy road.
Reason (R): Time period is basic factor in this training which develops endurance and helps in delaying fatigue.

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

VERY SHORT ANSWER QUESTION 2 Marks

Q1. Write a short note on the different types of Strength?
Answer:

Muscle strength refers to their capacity to overcome resistance. Strength is basically of two types.

Dynamic strength : When the body overcomes resistance along with movement it is known as dynamic strength. E.g. Bicep Curl

Static strength : When the body overcomes resistance without any movement it is known as dynamic strength. E.g. Plank

Q2. Define Endurance.
Answer.

Ability to continue activity under the condition of fatigue is known as Endurance. Endurance activities raise the respiration and heart rate. It includes Jogging, Swimming, Biking, and jumping rope. The heart, lungs, and circulatory system stay healthy with endurance exercise, which also boosts your general fitness.

Q3. What is coupling ability?

Answer:

Coupling ability of the body is considered as capacity of an individual to perform better coordination of different parts of the body. For example while dribbling a basketball the coordination of both the limbs is required.

SHORT ANSWER QUESTION 3 Marks

Q1. Explain the advantages of fartlek training.

Answer:

Advantages of fartlek training is:

- It is good for increasing cardiorespiratory endurance.
- Several athletes can take part in the training programme at a time.
- It does not require any equipment and can be organised easily.
- This training method is not rigid; it is flexible in nature.
- It improves the efficiency of the heart and lungs.
- It provides experience of nature.

Q2. Explain the various methods for developing 'Speed'.

Answer:

The various methods for developing speed are as follows:

- **ACCELERATION RUN:** It involves repeating the initial movement or acceleration phase repeatedly. Repeating the initial movement or acceleration phase repeatedly.
- **PACE RUN**: It involves repeating the movement with same speed through the period of activity. E.g. For 400m run Maintaining the same pace over the entire 400m
- **IMPROVING STRENGTH**: Increase in strength in the muscles helps in exerting more force and this results in higher speed.

CASE STUDY BASED QUESTIONS 4 Marks

Q1. Sekhar and Khushi were students of Class IX and were very interested in to take part in KVS Regional sports meet. Shekhar was interested in Long distance running while Khushi was interested in Yoga. They went to their Physical education teacher and expressed their interest. The teacher prepared a separate whole year training schedule for both of them and started their training from the month of July for ensuring their participation in the next academic year.

p) In the month of September both Sekhar and Khushi will be in which phase of Training cycle?
q) For Sekhar, which fitness component needs to be developed?
r) For Khushi, which fitness component needs to be developed?

s) Khushi notices a Training procedure is mentioned as PNF in her schedule. What is that?

Answer:

t) Preparatory Phase
u) Endurance
v) Flexibility
w) PNF is a technique to develop flexibility known as proprioceptive Neuro-muscular felicitation.

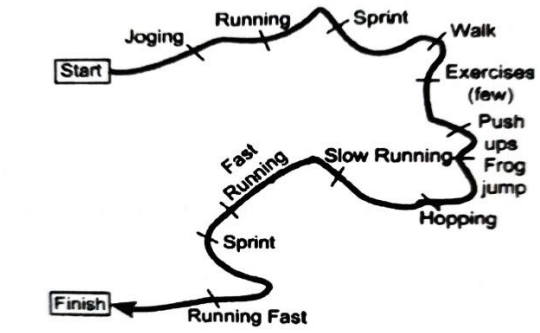
Q2. Kartik has the aim of joining Indian Army. But he has not qualified the 1600 mt. run in their selection criteria. Without qualifying he now can't proceed to the next round.

a) 1600 mt run is being conducted to find which fitness component?
b) Based on the duration of activity '1600 m' can be classified as _____.
c) Interval training is based on the principle of _____.
d) _____ training method involves a constant workload, either controlled by heart rate or speed and done for a longer time without rest.

Answer:

a) Cardiovascular Endurance
b) Middle term Endurance
c) Overload
d) Continuous

Q3. Observe the following training module:



a) From the above picture, it can be identified as the _____ training method.
b) The above training method helps in increasing which fitness component?
c) Who developed this training method?
d) Suggest any two personality attributes that is required to undergo this type of training.

Answer:

a) Fartlek
b) Endurance
c) Gosta Holmer
d) Endurance

LONG ANSWER QUESTION **5 Marks**

Q1. What do you understand by circuit training? Mention its importance along with a layout.

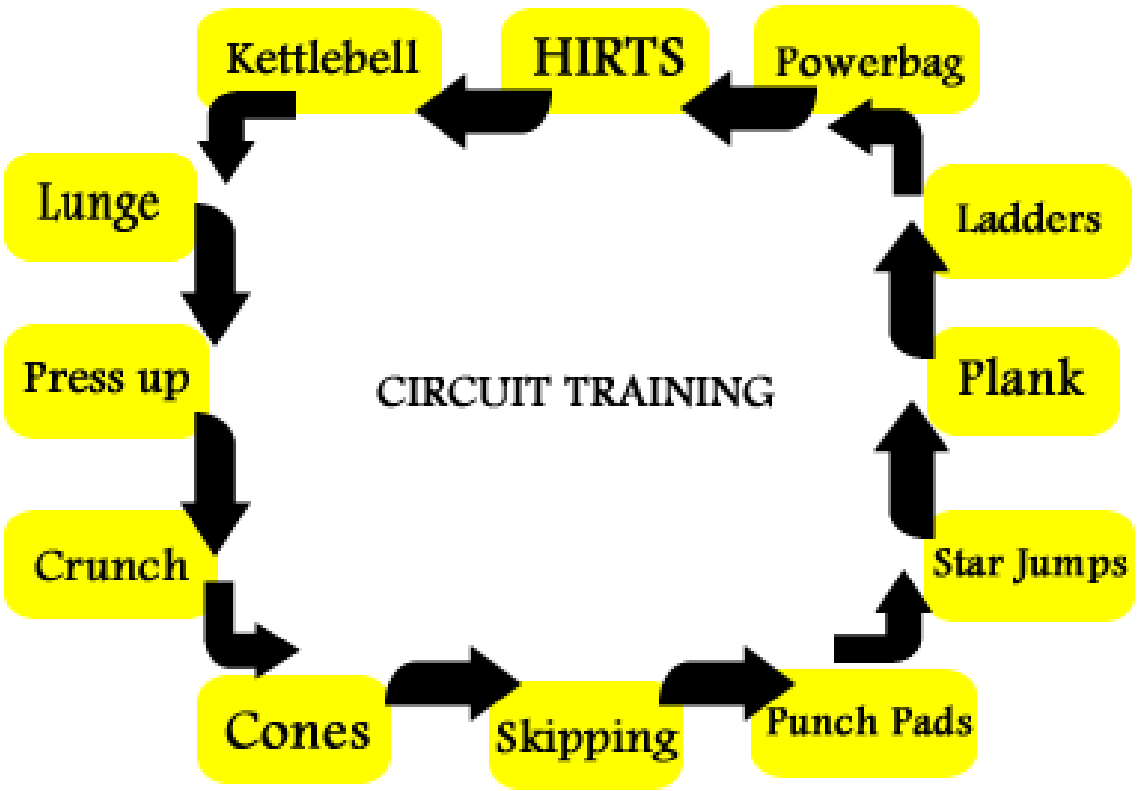
Answer:

Circuit training is a training method for developing fitness components like stength, strength endurance, speed endurance etc. it was developed by R.E. Morgan and G.T. Anderson in the year 1953 at the university of Leeds in United Kingdom.

In this method, variety of exercises are selected to develop the targeted fitness component and is assigned to various stations. The trainees are then divided into small groups equal to the number of stations and each group is assigned a station. After performing exercise in a station the groups moves in clock wise or anti clock wise direction without any rest in between. The Intensity of exercise must be low as the volume is high.

The importance of circuit training are:

- Offers a full-body workout.
- Its time efficient.
- Improves exercise adherence.



SAMPLE PAPER 1

BLUE PRINT

Sl.	Name of Chapter/Unit	VSA (01 Marks)	SA (02 Marks)	LA (03 Marks)	Case Study Assertion/ reason (4 Marks)	VLA (5 Marks)	Total Questions (Marks)
1	Management of Sports Events	2(1)		1(3)		1 (5)	4(10)
2	Children & Women in Sports	2(1)	1(2)	1(3)			4(7)
3	Yoga as preventive measures for Life Style Disease	2(1)			1(4)		3(6)
4	Physical Education & Sports for CWSN	2(1)	1(2)	1(3)			4(7)
5	Sports & Nutrition	2(1)	1(2)			1 (5)	4(8)
6	Test & Measurement in Sports	2(1)		1(3)	1(4)		4(09)
7	Physiology and Injuries in Sports	2(1)	1(2)	1(3)			4(7)
8	Biomechanics & Sports	2(1)	1(2)	1(3)			4(7)
9	Psychology & Sports	1(1)				1 (5)	2(6)
10	Training in Sports	1(1)	1(2)		1(4)	1 (5)	4(12)
	To be attempted	18 Questions (18 marks)	5 Questions (10 marks)	5 Question (15 marks)	3 Questions (12 marks)	3 Questions (15marks)	34 Questions (70 marks)
			Internal Choice in One Question	Internal Choice in One Question	Internal Choice in One Question	Internal Choice in One Question	

SAMPLE QUESTION PAPER

GENERAL INSTRUCTIONS:

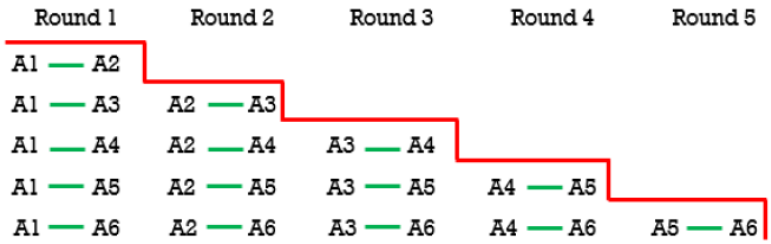
1) The question paper consists of 5 sections and 34 Questions.
2) Section A consists of question 1-18 carrying 1 mark each and is multiple choice questions. All questions are compulsory.
3) Sections B consist of questions 19-23 carrying 2 marks each and are very short answer types and should not exceed 60-90 words. There is internal choice available in one Question.
4) Sections C consist of Question 24-28 carrying 3 marks each and are short answer types and should not exceed 100-150 words. There is internal choice available in one Question.
5) Sections D consist of Question 29-31 carrying 4 marks each and are case studies. There is internal choice available.
6) Section E consists of Question 32-34 carrying 5 marks each and are short answer types and should not exceed 200-300 words. There is internal choice available.

(SECTION A)

Q1. Which of following committee provides medical support, handles injuries, and ensures safety measures are in place?

a) Finance Committee
b) Result & Prize distribution Committee
c) Medical & Safety Committee
d) Wind up committee

Q2. Identify the method used to draw fixture in the below picture.



a) Knockout Fixture
b) League Fixture with Cyclic Method
c) League Fixture with Staircase Method
d) None of the above

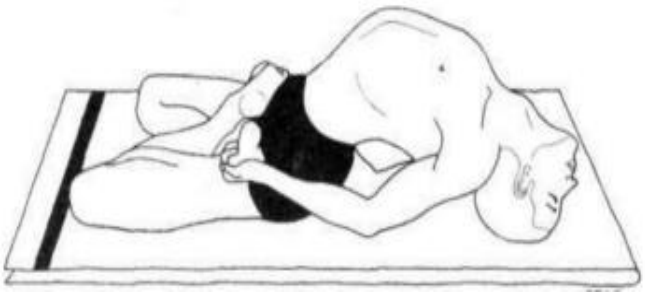
Q3. Which of the following postural deformity is also known as Genu Valgum?

a) Bow Leg
b) Scoliosis
c) Lordosis
d) Knock Knee

Q4. Which of the following is part of 'Female Athlete Triad'?

a) Osteoporosis
b) Amenorrhoea
c) Eating disorder
d) All of the above

Q5. Identify the asana in the picture.



a) Matsayasana
b) Tadasana
c) Bhujangasana
d) Halasana

Q6. Given below are the two statements labelled as Assertion (A) and Reason(R)

Assertion (A) : Bhujangasana is beneficial for various life style diseases

Reason(R) : Bhujangaasana position gives a gentle massage to digestive system, and vertebrae muscles.

In the context of the above two statements, 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 and (R) is not the correct explanation of (A).
c) (A) is true but (R) is false.
d) (A) is false but (R) is true.

Q7. Which of the following is NOT included in Paralympics Values?

a) Courage
b) Determination
c) Equality
d) Emotion

Q8. In which year, the Special Olympics India was founded?

a) 1947
b) 1984
c) 1987
d) 2010

Q9. Match the following:

1. Vitamin B12	a) Thiamine
2. Vitamin B3	b) Biotin
3. Vitamin B7	c) Cobalamin
4. Vitamin B1	d) Niacin

	1	2	3	4
a)	a	b	c	d
b)	c	d	b	a
c)	a	c	b	d
d)	b	a	d	c

Q10. Body needs vitamins and minerals because

a) They give the body energy
b) They help carry out metabolic reactions
c) They insulate the body's organs
d) They with draw heat from the body

Q11. The test used to measure fitness of senior citizens is:

a) Borrow motor fitness test
b) Harvard step test
c) Rikli and Jones fitness test
d) General motor fitness test

Q12. What should be the height of chair required in chair sit and reach test?

a) 40 cm
b) 44 cm
c) 42 cm
d) None of the above

Q13. Which of the following physiological factors determine 'Strength' of an individual?

a) Size of heart
b) Muscle fibre type
c) Vo2 Max
d) Lactate Threshold

Q14. Sprain is an injury of the

a) Muscle
b) Ligament
c) Joint
d) Bone

Q15. During Bicep Curl, which class of Lever is applied?

a) Class I Lever
b) Class II Lever
c) Class III Lever
d) None of the above

Q16. In which of the following sports skill the principle of Projectile motion is applied?

a) Pushing a Hockey ball
b) Sprinting 100m
c) Swimming
d) Long Jump

Q17. Which of the following Personality trait is part of Jung's classification?

a) Ambivert
b) Mesomorph
c) Openness
d) None of the above

Q18. 'PNF Technique' is used to develop the motor component of

a. Endurance
b. Speed
c. Flexibility
d. Coordinative ability

(SECTION B)

Q19. What kind of activity should be a part of exercise and of what duration for individuals of age group of 5-17 years children as recommended by W.H.O.?

Q20. Briefly explain about 'Paralympics'?

Q21. What is food intolerance?

Q22. Differentiate Sprain and Strain.

Q23. Briefly describe Equilibrium and its type with example?

OR

Briefly explain the type of Strength?

(SECTION C)

Q 24. Draw a League fixture of 6 teams with cyclic method.

Q25. Mention three corrective measures for Bow Leg.

Q26. Why should we include CWSN in regular Physical Education?

Q27. Write down the names of the tests designed by Rikli and Jones for senior citizen and mention the purpose of each test.

Q28. Mention the effect of Exercise on Muscular System

OR

Discuss the three kind of Lever with suitable example from the general life as well as from human body?

(SECTION D)

Q 29. Neeti along with her father was regular at District Park in early morning. She realized that most of the children are obese and she was concerned for it as it is one of the prime cause of Cardio-Vascular diseases. She along with her few classmates wanted to help those children. She discussed with her physical education teacher and the Principal of the school. School decided to organize awareness rally and a Yoga Camp for the neighbourhood. One of the team member suggested few asanas like Halasana, Shalabhasana, Sarala Matyasana, Bhadrasana, etc.

a) Name the asana from the passage that is beneficial for management of Obesity.
b) Name the asana from the passage that is beneficial for management of Hypertension.
c) Name the asana that is also known as 'Gracious Pose'.
d) Name the asana that is also known as 'Locust Pose'.

Q30. Hari aged 64 years worked as a civil engineer in a construction company he had to walk and Climb a lot as part of his job. After retirement he settled with his son, spending time with his grandchildren. Nowadays he is experiencing difficulty in doing certain chores which involve physical movement.

a) Which of the following tests would you recommend to check Mr. Hari's fitness?
b) How many series of tests are there in the prescribed fitness test for Mr. Hari?
c) Chair sit and reach test is done to check which component?
d) The eight foot up and go test is performed to access which component?

Q31. Sekhar and Khushi were students of Class IX and were very interested in to take part in KVS Regional sports meet. Shekhar was interested in Long distance running while Khushi was interested in Yoga. They went to their Physical education teacher and expressed their interest. The teacher prepared a separate whole year training schedule for both of them and started their training from the month of July for ensuring their participation in the next academic year.

a) In the month of September both Sekhar and Khushi will be in which phase of Training cycle?
b) For Sekhar, which fitness component needs to be developed?
c) For Khushi, which fitness component needs to be developed?
d) Khushi notices a Training procedure is mentioned as PNF in her schedule. What is that?

OR

Ballistic method helps in development of which Fitness Component?

(SECTION E)

Q 32. Draw a knockout fixture of 9 teams.

Q 33. What is Balance Diet? Mention its Components along with any one food source.

Q 34. What is 'Big Five' personality trait? Explain the components of this theory

OR

What do you understand by circuit training? Mention its importance along with a layout.

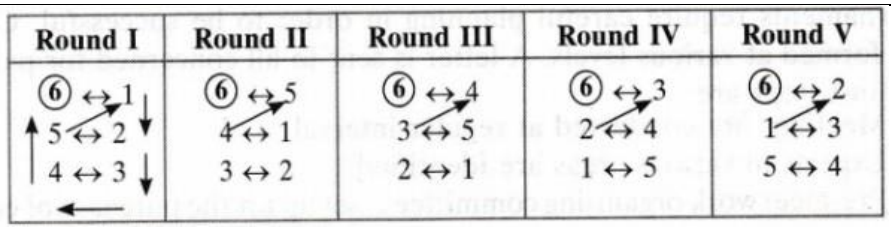
MARKING SCHEME
(SECTION A)

Q. NO.	ANSWER	MARKS
1	c) Medical & Safety Committee	1
2	c) League Fixture with Staircase Method	1
3	d) Knock Knee	1
4	d) All of the above	1
5	a) Matsayasana	1
6	a) Both (A) and(R) are true and (R) is the correct explanation of (A).	1
7	d) Emotion	1
8	c) 1987	1
9	1 2 3 4 b) c d b a	1
10	b) They help carry out metabolic reactions	1
11	c) Rikli and Jones fitness test	1
12	b) 44 cm	1
13	b) Muscle fibre type	1
14	b) Ligament	1
15	c) Class III Lever	1
16	d) Long Jump	1
17	a) Ambivert	1
18	c) Flexibility	1

(SECTION B)

Q. NO.	ANSWER	MARKS
19	WHO has recommended minimum duration and frequency of exercise for all the age groups. The recommendations for children of 5-17 years are as follows: • Moderate to vigorous aerobic physical activity (MVPA) for 60 minutes daily. • Vigorous aerobic activity should be performed at least 3 days a week. • Muscle strengthening activity should be performed at least 3 days a week.	2
20	Category of disabilities allowed to participate: **Physical**, **Visual** & **Intellectual** impairment. Held at an **interval of 04(four)** years following the Olympic Games and is managed by International Paralympic Committee. Vision- "*To enable Paralympic athletes to achieve sporting excellence and inspire and excite the world*."	2
21	A food intolerance is described as the condition when an individual faces difficulty in digesting certain foods or ingredients in food. E.g. Lactose intolerance, Gluten Intolerance.	2
22	**SPRAIN:** Sprain is an soft tissue injury which occurs in Ligament **STRAIN:** Strain is an soft tissue injury which occurs in Tendons	1+1
23	Equilibrium is defined as a state of Balance or stable situation i.e. when the net force acting on the body is zero it is said to be in state of equilibrium. Equilibrium is basically of two types: • Dynamic Equilibrium Example: A sprinter while running with constant velocity in straight lane. • Static Equilibrium Example: A gymnast while performing a 'Handstand'. OR Muscle strength refers to their capacity to overcome resistance. Strength is basically of two types. **Dynamic strength** : When the body overcomes resistance along with movement it is known as dynamic strength. E.g. Bicep Curl **Static strength** : When the body overcomes resistance without any movement it is known as dynamic strength. E.g. Plank	1+1

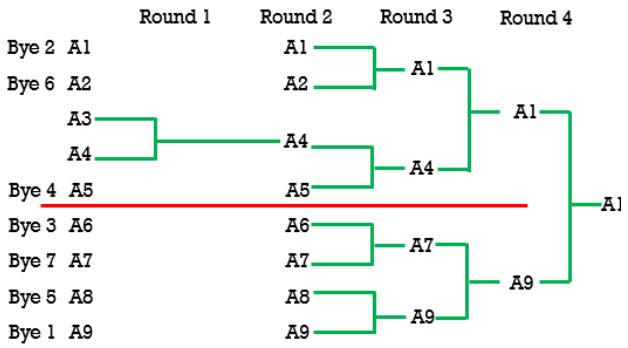
(SECTION C)

Q. NO.	ANSWER	MARKS
24		3
25	• Walk by bending the toes inward. • Walk on the inner edge of the feet. • Stand erect with feet joined together. • Perform **Garudasana**, **Ardha chakrasana** and **Ardhmatseyendrasana**. (Any three)	1+1+1
26	Considering the following advantages, the CWSN should be included in regular physical education class. • It promotes the sense of oneness and the CWSN do not feel secluded from others. • It enhance the skill level of CWSN which provide them the confidence to participate in various competitions	1.5+1.5
27	The tests designed by Rikli and Jones for senior citizen fitness are • Chair Stand Test for lower body strength. • Arm Curl Test for upper body strength and endurance. • Chair Sit and Reach Test for lower body flexibility. • Back Scratch Test for upper body flexibility. • Eight Foot Up and Go Test for coordination and agility. • Six Minute Walk Test for aerobic fitness and endurance.	0.5 x 6
28	With continuous exercise many positive changes occur in our muscular system. • The size of the muscle gets increased and along with that the strength of an individual also get enhanced. • It is also helps in activating the non-functioning fibres. OR (i) **Class I:** It is a kind of Lever when the Fulcrum is between Effort and Resistance. It is also known as balance lever. Effort – Fulcrum - Resistance (ii) **Class II**. It is a kind of Lever when the Resistance is between Fulcrum and Effort. It is also known as Power lever. Fulcrum – Resistance - Effort (iii) **Class III.** It is a kind of Lever when the effort is between Fulcrum and Resistance. It is also known as Speed lever. Fulcrum – Effort – Resistance	1.5 + 1.5 1+ 1+1

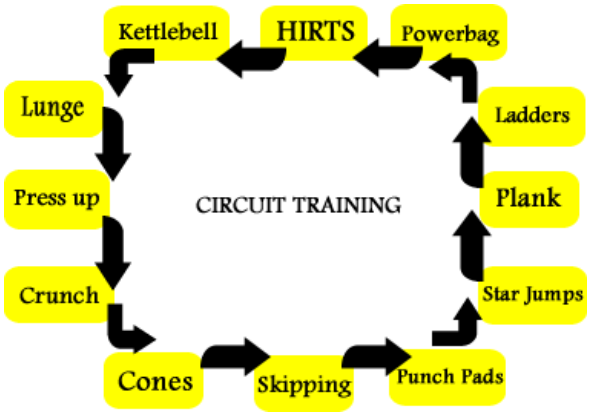
(SECTION D)

Q. NO.	ANSWER	MARKS
29	a) Halasana b) Sarala Matyasana c) Bhadrasana d) Shalabhasana	1 1 1 1
30	x) Rikli and Jones senior citizen fitness test y) Six z) Flexibility aa) Agility	1 1 1 1
31	a) Preparatory Phase b) Endurance c) Flexibility d) PNF is a technique to develop flexibility known as proprioceptive Neuro-muscular felicitation. OR Flexibility	1 1 1 1 1

(SECTION E)

Q. NO.	ANSWER	MARKS
32	Number of Matches = (N-1) = 9-1 =8 Number of Rounds = [2^1=2, 2^2=4, 2^3=8, 2^4=16], $16 \geq N > 8$, So k = 4 Number of Teams in Upper Half = $\frac{(N+1)}{2}$ = $\frac{(9+1)}{2}$ = 5 Number of Teams in Lower Half = $\frac{(N-1)}{2}$ = $\frac{(9-1)}{2}$ = 4 Number of Byes = $2^4 - 9$ = 16-9 = 7  	0.5 0.5 0.5 0.5 03

33	A *balanced diet* is essential for ensuring that all the nutrients are consumed in the proper quantities and ratios. This means that meals from all the food groups should be included in a meal in such a way that all the nutrients are provided in sufficient amounts. The components of Balance Diet along with one source are: • Carbohydrate - Rice • Protein - Meat • Fats - Ghee • Vitamins - Fruits • Minerals - Green vegetables • Roughage - Carrot • Water	3 2
34	Personality trait refers to the quality or characteristics that describe a personality. In order to classify different personalities, they are divided into five parts which is known as the big five personality model. Each part of the model describes a personality trait which is as follows • **Openness**. Refers to how a person is inclined to face cultural norms. Its characteristics are imagination, insight. creativity, adventurous and abstract thinking. They are open to change. • **Conscientiousness**. Refers to dutiful and disciplined life. The characteristics include high level of thoughtfulness, good impulse control, goal directed behaviors and risk taking ability. • **Extroversion**. It refers to the type of emotional expression and attitude. It's characteristics include sociability, talkative and assertiveness. It shows how social a person is, or how loving, caring and warm. • **Agreeableness.** Refers to the attributes like cooperation, kindness, trust, affection and other social behaviors. It also shows a dependable, trustworthy and caring personality. • **Neuroticism.** Refers to nervousness, worrying nature and anxiety. The characteristics are sadness, moodiness, emotional instability and irritability. OR Circuit training is a training method for developing fitness components like stength, strength endurance, speed endurance etc. it was developed by R.E. Morgan and G.T. Anderson in the year 1953 at the university of Leeds in United Kingdom.	1+1+1+1+1

	In this method, variety of exercises are selected to develop the targeted fitness component and is assigned to various stations. The trainees are then divided into small groups equal to the number of stations and each group is assigned a station. After performing exercise in a station the groups moves in clock wise or anti clock wise direction without any rest in between. The Intensity of exercise must be low as the volume is high. The importance of circuit training are: • Offers a full-body workout. • Its time efficient. • Improves exercise adherence.  	

SAMPLE PAPER 2

BLUE PRINT

Sl.	Name of Chapter/Unit	VSA (01 Marks)	SA (02 Marks)	LA (03 Marks)	Case Study Assertion/ reason (4 Marks)	VLA (5 Marks)	Total Questions (Marks)
1	Management of Sports Events	2(1)		1(3)		1 (5)	4(10)
2	Children & Women in Sports	2(1)	1(2)	1(3)			4(7)
3	Yoga as preventive measures for Life Style Disease	2(1)			1(4)		3(6)
4	Physical Education & Sports for CWSN	2(1)	1(2)	1(3)			4(7)
5	Sports & Nutrition	2(1)	1(2)			1 (5)	4(8)
6	Test & Measurement in Sports	2(1)		1(3)	1(4)		4(09)
7	Physiology and Injuries in Sports	2(1)	1(2)	1(3)			4(7)
8	Biomechanics & Sports	2(1)	1(2)	1(3)			4(7)
9	Psychology & Sports	1(1)				1 (5)	2(6)
10	Training in Sports	1(1)	1(2)		1(4)	1 (5)	4(12)
	To be attempted	18 Questions (18 marks)	5 Questions (10 marks)	5 Question (15 marks)	3 Questions (12 marks)	3 Questions (15marks)	34 Questions (70 marks)
			Internal Choice in One Question	Internal Choice in One Question	Internal Choice in One Question	Internal Choice in One Question	

SAMPLE QUESTION PAPER

GENERAL INSTRUCTIONS:

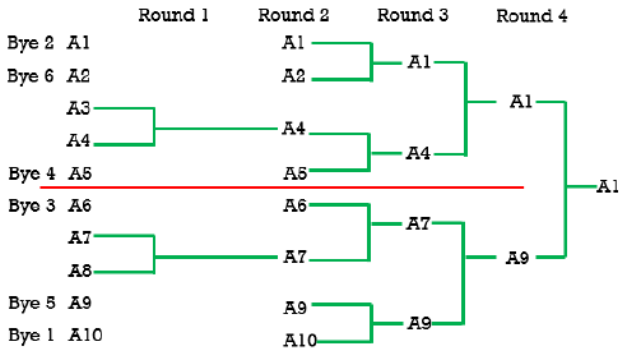
1) The question paper consists of 5 sections and 34 Questions.
2) Section A consists of question 1-18 carrying 1 mark each and is multiple choice questions. All questions are compulsory.
3) Sections B consist of questions 19-23 carrying 2 marks each and are very short answer types and should not exceed 60-90 words. There is internal choice available in one Question.
4) Sections C consist of Question 24-28 carrying 3 marks each and are short answer types and should not exceed 100-150 words. There is internal choice available in one Question.
5) Sections D consist of Question 29-31 carrying 4 marks each and are case studies. There is internal choice available.
6) Section E consists of Question 32-34 carrying 5 marks each and are short answer types and should not exceed 200-300 words. There is internal choice available.

(SECTION A)

Q1. Which of following committee prepares Budget for the Tournament?

e) Reception Committee
f) Result & Prize distribution Committee
g) Finance Committee
h) Wind up committee

Q2. Identify the method used to draw fixture in the below picture.



e) League Fixture with Staircase Method
f) League Fixture with Cyclic Method
g) Knockout Fixture
h) None of the above

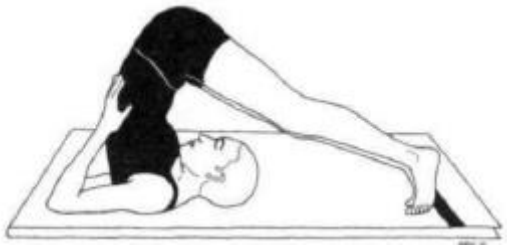
Q3. Which of the following postural deformity is also known as Genu Varum?

e) Knock Knee
f) Scoliosis
g) Lordosis
h) Bow Leg

Q4. Which of the following is part of eating disorder?

a) Anorexia Nervosa
b) Bulimia Nervosa
c) Both (a) and (b)
d) None of the above

Q5. Identify the asana in the picture.



e) Matsayasana
f) Tadasana
g) Bhujangasana
h) Halasana

Q6. Which of the following Asana is also beneficial for increasing Height?

a) Bhujangasana
b) Tadasana
c) Mayurasana
d) Brikshasana

Q7. The symbol of Paralympic Games is comprised of

a) Three Agitos.
b) Three fingers
c) Four hands
d) Five fingers

Q8. In which year, the first Deaflympics was organized?

a) 1924
b) 1949
c) 1950
d) 1952

Q9. Match the following:

1. Vitamin B12	a) Thiamine
2. Vitamin B3	b) Biotin
3. Vitamin B7	c) Cobalamin
4. Vitamin B1	d) Niacin

	1	2	3	4
a)	a	b	c	d
b)	c	d	b	a
c)	a	c	b	d
d)	b	a	d	c
d)	b	a	d	c

Q10. Which of the following Vitamin is soluble in water?

a) Vitamin A
b) Vitamin E
c) Vitamin C
d) Vitamin D

Q11. Which one of the following is NOT linked accurately?

a) Arm Curl Test -A test to measure the upper body strength
b) Chair sit and reach test -A test to assess the upper body flexibility
c) Chair stand test -A test to measure the lower body strength
d) Eight foot up and go test -A test to evaluate speed and agility

Q12. Eight foot up and go test is conducted to check the Coordination and agility in

a) Children
b) Adolescent
c) Aged people
d) Youth

Q13. Which of the following physiological factors determine 'Endurance' of an individual?

a) Size of heart
b) Vo2 Max
c) Lactate Threshold
d) All of the above

Q14. Strain is an injury of the

a) Muscle
b) Tendons
c) Joint
d) Bone

Q15. During 'tilting of head', which class of Lever is applied?

a) Class I Lever
b) Class II Lever
c) Class III Lever
d) None of the above

Q16. Which principle of Physics helps in stopping the rolling ball?

a) Equilibrium
b) Newton's Laws of motion
c) Friction
d) Projectile

Q17. Which of the following Personality trait is part of Big Five classification?

a) Ambivert
b) Mesomorph
c) Openness
d) None of the above

Q18. In which kind of exercise no movement of muscle fibre takes place.

a) Isometric
b) Isotonic
c) Isokinetic
d) Isonomic

(SECTION B)

Q19. Name any two management of Knock Knee.

Q20. Mention any two advantage of Physical activities for children with special needs.

Q21. Name any two Fat soluble Vitamin & any Two water soluble Vitamin?

Q22. Mention two physiological changes due to ageing.

Q23. Briefly explain any two factor that determines the distance travelled by an object during Projectile motion.

OR

Define Endurance.

(SECTION C)

Q 24. Draw a League fixture of 6 teams with Staircase method.

Q 25. Mention three corrective measures for Knock-Knee.

Q 26. Write down the advantages of Physical Activities for CWSN

Q 27. Mention the tests along with the objective of each test under SAI Khelo India Fitness Test for School for age group 9-18 Years.

Q 28. Briefly explain the type of Fractures

OR

Explain Newton's Second law of Motion with two examples from Sports.

(SECTION D)

Q 29. Geetha, the yoga teacher does regular yoga activities in her house with family. It helps to improve her family health. One day her neighbour, Sheela came to her house with her daughter. Sheela's daughter, Meera is 14 year old but has short height. Geetha advised her to do some asanas regularly to increase her height. Meera was also a bit obese and also faces problem of indigestion. Geetha recommended her asana to perform after having meal to deal away the problem of indigestion.

a) Which asana can be advised to Meera to increase her height?
b) Which asana was recommended by Geetha to deal with the problem of indigestion?
c) Is it True that regular practice of Yoga can be beneficial for the management of Obesity?
d) Among all the problem being faced by Meera, which one is a lifestyle disease?

Q30. Humans have a well developed digestive system for the digestion of different food components at different stages and in different organs of the digestive system. The digestion of the food gets started in the mouth as mouth consist of salivary amylase for the digestion of the starch and carbohydrates. The digestion of the fat is done by the bile salt which is secreted by the liver and from the gall bladder which is present inside the liver. The absorption of the minerals and the vitamin is completed in the large intestine and small intestine. The small intestine is responsible for the absorption of all simpler food particles. The roughage is the solid material that consist of cellulose component in the material of the roughage. Our body does not have a mechanism for the digestion of the cellulose so cellulose is excreted as such from the body without any digestion.

a) The indigestible material in food is also known as_____.
b) If a person eats a regular meal of Rice from which part of the digestive system will the digestion begin?
c) In a balance diet which component of food is the main source of energy?
d) The minerals and vitamins are absorbed in which part of the digestive system?

Q31. Rahul and Meera were students of Class VIII and were very interested in to take part in KVS Regional sports meet. Shekhar was interested in Shot Put while Meera was interested in Yoga. They went to their Physical education teacher and expressed their interest. The teacher prepared a separate whole year training schedule for both of them and started their training from the month of July for ensuring their participation in the next academic year.

a) In the month of September both Rahul and Meera will be in which phase of Training cycle?
b) For Rahul, which fitness component needs to be developed?
c) For Khushi, which fitness component needs to be developed?
d) Khushi notices a Training procedure is mentioned as PNF in her schedule. What is that?

OR

Will the Ballistic method be helpful for Meera?

(SECTION E)

Q 32. Draw a knockout fixture of 10 teams.

Q 33. Mention the pitfalls of dieting.

Q 34. Briefly explain five strategies for enhancing exercise adherence

OR

Mention the methods of developing Strength

MARKING SCHEME

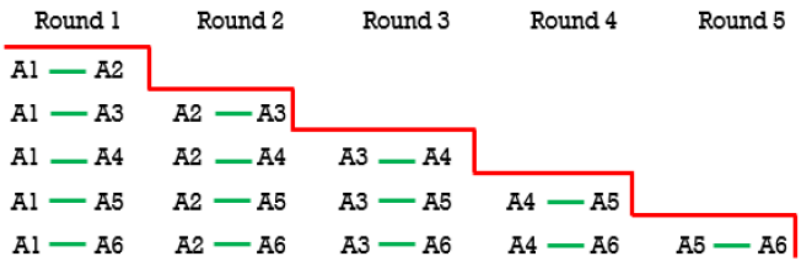
(SECTION A)

Q. NO.	ANSWER	MARKS
1	c) Finance Committee	1
2	c) Knockout Fixture	1
3	d) Bow Leg	1
4	c) Both (a) and (b)	1
5	d) Halasana	1
6	b) Tadasana	1
7	a) Three Agitos.	1
8	a) 1924	1
9	1 2 3 4 b) c d b a	1
10	c) Vitamin C	1
11	c) Chair stand test -A test to measure the lower body strength	1
12	c) Aged people	1
13	d) All of the above	1
14	b) Tendons	1
15	a) Class I Lever	1
16	c) Friction	1
17	c) Openness	1
18	a) Isometric	1

(SECTION B)

<table>
<tr><th>Q. NO.</th><th>ANSWER</th><th>MARKS</th></tr>
<tr><td>19</td><td>Knock knee is a postural deformity and can be tried to be corrected with the following ways.
• By keeping a pillow in between legs while sleeping.
• Yoga asanas like Padmasana & Gomukhasana are also be beneficial</td><td>1+1</td></tr>
<tr><td>20</td><td>The advantage are as follows:
• Improve physical fitness- similar to other children the physical fitness is also a prime requirement for CWSN. Participation in physical activities helps them to achieve the same.
• Improve social adjustment- The participation in physical activities also helps them to socially adjust with other fellow children.</td><td>1+1</td></tr>
<tr><td>21</td><td>Fat Soluble- Vitamin A & D, E & K
Water Soluble- Vitamin B & C</td><td>1.5 + 0.5</td></tr>
<tr><td>22</td><td>A lot of physiological changes occur in the human body during Ageing. Two of them are as mentioned below:
• The amount of muscle mass get reduced and as a result the strength of an individual also gets reduced.
• The amount of calcium deposition gets reduced and as a result the Bone density of the individual also gets reduced.</td><td>1+1</td></tr>
<tr><td>23</td><td><table><tr><td>Propelling Force</td><td>Higher the ‘Propelling force’, greater is the distance covered</td></tr><tr><td>Force of Gravity</td><td>Higher the ‘Force of Gravity’, lesser is the distance covered</td></tr><tr><td>Effect of air Resistance</td><td>Higher the force ‘Air Resistance’, lesser is the distance covered</td></tr><tr><td>Angle of Release</td><td>From 0 to 90 degree- Initially distance covered increases and then decreases</td></tr><tr><td>Height of Release</td><td>Higher the ‘Height of Release’, greater is the distance covered</td></tr></table>(Any Two)
OR
Ability to continue activity under the condition of fatigue is known as Endurance. Endurance activities raise the respiration and heart rate. It includes Jogging, Swimming, Biking, and jumping rope. The heart, lungs, and circulatory system stay healthy with endurance exercise, which also boosts your general fitness.</td><td>1+1</td></tr>
</table>

(SECTION C)

Q. NO.	ANSWER	MARKS
24		3
25	• Yoga- Padmaana, Vrikshasana, Dhanurasana etc • Walk with outer edge fo Foot • Pillow Exercise-Pillow is to kept between knees and press	1+1+1
26	• Development of Motor Skills • Improved mental Health & enhance Self-Esteem & Self- Image • Ensure participation in Physical Education Programmes • Improve Physical Fitness • Improved Emotional health • Behavioral Benefits • Increased Independence • Improve Social Adjustments	0.5 x 6
27	• BMI : To assess Body Composition • 50m Speed test : To assess the component of Speed • 600mt Run/Walk : To assess Cardio-vascular endurance • Sit & Reach Flexibili1ty test : To assess Flexibility • Abdominal Partial Curl Up : To assess Muscular Endurance • Push-Ups (for boys): To assess Muscular Strength • Modified Push-Ups (for girls) : To assess Muscular Strength	0.5 x 6
28	• **Simple Fracture**- Broken at one place without any would • **Compound Fracture**- Skin and muscles are damaged along with fracture • **Complicated Fracture**- Internal organs are damaged due to fracture • **Greenstick Fracture**- Fracture in bone of small children due to stress • **Commented Fracture**- Bone is broken into three or more pieces • **Impacted Fracture**- When end of the fractured bone enters another bone	1+1+1

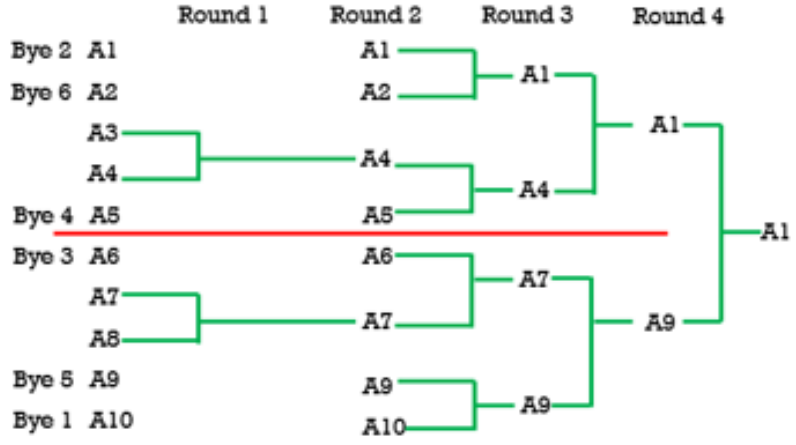
	OR **NEWTON'S SECOND LAW OF MOTION** (LAW OF ACCELERATION) "The rate of change in acceleration of an object is directly proportional to the force producing it and inversely proportional to its mass." *Force = Mass X Acceleration* CRICKET If a batsman player hits a ball with double the force, the rate at which the ball will accelerate (speed up) will be doubled VOLLEYBALL SMASH Higher the force exerted by the player on the ball- faster it will travel and making it hard for opponent to receive the ball. (Any other example from any game)	1+1+1

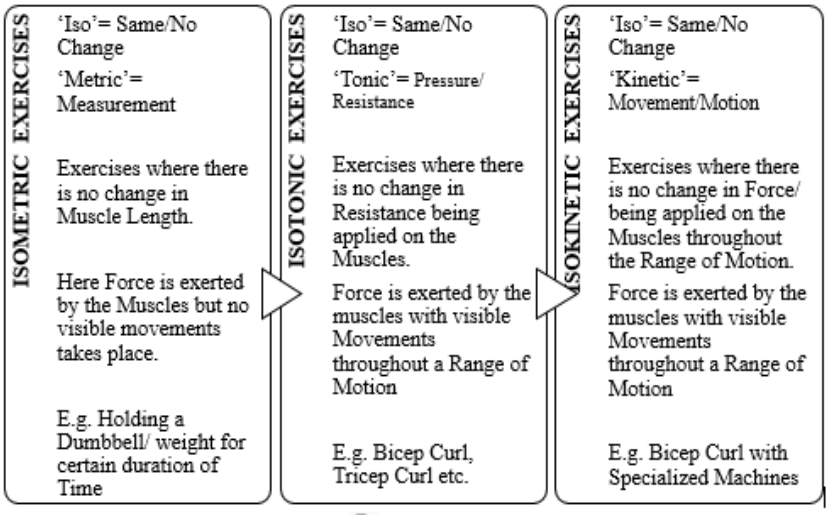
(SECTION D)

Q. NO.	ANSWER	MARKS
29	a) Tadasana b) Vajrasana c) True d) Obesity	1 1 1 1
30	a) Roughage b) Mouth c) Carbohydrate d) Small and Large Intestine	1 1 1 1

31	e) Preparatory Phase f) Strength g) Flexibility h) PNF is a technique to develop flexibility known as proprioceptive Neuro-muscular felicitation. OR Yes	1 1 1 1 OR 1

(SECTION E)

Q. NO.	ANSWER	MARKS
32	Number of Matches = (N-1) = 10-1 =9 Matches Number of Rounds = [2^1=2, 2^2=4, 2^3=8, 2^4=16], $16 \geq N > 8$, So k =4 Number of Teams in Upper Half and Lower Half $= \frac{(N)}{2}$ $= \frac{(10)}{2}$ = 5 Number of Byes = $2^4 - 10$ = 16-10 = 6  	0.5 0.5 0.5 0.5 3

33			1x5
	Extreme Reduction of Calories	Person reduces the diet considerably which causes low level of energy thus person feels tiredness body aches.	
	Skipping meals	People often skip meals to reduce weight where as in react meal they take large among of food	
	Low energy Diet:	The person take diet without fats and less carbohydrates by which health is affected	
	Not performing physical Activity:	People often consider that reducing diet for controlling weight but they neglect physical activities which is equally important for healthy Lifestyle.	
	Taking less Liquid	People often think that drinking water or liquid makes them to gain weight which is wrong.	
34	▪ Simple Exercise at Beginning ▪ Select interesting Exercise ▪ Select Variety of Exercise ▪ Exercise in Morning ▪ Concentrate on Yourself ▪ Setting appropriate Goal ▪ Support of Other ▪ Thanks yourself ▪ Make a schedule & be punctual ▪ Tracking your Progress OR  	1 x 5 5

SAMPLE PAPER 3

BLUE PRINT

Sl.	Name of Chapter/Unit	VSA (01 Marks)	SA (02 Marks)	LA (03 Marks)	Case Study Assertion/ reason (4 Marks)	VLA (5 Marks)	Total Questions (Marks)
1	Management of Sports Events	4(1)		1(3)		1 (5)	6(12)
2	Children & Women in Sports	2(1)	1(2)		1(4)		4(8)
3	Yoga as preventive measures for Life Style Disease	1(1)		1(3)		1 (5)	3(9)
4	Physical Education & Sports for CWSN	2(1)	1(2)				3(4)
5	Sports & Nutrition	2(1)	1(2)	1(3)			4(7)
6	Test & Measurement in Sports	1(1)		1(3)		1 (5)	3(9)
7	Physiology and Injuries in Sports		1(2)	1(3)	1(4)		3(9)
8	Biomechanics & Sports	2(1)				1 (5)	3(7)
9	Psychology & Sports	2(1)	1(2)		1(4)		4(8)
10	Training in Sports	2(1)	1(2)	1(3)			4(7)
	To be attempted	18 Questions (18 marks)	5 Questions (10 marks)	5 Question (15 marks)	3 Questions (12 marks)	3 Questions (15marks)	34 Questions (70 marks)
			Internal Choice in One Question	Internal Choice in One Question	Internal Choice in One Question	Internal Choice in One Question	

SAMPLE QUESTION PAPER

GENERAL INSTRUCTIONS:

1) The question paper consists of 5 sections and 34 Questions.
2) Section A consists of question 1-18 carrying 1 mark each and is multiple choice questions. All questions are compulsory.
3) Sections B consist of questions 19-23 carrying 2 marks each and are very short answer types and should not exceed 60-90 words. There is internal choice available in one Question.
4) Sections C consist of Question 24-28 carrying 3 marks each and are short answer types and should not exceed 100-150 words. There is internal choice available in one Question.
5) Sections D consist of Question 29-31 carrying 4 marks each and are case studies. There is internal choice available.
6) Section E consists of Question 32-34 carrying 5 marks each and are short answer types and should not exceed 200-300 words. There is internal choice available.

(SECTION A)

Q1**.** Which of following committee is to ensure that all the non-consumable items have been stored back / returned?

a) Reception Committee
b) Result & Prize distribution Committee
c) Wind up committee
d) Decoration Committee

Q2. What is the formula to determine number of team in Upper Half while drawing the Knockout Fixture with odd number of teams?

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

Q3. In a knockout tournament if there are 14 teams then total number of matches will be _____.

a) 13
b) 9
c) 12
d) 11

Q4. Identify the method used to draw fixture in the below picture.

a) Knockout Fixture
b) League Fixture with Staircase Method
c) League Fixture with Cyclic Method
d) None of the above

Q5. In which type of Postural deformity both knees touch each other while standing in a normal position?

a) Flat Foot
b) Bow Leg
c) Lordosis
d) Knock Knee

Q6. 'Tadasana' is beneficial in management of which postural deformity?

a) Kyphosis
b) Flat foot
c) Bow leg
d) Scoliosis

Q7. Rahul is suffering from Diabetes. His doctor asked him to consult a Yoga Practitioner, who recommended him a asana. Which asana the Yoga practitioner would have prescribed?

a) Bhujangasana
b) Tadasana
c) Mayurasana
d) Brikshasana

Q8. Eligibility criteria to participate in Paralympics includes

a) Amputee
b) Cerebral Palsy
c) Visually impaired
d) All of these

Q9. Which of the following games were known as 'World Silent Games'?

a) Special Olympics
b) Deaflympics
c) Paralympics
d) Adaptive games

Q10. Methods to control healthy body weight

a) Not taking balanced diet
b) Regular physical activity
c) Excessive water consumption
d) Frequent eating

Q11. Sources of Proteins includes

(a) Fish

(b) Spinach

(c) Potato

(d) Cucumber

Q12. Which of following are part of In the SAI Khelo India Fitness test for age group 5-8?

a) BMI

b) Flamingo Balance Test

c) Plate tapping test

d) All of the above

Q13. In which class of Lever the Resistance is between Fulcrum and Effort?

a) Class I Lever

b) Class II Lever

c) Class III Lever

d) None of the above

Q14. If the base of support is increased then the stability or equilibrium will _____.

a) Increase
b) Decrease
c) No change
d) Both (a) and (b)

Q15. A talkative, sociable and outgoing person refers to which personality trait?

a) Openness

b) Agreeableness

c) Extroversion

d) Neuroticism

Q16. Which of the following is NOT a strategy for enhancing exercise adherence?

a) Simple Exercise at Beginning

b) Variety of Exercise

c) Setting appropriate Goal

d) Avoid Tracking Progress

Q17. In which kind of activity there will be NO variation in speed?

a) Fartlek Method

b) Continuous Method

c) Interval Method

d) None of Above

Q18. Ability to attain high level of fine tuning of movement phases is known as:

a) Differentiation Ability

b) Orientation Ability

c) Adaptation Ability

d) Coupling Ability

SECTION B

Q19. List down any four postural deformity.

Q20. Mention any two benefit of Exercise for Children with Special Need.

Q21. Mention the four Fat Soluble Vitamins along with its scientific names.

Q22. Mention two long term effect of exercise on Cardio respiratory System

Q23. Mention two difference between Introvert & Extrovert.

OR

What do understand by Talent Identification?

SECTION C

Q24. Draw a League fixture of 6 teams with cyclic method.

Q25. What is obesity? Mention any four Asanas that are beneficial for management of Obesity.

Q26. Mention any three Macro Minerals and their function.

Q27. Elaborate 'Harvard Step Test' along with its Objective, Equipment Required, Procedure and Scoring Method.

Q28. Mention three fitness component along with the Physiological factors responsible for that component.

(SECTION D)

Q29. Mr. Alex, Physical education Teacher at Public School observed that a student of class VIII has a problem of Lumbar-Spine, which is bent in front beyond the normal level. He suggested some exercises to rectify this problem.

Based on this case study, answer the following questions.

a) What is this deformity known as?

b) The deformity referred by Mr. Alex is commonly known as _____.
c) The deformity referred by Mr. Alex related to _____.
d) Which asana can be beneficial in managing the deformity referred by Mr. Alex?

Q30. Ashish wanted to take part in 3000m run and went to his school coach for guidance. The coach said to Ashish that-"you need an Athlete's heart". The coach prepared a training schedule for bringing certain changes in his Physiological systems. However one day during training Ashish got an ankle twist.

a) What do you understand by athlete's heart?
b) The coach intended to improve which Physiological system?
c) During training Ashish encountered which kind of injury?
d) The injury have ruptured which kind of tissue?

Q31. Vijay is a football player of Kennedy School. He is famous for his aggressive play in the field. Because of his aggression he scored many goals. Due to his behaviour often the opponent use 'sledging'. A lot of time, he was punished for his aggressive behaviour with his opponent. The coach of the team found that he is very temperamental and moody.

a) Which type of aggression is exhibited by Vijay?
b) Which type of aggression is exhibited by the opponent?
c) Vijay has dominantly which kind of personality trait?
d) Vijay's personality is exhibited by which theory?

SECTION E

Q32. List down any four asana used for prevention of Hypertension. Explain the procedure for administration of any one of them with help of a stick diagram.

Q33. Draw a Knockout Fixture of 9 Teams.

Q34. Elaborate the Johnsen – Methney test of motor educability.

OR

Briefly Explain the Newton's Laws of Motion along with application in sports.

MARKING SCHEME

(SECTION A)

Q. NO.	ANSWER	MARKS
1	c) Wind up committee	1
2	b) (N+1)/2	1
3	a) 13	1
4	c) League Fixture with Cyclic Method	1
5	d) Knock Knee	1
6	d) Scoliosis	1
7	a) Bhujangasana	1
8	d) All of these	1
9	b) Deaflympics	1
10	(b) Regular physical activity	1
11	(a) Fish	1
12	(d) All of the above	1
13	b) Class II Lever	1
14	a) Increase	1
15	c) Extroversion	1
16	d) Avoid Tracking Progress	1
17	b) Continuous Method	1
18	a) Differentiation Ability	1

(SECTION B)

Q. NO.	ANSWER	MARKS
19	Knock knees, flat foot, round shoulders, Lordosis, Kyphosis, Scoliosis, and bow legs	2
20	• Development of Motor Skills • Improved mental Health & enhance Self-Esteem & Self- Image • Ensure participation in Physical Education Programmes • Improve Physical Fitness • Improved Emotional health • Behavioural Benefits • Increased Independence • Improve Social Adjustments	2
21	Vitamin A- (Retinol) Vitamin D- (Calciferol) Vitamin E- (Tocoferol) Vitamin K- (Phytonadione)	2
22	• Increase in Size of Heart • Decrease in Resting Heart Rate • Stroke Volume Increases at Rest	2

	• Increased Blood Flow • Decrease in Blood Pressure • Increase in Blood Volume • Quick Recovery Rate • Reduced Risk of Heart Diseases (Any Two)	
23	<table><tr><th>INTROVERT</th><th>EXTROVERT</th></tr><tr><td>An individual exhibiting- **Contemplative, Exploring, Theoretical, Independent, Idealistic & Visionary** Characteristics</td><td>An individual exhibiting- **Analytical, Strategic, Planning, Organiser, Adventurous & Innovative** Characteristics</td></tr></table> OR Recognizing current participants with the potential to become elite performers. Predicting performance over various periods of time by measuring Physical, Physiological, Psychological and sociological attributes.	2

(SECTION C)

Q. NO.	ANSWER	MARKS
24		3
25	OBESITY "It is condition of body in which the amount of fat increases to extreme level" • Asanas: Tadasana, Katichakrasana, Pavanmuktasana, Matsayasana & Halasana, Pachimottansana, Ardha – Matsyendrasana, Dhanurasana, Ushtrasana. (Any Four)	1 ½ x 4
26	<table><tr><th>MACRO MINERAL</th><th>IMPORTANT FUNCTIONS</th></tr><tr><td>SODIUM</td><td>Needed for proper fluid balance, regulating alkalinity and acidity of body fluids, nerve transmission, and muscle contraction.</td></tr></table>	3

	CHLORIDE — Needed for proper fluid balance, stomach acid POTASSIUM — Needed for proper fluid balance, nerve transmission and muscle contraction CALCIUM — Important for healthy bones and teeth; Important in nerve functioning, blood clotting, blood pressure regulation, immune system health PHOSPHORUS — Important for healthy bones and teeth; found in every cell; Part of the system that maintains acid-base balance MAGNESIUM — • Found in bones; • Needed for making protein, muscle contraction, nerve transmission, immune system health SULPHUR — Found in protein molecules (Any Three)	
27	Developed by Belgian-American physiologist **Lucien Brouha** and his associates in **1943** at the Harvard Fatigue Laboratories during World War II. **Objective:** To measure cardio vascular efficiency OR Aerobic Fitness. **Equipment**: Stopwatch, a platform 20 inches high (men), 18 inches for women. **Procedure:** The participant is asked to step-up on the platform and down again at a rate of 30 steps/minute for 5 minutes continuously or until he gets exhausted. **Scoring:** As soon as the participant completes the cycle, he is asked to sit-down and the total number of heartbeats are counted between 1 to 1.5 minutes, 2 to 2.5 minutes and 3 to 3.5 minutes. The score is based on following formula: **PEI** = (Duration of exercise in seconds x 100)/ (5.5 x Pulse count of 1 – 1.5 min after Exercise) **Norms**: **<49**- POOR; **50-80**: Average; **>81**: Good	3
28	**COMPONENTS** — **PHYSIOLOGICAL FACTORS**	3

STRENGTH	Muscle Mass: , Muscle Fibre Typ, Neuromuscular Efficiency.
CARDIOVASCULAR ENDURANCE	Heart Health: Lung Capacity: VO2 max
MUSCULAR ENDURANCE	Muscle Fatigue Resistance: Lactate Threshold:
FLEXIBILITY	Joint Range of Motion: Muscle and Tendon Elasticity:
SPEED	Fast-Twitch Muscle Fibre Dominance: Nervous System Coordination:
AGILITY	Joint Mobility: Balance:
COORDINATION	Motor Skills: Hand-Eye Coordination:

OR

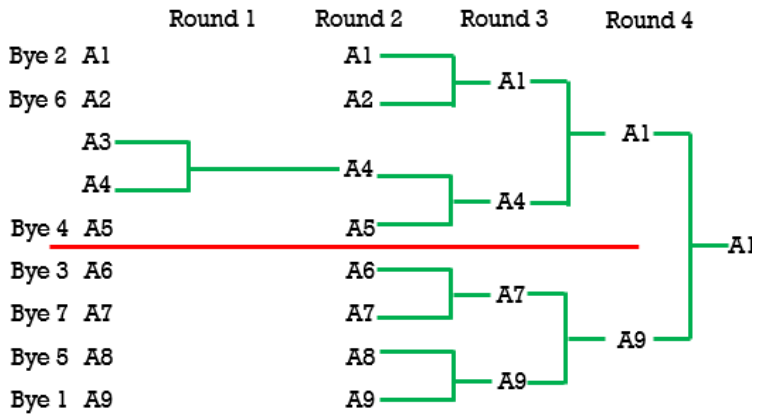
TRAINING CYCLE	CHARECTERISTICS
MACRO CYCLE	**High Volume – Low Intensity** • The macrocycle has three stages: Preparatory, Competitive & Transition. • Around 2/3 to 3/4 of the macrocycle should be devoted to the preparatory phase.
MESO CYCLE	**Decreased Volume – Increased Intensity** • An athlete uses mental imaging when they visualise oneself in a setting and engaging in a certain activity.
MICRO CYCLE	**Low Volume – High Intensity** • It is the smallest Phase and is applied just before the competition. In this phase exercise are very specific to the event and might vary from day to day.

(SECTION D)

Q. NO.	ANSWER	MARKS
29	bb) Lordosis cc) Hollow Back dd) Vertebral Column ee) Halasana	1 1 1 1
30	a) Due to regular exercise the size of the heart gets increased which is often termed as 'Athlete's Heart' b) Cardio vascular System. c) Soft tissue injury d) Ligament	1 1 1 1
31	a) Hostile Aggression b) Assertive Aggression c) Neuroticism d) Big Five Personality Theory	1 1 1 1

(SECTION D)

Q. NO.	ANSWER	MARKS
32	Asanas for Hypertention: • Tadasana, Katichakransan, Uttanpadasana, Ardha Halasana, Sarala Matyasana, Gomukhasana, UttanMandukasana, Vakrasana, Bhujangasana, Makarasana, Shavasana, (Explain the Procedure any one)	
33	Number of Matches = (N-1) = 9-1 =8 Number of Rounds = [2^1=2, 2^2=4, 2^3=8, 2^4=16], $16 \geq N > 8$, So k = 4 Number of Teams in Upper Half = $\frac{(N+1)}{2}$ = $\frac{(9+1)}{2}$ = 5 Number of Teams in Lower Half = $\frac{(N-1)}{2}$ = $\frac{(9-1)}{2}$ = 4 Number of Byes = $2^4 - 9$ = 16-9 = 7	2 2 1



34 **Johnson- Metheny Test** battery is revised version of Johnson Educability Test which was designed in 1932. The purpose of the Johnson battery was to measure neuromuscular skill capacity which have ten items. In **1938** Methney studied the test and eliminated six test items.

The test items of Johnson- Metheny Test battery are:

- Front Roll
- Back Roll
- Jumping Half-Turns
- Jumping Full

OR

LAW	DEFINITION	APPLICATION
NEWTON'S FIRST LAW OF MOTION (LAW OF INERTIA)	"A body at rest will remain at rest and a body in motion will remain in motion at the same speed and in the same direction till any external force is applied on it to change that state"	FOOTBALL The ball at penalty spot will remain at its position (at rest) until it is kicked (external fore applied).
		HOCKEY A rolling ball (at motion) will come at rest due to the Gravity and frictional force of the ground (external force).
NEWTON'S SECOND LAW OF MOTION (LAW OF ACCELERATION)	"The rate of change in acceleration of an object is directly proportional to the force producing it and inversely proportional to its mass."	CRICKET If a batsman player hits a ball with double the force, the rate at which the ball will accelerate (speed up) will be doubled
		VOLLEYBALL SMASH

		Force = Mass X Acceleration	Higher the force exerted by the player on the ball- faster it will travel and making it hard for opponent to receive the ball.	
	NEWTON'S THIRD LAW OF MOTION (LAW OF ACTION & REACTION)	"To every action, there is always an equal and opposite reaction."	SWIMMING **Action**: A swimmer applying backward force in water (propelling) **Reaction**: The body moves forward	
			HIGH JUMP **Action**: Jumper applying force to the ground in downward direction. **Reaction**: The body moves upward	

SAMPLE PAPER 4

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Sl.	Name of Chapter/Unit	VSA (01 Marks)	SA (02 Marks)	LA (03 Marks)	Case Study Assertion/ reason (4 Marks)	VLA (5 Marks)	Total Questions (Marks)
1	Management of Sports Events	4(1)		1(3)		1 (5)	6(12)
2	Children & Women in Sports	2(1)	1(2)		1(4)		4(8)
3	Yoga as preventive measures for Life Style Disease	1(1)		1(3)		1 (5)	3(9)
4	Physical Education & Sports for CWSN	2(1)	1(2)				3(4)
5	Sports & Nutrition	2(1)	1(2)	1(3)			4(7)
6	Test & Measurement in Sports	1(1)		1(3)		1 (5)	3(9)
7	Physiology and Injuries in Sports		1(2)	1(3)	1(4)		3(9)
8	Biomechanics & Sports	2(1)				1 (5)	3(7)
9	Psychology & Sports	2(1)	1(2)		1(4)		4(8)
10	Training in Sports	2(1)	1(2)	1(3)			4(7)
	To be attempted	18 Questions (18 marks)	5 Questions (10 marks)	5 Question (15 marks)	3 Questions (12 marks)	3 Questions (15marks)	34 Questions (70 marks)
			Internal Choice in One Question	Internal Choice in One Question	Internal Choice in One Question	Internal Choice in One Question	

SAMPLE QUESTION PAPER

GENERAL INSTRUCTIONS:

1) The question paper consists of 5 sections and 34 Questions.
2) Section A consists of question 1-18 carrying 1 mark each and is multiple choice questions. All questions are compulsory.
3) Sections B consist of questions 19-23 carrying 2 marks each and are very short answer types and should not exceed 60-90 words. There is internal choice available in one Question.
4) Sections C consist of Question 24-28 carrying 3 marks each and are short answer types and should not exceed 100-150 words. There is internal choice available in one Question.
5) Sections D consist of Question 29-31 carrying 4 marks each and are case studies. There is internal choice available.
6) Section E consists of Question 32-34 carrying 5 marks each and are short answer types and should not exceed 200-300 words. There is internal choice available.

(SECTION A)

Q1. Which of following committee is responsible for Controlling the quality and hygiene of food, timely distribution of meals and cleanliness of boarding items?

a) Decoration Committee
b) Result & Prize distribution Committee
c) Boarding & Lodging Committee
d) Wind up committee

Q2. What is the formula to determine number of team in Lower Half while drawing the Knockout Fixture with Odd number of teams?

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

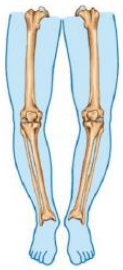
Q3. In a knockout tournament if there are 13 teams then total number of matches will be _____.

a) 12
b) 9
c) 13
d) 11

Q4. The first bye is given to which team?

a) First team of Upper Halve
b) Last Team of Upper Halve
c) Last team of Lower Halve
d) First team of Lower Halve

Q5. Identify the postural deformity in the picture.



a) Flat Foot
b) Knock Knee
c) Lordosis
d) Bow Leg

Q6. WHO has recommended _____ min of Moderate to vigorous exercise for 5-17 years?

a) 60
b) 40
c) 50
d) 30

Q7. Rahul is suffering from Diabetes. His doctor asked him to consult a Yoga Practitioner, who recommended him a asana. Which asana the Yoga practitioner would have prescribed?

a) Bhujangasana
b) Tadasana
c) Mayurasana
d) Brikshasana

Q8. Which of the following sports is not included in the Winter Deaflympics?

a) Snowboarding
b) Ice Hockey
c) Curling
d) Shooting

Q9. In which year, the Special Olympics India was founded?

a) 1947
b) 1984
c) 1987
d) 2010

Q10. Which of the following Vitamin is soluble in water?

a) Vitamin A
b) Vitamin E
c) Vitamin C
d) Vitamin D

Q11. Symptoms of headaches, vomiting, stomach pain. loose motion is related to.

a) Dieting
b) Food intolerance
c) Food myths
d) Lack of vitamins

Q12. Which of following are part of In the SAI Khelo India Fitness test for age group 5-8?

a) BMI
b) Flamingo Balance Test
c) Plate tapping test
d) All of the above

Q13. Newton's first law of motion is also known as?

a) Law of action & Reaction
b) Law of acceleration
c) Law of momentum
d) Law of Inertia

Q14. During 'tilting of head', which class of Lever is applied?

a) Class I Lever
b) Class II Lever
c) Class III Lever
d) None of the above

Q15. 'Sledging' is which kind of aggression?

a) Hostile
b) Instrumental
c) Assertive
d) All of the above

Q16. Visualising one in a setting and engaging in a certain activity is known as-

a) Mental Imagery
b) Self-Esteem
c) Goal setting
d) Self-Esteem

Q17. Ability to coordinate body part movements with one another and in relation to a definite goal oriented body movement is known as:

a) Balance Ability
b) Adaptation Ability
c) Rhythm Ability
d) Coupling Ability

Q18. Ability to attain high level of fine tuning of movement phases is known as:

a) Differentiation Ability
b) Orientation Ability
c) Adaptation Ability
d) Coupling Ability

SECTION B

Q19. Briefly write down any two postural deformity of Leg.

Q20. Mention any two benefit of Exercise for Children with Special Need.

Q21. Mention the two Water Soluble Vitamins along with its scientific names and source.

Q22. Mention two short term effect of exercise on Cardio respiratory System

Q23. Mention two characteristics of Ambiverts.

OR

What do understand by Talent Development?

SECTION C

Q24. Draw a League fixture of 6 teams with Staircase method.

Q25. What is Diabetes? Mention any four Asanas that are beneficial for management of Diabetes

Q26. Mention any three Micro Minerals and their function

Q27. Elaborate the procedure to calculate the 'Basal Metabolic Rate'.

Q28. Mention three Physiological changes due to Ageing

OR

Briefly explain the Macro, Meso and Micro Cycle.

(SECTION D)

Q29. Mr. Alex, Physical education Teacher at Public School observed that a student of class VIII has a problem of Lumbar-Spine, which is bent in front beyond the normal level. He suggested some exercises to rectify this problem.

Based on this case study, answer the following questions.

a) What is this deformity known as?
b) The deformity referred by Mr. Alex is commonly known as _____.
c) The deformity referred by Mr. Alex related to _____.
d) Which asana can be beneficial in managing the deformity referred by Mr. Alex?

Q30. The Godavari school attended a CBSE Cluster Basketball Tournament. During the semi-final match Varun, one of the players fell down and was injured on the shoulder. He was immediately given first aid by the coach Mr. Rahul, who had the knowledge of first aid. Warm-up session is essential for players to avoid any serious injuries during the match. Example: Dislocation and fracture, Sprain and Strain.

a) Breakage of bones is called _____.
b) Contusion is also known as _____.
c) Injury in Ligaments is known as _____
d) Injury in Tendons is known as _____.

Q31. Vijay is a football player of Kennedy School. He is famous for his aggressive play in the field. Because of his aggression he scored many goals. Due to his behaviour often the opponent use 'sledging'. A lot of time, he was punished for his aggressive behaviour with his opponent. The coach of the team found that he is very temperamental and moody.

a) Which type of aggression is exhibited by Vijay?
b) Which type of aggression is exhibited by the opponent?
c) Vijay has dominantly which kind of personality trait?
d) Vijay's personality is exhibited by which theory?

SECTION E

Q32. List down any four asanas that are beneficial for management of Arthritis. Explain the procedure for administration of any one of them with help of a stick diagram.

Q33. Draw a Knockout Fixture of 10 Teams.

Q34. Elaborate the Johnsen – Methney test of motor educability.

OR

Briefly Explain the Newton's Laws of Motion along with application in sports.

MARKING SCHEME

(SECTION A)

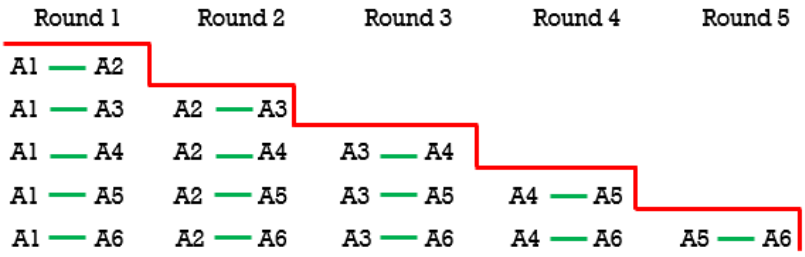
Q. NO.	ANSWER	MARKS
1	c) Boarding & Lodging Committee	1
2	b) (N-1)/2	1
3	a) 12	1
4	c) Last team of Lower Halve	1
5	d) Bow Leg	1
6	a) 60	1
7	a) Bhujangasana	1
8	d) Shooting	1
9	c) 1987	1
10	c) Vitamin C	1
11	(b) Food intolerance	1
12	d) All of the above	1
13	d) Law of Inertia	1
14	a) Class I Lever	1
15	c) Assertive	1
16	a) Mental Imagery	1
17	d) Coupling Ability	1
18	a) Differentiation Ability	1

(SECTION B)

Q. NO.	ANSWER	MARKS
19	Knock-Knee, Bow Leg & Flatfoot	2
20	• Development of Motor Skills • Improved mental Health & enhance Self-Esteem & Self- Image • Ensure participation in Physical Education Programmes • Improve Physical Fitness • Improved Emotional health • Behavioural Benefits • Increased Independence • Improve Social Adjustments	2
21	Vitamin B Complex, Ascorbic acid - (vitamin C)	1+1

22	• Increase in Heart Rate • Increase in Stroke Volume • Increase in Cardiac Output • Increase in Blood Flow • Increase in Blood Pressure	2
23	They possess mixed characteristics of Both Introvert and Extrovert. OR TALENT DEVELOPMENT- Providing athletes with a suitable learning environment so that talent can be realized	2

(SECTION C)

Q. NO.	ANSWER	MARKS
24		3
25	It is the condition of the body in which the amount of sugar in the blood is prevented from being used by the cells and is build-up in the blood. Type I- (Rare) Pancreas do not produce sufficient Insulin Type II- (Common) The insulin hormone is not properly used by the body Asanas: • Katichakrasana, Pavanmuktasana, Bhujangasana, Shalabhasana, Dhanurasana, Supta-vajarasana, Paschimottanasana, Ardha-Mastendrasana, Mandukasana, Gomukasana, Yogmudra, Ushtrasana.	3
26	IRON- Part of haemoglobin that carries oxygen to every cell in the body. ZINC- Has a function in taste perception, wound healing, normal foetal development, important for immune system. IODINE- Found in thyroid hormone, which helps regulate growth, development, and metabolism SELENIUM- Antioxidant COPPER- Needed for iron metabolism MANGANESE- Part of many enzymes FLUORIDE- Involved in formation of bones and teeth. CHROMIUM- Works closely with insulin to regulate blood sugar (glucose) levels	3

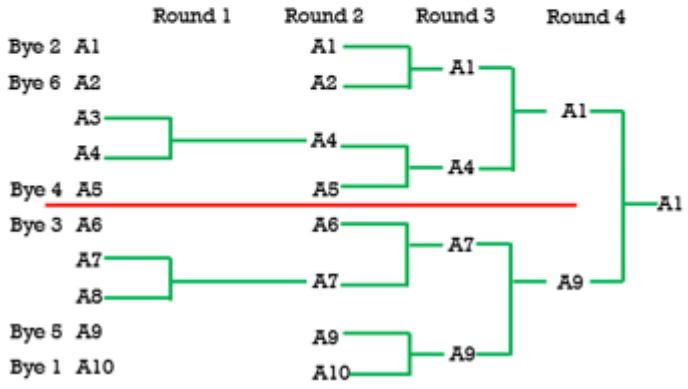
<table>
<tr><td></td><td>MOLYBDENUM- Part of some enzymes
(Any Three)</td><td></td></tr>
<tr><td>27</td><td>Basal metabolic rate (BMR) estimates the minimum number of calories a person needs to burn to sustain their basic life functions during a 24-hour period of rest.
Equipment : Stadiometer, Weight machine, Pen and paper
Procedure : Measure Height and Weight and put the values in the equations below
Formula used : The Mifflin-St Jeor BMR Equation
Male : (10 * weight (kg.)) + (6.25 * height (cm)) – (5 * age) + 5
Female : (10 * body weight (kg.)) + (6.25 * height (cm)) - (5 * age) – 161</td><td>3</td></tr>
<tr><td>28</td><td>• Changes in Muscle size and Strength
• Change in Bone density
• Changes in Respiratory, Cardiovascular, nervous, Urinary and Gastrointestinal systems
• Change in Flexibility
• Change in Senses (vision, hearing, taste and smell)

OR
<table><tr><th>TRAINING CYCLE</th><th>CHARECTERISTICS</th></tr><tr><td>MACRO CYCLE</td><td>High Volume – Low Intensity
• The macrocycle has three stages: Preparatory, Competitive & Transition.
• Around 2/3 to 3/4 of the macrocycle should be devoted to the preparatory phase.</td></tr><tr><td>MESO CYCLE</td><td>Decreased Volume – Increased Intensity
• An athlete uses mental imaging when they visualise oneself in a setting and engaging in a certain activity.</td></tr><tr><td>MICRO CYCLE</td><td>Low Volume – High Intensity
• It is the smallest Phase and is applied just before the competition. In this phase exercise are very specific to the event and might vary from day to day.</td></tr></table></td><td>3</td></tr>
</table>

(SECTION D)

Q. NO.	ANSWER	MARKS
29	ff) Lordosis gg) Hollow Back hh) Vertebral Column ii) Halasana	1 1 1 1
30	e) Fracture f) Bruises g) Sprain h) Strain	1 1 1 1
31	e) Hostile Aggression f) Assertive Aggression g) Neuroticism h) Big Five Personality Theory	1 1 1 1

(SECTION E)

Q. NO.	ANSWER	MARKS
32	**Asanas for Arthritis:** • Tadasan, Urdhawahastootansana, Ardh-Chakrasana, Ushtrasana, Vakrasana, Sarala Maysyendrsana, Bhujandgasana, Gomukhasana, Bhadrasana, Makarasana.	
33	Number of Matches = (N-1) = 10-1 =9 Matches Number of Rounds = [2^1=2, 2^2=4, 2^3=8, 2^4=16], $16 \geq N > 8$, So k =4 Number of Teams in Upper Half and Lower Half $=\frac{(N)}{2}$ $=\frac{(10)}{2}$ = 5 Number of Byes = $2^4 - 10$ = 16-10 = 6 	2 2 1

34	**Johnson- Metheny Test** battery is revised version of Johnson Educability Test which was designed in 1932. The purpose of the Johnson battery was to measure neuromuscular skill capacity which have ten items. In **1938** Methney studied the test and eliminated six test items. The test items of Johnson- Metheny Test battery are: • Front Roll • Back Roll • Jumping Half-Turns • Jumping Full	3 2

OR

LAW	DEFINITION	APPLICATION
NEWTON'S FIRST LAW OF MOTION (LAW OF INERTIA)	"A body at rest will remain at rest and a body in motion will remain in motion at the same speed and in the same direction till any external force is applied on it to change that state"	FOOTBALL The ball at penalty spot will remain at its position (at rest) until it is kicked (external fore applied).
		HOCKEY A rolling ball (at motion) will come at rest due to the Gravity and frictional force of the ground (external force).
NEWTON'S SECOND LAW OF MOTION (LAW OF ACCELERATION)	"The rate of change in acceleration of an object is directly proportional to the force producing it and inversely proportional to its mass." *Force = Mass X Acceleration*	CRICKET If a batsman player hits a ball with double the force, the rate at which the ball will accelerate (speed up) will be doubled
		VOLLEYBALL SMASH Higher the force exerted by the player on the ball- faster it will travel and making it hard for opponent to receive the ball.
NEWTON'S THIRD LAW OF MOTION (LAW OF ACTION & REACTION)	"To every action, there is always an equal and opposite reaction."	SWIMMING **Action**: A swimmer applying backward force in water (propelling) **Reaction**: The body moves forward

				HIGH JUMP **Action**: Jumper applying force to the ground in downward direction. **Reaction**: The body moves upward	

SAMPLE PAPER 5

BLUE PRINT

Sl.	Name of Chapter/Unit	Multiple Choice (01 Marks)	VSA (02 Marks)	SA (03 Marks)	Case Study Assertion/ reason (4 Marks)	LA (5 Marks)	Total Questions (Marks)
1	Management of Sports Events	4(1)		1(3)			5(07)
2	Children & Women in Sports	1(1)	1(2)	1(3)			3(6)
3	Yoga as preventive measures for Life Style Disease	2(1)				1 (5)	3(7)
4	Physical Education & Sports for CWSN	1(1)	1(2)	1(3)			3(6)
5	Sports & Nutrition	2(1)			1(4)	1 (5)	4(11)
6	Test & Measurement in Sports	1(1)	1(2)	1(3)	1(4)		4(10)
7	Physiology and Injuries in Sports	2(1)	1(2)	1(3)			4(7)
8	Biomechanics & Sports	2(1)			1(4)	1 (5)	4(11)
9	Psychology & Sports	1(1)	1(2)	1(3)			3(6)
10	Training in Sports	2(1)	1(2)			1 (5)	4(09)
	Total Questions Note: Along with options	18 Questions	6 Questions	6 Question	3 Questions	4 Questions	37 Questions
	To be attempted	18 Questions (18 marks)	5 Questions (10 marks)	5 Question (15 marks)	3 Questions (12 marks)	3 Questions (15marks)	34 Questions (70 marks)

SAMPLE QUESTION PAPER

GENERAL INSTRUCTIONS:

1) The question paper consists of 5 sections and 37 Questions.
2) Section A consists of question 1-18 carrying 1 mark each and is multiple choice questions. All questions are compulsory.
3) Sections B consist of questions 19-24 carrying 2 marks each and are very short answer types and should not exceed 60-90 words. Attempt any 5.
4) Sections C consist of Question 25-30 carrying 3 marks each and are short answer types and should not exceed 100-150 words. Attempt any 5.
5) Sections D consist of Question 31-33 carrying 4 marks each and are case studies. There is internal choice available.
6) Section E consists of Question 34-37 carrying 5 marks each and are Long Answer types and should not exceed 200-300 words. Attempt any 3.

(SECTION A)

Q1. Which of following committee is part of Pre-Tournament Committee?

a) Reception Committee
b) Result & Prize distribution Committee
c) Technical Committee
d) Wind up committee

Q2. What is the formula to determine number of matches in Knockout fixture?

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

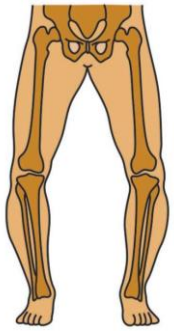
Q3. In a knockout tournament if there are 16 teams then total number of matches will be _____.

a) 8
b) 9
c) 10
d) 15

Q4. The second bye is given to which team?

a) First team of Upper Halve
b) Last Team of Upper Halve
c) First team of Lower Halve
d) Last team of Lower Halve

Q5. The picture below resemble which postural deformity?



a) Flat Foot
b) Scoliosis
c) Lordosis
d) Bow Legs

(For Visually Challenged)

The outward curve of legs at knees is known as

a) Flat Foot
b) Scoliosis
c) Lordosis
d) Bow Legs

Q6. Rahul is suffering from Asthama. His doctor asked him to consult a Yoga Practitioner, who recommended him a asana. Which asana the Yoga practitioner would have prescribed?

a) Chakrasana
b) Tadasana
c) Mayurasana
d) Brikshasana

Q7. Which of the following Asana is also beneficial for controlling Obesity?

a) Vajrasana
b) Tadasana
c) Mayurasana
d) Brikshasana

Q8. Which of the following sporting event is organised for 'Divyang'?

a) Paralympics
b) Olympics
c) FIFA World Cup
d) Subroto Cup

Q9. Match the following:

1. Vitamin B12	a) Thiamine
2. Vitamin B3	b) Biotin
3. Vitamin B7	c) Cobalamin
4. Vitamin B1	d) Niacin

	1	2	3	4
a)	a	b	c	d
b)	c	d	b	a
c)	a	c	b	d
d)	b	a	d	c

Q10. Vitamin A is:

a) Fat Soluble Vitamin
b) Water Soluble Vitamin
c) Both
d) None of the above

Q11. Name the component which is measured by sit and reach test?

a) Endurance
b) Speed
c) Flexibility
d) Coordinative ability

Q12. 'Contusion' falls under which kind of injury?

a) Soft-Tissue Injury
b) Bone & Joint Injury
c) Fracture
d) None of the Above

Q13. 'Transverse' is a kind of _____

a) Soft-Tissue Injury
b) Bone & Joint Injury
c) Fracture
d) None of the Above

Q14. 'Law of Inertia' refers to Newton's which Laws of Motion?

a) First Law
b) Second law
c) Third Law
d) None of the Above

Q15. Lowering the Centre of Gravity leads to

a) Decrease in stability
b) Increase in stability
c) Both (a) & (b)
d) None of the Above

Q16. Person who are outgoing, talkative, sociable, and enjoys social situation are termed as_____.?

a) Extraversion
b) Agreeableness
c) Openness
d) Conscientiousness

Q17. 'Speed Play' method is used to develop the motor component of

a) Endurance
b) Speed
c) Flexibility
d) Coordinative ability

Q18. Which of the following Physiological factors are responsible for Endurance

a) Oxygen Intake Capacity
b) Bio Chemical reserve
c) Body weight
d) Joint Structure

(SECTION B)

Q19. Mention one difference between Knock Knee & Bow Leg (1+1)

Q20. Mention any two organization working for the promotion of Disability sports. (1+1)

Q21. In Rikki & Jones Fitness test for senior citizen, mention the test item used to measure Lower body strength & Upper body strength. (1+1)

Q22. Mention any four Physiological factors that determine the Physical Fitness component of Endurance. (0.5 X 4)

Q23. Define Self Esteem. (2)

Q24. Mention the type of Flexibility. (0.5 X 4)

(SECTION C)

Q 25. Draw a League fixture of 6 teams with stair case method. (3)

Q26. Mention three corrective measures for Flat Foot. (1+1+1)

Q27. Mention any three strategies to make Physical Activity accessible to 'Children with Special Need'. (1+1+1)

Q28. Mention the test items of Rikki & Jones Senior citizen fitness test along with their purposes. (0.5 X 6)

Q29. Briefly explain any three Fracture. (1+1+1)

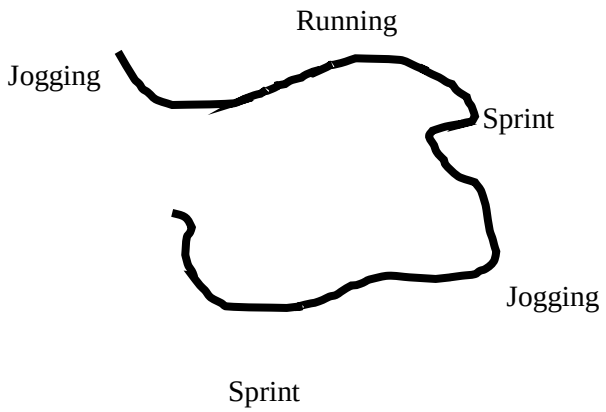
Q30. Explain briefly any three type of Aggression. (1+1+1)

(SECTION D)

Q31. A balanced diet refers to the intake of food constituting all the necessary nutrients. Ram shares his knowledge of 'food and nutrition' with neighbours while visiting his grandparents in a village. Ram notices that few people living in that village are suffering with goitre and severe anaemia.

a) Minerals are placed under micro nutrient category on basis of required quantity. True or False?
b) Goitre is caused due to deficiency of _____.
c) Low levels of which mineral will lead to Anaemia._____
d) Fruits are rich sources of _____.

Q32. Below is a running schedule of an athlete



a) From the above picture, it is identified as _____ training method.
b) The above training method helps in increasing the _____
c) The Swedish word meaning “speed Play” is _____
d) This training method was developed by _____

Q33. Mahesh, Physical Education teacher at XYZ School observed that Raju a student of class VI has outward curve of vertebral column at Thoracic region. He suggested some exercises to rectify this problem.

a) What is this deformity known as _____
b) Kyphosis is commonly known _____
c) Kyphosis is a deformity related to _____
d) _____ asana can be practiced for correcting Kyphosis.

(SECTION E)

Q 34. Bhujangasana is practised for the prevention of Hypertension. Explain the procedure for administration with help of a stick diagram along with two contradiction (3+0.5X2+1)

Q35. What do you understand by Balance Diet? Briefly explain its components along with a food source rich in that component. (3+2)

Q36. Define Newton’s first law of motion. Mention any three application of Newton’s first law of motion in Sports. (2+3)

Q37. Briefly explain the type of Endurance along with any two method of developing Endurance. (3+2)

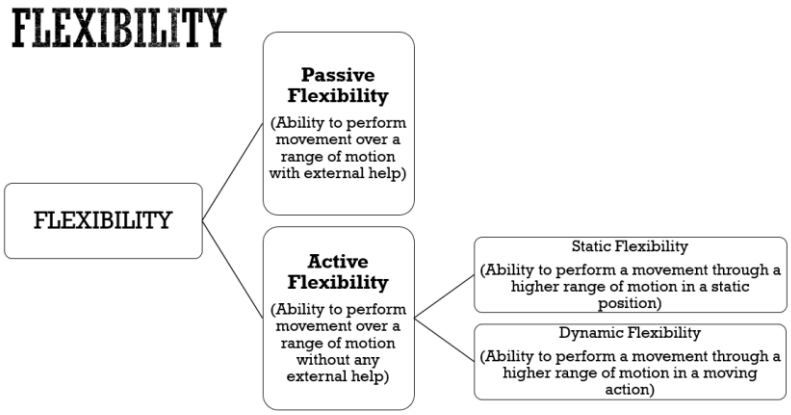
MARKING SCHEME

(SECTION A)

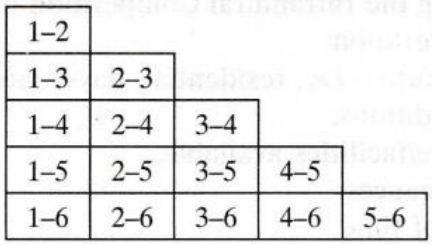
Q. NO.	ANSWER	MARKS
1	a) Reception Committee	1
2	b) N-1	1
3	d) 15	1
4	a) First team of Upper Halve	1
5	d) Bow Leg **(Question for visually impaired)** d) Bow Leg	1
6	a) Chakrasana	1
7	a) Vajrasana	1
8	a) Paralympics	1
9	1 2 3 4 b) c d b a	1
10	a) Fat Soluble Vitamin	1
11	c) Flexibility	1
12	a) Soft-Tissue Injury	1
13	c) Fracture	1
14	a) First Law	1
15	b) Increase in Stability	1
16	a) Extraversion	1
17	a) Endurance	1
18	a) Oxygen Intake Capacity	1

(SECTION B)

Q. NO.	ANSWER	MARKS
19	Knock Knee: Inward bending of leg from Knee Bow Leg: Outward bending of leg from knee	2
20	• Special Olympics Bharat • Paralympics Committee	2
21	• Lower Body strength- Chair Stand Test • Upper body strength- Arm Curl	2
22	• Oxygen Intake Capacity • Oxygen Transport Capacity • Oxygen Uptake Capacity • Energy reserves • Lactic acid Tolerance • Movement Economy • Muscle Composition (any four)	2

23	Self-esteem is how we value and perceive ourselves. It's based on our opinions and beliefs about ourselves, which can feel difficult to change. We might also think of this as self-confidence.	2
24		2

(SECTION C)

Q. NO.	ANSWER	MARKS
25		3
26	• Heel stretches. • Tennis/golf ball rolls. • Arch lifts. • Calf raises. • Stair arch raises.	3
27	• Specialized Equipments- e.g. Increasing the size of the ball, reduccing the weight of the ball, softer materials of the ball. • Playing Rules- rules to be modified to including them in the game. E.g. Once a four serive is compulsory for someone playing Volleyball in wheelchair • Playing Environment- Modifies cour dimentions, reduced height of Ploes, nets, Baskets etc.	3
28	Diet that contal all the essential nutrients in correct proportion allong with water and Roughage. A balanced diet contributes toward maintaining a healthy life. It is the inclusion of different necessary nutrients that impact a body's growth and development. A balanced nutrition diet contributes in maintaining good health by balancing nutrients.	3

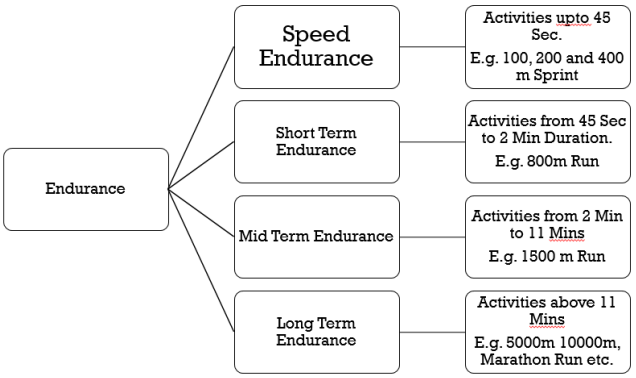
29	Rikki & Jones Senior Citizen Fitness Test Test Components: • Chair Stand Test- Lower Body Strength • Arm Curl test-Body strength • Chair Sit & Reach Test-Lower body flexibility • Back Scratch test- Upper body flexibility • Eight Foot up and Go test-Agility • Six-Minute Walk test-Aerobic Endurance	3
30	The centre of gravity is a point in an object/body where the distribution of weight is equal in all directions Application in Sports: • In Wrestling- Lower the centre of Gravity, Higher is the stability. So, a wrestler flex his/her knees to lower the Centre of gravity and achieve better stability to counter the opponet's move. • In 100 Sprint Start- Farther the Centre of Gravity from the base of support lesser is the stablity. In set position the athlete's position is hight unstable, so that a slight fore can bring the body in motion.	1 1 1

(SECTION D)

Q. NO.	ANSWER	MARKS
31	a) True	1
	b) Iodine	1
	c)Iron	1
	d) Vitamin	1
32	a) Fartlek	1
	b) Endurance	1
	c) Endurance	1
	d) Gosta Holmer	1
33	a) Kyphosis	1
	b) Hump Back	1
	c) Vertebral Column	1
	d) Padmasana	1

(SECTION E)

Q. NO.	ANSWER	MARKS
34	▪ PROCEDURE :- ▪ Sit on the flat floor in Dandasana and slowly fold your both legs under the hips. ▪ Point the toes of the feet backwards and keep your feet together. ▪ Keep your spine and head erect with closed eyes and keep your knees together ▪ Keep your right palm on right knee and left palm on left knee. ▪ Hold this position for five minutes. ▪ CONTRAINDICATIONS OF VAJRASANA ▪ People suffering from severe joint pain or knee injury should avoid this asana ▪ People suffering from spinal problems specially lower vertebrae should not try this asana. ▪ Pregnant woman should perform this asana under guidance ▪ People having problem in large or small intestine should perform this asana under expert guidance	2 2 1
35	Balance is the diet which contain all the essential nutrients in proper proportion. Carbohydrate- rice Proteins -Dal fats- Ghee Minerals- Green Vegetables Vitamins- Fruits Roughage- Carrot, beet etc. Water	3 2
36	Newton's first law states that every object will remain at rest or in uniform motion in a straight line unless compelled to change its state by the action of an external force. Application in Sports: 1. Kicking a Football 2. Stopping a rolling ball 3. Sprint start	5
37	• •	3

	•  • **METHODS TO IMPROVE ENDURANCE** **CONTINUOUS METHOD** Exercise is performed for a long duration without any break. Intensity of exercises remains low. Duration should not be less than 30 Min. Heartbeat between 140-160 beats per minute. **INTERVAL METHOD** Exercise is performed in Intervals. Repeation of Movement over and again with a period of rest in between. Intensity of exercises should be High. Heartbeat between 160-180 beats per minute and then rest upto 120-140. Introduced by ***Bikila*** in 1920. **FARTLEK METHOD** Exercise is performed for a long duration without any break in diferent terrain. Intensity is not preplanned and varies with Terrain. Duration should not be less than 45 Min. Heartbeat between 140-180 beats per minute. Introduced by ***Gosta Holmer*** in **1937**. Also known as ***Speed Play.***	2

CBSE EXAMINATION QUESTION PAPER 2023-24

Section-A

1. Which of the following pranayama is helpful to reduce obesity ? **[1]**

(a) Kapalbhati Pranayama

(b) Anulom Vilom Pranayama

(c) Suryabhedan Pranayama

(d) Sitali Pranayama

Correct Answer: C) Suryabhedan Pranayama

2. The International Paralympic Committee was formed in _____. **[1]**

(a) 1985

(b) 2003

(c) 1989

(d) 2001

Correct Answer: C) 1989

3. Which of the following is NOT the cause of Food Intolerance? **[1]**

(a) Toxins formation due to food poisoning

(b) Absence of an enzyme

(c) Roughage

(d) Gluten

Correct Answer: C) Roughage

4. Given below are two statements labelled Assertion (A) and reason (R). **[1]**

Assertion (A) : The Basal Metabolic Rate (BMR) is the number of calories needed to maintain body function at resting condition.

Reason (R) : A person who does not engage in any work, still requires energy for the functioning of their internal organs.

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

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

Correct Answer: a) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of the Assertion (A).

5. Given below are functions of Sports Management in List-I and their Explanation in List-II

List I	***List II***
I. Planning	1. It is a function of guiding, inspiring and instructing people to accomplish organizational goals.

II. Controlling 2. Preparing a layout for the future course of action.

III. Directing 3. Ensuring that proper talent is serving that specific job.

IV. Staffing 4. Establishing performance standards, measuring actual performance and comparing them for irregularities.

Match the items of List-I with List-II and choose the correct option from the following:

(a) I-1, II-2, III-3, IV-4

(b) I-1, II-2, III-4, IV-3

(c) I-2, II-4, III-1, IV-3

(d) I-2, II-4, III-3, IV-1

Correct Answer: C) I-2, II-4, III-1, IV-3

6. Given below are two statements labelled Assertion (A) and Reason (R) [1]

Assertion (A): In a normal standing posture, both knees touch each other, while there is a gap of 3-4 inches between the ankles.

Reason (R): It is due to Genu Valgum and it can develop due to an injury or infection in the knee or leg, rickets, severe lack of vitamin D and calcium, obesity or arthritis in the knee.

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

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

Correct Answer: A) Both Assertion (A) and Reason (R) is true and Reason (R) is the correct explanation of Assertion (A).

7. In which of the following fitness component an athlete gives better Performance, if he/she has more slow twitch fibre in comparison to fast Twitch fibres. [1]

(a) Speed (c) Endurance

(b) Strength (d) Flexibility

Correct Answer: c) Endurance

8. Identify the factor which decreases equilibrium. [1]

(a) Larger base (c) Lower centre of gravity

(b) Greater weight (d) Higher centre of gravity

Correct Answer d) Higher centre of gravity

9. Identify the characteristics of introvert personality. **[1]**

(a) Meet unknown people easily

(b) Self – centred

(c) Highly socialized

(d) Expressive nature

Correct Answer b) Self – centred

10. Jump for smash in volleyball is an example of _____. **[1]**

(a) Static Strength

(b) Maximum Strength

(c) Explosive Strength

(d) Strength Endurance

Correct Answer: c) Explosive Strength

11. Which of the following is the objective of Intramural competition? **[1]**

(a) To achieve high performance

(b) To provide career opportunities

(c) To promote health and fitness

(d) To promote cultural and economic development

Correct Answer: c) To promote health and fitness

12. According to W.H.O (World Health Organization) recommendation. Children of _____ should be engaged in physical activities for 180 minutes and should have 10-13 hours of good quality sleep per day. **[1]**

(a) Less than 1 year

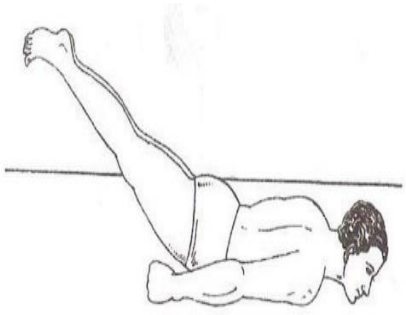
(b) 1-2 year

(c) 3-4 year

(d) 5-7 year

Correct Answer: c) 3-4 year

13. Identify the asanas shown in the picture given below and choose the correct option from the following: **[1]**



(a)Bhujangasana

(b) Katichakrasana

(c) Pawanmuktasana

(d) Salabhasana

Correct Answer: (d) Salabhasana

(For Visually Impaired Candidates Only)

Which of the following asana is useful for relaxation and removing fatigue? [1]

(a) Chakrasana

(c) Makarasana

(b) Shavasana

(d) Uttanpadasana

Correct Answer (b) Shavasana

14.Which of the main governing body responsible for the organization of the Deaflympics? [1]

(a) World Deaf Champions Committee

(b) National Sports Federation

(c) International Coordinating Committee Sports for Disabled

(d) International Committee of Sports for the Deaf

Correct Answer: (d) International Committee of Sports for the Deaf

15. Body Mass Index is one of the common way of assessing healthy body weight. Which of the following BMI range is considered for healthy weight? [1]

(a) 25.0 - 29.0

(c) 18.5 - 24.9

(b) 30.0 - 34.9

(d) 35.0 - 39.9

Correct Answer: (c) 18.5 - 24.9

16. In partial curl up test the difference between two parallel lines is _____. [1]

(a) 8 inches

(c) 6 inches

(b) 4 inches

(d) 10 inches

Correct Answer: (c) 6 inches

17.Goal setting is a _____ approach, under the motivational technique. [1]

(a) Cognitive

(c) Social

(b) Pedagogical

(d) Facilitation

Correct Answer: (a) Cognitive

18. Which Functional fitness component of senior citizens is determined in the test shown below? [1]

(a) Physical Mobility

(c) Lower Body Flexibility

(b) Upper Body Flexibility

(d) Upper Body Strength

Correct Answer: (c) Lower Body Flexibility

SECTION B

19.Describe the second-class lever with suitable examples from sports. **[2]**

Second Class lever: It has the load resistance between the fulcrum and the force. So, there is always mechanical advantage as force arm is always greater than the resistance arm.

Example: Full body push up/Wall climbing/Taking off for a jump/Pushing against starting blocks in sprints

20. Enlist four test items of Jhonson-Metheny test of motor educability. [**½x4=2]**

I. Front Roll

II. Back Roll

III. Jumping Half-Turns

IV. Jumping

21.Write a short on 'Menarche'. [2]

Ans.-The first menstruation begins at puberty when the girl or woman is around 10 to 12 years of age. The first occurrence of menstruation at puberty is called menarche. Menarche is the beginning of the reproductive life of a girl. In other words, menarche is the time from which a girl or woman becomes capable of conception

22. Enlist four asanas those help to control asthma. [**½x4=2]**

Ans. Tadasana, Urdhva Hastottanasana,Matsyasana, Gomukhasana, Dhanurasana, Dhanurasana, Bhujangasana **(any four asanas out of the above mentioned asanas)**

23.Write any two advantages of physical activities for children with Special Needs. (CWSN) [**1+1]**

Advantages of physical activities for children with special needs:

- Physical benefits
- Fun and recreation
- Improved emotional health
- Active lifestyle
- Behavioural benefits
- Increased independence
- Psychological benefits
- Improvement in cognitive and intellectual ability
- Increase in sleep and appetite
- Improvement in social skill

24. Mention any two types of friction by giving suitable examples from sports. [**1+1]**

Types of Friction:

- Static friction:Weightlifting,Holding the parallel bar
- Sliding friction: Ice Hockey, Ice skating,
- Rolling friction: Rolling of the football, Cricket ball,Tennis ball
- Air friction: Riding a bicycle, Skydiving
- Water friction: Swimming in water, Diving **(any 2 types with relevant example)**

SECTION C

25. Mr. X performs the Harvard step test for 275 seconds and his pulse in 1-1.5 min after exercise was 100. Write the formula of fitness index score for Harvard step test and calculate the fitness index score of Mr.X. [1+2]

Harvard step test fitness index score:

Duration of exercise = 275 seconds pulse count of 1–1·5 min after exercise = 100

Formula = Duration of the exercise in seconds × 100/5·5 × pulse count of 1–1·5 min after exercise

= (275 × 100) / (5.5 × 100)

= 27500 / 550

= 50

26. Comment on the concept of talent identification and talent development. [1½ +1½]

Talent Identification: Recognizing participants with the potential at an earlier age to become elite performers in the future. For the talent identification process Physiological, Physical Fitness, Psychological, and Technical Components are taken into consideration. For the identification, various methods such as drills, test batteries, electronic gadgets, parameters, standard norms, performance and other techniques are adopted.

Talent Development: Providing athletes with a suitable learning environment to accelerate or realize their potential. It is a complete systematic, scientific and long-term process.

27. **Explain the responsibilities of any one committee during sports competition. [1½ +1½]**

Committees during sport competition.
1. Reception committee

2. First aid committee

3. Refreshment committee

4. Technical committee

5. Media reporting committee

6. Announcement committee

7. Ground and equipment committee

First Aid Committee: First aid committee is headed by a well-qualified doctor. This committee provides first aid to the injured or affected athlete/sportsperson immediately. This committee makes all necessary arrangements for providing help much before the sports events are organized because athletes or sports persons may get injuries during the competitions.

Announcement Committee: This committee is solely responsible for making various announcements during the sports meet or games. This committee gives information regarding the opening and closing ceremonies, which and when an event is going to take place, the names of officials, who are conducting the events and also gives running commentary of games/sports events.

28. Explain the procedure and benefits of any one asana for back pain. [2+1]

Following are the asanas beneficial for back pain:

Tadasana, Vakrasana, Sarala Matsyendrasana, Urdhwahastottansana,Ardha Chakrasana, Ushtrasana, Bhujangasana, Gomukhasana, Bhadrasana, Makarasana

Ardha Chakrasana-

Procedure:

Stand erect in tadasana separating the feet 2 inches apart.

1. Tuck your hands to your waist supporting the back.
2. Draw your bent elbows backward keeping them parallel to each other.
3. Inhale, stretching your neck and dropping the head backward.
4. Exhale bending the upper body backward from the lumbar region.
5. Lean back up to as far as you can breathe normally.
6. Maintain the pose with normal breathing, for 3-10 breaths.
7. Inhale and straighten the back and return to the starting posture.
8. Release the hands from the waist and relax in tadasana.

Benefits-

- It helps reduce excess belly fat.
- This yoga exercise is very suitable for the waist. If a person is troubled by back pain, then continuous and regular practice of this yoga helps get rid of back pain.
- Strengthens the lower body
- Improves cardiac health
- Regulates metabolism
- Controls the blood sugar

Contraindications

- Do not practice Ardha Chakrasana if you have high blood pressure.
- Patients of hernia must also avoid it.
- Skip practicing this pose during pregnancy.
- People with peptic or duodenal ulcers must refrain from this pose.

29. Write a short note of the Female Athlete Triad. [3]

Female athlete triad is a syndrome in which osteoporosis, amenorrhoea and eating disorders are included. It is simply known as 'triad'. The triad is a serious disorder or illness with lifelong health consequences and can be fatal.

1 .Eating disorders (Low Energy Availability)

Eating disorders are mainly of two types:

***Anorexia nervosa*-**is one type of eating disorder in which a person severely limits the amount of food he or she eats to prevent weight gain or lose weight. Bulimia nervosa Bulimia nervosa is an eating disorder in which a person eats a large amount of food in a short amount of time and gets rid of the food consumed. This may be done by vomiting or taking laxatives.

Bulimia nervosa- is an eating disorder in which a person eats a large amount of food in a short amount of time and gets rid of the food consumed. This may be done by vomiting or taking laxatives.

2. Amenorrhea (Disruption of Menstrual and Endocrine Function)

Long absence of no menstrual periods is called amenorrhea. It is the state of a woman, where there is no monthly cycle despite reproductive age, or absence of menstrual cycle for three or more months.

There are two main types of amenorrhea:

Primary amenorrhea-When the first menstrual bleeding at puberty does not start by the age 15 years.

***Secondary amenorrhea*-**When normal menstrual bleeding stops for 3 months or more.

3. Osteoporosis (Loss of Bone Mineral Density)

This is the condition when bones lose minerals such as calcium, more quickly than the body can replace them leading to a loss of bone thickness (bone density). Any bone can be affected by osteoporosis but the most common sites are the hip, spine, wrist, upper arm, forearm or ribs.

(Explain all 3)

30. Describe any three physiological changes due to ageing. **[1+1+1]**

- Changes in metabolism and body composition
- Changes in respiratory system
- Changes in brain and nervous system
  Changes in digestive system
- Changes in excretory system
- Changes in sensory organs
- Changes in endocrine system
- Decline in muscle strength
- Diminishes memory
- Decrease in cardiovascular function
- Loss of bone density
- Decrease in body mass

1. Changes in Muscle Size and Strength: When an individual gets older, there is a decline in muscle size. There is a decrease in muscle mass and increase in overall body fat. Due to decrease in muscle size, the strength of the muscles also decreases. The decrease in strength gradually occurs during the age of 35 to 45 years. However, even at the age of 60 the decrease in strength does not appear to exceed 20% of an individual's maximum strength.

2. Changes in Metabolism and Body Composition: With advancement of age, our body needs less energy and the metabolism slows down. Consequently, there is an increase in the accumulation of body fat and therefore the lean body weight (bones, ligaments, tissues, tendons, muscles and water) decreases. The metabolic rate decreases gradually with the increasing age. It also results in more accumulation of body fat.

3. Changes in Bone Density: With the advancement of age, the bone density decreases. It means that the elderly people, especially those over 40 years of age, are more prone to bone injury than young people. In fact, it is due to a decrease in various minerals such as calcium and phosphorus, found in the bones. Bones become less dense and more porous. The decreasing process of these minerals begins in the early 40's. Less bone density can result in osteoporosis and reduction of weight bearing capacity which may lead to fracture. There can be reduction in height due to the thinning of vertebrae.

SECTION-D (Case study based)

[4 ×1= 4]

31. A survey in an inclusive school setup found the discrepancies between the participation of normal and special children during annual sports meets. Study the table given below carefully

Sl. No.	Event	Normal Child (150)	Special Child (10)
1	100 Mtr.	40	5
2	400 Mtr.	25	2
3	Long Jump	20	0
4	High Jump	15	1
5	Relay Race	8	4

a) As per the above table in _____event, there is no participation of special child

Ans. Long Jump

b) Participation of students with disabilities in regular physical education classes is known as _____

Ans. Inclusion/ Adaptive Physical Education .

c) Enlist any two strategies to make physical activities accessible for children with special needs.

Any two strategies from the following: [½ X 2=01]

To Create Specific Environment

To assess physical and mental ability

To assess the interest of child

Plan for different strategies for instruction

Modified Rules

Use of modified equipment

d) Motto of the Special Olympics is_____

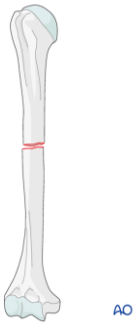
Ans. “Let me win. But if I cannot win, let me be brave in the attempt.”

OR

d) The motto of Paralympic is _____

Ans. “Spirit in motion.”

32. Study the pictures given below: **[4 ×1= 4]**



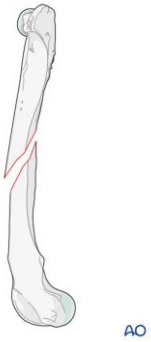


Image-1 Image-2 Image-3

(a) Which type of fracture do you see in image -1?

Ans. Transverse fracture

(b) When a bone breaks diagonally as shown in image-2,it is known as _____.

Ans. Oblique fracture

(c) _____fracture occurs when the broken ends of the bones are jammed together by the force of the injury.

Ans. Impacted fracture

(d) In which type of fracture bone is broken, splinted, or crushed into number of pieces?

Ans. Comminuted fracture

33. Study the fixture given below **[4 ×1=4]**

a) According to the above fixture total number of round will be_____

Ans. 4 (four)

b) As shown in the fixture, if the winning team plays the least number of matches, then which team is the winner?

Ans .Serial no 15

c) What is the formula to calculate the number of matches in a knockout tournament?

Ans.No of matches =N-1 where N=Number of teams

d) If 16 teams are participating in a knockout tournament, then how many byes will be given to draw a knockout fixture?

Ans. If the number of participating team is 16, the answer will be 0(zero) byes

(OR)

d) What is the formula for calculating the total number of byes in a knockout tournament?

Ans. No. of byes = (Next higher Power of 2– Number of Teams)

SECTION-E

34. What do you understand by Aggression in sports? Explain any 2 types of aggression by giving suitable examples from sports. [1+2+2]

Aggression is a type of behaviour aimed at causing physical or psychological harm to another person.

OR

The term aggression refers to a range of behaviour that can result in both physical and psychological harm to oneself, others or objects in the environment.

Types of Aggression:

1. Instrumental Aggression: This type of aggression is necessary to achieve performance goals and are displayed in a planned manner. The purpose of this aggression is not to cause harm to the opponent but to achieve one's goals.

For example, in Football, the player moves ahead and snatches the ball from the opponent with great aggression to score a goal and not to harm the opponent. This type of aggression is visible in contact games such as Wrestling, Kabaddi and Boxing, aggressive attack can help the player to win.

2. Hostile Aggression: In this type of aggression, the purpose is to cause physical or psychological harm. This aggression is usually caused as a reaction to someone's action. The main aim is to injure the opponent in order to be able to win. In this type of aggression, the person is biased and this is caused due to hopelessness.

For example, in the game of Kabaddi, after catching the raider, the players try to inflict injury upon him or in a game of hockey or football, hitting with the stick or kicking purposely to make the other person fall, displays hostile aggression.

3. Assertive behaviour: Assertive behaviour can also be called aggression, when a player uses it to improve sports performance. These are forceful behaviour not intended to injure the opponent and are within the rules of the games. The intention is to establish dominance rather than harm.

Example: A rugby player using aggression to tackle his opponent to win the ball.

(explain any 2 types)

35. What is balanced diet? What is the significance of pre and post competition meals for an athlete? Explain. [1+2+2]

A Balanced diet consists of all the essential food elements i.e. Proteins, Carbohydrates, Vitamins, Fats, minerals and water in correct proportion.

OR

A Balanced diet contains an adequate amount of all the nutrients required by the body to grow, remain healthy and be disease free.

Importance of pre competition meals for an athlete

1. The focus is to fuel up muscle glycogen stores to provide /obtain energy. Therefore, meals should have moderate proteins, low fat, low fibre and high carbohydrate containing food.

2. Proper hydration is a must to control fatigue, hunger.

3. It should be light to provide athletes a comfortable gastro intentional state for sports performance.

4. Pre-competitive meals should be taken about 2-4 hours before competition.

5. New food/food with known allergies should be avoided.

Importance of post competition meals for an athlete

1. The main focus is on recovery of the body and reducing chances of injury.

2. Fluids lost during competition have to be replenished.

3. Carbohydrates store i.e. muscle glycogen have to be refilled.

4. Electrolytes i.e. sodium, potassium chloride lost during competition have to be recovered.

5. Within two hours of completion of the event a balanced meal including carbohydrates and good quality proteins should be eaten by the athlete.

36. What do you understand by projectile trajectory? Explain the factors affecting projectile trajectory in sports. [1+4]

A projectile is a force that acts under the influence of gravity and air resistance. When any object is projected in the air, these forces result in a curved or parabolic path, known as projectile trajectory.

Factors that affect projectile trajectory:

1. Angle of projection- When it is 45 degree, maximum horizontal distance is achieved

2. Initial velocity – The horizontal range depends on initial velocity.Greater the initial velocity applied on the projectile during release, greater horizontal distance is achieved.

3. Gravity –It is the force of attraction exerted by the earth. The greater the weight of an object, the greater is the influence of gravity upon it. Gravitational pull stops the upward movement of an object resulting into decreased height of projectile.

4. Air resistance –Surface area, speed, surface of object and mass of object all have an impact on air resistance.

5. Spin- It changes the path of the projectile. The amount and direction of spin directly affects the distance that projectile travels because the air pressure acts on the ball.

37. What is Endurance? Explain any two types of Endurance on the basis of duration of the activity with suitable examples from sports. [1+2+2]

Endurance is the ability of the body to sustain a physical activity for a longer duration of time.

Or

The result of physiological capabilities of an individual to sustain movement over a period of time.

Following are the types of endurance on the basis of duration of activity:

1. Speed Endurance: This is the ability to resist fatigue in cyclic activities that last up to 45 seconds. The classic example of this endurance type is a 400 m sprint in track and field. This type of endurance is majorly dependent on the power and capacity to produce

energy.

2. Short-term Endurance: This ability is needed for activities lasting from 45 seconds to about 2 minutes. The most appropriate example for short-term endurance is an 800 m run. This endurance depends majorly on speed endurance and strength endurance.

3. Medium-term Endurance: Medium-term endurance is needed to resist fatigue in activities lasting from 2 minutes to about 11 minutes. The most common example of this type is 1500 m and 3000 m run and 100 mtr rowing. As in short- term endurance, this type of endurance also

depends on speed and strength endurance, but to a limited extent.

4. Long-term Endurance: This type of endurance is needed for activities that last for more than 11 minutes. This type of endurance is required in events like marathons, cross-country, etc.

(Any two types)