DIRECTORATE OF EDUCATION

GNCT of Delhi, Delhi Government

SUPPORT MATERIAL
(2021-2022)

Class : XII

Physical Education

Under the Guidance of

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H. RAJESH PRASAD
IAS

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MESSAGE

I would like to congratulate the members of Core Academic Unit and the subject experts of the Directorate of Education, who inspite of dire situation due to Corona Pandemic, have provided their valuable contributions and support in preparing the Support Material for classes IX to XII.

The Support Material of different subjects, like previous years, have been reviewed/ updated in accordance with the latest changes made by CBSE so that the students of classes IX to XII can update and equip themselves with these changes. I feel that the consistent use of the Support Material will definitely help the students and teachers to enrich their potential and capabilities.

Department of Education has taken initiative to impart education to all its students through online mode, despite the emergency of Corona Pandemic which has led the world to an unprecedented health crises. This initiative has not only helped the students to overcome their stress and anxiety but also assisted them to continue their education in absence of formal education. The support material will ensure an uninterrupted learning while supplementing the Online Classes.

(H. Rajesh Prasad)

UDIT PRAKASH RAI, IAS
Director, Education & Sports

सत्यमेव जयते

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MESSAGE

The main objective of the Directorate of Education is to provide quality education to all its students. Focusing on this objective, the Directorate is continuously in the endeavor to make available the best education material, for enriching and elevating the educational standard of its students. The expert faculty of various subjects undertook this responsibility and after deep discussions and persistent efforts, came up with Support Material to serve the purpose.

Every year the Support Material is revised/ updated to incorporate the latest changes made by CBSE in the syllabus of classes IX to XII. The contents of each lesson/chapter are explained in such a way that the students can easily comprehend the concept and get their doubts solved.

I am sure, that the continuous and conscientious use of this Support Material will lead to enhancement in the educational standard of the students, which would definitely be reflected in their performance.

I would also like to commend the entire team members for their contributions in the preparation of this incomparable material.

I wish all the students a bright future.

(UDIT PRAKASH RAI)

Dr. RITA SHARMA
Additional Director of Education
(School/Exam)

सत्यमेव जयते

Govt. of NCT of Delhi
Directorate of Education
Old Secretariat, Delhi-110054
Ph. : 23890185

D.O. No. PA/Addl.DE/Sch/21

Dated: 29.06.2021

MESSAGE

It gives me immense pleasure to present the revised edition of the Support Material. This material is the outcome of the tireless efforts of the subject experts, who have prepared it following profound study and extensive deliberations. It has been prepared keeping in mind the diverse educational level of the students and is in accordance with the most recent changes made by the Central Board of Secondary Education.

Each lesson/chapter, in the support material, has been explained in such a manner that students will not only be able to comprehend it on their own but also be able to find solution to their problems. At the end of each lesson / chapter, ample practice exercises have been given. The proper and consistent use of the support material will enable the students to attempt these exercises effectively and confidently. I am sure that students will take full advantage of this support material.

Before concluding my words, I would like to appreciate all the team members for their valuable contributions in preparing this unmatched material and also wish all the students a bright future.

(Rita Sharma)

DIRECTORATE OF EDUCATION
Govt. of NCT, Delhi

SUPPORT MATERIAL
(2021-2022)

Physical Education
Class : XII
(English Medium)

NOT FOR SALE

PUBLISHED BY : DELHI BUREAU OF TEXTBOOKS

Class XII

Physical Education

Under the guidance of

Nutan Duggal (SPE) Head Quarter

(Team Leader)

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भारत का संविधान

भाग 4क

नागरिकों के मूल कर्तव्य

अनुच्छेद 51क

मूल कर्तव्य – भारत के प्रत्येक नागरिक का यह कर्तव्य होगा कि वह –

1. संविधान का पालन करे और उसके आदर्शों, संस्थाओं, राष्ट्र ध्वज और राष्ट्रगान का आदर करें।
2. स्वतंत्रता के लिए हमारे राष्ट्रीय आंदोलन को प्रेरित करने वाले उच्च आदर्शों को हृदय में संजोए रखे और उनका पालन करे।
3. भारत की प्रभुता, एकता और अखंडता की रक्षा करे और उसे अक्षुण्ण रखे।
4. देश की रक्षा करे।
5. भारत के सभी लोगों में समरसता और समान भ्रातृत्व की भावना का निर्माण करे।
6. हमारी सामाजिक संस्कृति की गौरवशाली परंपरा का महत्त्व समझे और उसका निर्माण करे।
7. प्राकृतिक पर्यावरण की रक्षा और उसका संवर्धन करे।
8. वैज्ञानिक दृष्टिकोण और ज्ञानार्जन की भावना का विकास करे।
9. सार्वजनिक संपत्ति को सुरक्षित रखे।
10. व्यक्तिगत एवं सामूहिक गतिविधियों के सभी क्षेत्रों में उत्कर्ष की ओर बढ़ने का सतत् प्रयास करे।
11. माता–पिता या संरक्षक द्वारा 6 से 14 वर्ष के बच्चों हेतु प्राथमिक शिक्षा प्रदान करना (86वां संशोधन)।

CONSTITUTION OF INDIA

Part IV A (Article 51 A)

Fundamental Duties

Fundamental Duties : It shall be the duty of every citizen of India —

1. to abide by the Constitution and respect its ideals and institutions, the National Flag and the National Anthem;
2. to cherish and follow the noble ideals which inspired our national struggle for freedom;
3. to uphold and protect the sovereignty, unity and integrity of India;
4. to defend the country and render national service when called upon to do so;
5. to promote harmony and the spirit of common brotherhood amongst all the people of India transcending religious, linguistic and regional or sectional diversities; to renounce practices derogatory to the dignity of women;
6. to value and preserve the rich heritage of our composite culture;
7. to protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures.
8. to develop the scientific temper, humanism and the spirit of inquiry and reform;
9. to safeguard public property and to adjure violence;
10. to strive towards excellence in all spheres of individual and collective activity so that the nation constantly rises to higher levels of endeavour and achievement.
11. who is a parent or guardian to provide opportunities for education to his child or, as the case may be, ward between the age of six and fourteen years.

भारत का संविधान

उद्देशिका

हम, भारत के लोग, भारत को एक **(सम्पूर्ण प्रभुत्व–सम्पन्न समाजवादी पंथनिरपेक्ष लोकतंत्रात्मक गणराज्य)** बनाने के लिए, तथा उसके समस्त नागरिकों को :

सामाजिक, आर्थिक और राजनैतिक **न्याय,**

विचार, अभिव्यक्ति, विश्वास, धर्म

और उपासना की **स्वतंत्रता,**

प्रतिष्ठा और अवसर की समता

प्राप्त करने के लिए,

तथा उन **सब में,**

व्यक्ति की गरिमा और **(राष्ट्र की एकता**

और अखंडता) सुनिश्चित करने वाली बंधुता

बढ़ाने के लिए

हम दृढ़संकल्प होकर इस संविधान को आत्मार्पित करते हैं।

THE CONSTITUTION OF INDIA

PREAMBLE

WE, THE PEOPLE OF INDIA, having solemnly resolved to constitute India into a **(SOVEREIGN SOCIALIST SECULAR DEMOCRATIC REPUBLIC)** and to secure to all its citizens :

JUSTICE, social, economic and political,

LIBERTY of thought, expression, belief, faith and worship,

EQUALITY of status and of opportunity; and to promote among them all

FRATERNITY assuring the dignity of the individual and the **(unity an integrity of the Nation)**;

WE DO HEREBY GIVE TO OURSELVES THIS CONSTITUTION.

Content

Directorate of Education, Govt. of NCT of Delhi

Online Classes Link of Physical Education- XII

Unit (1): Planning in Sports (Part-A)

Link: https://youtu.be/oejN4ujbOQ0

Unit (1): Planning in Sports (Part-B)

Link: https://youtu.be/HFF3UIlH254

Unit (2): Sports and Nutrition (Part-A)

Link: https://youtu.be/zrzP2Pkz2oM

Unit (2): Sports and Nutrition (Part-B)

Link: https://youtu.be/TQcUmeCllB4

Unit (3): Yoga and Lifestyle (Part-A)

Link: https://youtu.be/ohxP-HOwq5Y

Unit (3): Yoga and Lifestyle (Part-B)

Link: https://youtu.be/hc6tHVPgYTA

Unit (4): Physical Education and Sports for CWSN

Link: https://youtu.be/hjt09tBns-g

Unit (5): Children and Women in Sports

Link: https://youtu.be/pt6jhOM2bAg

Unit (6): Test and Measurement in Sports

Link: https://youtu.be/66hH4rtoqts

Unit (7): Physiology and Injuries in Sports (Part-A)

Link: https://youtu.be/fkW7fm0MLuA

Unit (7): Physiology and Injuries in Sports (Part-B)

Link: https://youtu.be/S8LKgJ6tIMM

Unit (8): Biomechanics and Sports

Link: https://youtu.be/BcKXaRe3WIA

Unit (9): Psychology and Sports

Link: https://youtu.be/tgxgYxUi7ZI

Unit (10): Training in Sports

Link: https://youtu.be/zT96r-kxbMQ

PHYSICAL EDUCATION (048)
DISTRIBUTION OF SYLLABUS – CLASS XII – 2021-2022
TERM - I AND TERM - II

TERM I – THEORY MCQ BASED - 35 MARKS		TERM II – THEORY SHORT/LONG ANSWER – 35 MARKS	
***Unit No.**	**Name**	***Unit No.**	**Name**
1	**Planning in Sports** ■ Meaning & Objectives of Planning ■ Various Committees & its Responsibilities (pre; during & post) ■ Tournament – Knock-Out, League Or Round Robin & Combination ■ Procedure To Draw Fixtures – Knock-Out (Bye & Seeding) & League (Staircase & Cyclic)	3	**Yoga & Lifestyle** ■ Asanas as preventive measures ■ Obesity: Procedure, Benefits & contraindications for Vajrasana, Hastasana, Trikonasana, Ardh Matsyendrasana ■ Diabetes:Procedure, Benefits & contraindications for Bhujangasana, Paschimottasana, Pavan Muktasana, Ardh Matsyendrasana ■ Asthma:Procedure, Benefits & contraindications for Sukhasana, Chakrasana, Gomukhasana, Parvatasana, Bhujangasana, Paschimottasana, Matsyasana ■ Hypertension: Tadasana, Vajrasana, Pavan Muktasana, Ardha Chakrasana, Bhujangasana, Sharasana
2	**Sports & Nutrition** ■ Balanced Diet & Nutrition: Macro & Micro Nutrients ■ Nutritive & Non-Nutritive Components Of Diet ■ Eating For Weight Control – A Healthy Weight, The Pitfalls of Dieting, Food Intolerance & Food Myths	4	**Physical Education & Sports for CWSN (Children with Special Needs-Divyang)** ■ Concept of Disability & Disorder ■ Types of Disability, its causes & nature (cognitive disability, intellectual disability, physical disability) ■ Types of Disorder, its cause & nature (ADHD, SPD, ASD, ODD, OCD) ■ Disability Etiquettes ■ Strategies to make Physical Activities assessable for children with special need.

5	**Children & Women in Sports** ■ Motor development & factors affecting it ■ Exercise Guidelines at different stages of growth & Development ■ Common Postural Deformities - Knock Knee; Flat Foot; Round Shoulders; Lordosis, Kyphosis, Bow Legs and Scoliosis and their corrective measures ■ Sports participation of women in India	**7**	**Physiology & Injuries in Sports** ■ Physiological factor determining component of Physical Fitness ■ Effect of exercise on Cardio Respiratory System ■ Effect of exercise on Muscular System ■ Sports injuries: Classification (Soft Tissue Injuries:(Abrasion, Contusion, Laceration, Incision, Sprain & Strain) Bone & Joint Injuries: (Dislocation, Fractures: Stress Fracture, Green Stick, Communated, Transverse Oblique & Impacted) Causes, Prevention& treatment ■ First Aid – Aims & Objectives
6	**Test & Measurment in Sports** ■ Motor Fitness Test – 50 M Standing Start, 600 M Run/Walk, Sit & Reach, Partial Curl Up, Push Ups (Boys), Modified Push Ups (Girls), Standing Broad Jump, Agility – 4x10 M Shuttle Run ■ Measurement of Cardio Vascular Fitness – Harvard Step Test/Rockport Test - D uration of the Exercise in Seconds x 100 5.5 x Pulse count of 1-1.5 Min after Exercise ■ Rikli & Jones - Senior Citizen Fitness Test	**9**	**Psychology & Sports** ■ Personality; its definition & types – Trait & Types (Sheldon & Jung Classification) & Big Five Theory ■ Motivation, its type & techniques ■ Meaning, Concept & Types of Aggressions in Sports
8	**Biomechanics & Sports** ■ Meaning and Importance of Biomechanics in Sports ■ Types of movements (Flexion, Extension, Abduction & Adduction) ■ Newton's Law of Motion & its application in sports	**10**	**Training in Sports** ■ Strength – Definition, types & methods of improving Strength – Isometric, Isotonic & Isokinetic ■ Endurance - Definition, types & methods to develop Endurance – Continuous Training, Interval Training & Fartlek Training ■ Speed – Definition, types & methods to develop Speed – Acceleration \ Run & Pace Run ■ Flexibility – Definition, types & methods to improve flexibility ■ Coordinative Abilities – Definition & types

TERM I - PRACTICAL		TERM II - PRACTICAL	
Project File (About one sport/ game of choice)	05 Marks	Project File (Yoga and General Motor Fitness Test)	05 Marks
Demonstration of Fitness Activity	05 Marks	Demonstration of Fitness Activity/Yoga	05 Marks
Viva Voce (From Project File; Fitness)	05 Marks	Viva Voce (From Project File; General Motor Fitness; Yoga)	05 Marks

***For resource material refer Class XII Physical Education Handbook available at Board's Academic website: www.cbseacademic.nic.in**

Syllabus of 2021-22
Physical Education

Theory No. of Periods 180 Max. Marks 70

Unit-I : Planning in Sports

- Meaning & Objectives of Planning
- Various Committees & its Responsibilities (pre; during & post)
- Tournament- Knock-Out, League Or Round Robin & Combination
- Procedure To Draw Fixtures- Knock-Out (Bye & Seeding) & League (Staircase & Cyclic)
- Intramural & Extramural - Meaning, Objectives & Its Significance
- Specific Sports Programme (Sports Day, Health Run, Run For Fun, Run For Specific Cause & Run For Unity)

Unit-II : Sports & Nutrition

- Balanced Diet & Nutrition : Macro & Micro Nutrients
- Nutritive & Non-Nutritive Components Of Diet
- Eating For Weight Control- A Healthy Weight, The Pitfalls Of Dieting, Food Intolerance & Food Myths

Unit-III : Yoga & Lifestyle

- Asanas as preventive measures
- Obesity : Procedure, Benefits & contraindications for Vajrasana, Hastasana, Trikonasan a, Ardh Matsyendrasana
- Diabetes : Procedure, Benefits & contrindications for Sukhasan, Chakrasana, Gomukhasana, Parvatasana, Bhujangasana, Paschimottasana, Matsyasana
- Asthma : Procedure, Benefits and Contrindications for Sukhasanas Chakrasana, Gomukhasana, Parvatasana, Bhujangasana, Paschimottasana, Matsyasana
- Hypertension : Tadeasana, Vajrasana, Pavan Muktasana, Ardha Chakrasana, Bhujangasana, Sharasana
- Back Pain : Tadasana, Ardh Matsyendrasana, Vakrasana, Shalabhasana, Bhujangasana

Unit-IV : Physical Education & Sports for CWSN (Children with special Needs-Divyang)

- Concept of Disability & Disorder
- Types of Disability, its causes & nature (cognitive disability, intellectual disability, physical disability)
- Types of Disorder, its cause & nature (ADHD, SPD, ASD, ODD, OCD)
- Disability Etiquettes
- Advantage of Physical Activities for children with special needs

- Strategies to make Physical Activities assessable for children with special need.

Unit-V : Children & Women in Sports

- Motor development & factors affecting it
- Exercise Guidelines at different stages of growth & Development
- Common Postural Deformities - Knock Knee; Flat Foot; Round Shoulders; Lordosis, Kyphosis, Bow Legs and Scolioses and their Corrective Measures
- Sports participation of women in India
- Special consideration (Menarch & Menstural Disfunction)
- Female Athletes Triad (Oestoporosis, Amenoria, Eating Disorders)

Unit-VI : Test & Measurement in Sports

- Motor Fitness Test—50 m Standing Start, 600 m Run/ Walk, Sit and Reach, Partial Curl up, Push ups (Boys), modified Push ups (Girls) Standing Broad jump, Agility—4 × 10 m shuttle run
- General Motor Fitness - Barrow three item general motor ability (Standing Broad Jump, Zig Zag Run, Medicine Ball Put- For Boys : 03 kg & For Girls : 01 kg)
- Measurement of Cardio Vascular Fitness - Harvard Step Test/Rockport Test
- Computation of Fitness Index :

$$\frac{\text{Duration of exercise in second} \times 100}{5.5 \times \text{pulse count of 1 – 1.5 minute after exercise}}$$

- Rikil & Jones - Senior Citizen Fitness Test
  1. Chair Stand Test for lower body strength
  2. Arm Curl Test for upper body strength
  3. Chair Sit & Reach Test for lower body flexibility
  4. Back Scratch Test for upper body flexibility
  5. Eight Foot Up & Go Test for agility
  6. Six Minute Walk Test for Aerobic Endurance

Unit-VII : Physiology & Injuries in Sports

- Physiological factor determining component of Physical Fitness
- Effect of exercise on Cardio-Respiratory System
- Effect of exercise on Muscular System
- Physiological changes due to ageing
- Sports injuries : Classification
- Soft Tissue Injuries :

  (Abrasion, Contusion, Laceration, Incision, Sprain & Strain)

Bone & Joint Injuries :

(Dislocation, Fractures : Stress Fracture, Green Stick, Communated, Transverse Oblique & Impacted) Causes, Prevention and Treatment

- First-Aid—Aim and Objectives

Unit-VIII : Biomechanics & Sports

- Meaning and importance of Biomechanics in Sports
- Types of movements (Flexion, Extension, Adbuction & Adduction)

- Newton's Law of Motion & its application in sports
- Friction & Sports

Unit-IX : Psychology & Sports

- Personality; its definition, Trait & Types (Sheldon & Jung Classification) & Big Five Theory
- Motivation, its type & techniques
- Exercise Adherence; Reasons to exercise, Benefits of exercise
- Strategies for Enhancing Adherence to exercise
- Meaning, Concept & Types of Aggressions in Sports

Unit-X : Training in Sports

- Strength - Definition, types & methods of improving Strength - Isometric, Isotonic & Isokinetic
- Endurance - Definition, types & methods to develop Endurance - Continuous Training, Interval Training & Fartlek Training
- Speed Definition, types & methods to develop Speed - Acceleration Run & Pace Run
- Flexibility - Definition, types & methods to improve flexibility
- Coordinative Abilities - Definition & types
- Circuit Training—Introduction and its importance

Practical

Max. Marks 30

01.	Physical Fitness	6 Marks
02.	Skills of any one Team Game Proficiency in Games and Sports of choice from the given list*	7 Marks
03.	Yogic Practices	7 Marks
04.	Record File**	05 Marks
05.	Viva	05 Marks

* Basketball, Football, Handball, Hockey, Kho Kho, Volleyball & Unified Basketball Bocce CWSN (Children with Special Needs-Divyang)

** Record File shall include :

Practical-1 : Fitness tests administration for all items.

Practical-2 : Procedure for Asanas, Benefits & Contraindication for any two Asanas each lifestyle disease.

Practical-4 : Procedure for administering Senior Citizen Fitness Test for 5 elderly family members.

Practical-5 : Any one game of your choice out of the list above. Labelled diagram of field & equipment Rules, Terminologies & Skills).

UNIT - 1

Planning in Sports

UNIT - 1
Planning in Sports

Key Points :-

1.1 Meaning and Objectives of Planning

1.2 Various Committees and their Responsibilities

1.3 Tournament - Knock-Out, League or Round Robin and Combination.

1.4 Procedure to Draw Fixture - Knock-Out (Bye and Seeding) and League (Staircase and Cyclic)

1.5 Intramural and Extramural-Meaning, Objectives & its Significance.

1.6 Specific Sports Programme (Sports Day, Health Run, Run for Fun, Run for Specific Cause & Run for Unity).

1.1 Meaning of Planning :

Planning is the process of thinking about the steps required to achieve goal/aim.

Planning Process → Setting Objectives → Develop the Plan → Implementing the Plan → Follow-up Action.

According to Harre, " Planning is a process to achieve objectives by solving the problem & making it easier to complete the task."

Multiple Choice Questions (1 Marks)

Q.1. Which is not the objective of Planining.

Ans. (A) To reduce pressure

(B) To have good control over activities

(C) To minimise the chances of mistake

(D) **To improve the presonal relation among the staff.**

Q.2. Aim of Planining is.....

Ans. (A) Complete the work

(B) Coordinate the event

(C) **To make successful event**

(D) Enjoyment

Q.3. To avoid the careless mistake under pressure and to achieve the goal, which of them should be more valuable.

Ans. (A) **Planning** (B) Staffing

(C) Sepervison (D) Budgeting

Q.4. What is planning? write any two objective of Planning (1+2=3)

Ans. **"**Planning is a process to achieve objectives by solving the problems & making it easier to complete the task."

Objectives of planning are as follows:

1. To create good coordination,
2. To keep good control over all activities,
3. To reduce unnecessary pressure immediately,
4. To minimize the chances of mistake,
5. To avoid wastage of money, time & resources,
6. To utilize the resources effectively and economically,
7. To improve the effectiveness of the organization,
8. To increase the creativity,
9. To enhance the sports performance,
10. Helps in decision making,

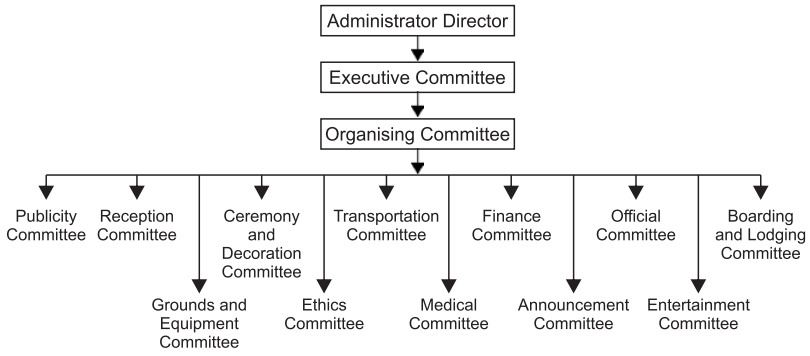
(write any two objectives)

Practice Questions

Q.1 Write any three objectives of Planning? (1x3=3)

Q.2 What is planning? Explain any four objectives of planning (1+4=5)

1.2. Various Committees and their Responsibilities (Pre; During & Post Tournament)



Responsibilities of Committees

ADMINISTRATIVE DIRECTOR

↓

Excutive Committee

Pre-Tournament Responsibilities	During-Tournament Responsibilities	Post-Tournament Responsibilities
– Organizing committee	– Publicity committee	– Publicity committee
– Publicity committee	– Organizing committee	– Marking committee
– Marking committee	– Marketing committee	– Finance committee
– Finance committee	– Transport committee	– Transport committee
– Transport committee	– Food and accommodation committee	– Committee for officials and Ground
– Food and accomm-Odation committee	– Grand and equipment committee	– Equipment committee
– Committee for officials	– Programme committee	– Programme committee
– Ground and equipment committee	– First Aid committee	– First Aid committee
– First Aid committee	– Decoration committee	– Prize distribution committee
		– Organizing committee

1.2. MCQ (1 Marks)

Q.1 Match the following

Ans.

(a)	Technical committee	(i)	To provide shifting facility
(b)	Finance committee	(ii)	To resolve dispute
(c)	Transport commitee	(iii)	To deals with money and expenditure
(d)	First aid committe	(iv)	To provide medical facility.

(A) **A–II, B–III, C–I, D–IV** ✓

(B) A–III, B–II, C–I, D–IV

(C) A–II, B–III, C–IV, D–I

(D) A–IV, B–III, C–I, D–II

Q.2 Out of them which is not the task of organising committee

Ans. (A) To Draw fixture

(B) To Select referee pannel for match

(C) To conduct the matches

(D) **To pre decide the winners** ✓

Q.3 What are the responsibilities of Publicity Committee. (2)

Ans. **The responsibilities of Publicity Committee:** This Committee provide information of competition in advance to all the players, coaches and teams. This committee will ues different mediums of mass media like T.V., Radio, Newspaper, Internet for advertizing the games. This committee would make sure to ensure high spectator and viewership.

Q.4 Write the functions of Transport Committee? (2)

Ans. **Transport Committee:** This Committee supervise the transportation means to ensure swift movement of players and officials to venue and their accommodation venue.

Q.5 Write down the role of the various committees post tournament (3)

Ans. The following are the role of the various committees after a tournament.

Publicity Committee: Give reports to media provide information of expenditure to organizing committee. Performance of Players, Records, other important information.

Finance Committee: Mantain a report of the total expenditure and budget for the tournament.

Transport Committee: Provide information regarding the proper use of vehicles after the end of the tournment.

Food and accommodation Committee: Repair work for any damage at accommodation site and providing information of report of players, officals regarding lodging & boarding expenditure to organzing committee.

Committee for officials: Giving payment and thanks letter to all officials.

Ground and Equipment Committee: Repair work for any damage to ground and submitting all equipment to organizing committee.

Programme Committee: Providing information about all participating team to organizing committee and distributing certificates to all participants and officials with thanks.

First Aid Committee: Submitting all first aid equipment and information to organising committee.

Prize Distribution Committee: Co-ordinating with decoration ceremony committee to submit all information and equipment to organizing Committee.

Organizing Committee: Collecting reports from all committees, taking note of all the important information and submitting it to the administrative director.

Q.6. Write down the role of the various committees before a tournament. (5)

Ans. The following are the roles of the various committees before a tournament.

Organizing Committee :-

Responsible for organizing and smooth running of the tournament. It instructs other committee one month prior to the tournment and assings tasks and responsibilities to them.

Publicity Committee :-

Spread information about the players / teams / officals / event prior to the tournament, by T.V., Radio, Newspapers, poster etc.

Marketing Committee :-

Purchasing all equipments and other items required for the tournament and ensuring their quality & quantity.

Finance Committee :-

Prepares budget and estimates possible expenditure during the tournament.

Transport Committee :-

Ensures proper transport facilities for the tournament for all the concerned persons those directly or indirectly participating in the event.

Food and Accommodation Committee:-

Prepares accommodation and food for athletes, VIPs and officials.

Committee for Officials :-

Hires officials required to preside over the matches in the tournament Engage qualified officials for tournament in required numbers.

Ground and Equipment Committee:-

Prepares the ground for the tournament few days prior or it. To arrange scientific equipments and well marked grounds (courts, halls, rings etc.) for tournament.

Programme Committee:-

To prepare the whole programme of reception, ceremony, decoration, prize distribution of the tournament. Keeps the records of the participating teams and prepares fixture.

First Aid Committee:-

To arrange qualified doctors, other helpers and maintain proper first aid kits for all possible situations and conditions of the tournament.

Programme Committee:-

Focus on the problems of the participating teams, athletes, official & try to solve it officials or the concern persons.

First Aid Committee:-

Treating the injuries sustained by athletes and taking the injured players to hospital if injury is serious.

Q.7 Write down the role of the various committees during a tournament. **(5)**

Ans. The following is the role of various committees during a tournament.

Organizing Committee :-

Managing all committees and ensuring all committees are doing their work properly.

Marketing Committee :-

Proper provision of all equipments will be required, during the tournament.

Transport Committee :-

Ensuring proper transportation of athletes between accommodation sites, stadium/playing sites, training centres etc.

Food and Accommodation Committee :-

Providing food to all officials and athetes during the tournament as their demand of work and also managing the proper accommadation site.

Committee for officials :-

To satisfy Make proper arrangements of needs to satisfy of the officials during a tournment.

Ground and Equipment Committee :-

Ensuring the proper condition of the grounds and all equipment through out the tournament.

Programme Committee :-

Focus on the problems of the participating teams, athletes, official & try to solve it

First Aid Committee :-

Treating the injuries sustained by athletes and taking the injured players to hospital if injury is serious.

Decoration Ceremony Committee :-

Ensuring the decoration of all the ceremony– opening, closing, prize distribution etc is proper during the tournament.

Announcement Committee :-

Announce important information like the particiapaints of the next match, time, court and date from the stage.

Practice Questions

Q.1. Enlist the all committees to organise a sports Tournament. (2)

Q.2. Write the function of any two committees before the tournament. (1x2)

Q.3. Write two function of reception & ceremony decoration committees. (2)

Q.4. Describe the contribution of Tournament Programme Committee. (2)

Q.5. Write down the responsibilities of any three committees before Tournament. (1x3)

Q.6. Write down the responsibilities of organising committees, official committees and Ground & Equipments committees. (1x3)

Q.7. Describe the responsibilities of any three committees after the tournament. (1x3)

Q.8. Elucidate the functions of first aid committee, boarding & lodging committee and Prize distribution committee during the sports events. (1x3)

Q.9. Enlist various committee during the tournament. Explain the responsibilities of any four committee. (1+4)

Q.10. Write down responsibilities of any five committees before the tournament. (1x5)

1.3 Tournament-knock out, League or Round Rabin and combination

Tournament : A series of sports competitions, in which, a team finally wins and rest of the participating teams lose the matches. It depends on various factors i.e. - No. of participating teams, availability of grounds and equipments, No. of days and funds.

Types of Tournament :-

Knock out : In this type of tournament, the team once defeated, gets eliminated from the tournament. Only the winning teams contest in the next rounds. Opportunities are given to the winning players/ teams.

League : In single league tournament all participating teams compete, with each other, where-as in double league, each team plays with every other team twice, without any consideration of victory or defeat. League tournament is also knows as round robin tournament.

Combination Tournament: These are the Tournament is which some rounds are played on the basis of knock out & some are played on the Basis of league examples.

- Knock out cum knock out
- Knock out cum league
- League cum league
- League cum knock out

Multiple Choice Questions MCQ (1 Marks)

Q.1 The other name of League Tournament is—

(A) **Round robin Tournament**

(B) Knock out Tournament

(C) Combination Tournament

(D) Challenge Tournament

Q.2 To avoid compete in initial round which of the following is correct.

(A) Bye (B) Seeding

(C) Fixture (D) **Both (a) and (b)**

Q.3 Once the team is defeated, will be eliminated of the tournament is called:

(A) League Tournament

(B) Combination Tournament

(C) Challenges Tournament

(D) **Knock Out Tournament**

Q.4 The winner is decided on the point basis only at the end of the all matches in :

(A) **League Tournament**

(B) Knock Out Tournament

(C) Combination Tournament

(D) Challenges Tournament

Q.5 Seeding is an advantage to a team given on the basis of:

(A) State

(B) **Performance**

(C) First came

(D) All of the above

Q.6 What is the another name of league matches:

(A) Knock Out

(B) Combination

(C) **Round Robin**

(D) None of Above

Q.7 Write down the any two merits & demerits of the League Tournament.

OR

What are the advantages or disadvantages of leagues or round tournament? (2)

Ans. Merit/Advantage

1. Only real player/ team that has best potential will be the winner of the tournament.
2. Charm of the tournament still maintained through out the tournament.
3. Good team/ player will continues through out the tournament so the chance of selection of good players is still alive.

Demerits/Disadvantage

1. Funds are required more
2. Time is required more
3. Result comes late
4. Requirement of more no of officals and more no of grounds.
5. Equipments are needed more.

Q.8 What do you mean by League or Round Robin Tournament. (2)

In this kind of tournament each player or team gets a chance to play against all other teams at last once.

How ever in double league, the teams get chance to play twice against each opponent.

Two types of League Tournament:

(a) Single League

(b) Double League

(a) Single League: In this league, the team is certainly to play each team once. The number of total matches is decided by this formula = $N\left(\frac{N-1}{2}\right)$

To example, total teams =8

Total No. of Matches = $8\left(\frac{8-1}{2}\right) = 8\left(\frac{7}{2}\right) = \frac{56}{2} = 28$

(b) Double League: In this league, every team plays each opponent twice. The number of matches is determined with help of this formula = N (N - 1)

for e.g. Total No. of Teams = 9

Total No. of matches = 9 (9 - 1) = 8 x 9 = 72

Q.9 Write down the advantage & disadvantage of knock out tournament. $\left(1\frac{1}{2}+\frac{1}{2}=3\right)$

Ans. Advantage of knockout Tournament

- These tournament are economical and less expensive.
- Tournament run for shorter duration as number of matches are less.
- The performance of each team/player has to be their best effort because of fear exit from tournament.
- There is less requirement of number of officials due to shorter duration of tournament.
- Considered Not so fair chance to all teams so order decided on draw.

Disadvantage of knockout Tournament

- There may be chances of strong teams or players who can eliminated in prelimary rounds. Two best teams can get face off in easly rounds that may effect the interest of tournament.
- As weaker teams could reach to finals which may effect the percentage of spectators and viewership.
- Players and teams have less chance to showcase their skills and performance.
- Once defeated, the teams have no other option to make a comeback.
- Due to pressure of elimination team always put their best players on held which hanger new talent.

Practice Questions

Q.1. Differentiate between knockout & League Tournament. **(1x3=3)**

Q.2. Define tournament & explain its types. **(5)**

1.4 Procedure to draw fixture knock-out (Bye & Seeding), League (Staircase & Cyclic)

Procedure to Draw Fixture for Knockout Tournament

Step 1. Divide the total no. teams in to two half if total no teams are more than 16 divided than also in quarter.

Step 2. Check if total no. of team are in power of two i.e. (2,4,8,16,32,64.....) or not.

Step 3. If total no. of teams are not in power of two then byes will be given.

Step 4. Calculate the byes & place them according to the formula.

Step 5. Arrange the match. It should be remembered that match can be arranged between the teams in the same round.

Step 6. It should be remembered that if the total no. of teams are more than 16, the byes of upper half will be placed separately and lower half will be separately.

Step 7. In case of seeding or special seeding we calculate the byes of the deducting total no. of seeding from the total no. of teams.

Formula No. 1 **Total No. of Matches** = Total No. of Team-1.

Total No. of Matches = **N - 1**

Formula No. 2 Total no. of Rounds

To calculate total no. of rounds, multiply 2 with 2 continuously (2x2x2....) until the multiplication value reaches equal to or just more than the total no. of teams than count the repetition of digit 2 multiplication which will be equal to total no of rounds.

Formula No. 3 **Total no. of Byes** = Next Power of 2 - Total of Teams

Total no. of Byes = $\mathbf{2^n - N}$

Formula No. 4 Division of Upper Half & Lower Half

If total no. of teams are even (e.g. 2,4,6,8....) then

$$\text{Teams in Upper Half} = \frac{\text{Total no. of Teams}}{2} = \frac{N}{2}$$

$$\text{Teams in Lower Half} = \frac{\text{Total no. of Teams}}{2} = \frac{N}{2}$$

If Total no. of teams are odd (e.g. 3,5,7,9....) then

$$\text{Teams in Upper Half} = \frac{\text{Total no. of Teams + 1}}{2} = \frac{N + 1}{2}$$

$$\text{Teams in Lower Half} = \frac{\text{Total no. of Teams - 1}}{2} = \frac{N - 1}{2}$$

Formula No. 5 Division of Byes in Upper Half & Lower Half

If total no. of byes are even (e.g. 2,4,6,8....) then

$$\text{Byes in Upper Half} = \frac{\text{Total no. of Byes}}{2}$$

$$\text{Byes in Lower Half} = \frac{\text{Total no. of Byes}}{2}$$

If total no. of byes are odd (e.g. 1,3,5,7....) then

$$\text{Byes in Upper Half} = \frac{\text{Total no. of Bye - 1}}{2}$$

$$\text{Byes in Lower Half} = \frac{\text{Total no. of Bye + 1}}{2}$$

Formula No. 6. To divide the total no of teams in quarters then divide the total no. of team by 4 & follow the given table.

4) Total no. of team (Q

R

Qsr	Quarter-1	Quarter-2	Quarter-3	Quarter-4
If R=O	Q	Q	Q	Q
If R=1	Q+1	Q	Q	Q
If R=2	Q+1	Q	Q+1	Q
If R=3	Q+1	Q+1	Q+1	Q

Formula No. 7 Placement of Bye :-

1st bye will be given to last team of lower half

2nd bye will be given to 1st team of upper half

3rd bye will be given to 1st team of lower half

4th bye will be given to last team of upper half

5th bye comes besides bye no. 1

6th bye besides bye no. 2

7th bye besides bye no. 3

8th bye near to bye no. 4 then

9th bye near bye no. 5 and so on.

Seeding placement will follow the same sequence as bye.

Procedure to draw the fixture for League Tournament

Staircase Method

Total no. of Matches

$= \frac{\text{Total no. of Teams (Total no. of Teams - 1)}}{2}$

Total no. of Matches = $\frac{N (N - 1)}{2}$

Take team no. 1 and arrange its all match then take team no.2 arrange its all matches then team no. 3 then 4 & so on.

e.g. Total no. of Teams = 5

1 - 2			
1 - 3	2 - 3		
1 - 4	2 - 4	3 - 4	
1 - 5	2 - 5	3 - 5	4 - 5

Cyclic Method

Total no. of Matches = $\frac{N (N - 1)}{2}$

Total no. of Round

(If odd) Total no. Teams - 1 = N - 1

(If even) Total no. of Teams = N

Pairs of Teams

If total no. of teams are even its pair can be made.

e.g. Total no. of Teams = 4

1st round	2nd round	3rd round
4 - 1	3 - 1	2 - 1
3 - 2	2 - 4	4 - 3

Note : Rotate teams in clock wise Direction in each round.

But if the total no. of teams are odd then add one teams as bye then their pair can be made.

e.g. Total no. of Teams = 5

1st round	2nd round	3rd round	4th round	5th round
5 - B	4 - B	3 - B	2 - B	1 - B
4 - 1	3 - 5	2 - 4	1 - 3	5 - 2
3 - 2	2 - 1	1 - 5	5 - 4	4 - 3

Note : Rotate teams in clock wise Direction in each round.

Multiple Choice Questions MCQ (1 Marks)

Q.1 Total number of matches for knock out tournament is decided as—

(A) **(N – 1)** (B) $(N^2 - 1)$

(C) $(N \times n - 1)$ (D) $\left(\frac{N (N -1)}{2}\right)$

Q.2 To calculate Total No. of matches for league Tounament (single league) —

(A) $\frac{N(N-1)}{2}$ (B) $\left(\frac{N^2-1}{2}\right)$

(C) $(N^2 - 1)$ (D) $(N - 1)^2$

Q.3 How many bye will be given for 21 teams on the knock out basis.

(A) **11** (B) 16

(C) 14 (D) 17

Q.4 In the placement of Byes, IV Bye is given to whom.

(A) 1st Team of Lower Half

(B) 1st Team of Upper Half

(C) Last Team of Lower Half

(D) **Last Team of Upper Half**

Q.5 To calculate the total no of team in upper half for knock out tournament when total no of teams are odd, which farmula is used.

(A) $\frac{N+1}{2}$ (B) N – 1

(C) $\frac{N^2+1}{2}$ (D) $\frac{(N+1)^2}{2}$

Q.6 Match the following :

(A) Seeding	(1) Number of Matches
(B) Bye	(2) No Match in first Round
(C) Cyclic	(3) Total numbers of Teams are not in Power of 2
(D) $N\left(\frac{N-1}{2}\right)$	(4) League Tournament

(a) A-1, B-2, C-3, D-4 (b) **A-2, B-3, C-4, D-1**

(c) A-3, B-4, C-1, D-2 (d) A-4, B-1, C-2, D-3

Q.1 Explain the staircase method of league tournament and draw the fixture of 12 teams in staircase methods.

Ans. Stair case method :- in stair case method the fixture are made just like a ladder or a stair case in this method no bye is given to any team and there is no problem of even or odd number of teams.

Fixture

1-2										
1-3	2-3									
1-4	2-4	3-4								
1-5	2-5	3-5	4-5							
1-6	2-6	3-6	4-6	5-6						
1-7	2-7	3-7	4-7	5-7	6-7					
1-8	2-8	3-8	4-8	5-8	6-8	7-8				
1-9	2-9	3-9	4-9	5-9	6-9	7-9	8-9			
1-10	2-10	3-10	4-10	5-10	6-10	7-10	8-10	9-10		
1-11	2-11	3-11	4-11	5-11	6-11	7-11	8-11	9-11	10-11	
1-12	2-12	3-12	4-12	5-12	6-12	7-12	8-12	9-12	10-12	11-12

Q.2. Write specifying calculation prepare cyclic fixture for 9 teams.

Ans. Total Number of Teams = 9

Total Number of Matches = $\frac{N(N-1)}{2} = \frac{9(9-1)}{2} = \frac{9\times8}{2} = \frac{72}{2} = 36$

Total Number of Rounds = 9

Fixture

1st round	2nd round	3rd round	4th round	5th round
9 - B	8 - B	7 - B	6 - B	5 - B
8 - 1	7 - 9	6 - 8	5 - 7	4 - 6
7 - 2	6 - 1	5 - 9	4 - 8	3 - 7
6 - 3	5 - 2	4 - 1	3 - 9	2 - 8
5 - 4	4 - 3	3 - 2	2 - 1	1 - 9

6th round	7th round	8th round	9th round
4 - B	3 - B	2 - B	1 - B
3 - 5	2 - 4	1 - 3	9 - 2
2 - 6	1 - 5	9 - 4	8 - 3
1 - 7	9 - 6	8 - 5	7 - 4
9 - 8	8 - 7	7 - 6	6 - 5

Q.3 Draw the fixture of 13 teams on the basis of knock-out tournament.

Ans. Total no. of Matches = Total no. of teams - 1

= 13 - 1 = **12 matches**

Total no. of Round = 2x2x2x2

(Digit 2 repeats four time) so, Total no. of rounds = 4

Total no. of Bye = next power of 2 - total no. of teams

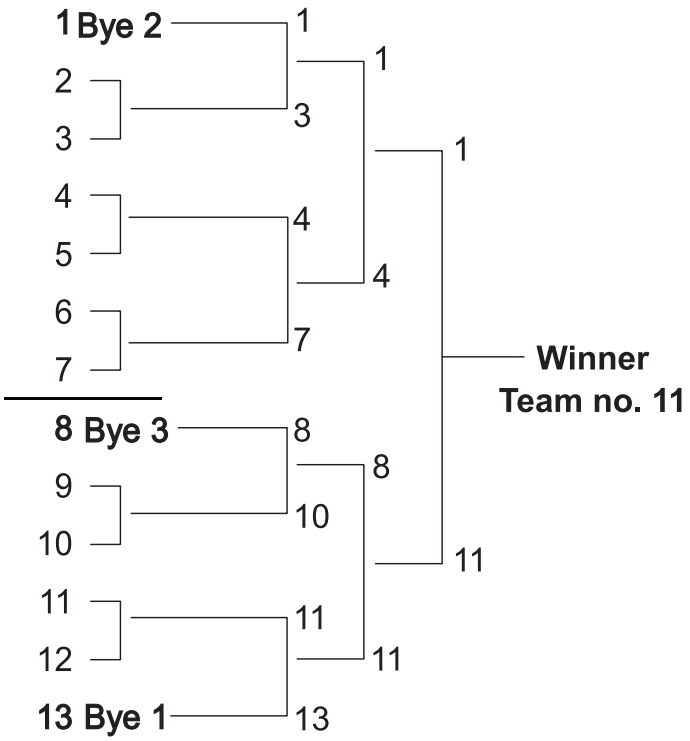
$= 2^n - N = 16 - 13 = 03$

No. of teams in Upper Half = $\frac{N + 1}{2} = \frac{13+1}{2} = 07$

No. of teams in Lower Half = $\frac{N - 1}{2} = \frac{13-1}{2} = 06$

No. of Bye in Upper Half = $\frac{\text{Total Bye} - 1}{2} = \frac{3-1}{2} = \frac{2}{2} = 1$

No. of Byes in Lower Half = $\frac{\text{Total Bye} + 1}{2} = \frac{3+1}{2} = \frac{4}{2} = 2$



Q.4 Draw the fixture of 24 teams on the basis of knockout tournament

Ans. Total no. of Matches = Total no. of teams - 1 = 24-1 = 23.

Total no. of Rounds = 2x2x2x2x2

i.e. Digit 2 report 5 times

So total no. of Rounds = 5

Total team in Upper Half = $\frac{\text{Total no. of teams}}{2} = \frac{24}{2} = 12$

Total team in Lower Half = $\frac{\text{Total no. of teams}}{2} = \frac{24}{2} = 12$

As the total no of teams are more then 16 so we have to divide teams also in quarter.

Teams in each quarter: $4\overline{)24}\,6$ (Q=6)

$\underline{24}$

0 (R=0)

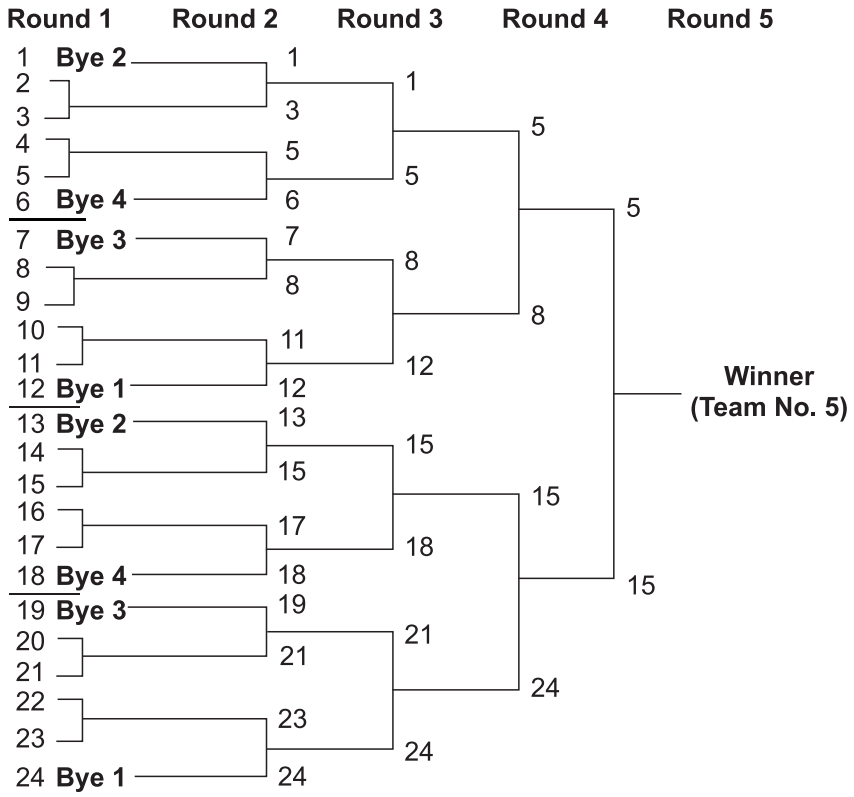
Total No. of Bye = Next power of two - Total no. of team

$= 2^n - N \quad = 2^5 - 24$

$= 32 - 24 = 08$ Byes

Bye in Upper Half $= \frac{8}{2} = 4$ Byes

Bye in Lower Half $= \frac{8}{2} = 4$ Byes



Q.5 Draw a fixture on knock out basic for 11 teams by giving Seeding to 2 teams.

Ans. Total no. of matches = Total no of team -1 = 11-1 = 10

Total no. of round = 2x2x2x2 = Rounds

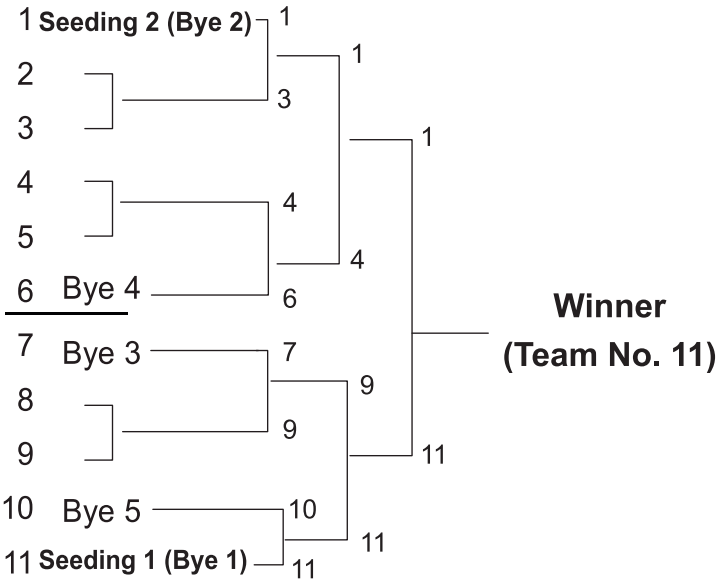
Repetition of digit 2 is 4 time so total no. of round = 4 rounds

Team in Upper Half = $\frac{N + 1}{2} = \frac{11+1}{2} = \frac{12}{2} = 6$

Team in Lower Half = $\frac{N - 1}{2} = \frac{11-1}{2} = \frac{10}{2} = 5$

Byes in Upper Half = $\frac{\text{Total Byes} - 1}{2} = \frac{5-1}{2} = \frac{4}{2} = 2$

Byes in Lower Half = $\frac{\text{Total Byes} + 1}{2} = \frac{5+1}{2} = \frac{6}{2} = 3$



Practice Questions

Q.1. Draw the fixture for 08 teams on the basis of know-out tournament. (2)

Q.2. Draw the fixture for 5 teams on the basis of League tournament with cyclic method. (3)

Q.3. Draw the fixture for 27 teams on the basis knock out tournament. (5)

1.5 Intramurals and Extramurals : Meaning, Objectives and its significance

Meaning of Intramurals :-

Intramural is derived from the latin word" Intra" means "within" and "murals" means "wall, So we can say that the activities, which are performed within the walls or within the campus of an institution are called 'Intramurals"

Meaning of Extramurals :-

Extramural is derived from the latin words "Extra" and "Murals". Here extra means "outside" and murals means "wall". So, We can say that the activities which are performed outside the walls of an institution or school, are known as "extramurals".

Multiple Choice Questions MCQ (1 Marks)

Q.1 Intramural Tournaments are those Tournaments which are organised.

(A) **Within the boundry (wall) of institute**
(B) Out side the boundry wall of institute
(C) Interzonal level
(D) At national level

Q.2 Which is not the objectives of Intramural Tournament.

(A) To Provide Recreation
(B) To help in over all development
(C) **To achieve high performance**
(D) To provide opportunity to Learn a variety of games & skill.

Q.3 Intramurals keep students.....

(A) Unfit (C) Healthy & fine
(B) **Mass Involvement** (D) Fit & win

Q.4 Extramurals games organised among.....

(A) Within the school

(B) Within the college

(C) School's sports Ground

(D) **Between the Schools**

Q.5 Extramurals competition aim is.....

(A) **High performance**

(B) Low performance

(C) Improve participation in games

(D) Improve the competitives

Q.6 Briefty explain the objectives of intramural tournaments.

Ans. Objectives (2)

1. Physical development
2. Mental development
3. Social development
4. To develop good leadership quality
5. To provide recreation to the child
6. To control agression
7. To provide platform to show himself
8. To increase the sources of competitions
9. To develop the qualities of a good leader
10. To give the knowledge of the rules of various game
11. To find out the talented sport man
12. To develop good personality.

(any four objectives)

Q.7 Write down the activities for the intramural tournament. (3)

Ans. **Major games :-** hockey, football, Kho-Kho, Kabaddi etc.

Minor games :- Shuttle run, sag race, triple leg race, Lemon race etc.

Rhythmic Games :- P.T. Lazium, dumbal, dance etc.

Creative games :- drawing, painting.

Combat games :- Judo, Wrestling, boxing etc.

Q.8 Write down the importance of the extramural tournament.

Ans. (5)

1. Help in the physical development.
2. Help in the mental development.
3. Help in the social development.
4. Help in the personality development.
5. Reduce the level stress anxiety.
6. Develop in leadership qualities.
7. Understand the Rules and Regulations of various games.
8. Help to control the level of aggression in an individual.
9. Help for recreation of children.
10. Help to develop the sense of competitiveness.

Q.9 What do you means by intramurals? Mention the significance of intramurals for school children. (5)

Ans. The word intramural (Intra+murals) within+wall, It means that the activities which are performed within the walls or within the campus of an institution are called intramurals. These activities are organized only for the students of a school or institution. No students of other school can participate in these activities intramural competition is one of the best means to motivate.

All the students of an institution for taking part in the games and sports “A games for each and each for a game “may be considered the motto of intramurals. These activities are the most pleasurable as well as enjoyable for the students they get maximum educational benefits from such competition so a large number of students must be involved in a wide range of intramurals activities.

Significance of Intramural :-

- Intramurals are very significant for physical mental emotional and social development of students.
- These programmes also lay stress on moral and ethical values of students.
- Intramurals are necessary for the development of health of children.
- These programmes are also important to calm down the fighting instinct of children.
- These programmes refresh the children and make them agile.
- Intramurals provide maximum recreation to the students.
- Intramurals provide ample opportunities to the students to participate in game and sports.
- Intramurals are also essential for development the leadership qualities among the students.

Practice Question

Q.1 Diffrentiate between Intramural & extramual Tournament. (2)

Q.2 What is Intramural Tournament? Describe their need for school children (1+2=3)

Q.3 What is Extramural Tournament? Describe their need for sports player? (1 + 2 = 3)

Q.4 Discuss the need of Intramural & Extramural Tournament (2 ½ + 2 ½ = 5)

Q.3 Explain the importance of Extramural Tournament? (5)

1.6 Specific Sports Programme (Sports Day, Health Run, Run for Fun, Run for Specific cause & Run for Unity)

Specific Sports Programme

Sports and games programmes are arranged in the world as well as in our country to promote the games and sports for a specific cause. Every country in the world has some or the other cause for promoting specific sports programmes. The programmes motivate and create the feeling to take part in these sports programmes. People become health-conscious and try to remain fit and stay healthy for as long as possible. These specific sports programmes are usually organized by the federations, state government, NGO etc. to create health consciousness among the people and take part in health related sports programmes.

More and more people of all age groups should take part in such sports programmes. The various important specific programmes are :-

1. Sports Day - School - Annual Sports Day
   National Sports Day on (29th Aug)
2. Health Run
3. Run For Fun
4. Run for Specific Cause
5. Run for Unity.

Multiple Choice Questions MCQ (1 Marks)

Q.1 Match the following

(A) Run for Fun	(i) Organised once in year
(B) Health Run	(ii) To provide the sence to work jointly
(C) Sports Day	(iii) To Promote sence of physical, mental, social & emotional well being
(D) Run for Unity	(iv) To provide enjoyment

(a) A-I, B-II, C-III, D-IV (b) A-II, B-I, C-IV, D-III

(c) **A-IV, B-III, C-I, D-II** (d) A-IV, B-III, C-II, D-I

Q.2 Explain the meaning of specific sport programs? Explain any four. (1 + 4 = 5)

Ans. Specific sports programs are those programs of sports which are often not related to the competition these programs are designed with multiple objectives with their focus on the well being of an individual. The aims of programme is to create awareness among the common people regarding unity & integrity prevention & protection against various diseases social +ve & –ve ideas, policies etc.

Specific Sports Programmes

Sports Day :-

Sports day is organized in the school once in the year so that the all round development of children could be done various physical and recreation activities are conducted on sports day it is organized by almost each and every school on sports day every child gets ample opportunities to take part in activity of there choice. Due to these days most of students get experience as organizer as well as administrator sports day also provide opportunity to select talent for future.

Health Run :-

These programmers are organized by health and sports department to raise the standards of health and to make people aware about good health & to maintain good health. People of any age can take part. There is no competition. These provide significant health benefits. But precautionary measures must be taken before participating i.e. proper sports kit health status of individual.

Run for Fun :-

This is to create awareness among people to keep fit and healthy. A run for fun is friendly event which is organised for enjoyment & fitness of whole society.

Run for Unity :-

This is to inculcate peace and harmony among the people of different religion of faith. Main purpose of run to develop botherhood among the different societies group. Winners of run are generally. Awarded by cash trophies certificate etc. Generally runs are organised on 31st october on bith day of Sardar Vallabh bhai patel.

Run for Specific Cause :-

For specific cause run is a run related to good and generous cause. The purpose of this is to earn the funds for a specific cause but the reason should, be good it is after organized by the social organization in order to make the run attractive player, artists and actors are asked to participate in it.

Practice Question

Q.1 Write a short note on sports day. (2)

Q.2 Health run are very beneficial for health justify. (2)

Q.3 Write very short note on run for fun & run for specific cause. (1½+½=3)

Q.4 What do you mean by Run for Unity? Write its importance. (1 × 2 = 3)

Q.5 What is specific sports programme? Describe the any four specific sports programme. (1+4=5)

Practice Question

Q.1 Match list -1 with list - 2 and select the correct answer from the code given below. 1

List -1	List -2
1. Seeding	(A) League Tournament
2. Extramurals	(B) Control Dispute
3. Cyclic	(C) Performance Basis
4. Expert / Technical Committee	(D) Among the Schools

Code				
	1	2	3	4
(a)	C	D	A	B
(b)	A	B	C	D
(c)	B	C	D	A
(d)	D	A	B	C

Q.2 Match list -1 with list - 2 and select the correct answer from the code given below. 1

List -1	List -2
1. N - 1	(A) Once in a Year
2. Sports Day	(B) Within the School
3. Intramural	(C) No. of Matches in League Tournament
4. $N\left(\frac{N-1}{2}\right)$	(D) No. of Matches in Knock out Tournament

Code				
	1	2	3	4
(a)	A	B	C	D
(b)	D	A	B	C
(c)	B	C	D	A
(d)	C	D	A	B

Q.3 Given below one the two statements labelled Assertion (A) & Reason (R)

Assertion (A): Activities which are performed outside the walls of the school are know as extramural.

Reason (R): The Activities promote sports standard as well as performance of students.

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

(B) Both (A) and (R) are true and (R) is not correct explanation of (A)

(C) (A) is true & but (R) is false

(D) (A) is false & (R) is true

Q.4 Given below one the two statements labelled assertion (A) and Reason (R)

Assertion (A): sports management involving organising, administration & supervising the total weeks tournament.

Reason (R): well beginning is half done. In the both context of above two statement

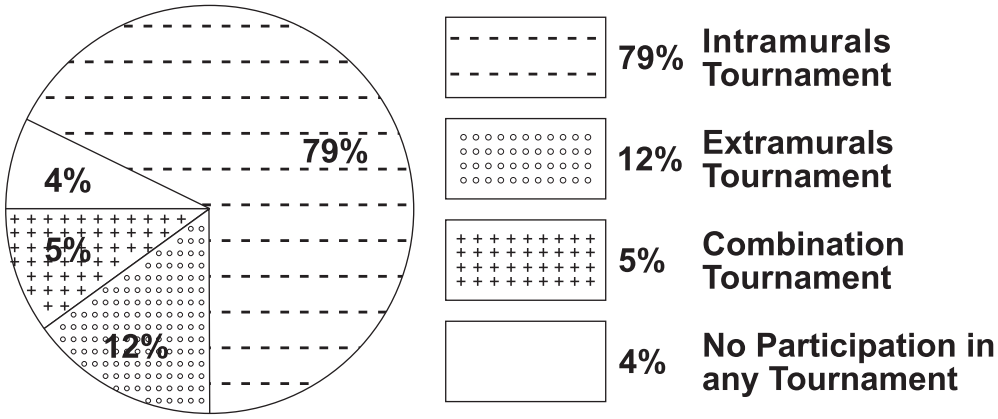
(A) Both (A) & (R) are true & (R) is correct explanation of (A)

(B) Both (A) & (R) are true & (R) is not correct explanation of (A)

(C) (A) is correct but (R) is not correct

(D) (A) is not correct but (R) is correct

Q.5 Below given is the data of school's students in different sports tournament.



On the basis of the above data, answer following are activities

(i) In which category does students participated in major tournament

(A) Extramura (B) Intramural (C) Combination (D) None of their

(ii) Which category students required specific activities

(A) (B) (C) (D)

(iii) Which category related to good performance

(A) (B) (C) (D)

UNIT - 2

Sports and Nutrition

UNIT - 2
Sports and Nutrition

Key Points :-

2.1 Balanced Diet and Nutrition : Macro and Micro Nutrients.
2.2 Nutritive and Non-nutritive components of diet.
2.3 Eating for weight control - A healthy weight, the Pitfalls of dieting, Food Intolerance and Food myths.

2.1 A. Balanced Diet :- A complete food, a diet contains adequate amounts of all the necessary nutrients required for proper growth & maintenance of body.

OR

Balanced diet is a diet that contains an adequate quantity of the nutrients that we require in a day. Balanced diet includes fat, protein, carbohydrates, water, fiber, vitamis and minerals present in the foods that we eat.

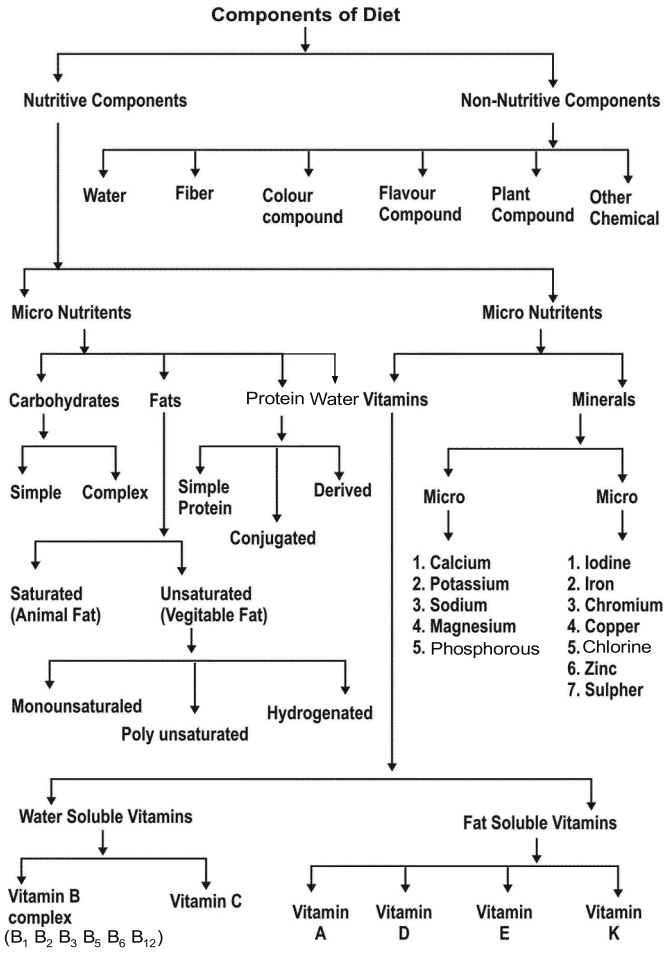
B. Nutrition :- Nutrition is the study of a dynamic process in which food is taken, digested, absorbed, and then nutrition are utilized by the body for growth and development.

C. Nutrients :- The energic food in our diet consists of various types of essential chemicals for our body termed as nutrients:- e.g. Protein, fat, charbohydrates, vitamins & minerals.

Macro Nutrients :- Macro Nutrient are needed in large quantities they normally include carbohydrates, fat, protein and water.

Micro Nutrients: As vitamins and minerals which are required in small quantities to ensure normal metabolism, growth and physical well-being.

2.1



Multiple Choice Question (1 Marks)

Q.1 Maximum Carbohydrates are obtained from

(A) **Whole grain food** (B) Fish

(C) Plant oil (D) Nuts

Q.2 Sources of Proteins includes

(A) **Fish** (B) Spinach

(C) Potato (D) Circumber

Q.3 A balanced diet is complete, when it will be–

(A) Complex Carbohydrates

(B) **According to the needs of the person**

(C) Animal fat rich

(D) 4 to 5 liter watet

Q.4 Which food item has carbohydrates and fats–

(A) **Bread and butters** (B) Rice and Pules

(C) Potato and Tomato (D) Tomato and Almond

Q.5 Balanced diet is important for –

(A) Disease prevention (B) Immune system

(C) Meeting nutritional need (D) **All the above**

Q.6 Given below are the two statement labeled Assertion (A) and Reason (R).

Assertion (A): Protein is an important element for cell formation.

Reason (R) : Protein is the primary source of energy. In the context of the above two statements, which one of the following is correct?

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

(B) **Both (A) and (R) 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 Type Questions (40 to 60 words) (2 Marks Each)

Q.1 Enlist the component of diet.

The components of diet are

1. Proteins	2. Carbohydrates	3. Fats
4. Vitamins	5. Minerals	6. Water

(any two)

Q.2 State any two functions of balanced diet.

1. Balanced diet gives us energy to perform all our day today activities.
2. It also helps in growth and development of our body.

Q.3 Mention the different sources of protein.

1. Milk and milk product
2. Meat and meat product
3. Pulses
4. Nuts and oil seeds

Q.4 Mention the different sources of Carbohydrates.

1. Cereals - Wheat, Maize, Rice, Barely, Oats, Millets
2. Roots and tubers - Potato, Sweet Potato, Tapioca
3. Sugar and Jaggery

Q.5 Mention the different sources of Fats.

1. Animal Sources - Meat, Egg, Fish, Dairy Product
2. Plant Sources - Vegetable oils, Nuts, Avacado

Short Answer Type Questions (80 to 100 words) (3 Marks Each)

Q.1 Explain Balanced diet and its function in our body.

Ans. Balanced diet:- Balanced diet is that which consists of various constituents of food in accurate and appropriate quantity and quality according to the requirement of individual.

Functions of Balanced diet:-

(i) Sufficient energy is given by balanced diet.

(ii) It helps individual to grow and develop to optimum level.

(iii) Proper functioning of organs is done by balanced diet.

(iv) It helps to repair or replace the worn out tissue.

(v) Balanced diet improves the defence system of body.

(vi) It helps to improve the overall health status.

(vii) Balanced diet improves metabolism.

(viii) It prevents deficiency diseases and maintain body weight thus overall efficiency of individual improves.

Q.2 Write importance of protein for our body.

Ans. Proteins are basic structure of all living cells. Proteins are main components of muscles, tendons, ligaments, organs, glands, and all living body fluids like enzymes hormones and blood.

Proteins are needed for growth & development of body. It helps to repair or replace the worn out tissues. It does not provide energy in normal routine whereas it acts as energy source only under extreme starvation. Proteins are required for making blood, muscle, Nails, skin, hair and body parts and repair them and important in some situation like early development maturation, Pregnancy etc.

Q.3 Differentiate between simple carbohydrate and complex carbohydrate.

Ans. (i) Simple carbohydrate give quick energy on the other hand complex carbohydrates release slow energy.

(ii) The types of simple carbohydrates are Glucose, Glactose, Fructose, Maltose, Sucrosse, Lactose. Complex are starch, Giycogen, Dexitine and Cellulose.

(iii) Simple carbohydrate are more sweeter in taste than complex carbohydrates.

(iv) Simple Carbohydrate can be absorbed quickly on other side complex carbohydrates takes time.

(v) Simple carbohydrates can be disolves in water but complex carbohydrate are insoluable in water.

Q.4 Is fat useful or not useful for us explain?

Ans. (i) Fats are store in body and used as emergency sources of energy.

(ii) Fats are important sources of energy for long duration activities and important for proper function of glands and other internal organs.

(iii) It helps in transportation of fat soluble Vitamins A,D.E.K.

(iv) It helps in blood clotting and maintenance of skin & hair. Our diet should consist of 20% – 25% of fat higher in take of fat may leads to high risk of obesity and many heart diseases.

(v) Fats maintain body temperature

(vi) Fats keeps body soft & oily.

Q.5 How water is useful for us? Explain Briefly.

Ans. Water is very useful component of our diet because.

Blood plasma comprises 91% of water, water comprises 75% of muscular weight & 70% of body weight. It is important for secretion of waste produces. It regulate the body temperature. Our body loses approximately 2% of our body weight or water per day. We compensate thus loss of water by drinking water and by in take of food substances. It also functions as a lubricant keeps the skin moist and protect the body from shock. 20% of water in take comes from food and remaining intake come from direct drinking water.

Long Answer Type Question (150 to 200 Words) (5 Marks Each)

Q.1 What is Balanced Diet? How it is important for individual body?

Ans. Balanced diet is that diet which consists of various constituents of food in accurate and appropriate quantity and quality according to the requirement of an individual and helps in growth and development of our body.

Importance :

(i) **Source of Energy :-** It gives sufficient energy to body for various activities.

(ii) **For optimum growth & Development :-** It helps individual to grow and to achieve all round development.

(iii) **Proper function of Organs :-** By help of balanced diet every organ functions work well and properly.

(iv) **Faster Recovery :-** It helps to repair and replace the worn out tissues thus faster recovery.

v) **Strong immune system :-** It gives better resistance power to body to make good immune system.

(vi) **Improves fitness level :-** It improves over all health states and resulting in fitness of body by preventing diseases.

(vii) **Improves Metabolism :-** Quality of metabolizing increases and thus efficient release of energy .

(viii) **Prevents Deficiency Diseases :-** It gives all necessary nutrients to body so deficiency diseases cannot take place.

(ix) **Maintaining body weight :-** It helps individual to maintain proper body weight.

(x) **Overall efficiency improves :-** It improves all physiological systems of body and more of efficiency level of individual.
In this way balanced diet is useful for us.

Q.2 What factors should be considered for making a balanced diet?

Ans.

(i) **Age :-** Age plays a great role in making diet. In growing age a child needs more protein. Old aged people should avoid more proteins and fats but should take more minerals & vitamins

(ii) **Gender :-** Sex difference causes variation in diet more caloric requirement to male & less for female.

(iii) **Profession :-** Heavy physical activities work out needs more calories demand & less physical activities work out needs less calories demand.

(iv) **Body weight :-** Obese person need more fibrous food, while slim or lean needs more protein.

(v) **Specific Sports Diet :-** Various sports need specific diet like long distance runner need more fat and carbohydrates, contact body games player need more protein, explosive strength player needs more carbohydrates.

(vi) **Pregnancy or feeding mother :-** Pregnant mother needs extra diet - carbohydrates, proteins, fats, vitamines, minerals specially high protein diet is recomended for a pregnent woman.

(vii) **Diet During Health Problems :-** Injured person should take more protein and minerals. Patients should take diet full of mineral & vitamins.

(viii) **Climatic Condition :-** In cold places food should be rich in oily fried, while in coastal region the food should be taken in liquid.

(ix) **Doctor's Recommendation :-** Diseased or sick person should take proper diet according to doctor recommendation example patient should avoid fried food in jaundice.

(x) **Eating habbits & Social Customes :-** They also effect the diet of individual. In some family, on the day of festival, selected fried food is compulsory for whole family.

(any five)

Practice Question

Q.1 What are the essential components of balanced diet?

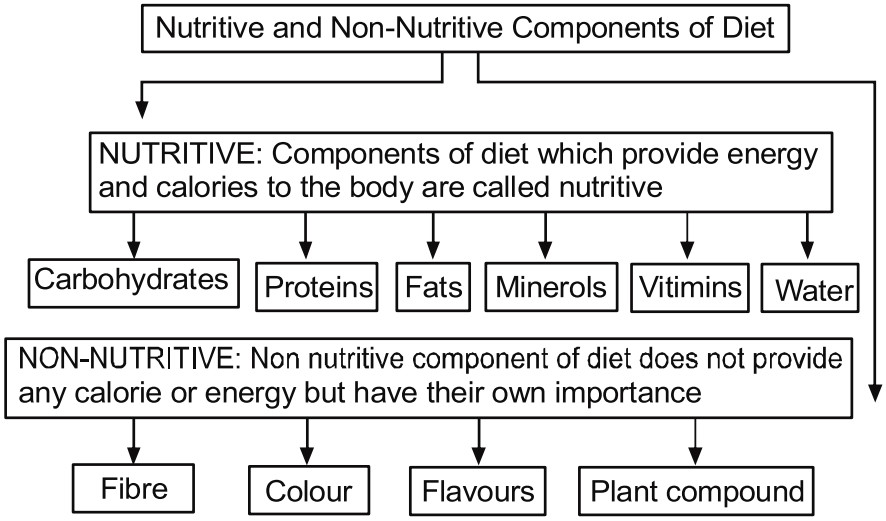
Explain any two in briefty (1 + 2 = 3)

Q.2 What nutritive components are required in small Quantify? (1 × 3 = 3)

Q.3 Describe the Importance of balanced diet for a person.

(1 × 5 = 5)

2.2



Multiple Choice Questions (1 Marks)

Q.1 What is the function of protein as a nutrient.

(A) **Growth of organs and development of new Tissues**

(B) Does not carry oxygen and haemoglobin to all parts of the body

(C) Required for metabolism

(D) Prevents skin from being rough

Q.2 Match the following

1. Creates antibodies	**A. Fat**
2. Protects internal organs	**B. Calcium**
3. Essential for bones and teeth	**C. Iron**
4. Essential for creating haemoglobin	**D. protein**

(a) **1D, 2A, 3B, 4C** (b) 1D, 2B, 3A, 4C

(c) 1-A, 2C, 3C, 4D (d) 1-B, 2C, 3D, 4A

Q.3 Match the following

1. Carbohydrate	**A. Build interal organs**
2. Protein	**B. Provides energy to the body**
3. Fat	**C. Make cells soft and flexible**
4. Water	**D. Protect the soft organs**

(a) 1-D, 2-A, 3-B, 4-C (b) **1-B, 2-A, 3-D, 4C**

(c) 1-B, 2-A, 3-C, 4D (d) 1-B, 2-C, 3-4, 4A

Q.4 It is the example of macro Mineral.

(A) **Phosphorus** (B) Copper

(C) lodine (D) Iron

Q.5 Body needs vitamins and minerals because

(A) They give the body energy

(B) **They help carry out metabolic reactions**

(C) They insulate the bodys organs

(D) They with draw heat from the body

Q.6 Substance needed by the body for growth energy and maintenance is called

(A) **Nutrient** (B) Carbohydrate

(C) Fat (D) Colories

Q.7 Given below are the two statement labeled Assertion (A) and Reason (R).

Assertion (A) : Nonnutritive components do not provide any energy to our body

Reason (R): We should take a lot of fiber in our diet.

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

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

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

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

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

Very Short Answers Questions (40 to 60 words) (2 Marks Each)

Q.1 Given one similarity and one difference between the functions of Proteins and carbohydrates.

Difference - Carbohydrate are the primary source of energy, where as Proteins helps in repair and maintenance also growth and development of the body.

similarity - Protein also is a source of energy.

Q.2 What are the types of "Carbohydrates"? Given example from each.

Ans. There are two types of carbohydrates -

1. **Simple Carbohydrate**
   e.g. Glucose, Fructose, Sucrose maltose etc.
2. **Complex Carbohydrates**
   e.g. Starch, Dextrins, Glycogen, and Cellulose.

Q.3 Write briefly about "Micro-Nutrients".

Ans. Micronutrients are nutrients that we need in a very small quantity but on daily basis. They serve very implant functions. All the chemical reactions are aided by Micronutrients which are mostly vitamins and mineral.

Q.4 Vitamins are very essential for the working of the body and are divided into two groups. Explain them.

Ans. Vitamins are divided into two parts -

1. **Water soluble Vitamins :-** Vitamin B and C are soluble in water.
2. **Fat soluble Vitamins :-** Vitamin A D K and E are soluble in fat.

Vitamins are required by our body on daily basis but in a small quantity. Vitamins plays the role of protection and regulation of our body.

Q.5 Explain the role of 'Calcium' and 'Iron' in our body.

Ans. Calcium - It is vital for bone and teeth. Calcium helps in proper heart and muscle function and blood clotting.

Iron - Iron is a essential element for producing blood. About 70% of our body's. Iron is found in the R.B.C. called Hemoglobin and in muscle cells called Myoglobin. Iron deficiency can cause Anaemia.

Short Answers Questions (3 Marks)

Q.1. Mention the types of micro nutrients which are essential for our body

Ans. Minerals & Vitamins are the micro nutrients of diet.

Function of Micro nutrients.

(i) **Calcium :-** It is required for bone and teeth formation, deficiently causes Osteoporosis, Rickets and retorted growth.

(ii) **Iron :-** It is required for formation of Haemoglobin, deficiency of iron leads to Anemia.

(iii) **Phosphorus :-** It helps to making strong bones and teeth.

(iv) **Sodium :-** It helps nervous system for better response, dificiency leads to cramps and tiredness.

(v) **Iodine :-** It helps in proper growth and development of body, deficiency leads to goitre.

(vi) **Fluoride :-** It helps to formation of teeth and nails.

(vii) **Chioride : -** It helps body to fight against infection, proper functions of nervous system.

Vitamins :

Vitamin A - Helps in normal growth and development of eyes and skin.

Vitamin D - Important for formation of strong bones & teeth.

Vitamin E - It protects the cell membrane and acts as antioxidant.

Vitamin K - Helps in Blood clotting and heals wounds.

Vitamin B - For growth & development.

Vitamin B_2 - Helps in growth of RBC.

Vitamin B_3 - Play important role in energy transfer, reactions in the metabolism of glucose, fat & alcohol.

Vitamin B_5 - In involved in oxidation of fatty acids & Carbohydrates.

Vitamin B_6 - It helps in metabolism of amino acids.

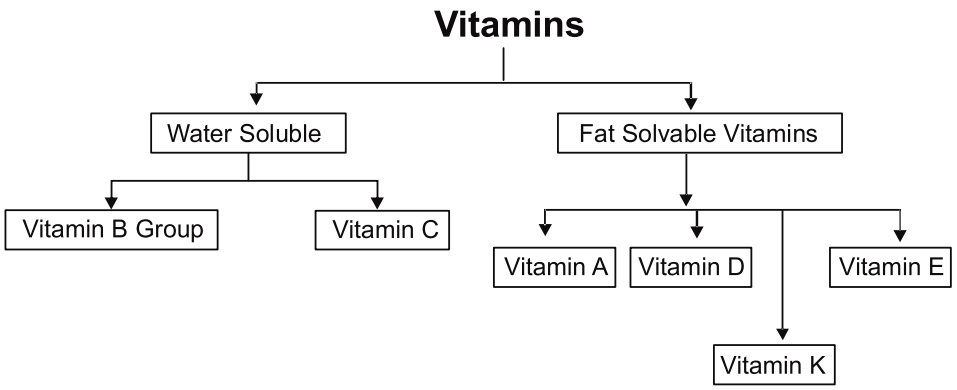
Vitamin B_7 - It play key role in metabolism of lipids, proteins and carbohydrates.

Vitamin B_9 - Folic Acids Needed for normal cell division especially during pregnancy and infancy.

Vitamin B_{12} - It involved in cellular metabolism of carbohydrates proteins and lipids and helps in production of RBC in bone marrow.

Q.2 Explain fat soluble vitamins and their sources and water soluble vitamins and their sources.

Ans.



Fat Soluble Vitamin

Vitamin A Vitamin A is found in Cord liver Oils/animal Liver, york, Milk, & Milk products, carrot.

Vitamin D Vitamin is found in milk, fish, and Liver oils

Vitamin E Vitamin E is found in Green leafy Vegetables, Pulses, eggs, cereals.

Vitamin K In tomatoes, Potatoes, Spinach, cabbage, soyabean, fish, cauliflower, wheat, eggs, meat.

Water Soluble Vitamins

Vitamin B Vitamin B - Sources include peas, perk Liver, Legumes

Vitamin B_2 We can find in eggs, dark green vegetables, legumes, whole and enriched grain produced milk.

Vitamin B_3 Fish, meat, peanuts and whole enriched grain produced milk.

Vitamin B_5 Pork, meats whole grains, cereals legumes, green leaftly vegetables.

Vitamin B_6 Cereals, grains, legumas, vegetables, milk, cheese, eggs, fish liver, meat, flour.

Vitamin B_{12} Fish, red meat, milk, cheese, eggs.

Vitamin C Citrus fruits like grape, lemon, oranges, and kiwis, other good sources of vitamin C are mango, papaya, pineapple.

Q.3 What do you understand by non nutritine components of diet? Explain the imprortance of any two such components.

Ans. Non-nutritive component of diet does not provide any calorie or energy but have their own Importance.

(1) Fibre: It is undigested part of food. It cannot be digested by human intestinal part. It increases apetite and smoothers function of intestines. It removes constipation.

(2) Flavour Compounds: It addressces the tasts of food. But does not coutributie any nutritire value. Like tea in milk or coffee power in milk gives it colour and taste.

(3) Colour Compound: It makes attractive to see by the wide reflection of colours made possible through pigments. Natural Pigment are found in fruits and vegetables like red, orange, yellow, green etc.

(4) Plant Compounds: There are some plants which contain non nutritive element. Ingestion can beneficial or harmful. There are many compounds that Inhibit cancer. (Explanation any two)

Long Answers Questions (5 Marks)

Q.1 What is balance diet? Write its component in details.

Ans. Balanced diet is a diet that contains an adequate quantity of the nutrients that we require in a day balanced diet includes fats, protein, Carbohydrates, water, fiber, vitamins and minerals present in the foods that we eat.

Macro Nutrients:-

1. **Carbohydrates :** They are main source of energy for all activities. They give quick energy and less amount of carbohydrate in diet causes under nutrition and weight loss. Excess amount has been stored in livers and tissues from there they release the energy when in need.

2. **Proteins:** Proteins are needed for growth and development of body. It helps and replace the worn out tissues. It does not provide energy under normal routine but give energy under extreme starvation, High intake of proteins creates overload over kidney and livers. Deficiency diseases are kwashioskar or marasmus.

3. **Fats:** Fats are emergency sources of energy and stored in body. Fats carry Vitamine, A,D,E,K. They are sources of energy for large activities. In proper functionary of glands and internal organs against the blood clotting, maintains the skin and important functions of glands. Internal organs helps on blood clotting. Our diet should consist of 20%-25% of fat more intake more risk of obesity and many heart diseases. So that nutrients and highly proporation of diet should be taken in proper amount according to need.

4. **Water:** It is essential nutrient our body consists of 70% of water. Water consist 90% of blood. Each person shall drink 8-10 glass of water daily. The essential are sent through water to all cell of body. It is significant in excertion of wast products. It help in digestion. it also regulates the body temperature.

Practice Question

Q.1 Explain nutritive and non-nutritive components of diet?
(1 ½ + 1 ½ = 3)

Q.2 What do you understand by diet? Explain any four components of dit. **(1 + 4 = 5)**

Q.3 Explain any three non-nutritive components of diet.

(1 × 3 = 3)

Q.4 Describe any five nutritive components of dit. (1 × 5 = 5)

2.3 Eating for weight control-A healthy weight. The pitfalls of dieting, food intolerance and food myths.

(A) Eating for weight Control

A healthy weight is a weight that lowers your risk for health problems, generally body mass index (BMI) and waist size are good ways to achieve healthy weight. Methods to calculate BMI = Weight in Kg/ (Height in m)2.

Eating for weight control :- Factors to control body weight

- Balanced diet
- Drink lots of water
- Eating lot of fibrous food
- Regular Medical Checkup
- Avoid Fats
- Medicine only by doctors advice
- Physical Activity
- Avoid Drinking
- Avoid Junk food
- Meals in small intervals
- Follow Hygenic Habits
- Do not do Dieting
- Never Try sliming pills
- Avoid over does of carbolydrate.
- Balancing the intakes of calories and expenditure of calories.

B. Pitfalls of Dieting

- Disturbed digestive system
- Acidity problem
- Gastric problem
- Muscular weakens
- Quick Tiredness
- Loose the shining of face
- Disturbed the metabolic rate
- Muscles cramp
- Chances of heart problems
- Pain in stomach
- Palpitation
- Burning sensation in urine
- After dieting, when A person comes on his normal diet. Body weight overshoots the initial body weight from where he started the dieting.

C. Food Intolerance

Food intolerance is that when a person has difficulty in digesting a particular food.

Symtoms : Nausea, Vomiting, Pain in joints, headache and reshes on skin, Diarrhoea, sweating, palpitations,

To reduce body weight when a person skip diet and colories food. It is called dieting.

Food myths: Some various myths regading food.

1. Don't take heavy Breakfast
2. Patoto Increase obesity
3. Does eating sweets cause diabetes
4. Do not drink water during meals
5. Sweets are not good for health
6. Don't take milk just after eating fish
7. Do not take ingreasy meals
8. Dieting reduce weight
9. Non-Veg. food is compusory for protein

Multiple Choice Question (1 Marks)

Q.1 In which category BMI comes in 30 BMI

(A) **Obesity I** (B) Over lead

(C) Obesity II (D) Neathy weight

Q.2 Methods to control healthy body weight

(A) Not taking balanced diet

(B) **Regular physical activity**

(C) Excessive water consumption

(D) Frequent eating

Q.3 Disadvantages of Dieting

(A) No change in body weight

(B) Over body weight

(C) **Loss in body weight**

(D) Not achieving the required goal

Q.4 Symptoms of headaches, vomiting, stomach pain. loose motion.

(A) Dieting
(B) **Food intolerance**
(C) Food myths
(D) Lack of vitamins

Q.5 Match the following

1. Food Intolerance	(A) Loss in body weight
2. Food myths	(B) Vomiting
3. Dieting	(C) Healthy weight
4. B.M.I 24	(D) Do not drink water during meals

(a) 1D, 2A, 3B, 4C
(b) **1B, 2D, 3A, 4C**
(c) 1B, 2A, 3D, 4C
(d) 1D, 2A, 3C, 4B

Q.6 Given below are the two statement labeled Assertion (A) and Reason (R).

Assertion (A) : Taking excess sugar is bad for our health.

Reason (R) : Eating sweets causes diabetes.

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, 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 type question (40 to 60 words) (2 marks eack)

Q.1 Define healthy body weight, Give the formula of body mass Index (BMI).

A healthy body weight is considered to be one that is between 18.5 and 24.9 (BMI)

A healthy body weight is the weight which suits our body's weight without compromising any health factor.

$$BMI = \frac{(\text{Weight in Kilogram})}{(\text{Height in Meter})^2}$$

Q.2 What is the defference between food intolerance and food myths?

Ans.

Food Intolerance	**Food Myths**
1. Food intolerance occur when a person has difficulty in digesting a particular food.	1. Food myths are wrong perception of people about a particular food.
2. Food intolerance has a scientific base.	2. Food myths are not scientifically proven.

Q.3 Given any two harmful effects of dieting.

Insufficient nutrition - While dealing a person decreases his diet unscientifically that leads anemia and weakness.

Attracts different diseases - Sudden decreases in weight creates weakness and immunity is also compromised that attracts diseases. For example weak immunity of the respiraliry system becomes the reason for Asthama.

Q.4 What are the symptoms of food intolerance?

Ans. The symptoms of food intolerance are as follows -

1. Nausia
2. Stomach Pain
3. Vomiting
4. Diarrhoea
5. Flatulence
6. Gas
7. Cramps
8. Heart Burn
9. Head ache and
10. Nervausness

Short Answer Question (3 Marks)

Q.1. Mention five pitfalls of dieting

Ans. Pilfalls of dietiating are following -

(a) Disturbed Digestive System
(b) Acidity Problems
(c) Gastric Problems
(d) Muscular Weakness
(e) Quick Tiredness
(f) Loose the Straining of Face
(g) Disturbed Metabolic Rate
(h) Peptic ulcer
(i) Chance of heart problem
(j) Pain in Stomach
(k) Palpitations
(l) After dieting when person comes, normal diet his body weight overshoot to his initial body weight from where he started the dieting. (any three)

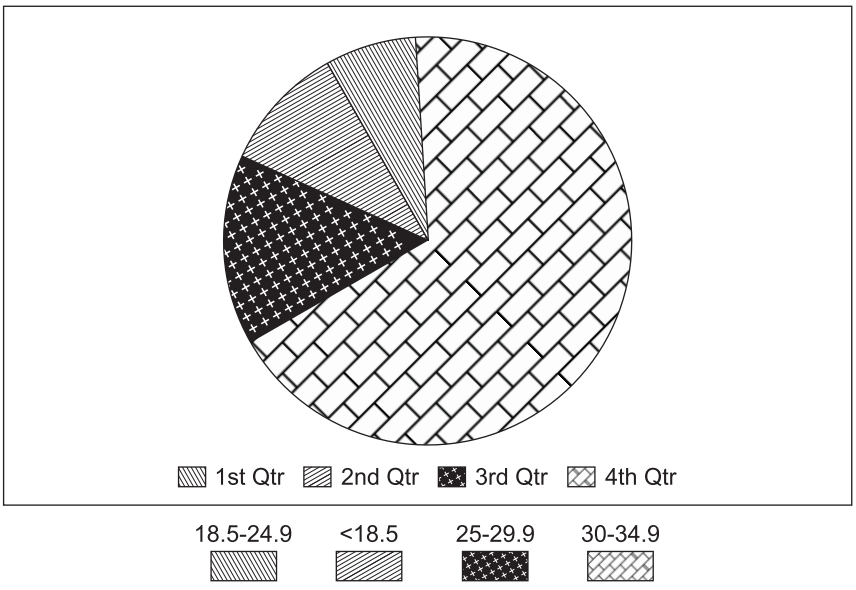
Q.2 How food intolerance is treated? What are Symptoms Explain in brief?

Ans. Food intolerance is treated by medical help where we know the food which causes problem. Food intolerance is more common than food allergy. Food intolerance is a term used widely for varied physiological response associated with a particular food. The individual elements of certain foods that cannot be properly purposed and absorbed by our digestive system.

Symptoms of Food Intolerance :

Food intolerance can cause nausea, stomach pain, Diarrhoea, Vomitting, Flatulence Gas, Cramps, heart burn, headache, irritability, nervousness etc.

Q.3 Below given is the BMI data of a school's health check-up



On the basis of the above data; answer the following questions:

(i) In which category does the major student population fall into?

(A) Obese

(B) Normal weight

(C) Under weight

(D) Over weight

(ii) The school has to develop an activity based program to decreases the

(A) (B) (C) (D)

(iii) Which category is related to underweight?

(A) (B) (C) (D)

Q.4 X is a Weightlifer in th 81kg category. He has to participate in a Weigtlifting competition next month so he takes care of his health for this he includes all the essential nutrients in his diet.

Based on this answer the following question-

(i) what do you think would be the most important component of diet for X?

(A) Protein

(B) Carbohydrates

(C) Vitamins

(D) Minerals

(ii) what do you think X requires the most

(A) Flexibility

(B) Strength

(C) Speed

(D) Endurance

(iii) which of these is known as bodybuilding foods

(A) Calcium

(B) Proteins

(C) Minerals

(D) Vitamins

Long Answer Question (5 Marks)

Q.1. Describe the myths of dieting. (1 × 5 = 5)

Ans. Food Myth/ Dieting Myths.

(i) Myth :- Low fat or no fat diet are good.
Fact :- Body needs fats for energy, tissue repair and to transport vitamin A.D, E.K. Just cut down on saturated fat eating unsaturated fats.

(ii) Myth Crash :- Dieting or Fasting may loose weight.
Fact :- It may be true in short term but ultimately it hinder weight=loss. Loosing over the long term burns off fat whereas crash dieting=or fasting not only removes fat but who leans muscles.

(iii) Myth :- Food eaten by late night is more fattening.
Fact :- it doesn't make much change.

(iv) Myth :- Low fat milk has less calcium that full fat milk.
Fact :- Skimmed and semi skimmed actually have more calcium because it is in watery part and not in creamy part of milk.

(v) Myth :- Vegetarian cannot build muscles.
Fact :- Vegetarian can built muscles as meat eaters by gettingtheir proteins from vegetables such as cheese nuts pulses etc.

(vi) Myth :- Healthy food is expensive.

Fact :- Tinned, stored, packed food is expensive, whereas local & seasonal food is inexpensive.

(vii) Myth:- Milk should not be taken immediately after fish.

Fact: It is not true, it will not give any allergy or irritation scienctist don't think so.

(viii) Myth:- Eat less nuts they are too fattening

Fact: It is true that nuts contain a lot of fat but it is mostly the food kind. Recent research suggested that eating nuts as part of a healthy diet may even help you loose weight (Explain any five)

Practice Question

Q.1 Briefly explain any three causes of food intolerance.

(1× 3)

Q.2 What is the difference between food intolerance and food myths?

Q.3 Explain healthy weight and discuss disadvantages of dieting. (2 + 3)

Q.4 Differentiate between macro and micro nutrient.

(1½ + ½)

Q.5 State the components of balanced diet and their daily requirements. (1 + 2)

Q.6 Differentiate between food intolerance and food myths.

(1 + ½ + ½)

Q.7 What kind of diet helps to maintain healthy weight? Explain briefly and also explain negative effects of dieting. **(3 + 2 = 5)**

Q.8 Explain nutritive and non-nutritive components of diet in detail. **(2½ + 2½ = 5)**

Q.9 Briefly describe improtance of consumption of water and state water soluble vitamins? **(2 + 3 = 5)**

Q.10 Match the following

1. Protein	(A) Teeth and blood related discuse
2. Water	(B) Growth of skin, nails, hair, internal organs.
3. Colour compound	(C) 60-70% Precent of human body
4. Dieting	(D) Make food appealing

(a) **IB, 2C, 3D, 4A** (b) IC, 2D, 3A, 4B

(c) ID, 2A, 3C, 4B (d) IA, 2C, 3B, 4D

Q.11 Match the following

1. Dryness	(A) Deficiency of calcium
2. Anaemia	(B) Deficiency vitamin A
3. Decreased bone density	(C) Lack of water during dieting
4. Night Blindness	(D) Dificiency iron

(a) 1D, 2C, 3A, 4B (b) **1C, 2D, 3A, 4B**

(c) 1A, 2B, 3C, 4D (d) 1D, 2C, 3B, 4B

UNIT - 3

Yoga & Lifestyle

UNIT - 3

Yoga & Lifestyle

Key Points :-

3.1 Asanas preventive measures.

3.2 **Obesity:** Procedure, Benefits & Contraindications for Vajrasana, Hastasana, Trikonasana, Ardh matsyendrasana.

3.3 **Diabetes:** Procedure, Benefits & contraindications for bhujangasana, paschimottanasana, Pavanmuktasana, Ardhmatsyendrasana.

3.4 **Asthma:** Procedure, Benefits & contraindications for Sukhasana, Chakrasana, Gomukhasana, Parvatasana Bhujangasana, Paschimottasana, Matsyasana.

3.5 **Hypertension:** Procedure, Benefits & contraindication Tadasana, Vajrasana, Pavan muktasana, Ardhachakrasana, Bhujangasana, Shavasana.

3.6 **Back pain:** Procedure, Benefits & contraindication Tadasana, Ardh matsyendrasana, Vakrasana, Shalabhasana, Bhujangasana.

Asana as Preveutive Measures :

Asana in a body posture, originally a sitting pose for mediation, and later in Hatha yoga and modern yoga adding standing (Tkionsana), sitting (Padmasana), Reclining (Shavasana), invented (Shirasasana) Balanacing (Kukat forward bend) (Paschimotasana) and Backward (Dhanurasana), The Yog sutras of Patanjali define Asana as a position that in steady and comfortable.

As a preventive measure, recently, studies have provided evidence that asana improve flexibility, strenght and balance, to reduce stress and conditions related to it, and specifically to alleviate some diseases such as asthma, and diabetes,. One remarkable aspect of asana is anyone can practice in it. One can adjust the level, the intensity depending on age and capacity.

Regular Asana practice create mental clarity and clamness increase body awarness relieves chonic stress pattern, relaxes the mind, centers attention, and sharpens concentration and self awareness, Whenever Individual roll out their yoga mat and twist their bodies in different poses they are aslo reaping countless health benefits as :

Benifits of Asana for prevention of dieseae

Physiological	Psychological	Bio-chemical
• Bloodd pressure decrease.	• Mood improves and subjective well being increases	• Total white blood cell count decrease.
• Musculo-skeleteal flexibility and joint rate of motion increases.	• Self-acceptance and self-actualisation increases.	• Sodium decreases. • Glulose decreases. • Triglycerides decreases.
• Stable autonomic neruous system equilibirum.	• Self-acceptance and self-actualisation increases.	• Total cholestrol • HDL/good Cholestrol increases.
• Pulse rate decreases.	• Social adjustment increases.	• Total cholestrol decreases.
• Cardiovascular efficiency increases.	• Anxiety and depression decreases.	• LDL/bad cholestrol decreases.

- Gastrotintestinal function normalizes
- Endocrine function improve.
- Dexterity skills improve.
- Eye-hand co-ordination improves.
- Dexterity skills improve
- Reaction time improves.
- Energy level increases.
- Wieght normalises.
- Sleep improves.
- Immunity increases.
- Pain decreases.
- Depth perception improves.
- Integrated functioning of body parents improves.
- Concentration improves.
- Memory improves.
- Attention improves.
- Learning efficiency improves.
- VLDL cholesteroal decreases.
- Haemoglobin decreases.
- Thyroxin increases.
- Vitamin C incresaes.
- Total serum protein increases.

Multiple Choice Questions (1 Marks)

Q.1. Choose the odd one. Asaana helps to improve :

(A) Blood circulation (B) Depth of respiration

(C) **Speed** (D) Digestive system

Q.2. According to Yog sutra, Asana means—

(A) **Sthira Sukham Asanan** (B) Asanan sukh Shira

(C) Sukhan asanam sthira (D) Sitting pose

Q.3. The word 'YOG' is derived from sanskrit word

(A) **Yug** (B) Yud

(C) Yuj (D) Yum

Q.4. According to Asthanagyog" Asana lies in what place—

(A) Second (B) **Third**

(C) First (D) Fifth

Q.5. The meaning of Yoga is to—

(A) **Unite**

(B) Break

(C) Minus

(D) Jumpp

Q.6. Yoga helps to prevent—

(A) Weight

(B) Home

(C) Health

(D) **Diseasee**

Q.7. Elaborate the role of Yoga in preventing life style disease. (2)

Ans. The basic Yogic principles useful in the management of lifestyle disorders are discussed including psychological reconditioning and development of appropriates attitudes, stress management normalisation of metabolism, and relaxation, visualisationand contemplative practices. The holistic art and science of Yoga in best life style is designed and is effective in managing prevelent lifestyle disorders such as diabetes and hypertension.

Q.8. Enlist the lifestyle related disceases. How can they be prevented with the help of asana /Yoga?

Ans. Lifestyle related discases are :
(i) Obesitly (ii) Diabetes (iii) Asthma (iv) Hypertension
(v) Backpain.

Asana plays an important role to prevent the lifestyle related diseases. They are as follows :

1. **Maintain Weight :** Nowadays, obesity has become a challenging problem for the society. By doing asanas daily, we exercise entire organs of our body. By practising asanas regularly, it burns the excess fat of the body, and hence maintains healthy weight.
2. **Endocrine function normalize :** Diabetes in one of the most common lifestyle related disease. Diabetes occur due to either the pancrease not producing enought insuline or the cell of the body not responding properly to the insulin produced. The asana like bhujangasana, paschimotan asana, pavanmuktasana, ardh-matsyendrasana etc, Help to stimulate and regulate pancrease to produce insulin which helps to maintain glucose level in the body.
3. **Respiratory efficiency increases :** Asthma is a common lifestyle related idsease. It occurs due to narrowing of trachea, due to which oxygen supply to lungs and body is compromised. Asana help in maintaining the trachera wide open, increase the lungs capacity and blood flow to lungs. Thus oxygen sypply in maintaned and asthmatic episodes are reduced and respiratory efficiency is increased.
4. **Regulates Blood Flow :** Yoga/Asanas regulate blood flow in the body and help maintain a constant blood presure. They help the body to relax and thus reduce the high blood pressure. Yoga calm down the body and the mind and thus blood pressure is normalised.

5. **Proper Alignment of Spine :** Asana, such as Tadasana, Ardhmatsyndrasana, Vakrasana, etc. correct the alignment of spine and thus improve posture and help in reducing backpain. More often backpain occurs due to incorrect posture, in which muscles get the strain and start aching. Correct posture relives the backpain as spine straightens up.

Practice Question

Q.1 Write a short notes, "Asanas as prevention cure" (2)

Q.2 What is Yoga management? (2)

Q.3 Write any three physiological advantage of Asanas. (1x3)

Q4. Explain any five advantages of yogasanas with example. (1x5)

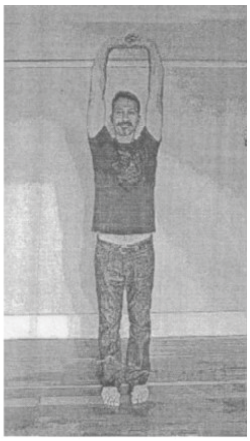
3.2 Obesity

Now A days obesity has become a problem for the whole world obesity is a condition in which the amount of fat in the body increase to a very large extent. If a person is having BMI $\geq$ 30 he/she would be considered as obese. In other words, we can say obesity is when a person's weight is 20% or more than the ideal weight. There are two main reasons for obesity the bad habits of eating and deterioration of the digestive system. In such a persons life, there is no physical activity at all.

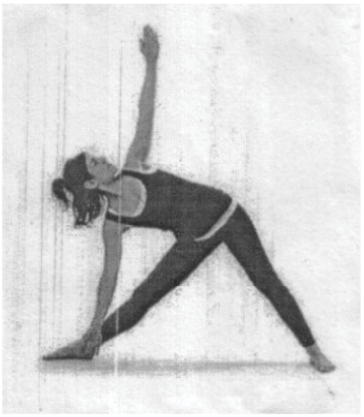
Due to many health risks of obesity it has been given the status of a disease. Due to obesity, diseases like diabetes, high blood pressure, cancer, arthritis etc. are caused.

There are many causes of obesity such as overeating, Lack of physical exercise, thyroid. Geneties, diet high in carbohydrate frequency of eating, medications, psychological factors, social issues. hormons changes (pregnency, Menopaus)

To remove obesity, these postures should be done.



Hastasana



Trikonasana

Ardhmatsyendrasana

Vajrasana

Multiple Choice Questions (1 Marks)

Q.1. BMI of a obese person is : _____

(A) 19 to 25 (B) Less than 28

(C) **Greater than 30** (D) Less than 30

Q.2. Obesity means : _____

(A) Less insuline production (B) **Accumulation of fat**

(C) Burning of fat (D) Enlargyment of heart

Q.3. What is the excess percentage of the normal weight is called obese : _____

(A) 15% (B) **20%**

(C) 25% (D) 30%

Q.4. Which of the following Asana (posture) is not used for obsesity.

(A) Ardhmatssyendrasaana (B) Vajrasana

(C) **Pavanmuktasana** (D) Trikonasana

Q.5. Choose the Asana which is used for obesity :

(A) Sukhasana (B) Savasana

(C) **Vajrasana** (D) Shalabhasana

Q.1. Define obesity. Explain the procedure and Benefits/ contraindications of any two asana which helps to reduce obesity. (1+2+2 = 5)

Ans. Now a days obsesity has become a problem for the whole world. Obesity is a condition in which the amount of fat in the body increases to a very large extent. In other words, we can say obesity is when a person's weight is 20% or more than the ideal weight. There are two main reasons for obesity the bad habits of eating and deterioration of the digestive system. In such a person's life, there is no physical activity at all.

Due to many health risks of obesity it has been given the status of diesease. Due to obesity, diseases like diabetes, high blood pressure, cancer, arthritis, etc. are caused. There are many causes of obesity such as excessive food, hard work, thyroid, hereditary.

To remove obesity, these postures should be practice.

1. **Vajarasana :** (Thunderbolt Pose)

Procedure :

- Sit and keep both leg straight.
- Fold right leg and place it under right butt.
- Fold left leg and place it under left butt.
- Keep your spine, neck and head straight, interlock your toes, open your ankle and sit on it.
- Knees should be touching the ground with each other.
- Keep both hands on your knees and look straight.

Benefits :

This asana is for meditation.

- Strengthens pelvic muscels.
- It can be practiced after having food. It enhance digestion process.
- Stablizes mind and body.
- Helps in sciatica
- It cures indigestion and improves metabolism.
- Improves flexibility in ankles.
- It gives strength to the tight muscles.
- Improve blood circulation.

Contraindications :

- Vajrasana should not be practiced by the people who have severe arthritis of the kness.
- Runners should avoid this if they have injury in their hamstrings or the calves.
- This pose may bring unwanted pressure to the intestine so those suffering from Hernia or ulcers should avoid it.
- This pose should not be practiced if one is suffering from injured ligament at the ankles or knee.

2. Hastottanasana : (Urdhva Hastasana)

Procedure :

- Standing erect and keep the legs together.
- Locks the fingers together, keeping the palms facing up.
- Raise the arms straight up, keep them close to ears.
- While releasing the breath bend the waist to the right, exhale and come to the central position.
- Repeat it to left side also. Be in bended position for 5 to 10 seconds.

Benefits :

- Gives rest to whole body
- In children, helps in increasing the height.
- Increase flexibility in waist.
- Reduce belly fat.
- Also helps in reducing constipation.
- Improve pulmonary functions
- Stimulates nervous system.

Contraindications :

- One should avoid this pose if having neck pain.
- One should avoid this pose if having shoulder pain.
- One should avoid this pose if having spinal injury or pain.

3. Trikonasan (Triangle pose)

Procedure :

- While inhaling stretch your right hand towards sky, arm should touch the ear.
- Bend left side slowly while exhaling, till it comes horizontal to the earth.
- Left hand should touch the ground or touch the left leg, knee should be straight.
- Inhale, come back to starting postion.
- Chang hand position and repeat it from another side.

Benefits.

- Trikonasana helps in digestions.
- Therapeutics for stress, anixiety, infertility, neck pain, sciatica.
- Heals Backache (in initial stage)
- Help women during their menstrual cycle.
- Improve flexibility of vest and spine.

Contraindications :

- Avoid if having low or high blood pressure.
- Avoid this pose if having any kind of neck injury.
- Avoid if having back injury.
- Avoid if an athlete having hamstring injury.

4. Ardhmatsyendrasana : (Half Lord of the fishes pose)

Procedure :

- Sit and keep both legs straight.
- Bending the knee of right feet and put right heel below the left hip. Bend left leg and placed the left foot to the right side of the right knee.
- Kee Left knee closed to the chest.
- Exhale from the right nostril and turns towards the left, and touches the toe of left leg from the right hand.
- Body and head moves towards the left.
- Repeat while changing the position of legs.

Benefits :

- Helps nervous system and strengthen the back bone, strectching improves flexibility and tones of muscles.
- Controls menstrual cycle in women and brings shine on face.
- Also controls secretion from pancrease gland.
- Reduces fat and helps in controling obesity.
- This pose flexes the lower part of the body making the hip stronger and toned.
- Releases excess heat toxins from organs and tissues.

Contraindications :

- Avoid while suffering from severe back or neck pain.
- Avoid this pose completely, if having slip disc problem.
- Those with internal organ issues may find this pose difficult and painful.
- It should be avoided while pregnancy. (Exaplaination of any two asan)

Practice Question

Q.1 Write the procedure & benefits of any two Asanas for obesity (1x2=2)

Q.2 Write down the procedure & benefits of Ardh - matsyendrasana. (2)

Q.3 Define obesity? write the procedure of any two asanas which cure obesity. (1+2 = 3)

Q.4 Write the procedure, benefits contraindications of Hasthotlanasana & Intranasal. (½ +½ = 3)

Q.5 What do you mean by obesity? Explain the Yogasanas to prevent obesity in detail. (1+4 = 5)

3.3 Diabetes

Diabetes is commonly known as metabolic disorder characterized by high blood sugar level over a prolonged period. Diabetes is due to either the pancreas not producing enough insulin or the cell fo the body not responding properly to the insulin produced,. Due to diabetes the individual has fatigue, frequent urination, increased thirst and increased Hunger. It may cause blurred vision. Kidney failure, cardio vascular disease, loss of weight etc.

The main reason for diabetes in sedentary lifestyle. By doing bhujangasan, paschimottanasana, pavanmuktasana and ardh matsyandrasana, one can get rid of this disease.

Symptoms of Diabetes

- Fatigue
- Increased Thirst
- Increased Hungers

- Hungers
- Blurred Vision
- Kidney Failure
- Cardio vascular Discase
- Loss of Weight
- Frequent Urination

Causes of Diabetes

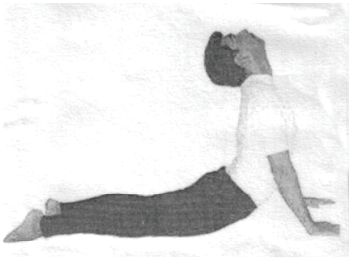
- Sedentary Lifestyle
- Disease
- Over weight
- Obesity
- Stress & Tension

Diabetes is a metabolic disorder in which the level of sugar in the blood rises from its normal reference value.

Types of Diabetes :

(A) Type I Diabetes : In that type of diabetes blood sugar level rises very high due to non secrartaion of insulin harmone by pancreas. In that of diabetes effected person has to take artificial insulin through ingection.

(B) Type II Diabetes : In that type of diabetes blood sugar level rises but not as such as high in type I diabetes. In that type of diabetes our pancreas secreating the insulin harmone but it may be unsufficient to control the blood sugar level normal or body cell are not able to respond insulin properly.



Bhujangasana

Paschimottasana

Pavanmuktasana

Ardhmatsyendrasana

Multiple Choice Questions (1 Marks)

Q.1. Choose the asana for diabetes :

(A) Trikonasana (B) Vajrasana

(C) **Ardhmastsyendrasana** (D) Shalabhasana

Q.2. If pancrease not producing enough insuline. It may lead to : _____

(A) Migrane (B) Obesity

(C) **Diabetes** (D) Hypertension

Long Answer Type Question

Q.1. Define diabetes. Breifly explain any four asana which helps to control diabetes. **(5)**

Ans. Diabetes : Diabetes is commonly known as metabolic disorder characterized by high blood sugar level over a prolonged period. Diabetes is due to either the pancreas not producing enought insulin or the cell of the body not responding properly to the insulin procuced.

Following are the asanas to control diabetes :

1. Ardhyanatsyendra

Procedure :

- Sit and keep both legs straight
- Bending the knee of the right feet and put right heel below the left hip. Bend left leg and placed the left foot to the right side of the right knee.
- Keep left knee closed to the chest.
- Exhale from the right nostril and turns towards left and touch the toe of the left leg from the right hand.
- Body and head moves towards the left.
- Repeat while changing the position of legs.

Benefits :

- Help nervous system and strengthen the back bone, stretching improves flexibility and tones the muscles.
- Controls Menstural cycle in women and brings shine on face.
- Also controls secration from pancreas gland.
- Reduces fat and helps in controlling obesity.
- This pose flexes the lower part of the body making the hip stronger and toned.

2. Paschimottanasana :

Procedure :

- Sit down with your legs stretching staight in front of you.
- Keep your head, neck and spine erect and stretch hands upwards with a deep breath. Now, exhale and bend your head and trunk slowly forward to catch the toes with the thumb. Try to touch head, chest and stomach to the legs and elbows to the floor.

Benefits :

- It Improves digestive system and much blocked gas get released.
- Improves the respiratory system.
- Improve the alignment of the vertebral column.
- Helps as a theray for diabetic patient, with weak lever and kidney.
- Benefits women during menstrual disorder.

Contraindications :

- Avoid of having slip disc problem.
- Someone who is suffering from hernia should avoid this pose.
- Pregnant women should avoid this pose.
- Person having spondylitis, should avoid this pose.

3. Pavanmuktasana :

Procedure :

- **Pre Stage :** Lie flat on your back and keep the legs straight.
- **Method :** Inhale slowly and lift the legs and bend the knees.
- Bring knee upwards to the chest till your thigh touches the stomach. Hug your knees and lock your fingers, touch your chin to the knee while exhaling. Repeat it with another leg.

Benefits :

- Strengthen the back and abdominal muscle, leg and hip.
- Intestine get massaged, also bring fresh blood to lower adbomen.
- Helps in spondolytis.
- Remove excess fat around the lower adbomen.
- Release excess heat, toxins from organs and tissues.

Contraindications:

- Avoid while suffering from severe back or neck pain.
- Avoid this pose completely, if having slip disc problem.
- Those with internal organs issues may find this pose difficult and painful.
- It should be avoided while pregenancy.

4. **Bhujangasana :** (Cobra position)

Procedure :

- Lie down on your stomach.
- Joint the legs and stretch as much as possible.
- Place the palm near the chest facing the ground.
- Take a deep Breath and lift your upper body upwards.
- Elbow should be slightly, touch the ground, weight should be on pelvicregion
- Move your head and neck backwards as much as possible. Exhale and slightly bring the body in starting position.

Benefits :

- By doing this, digestion improve.
- A sluggish liver is also taken care of
- Thyroid gland improves.
- Kidney function improves.
- Tones the ovaries which help to remove any disorder in connection with uterus.
- Therapeutic benefits : Relieves back ache, neck pain, stress, purifies blood, relieves constipations and addresses gynecological disorder.

Contraindications :

- Avoid if spinal problem
- Avoid if neck problem
- Do not do if having ulcer
- Pregnant women should avoid.
- Avoid if having asthma
- Activate pancreas to produce insulin.
- Cure acidity, digestive problem, diabeties, blood pressure, hypertension, cervical spondylosis.
- Anyone with severe migraine should not try this.
- Avoid if having low or high blood pressure.
- Avoid if having slip disc problem.
- Avoid if suffering from spondolysis.
- Avoid if having internal organ problem.

Practice Questions

Q.1 Explain the procedure and benefits of pavanmuktasan in detail. **(2)**

Q.2 What are the benefits and contraindications of Paschimottanasana and Bhujangasana. **(2)**

Q.3 **Describe the procedure, Benefits & contraindications of ardhmatseyndrasan. (1 × 3 = 3)**

Q.4. **Diabetes is common life style discase. How it can be prevented through practicing of different asanas. (1 × 5 = 5)**

Q.5. **More than 7% of Indians populations suffering from diabetes. Explain two asana in detail, which can help to control diabetes. (2½ + 2½ = 5)**

3.4 Asthma

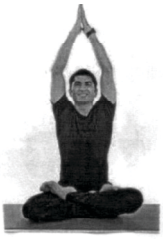
Asthma, a disease associated with the respiratory tract swelling occurs, which makes the tracts very sensitive and makes this process pungent with the touch of any effective thing.

These reactions cause contraction in the tubes this reduces the amount of air in the lungs. Due to which it become difficult to breath.

Common symptoms of asthma are coughing, heavy breathing. chest tightness, fatigue, pain in hands, feet, shoulders and back. Reasons are dust, smoke, air pollution, pollengrains, animals skin, hair or feather etc. are the main reasons. Asthma may be controlled by sukhasana, chakrasana, Gomukhasana, Bhujangasana, Paschimo-ttasana, Matsyasana.

Sukhasana
The Easy Sitting Pose

Chakrasana

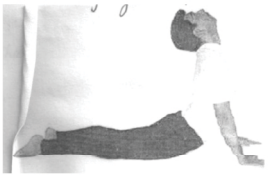


Parvatasana

Gomukhasana

Paschimottasana

Matsyasana



Bhujangasana

Multiple Choice Questions (1 Marks)

Q.1. A disease associated with respiratory tracts is known as

(A) Diabetes (B) Obesity

(C) **Asthma** (D) Back pain

Q.2. Choose the asana which helps to control Asthama :

(A) Pavanmuktasana (B) Trikonasana

(C) Hastasana (D) **Chakrasana**

Q.3. Coughing, heavy breating, chest tightness are the sysptoms of:

(A) **Asthma** (B) Diabetes

(C) Obesity (D) Back pain

Long Answer Type Question

Q.1. Enlist the asanas which are used to control Asthma. Explain any two asana in detail. 1 + 2 + 2 = 5

Ans. List of asana which helps to control asthma :

1. Sukhasana
2. Chakrasana
3. Parvatasana
4. Paschimotanasan
5. Gomukhasana
6. Bhujangasana

1. Gomukhasana :

- This asana gets its name because while doing this asana body resembles a cow face pose. In English it is called the cow face pose.

Procedure :

- Sit in sukhasana or dandasana pose.
- Place the ankle of left leg near right but under the anus.
- Place the right leg over the left leg so that knees should place over left knee.
- Sweep your left hand behind your back, facing plams upwards.
- Sweep your right hand over the right shoulder, bend your elbow and place it behind your back.
- Now inter lock fingers of both hands behind your back.
- Now stretch both hands in their respective directions. Look straight.
- Repeat with changing leg postion.

Benefits :

- Helps in curing Asthma, reduce weight makes body flexible and attractive.
- It helps to make spine strong and erect.
- Helps to make abdominal organ function well.
- Helps to reduce obesity.
- Diaphram improves and keep away from all kinds of intoxification.
- Upper body becomes flexible and strong.
- It helps to circulate blood to the entire body.

Contraindications :

- Person having stiff shoulder should avoid this.
- Any kind of hip problem or knee, hamstring and quadricep should be avoided.
- If one has to sciatica problem, one should avoid this pose.
- Avoid if any neck or shoulder injury.
- Aovid to perform or practice during pregnancy.

2. Parvatasana :

- While performing this asana body resembles like a mountain that's why its named as parvatasana. It is a very easy asana.

Procedure :

- Sit in padmasana pose on ground.
- Raise both hands by side ward while inhaling and joint together upward above the head.
- Exhale and come at intial position.

Benefits:

- It help to spinal problem.
- Strengthness the muscles of arms.
- If increase the blood flow to the brain.

Contrain dications :

- It should not be practicised if one has wrist, hip or ankle injury.
- It should not be practice while spinal injury.

3. Matsyasana :

- If this asana is performed in water body can float easily thats why it is called matsyasan.

Procedure :

- Sit in padmasana pose.
- Take support of your elbow and lie on your back bend your neck with support of your hands, and try to touch your fore head to the ground.
- Hold toes of the feet firmly with both hands and touch the ground with the elbows.
- Stretch the stomach as up as possible.

Benefit :

- This asana is very useful for asthma patients provide relief from indigestion and other disgestive problems, keep the blood clean. Helps is curing diabetes. Helps in cough and respiratory problems, makes body and face attractive.

Contraindication :

- Avoid this posture if any kind of neck injury.
- Any kind of blood pressure.
- If having migrane.
- If having spondylists, neck or back pain.
- If pregnancy is there.

4. **Sukhasana :**

Procedure :

- **Pre Stage :** Keep both feet in front and sit straight.
- **Method :** Sukhasana is simply sitting in the normal form.
- Keep the left foot folded under the right leg's thigh.
- Fold right and placed it under the Left thigh.
- Keep head, neck and waist straight. Keep both hands in the meditation (palms stacked up in lap) posture.
- You can use it for longer periods of meditation.
- One Can change feet for sitting.

Benefits:

- This posture can be used for a long time during mediation and study, etc.
- Straightening the waist gives strength in the legs. Pain is removed and person can perform other postures like Ardh Padmasan and Padmasana.

Contraindications :

- Avoid if arthritis
- Avoid if backache.
- Avoid if spinal disc problem.
- Do not practice if migrane or Anxiety occures.
- Do not practice if week digestive system.

5. **Chakrasana :**

Procedure :

- Lie down on the back an make both leg straight.

- Bend your knees so that the soles of your feet are on the floor.
- Your hands must be placed behind your shoulders and fingers pointed towardds your shoulders.
- Then, press your feet and plams, and lift your entire body off the mat.
- Hands and feets are half feet apart. Head hang gently between hands.
- Make the body stretch towards the top so that it becomes circle shape.

Benefits:

- It affects the whole body, which gives flexibility in muscles and bones & increases blood circulation, Relieve waist pain. Increases the supply of oxygen in the lungs. The overall functioning of the body increases.

Contraindication :

- Avoid to practice if any back injury.
- Someone having heart problem should not do this pose.
- If having high/ low blood pressure, do not try this
- Someone undergone with cataract surgery, avoid this Asana.
- Do not practice if any cervical injury.

Practice Questions

1. **Define Asthma. Write the procedure and benefits of Chakrasana which helps in curring Ashtma. (1+1=2)**
2. **Enlist two asana for Asthma. Write the procedure and contraindication of any one of them. (2)**

3. **Gomukhasana and Sukhasana play an importan role to cure the one of life style disease "Asthma". Discuss in detail.** **(1½ + 1½ = 3)**

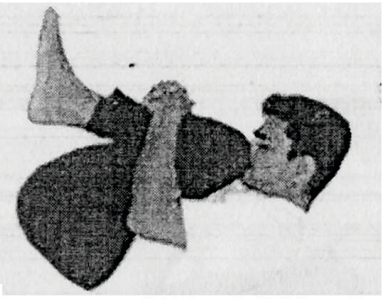
4. **Elaborate the importance of Pashimotanasan and matsyasana to cure Asthma.** **(2½ + 2½ = 5)**

3.5 Hypertension

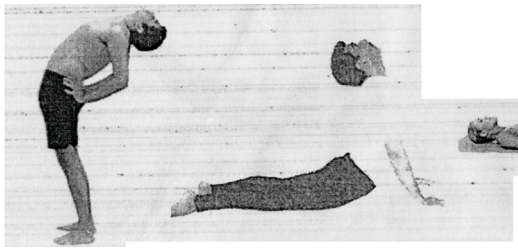
- High blood pressure. A condition in which the strength of blood against the walls of the artery is very high. Reasons for high blood pressure increased with age, Genetic, obesity, lack of physical activity, smoking, alcohol, more intake of salt in food, tension or mental stress, diabetes, pregnant women are more prone to high B.P. All these factors can lead to high blood pressure.
- The main function of the heart is to supply pure blood to the various parts of the body through different arteries when the heart contract it pushes the blood through blood vessels and consequently the blood pressure increase in arteries this pressure is known as systolic blood pressure it is represented by the first number the pressure between two heartbeats is called diastolic blood pressure it is represented by bottom or second number these two number of blood pressure are measured in mm/Hg. Unit means millimeter of mercury. The normal blood pressure of an adult is considered 120/80mm/Hg. The person whose blood pressure readings are beyond 140/90 mm/Hg are said to be having hypertension.
- High blood pressure can be controlled by doing the following yoga asanas Tadasana, vajrasana, pavanmuktasana, ardha chakrasana, bhujangasana, shavasana.

Tadasana

Vajrasana



Pavanmuktasana



Ardhachakrasana Bhujangasana

Shavasana

Multiple Choice Questions (1 Marks)

Q.1. The pressure of blood increase on the wall of aorta is known as _____

(A) Back pain (B) Obesity

(C) **Hypertension** (D) Asthma

Q.2. Select the asana which helps to reduce hypertension

(A) Tikonasana (B) Chakrasana

(C) **Shavasana** (D) Sukhasana

Q.3. Which asana is not practised in hypertension :

(A) **Vakrasana** (B) Vajrasana

(C) Tadasana (D) Ardhchakrasana

Short Answer Type Questions (3 Marks)

Q.1. Elaborate the role of Ardhchakrasana and Shavasana in preventive the hypertension.

Ans. Asana plays an important role to prevent the various life style disease. Following are the role of ardhchakrasan and Shavasana:

1. Ardh Chakarasana :

Procedure :

- Stand straight and keep your hand close to your body.
- Place your hands on your buttocks.
- Breathing gently, bend backwards while keeping the knees straight.
- Stay for sometime in this position.
- Come back to starting position.

Benefits :

- Waist become flexible.
- Strengthen back bone.
- High BP comes to normal.
- Tones the arms and shoulder muscles.

Precautions : Keep knees straight while bend backwards.

2. Shavasana :

- Lie flat on your back.
- Keep your ams at your side and your palms facing up.
- Legs should be separated and just relax.
- Start concentrating from your head to your feet and relax each part of your body and feels that you are just like a dead body.

Benefits :

- Releax whole body.
- Release stress, fatigue, depression & tension.
- Calms the mind and improves mental health.

Precautions : Place where Shavasana is performed should be peaceful with no noise at all.

Practice Questions

Q.1. Elucidate "Hypertension". How Parvatasana and Shavasana helps to reduce hypertension. (2)

Q.2. Write about tadasana and Ardhchakrasan how they help to prevent the hypertension. (2)

Q.3. Enlist the asana which helps to reduce hypertension. Briefly explain the procedure of any one of them. (3)

Q.4. Briefly explain the three asana for "hypertension". (3)

Q.5. Define "Hypertension", enlist the asanas used for hypertension. Briefly explain any two asanas used for hypertension. (1+1+3=5)

3.6 Back Pain

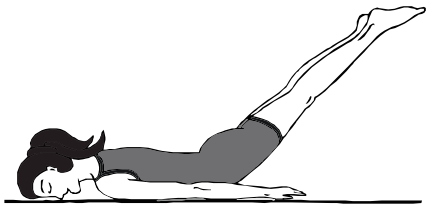
- Back pain is a wide spread problem people around the world are suffering from various problems due to changing habitat and changing lifestyle. Back pain is one of them about 95% of the people who sit in one place and 60% of the rest of the people are upset with back pain and number of women are more in them.
- The main reasons for this are long sittings, the habit of modern equipment, being more fashionable, lack of knowledge regarding right way of exercising, weight lifting, wrong way of sleeping, due to an accident problem can arises.

Back pain can be prevented by doing asanas as :

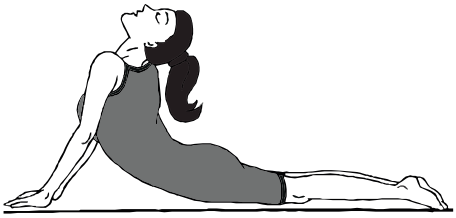
Tadasana, vakrasana, bhujangasana, shalabhasana and ardh matsyendrasana.

Tadasana

Vakrasana



Shalabhasana



Bhujangasan

Ardhmatsyendrasana

Multiple Choice Questions (3 Marks)

Q.1. Stretching of spinal muscles associated with—

(A) **Obesity** (B) Diabetes

(C) Back pain (D) Hypertension

Q.2. Simple spine twist is known as

(A) Salabhasana (B) Bhujangasana

(C) **Vakrasana** (D) Tadasana

Q.3. Which asana is used for back pain

(A) Trikonasana (B) Paschimotasana

(C) Chakrasana (D) **Shalabasana**

Q.4. Which asana is not used for "Back pain".

(A) **Pavanmuktasana** (B) Vakrasana

(C) Bhujangasana (D) Ardhmatsyendasana

Short Answer Type Questions

Q.1. "Vakrasana and Shalabhasana helps in reducing back pain". Justify. (2)

Ans.1. Vakrasana is dong while sitting: In this asana back bone is twiseted, that's why it named as vakrasana. This asana increases the flexibility, activeness to back bone

Procedure:

- Keep both feet in front and sit straight.
- Sit down stretching your legs forward on the ground.
- Bend your left leg and place it around the right knee.
- Keep spine straight, while exhaling bend towards left.
- Now place the rightarm by the outer side of left knee and pull the left knee towards the body.
- Pull the knees so that it pressures on the stomach.

- While exhaling, return to the initial position.
- Repeat it from the other side its one complete cycle do it 3 to 5 times.

Benefits :

- It brings flexibility in back bone and make it healthy. Relieves stiffness from the back. Help in relieving back pain.

2. **Shalabhasana :** Shalabh means Locust in Sankrit in the end stage of the asana body shapes like a locust that's why it is named as Locust.

Procedure :

- Lie down on your stomach.
- Place your plams under you things keep ankles close to one another.
- Breath in and lift your legs upwards, while doing so your chin should rest on the ground.
- Hold this position for some time after that exhale and take down your legs in inital postion.
- Repeat this for 3 to 5 times.

Benefits :

- This asana is very helpful in back pain. Increase flexibility reducing fat, helps in curing sciatica.

Long Answer Type Question

Q.1. Back pain is very comon life style disease now a days. Which asana you will suggest to reduce "Back pain". (5)

Ans. Back pain is a widespread problem. People around the world are suffering from various roblems due to changing habital and changing lifestyle. Back pain is one of them. About 95%

of the people who sit in one place and 60% of the rest of the people are upset with back ache. And number of women are more in them.

- The main reasons for this in long sittings, the habit of modern equipment, being more fashionable, lack of knowledge of the right way of exercising, weight lifting, wrong way of sleeping, due to an accident and mental stress backache problem can arises. A person suffering from this problem can not do any work correctly. This is not a very serious problem but it is a very painful problem.
- Back pain can be prevented by doing yoga. If someone is suffering from back pain, even after doing yoga, there will be enough relief in back pain.
- Tadasana, vakrasana, bhujangasana, shalabhasana & ardh matsyendrasana can be done in back pain.
- **Vakrasana :** This asana is best for Back bone. It helps in making the spinal cord flexible and healthy.
- **Tadasana :** This posture is very beneficial for back pain. If it is practiced in the right way, than back pain can be relieved completely in it, you drag yourself towards the top and feel the strain where there is pain.
- **Shalabhasana :** Shalbhasana strengthens the waist and back. It enhances the flexibility of the back. Thereby reducing the back pain.
- **Bhujangasana :** Bhujansana is also called cobra pose. Because in this, the next part of the body is raised like a cobra. Doing this asana gives relief in back pain. If it is practiced continuously then back pain can be relieved completely.

- **Ardh Matsyendrasana :** This Asana named after yogi matsyendra nath. It helps in strengthening the back bone muscles and make them flexible. This posture is very beneficial for back pain.

Practice Questions

Q.1. Explain the procedure of Shalabhasana and Ardhmatsyendrasana. (1½ + 1½ = 3)

Q.2. Explain any three asanas which is used to reduce the back-pain. (1 × 3 = 3)

Q.3. "Back pain can be reduced by practicing Asanas regularly". Justify. (1 × 3 = 3)

Practice Questions

Q.1. Match the following asana with life style disease.

1. Diabets	(A) Chakrasana
2. Obesity	(B) Ardhmatsyendrasana
3. Asthma	(C) Shavasana
4. Hypertension	(D) Hastasana

Q.2. Match the following disease with related cause.

1. Diabets	(A) Accumulation of fat
2. Hypertension	(B) Insuline
3. Asthma	(C) Blood pressure
4. Obesity	(D) Respiratory tracts

Q.3. Pick the correct one life style disease :

(A) Tuberclosis	(B) Cancer
(C) Back pain	(D) HIV

Practice Question

Q.1 Match list -I with list - II and select the correct answer from the code given below. (1)

List -I	List -II
1. Tadasana	A. Cow face pose
2. Bhujangasa	B. Palm tree pose
3. Matsyasa	C. Snake pose
4. Gumukhasa	D. Fish pose

Code				
	1	2	3	4
(a)	A	B	C	D
(b)	C	D	A	B
(c)	B	C	D	A
(d)	D	A	B	C

Q.2 Match list -I with list - II and select the correct answer from the code given below. (1)

List -I	List -II
(A) Obesity	1. Heart & Blood
(B) Asthma	2. Muscle of joints
(C) Back Pain	3. Air pipe
(D) Hypertension	4. Digestive system

Code				
	A	B	C	D
(a)	1	2	3	4
(b)	4	3	2	1
(c)	2	1	4	3
(d)	3	4	1	2

Q.3 Identify the yoga pose & give their name **(½ x 4 = 2)**

(A)  _____

(B)  _____

(C)  _____

(D)  _____

Q.4 Sunil is a student of class XI and is suffering from hypertension. During a recent medical check up at school he was advised to practice yoga and participate in yogic activities for curing. **(1 x3 = 3)**

Based on this case Answer the following questions:

(i) **The yoga instructor at the school has asked Sunil to perform:**

(A) Bhujangasana (B) Tadasana

(C) Shavasana (D) All of above

(ii) **Which one asana is NOT help to control hypertension?**

(A) Tadasana (B) Vajrasana

(C) Paschimottasana (D) Shavasana

(iii) **Sunil is also suffering from Flat Floot for which he is advised to:** **(1 x3 = 3)**

(A) Rope climbing (B) Walking on toes

(C) Walkin on heel (D) All the above

Q.5 Sachin is a student of class XIII is suffering from diabetes. During a recent medical check up at school he was advised to practice yoga and participate in yogic activities for curing.

Based on this case Answer the following question:

(i) **The yoga instructor at the school has asked Sachin to perform:**

(A) Bhujangasana (B) Sukhasana

(C) Chakrasana (D) Shavasana

(ii) **Which one asana helps to control Diabetes?**

(A) Tadasana (B) Vajrasana

(C) Paschimottasana (D) Shavasana

(iii) **Sachin is also suffering from knock knee for which he is advised to:**

(A) Rope climbing (B) Walking on toes

(C) Walking on heel (D) Walking on inner edges of foot

UNIT - 4

Physical Education & Sports for CWSN (Children with Special Needs–Divyang)

UNIT - 4

Physical Education and Sports for CWSN (Children with Special Needs–Divyang)

Key Points :-

4.1 Concept of disability & disorder

4.2 Types of disability its causes & nature Cognitive disability, intellectual disability, physical disability

4.3 Type of disorder (ADHD, SPD, ASD, ODD, OCD) its causes & Nature

4.4 Disability Etiquettes

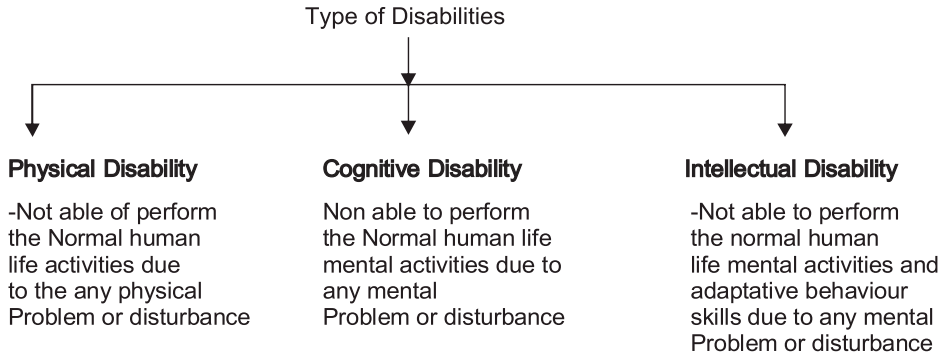
4.5 Advantage of physical Activities for children with special needs

4.6 Strategies to make physical activities assessable for children with special needs.

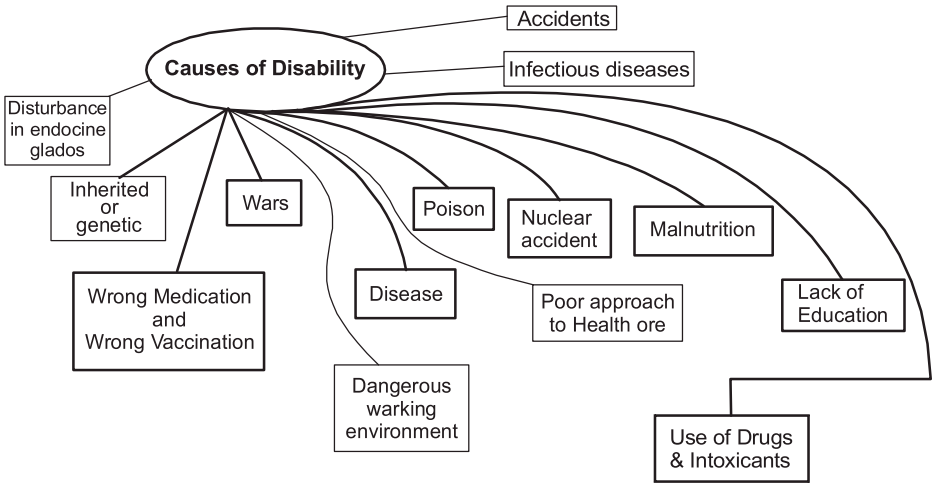
4.1. Concept of Disability & Disorder

- **Disability :** Any disadvantage due to which an individual is not able to perform the activities of normal human life is known as disability.
- **Disorder :** Any disruption due to which an individual is not able to perform his daily human activities is known as disorder.

4.2 (A) Type of Disabilities



4.2 (B) Causes of Disabilities



4.2 (C) Nature of Disability

(i) Nature of Congnitive Disability

I. Problem in remembering
II. Dyslexia (a problem in reading)
III. Hyperactivity

(ii) Nature of Intellectual Disability

I. Slow acquisition of new knowledge and skills
II. Immature behavior
III. Limited self-care skills

(iii) Nature of Physical Disability

I. Physical Disability can be by birth or after birth.

II. Childhood problems result in Physical Disability in the future.

III. Many types of Physical disability are caused due to heredity.

IV. Physical disability can be from the weakness of bones and muscle for example of Genesis disease.

V. The weakness of muscle and nerves can also cause physical disability for example spina bifida and polio.

Multiple Choice Questions (1 Marks)

Q.1. Which is not a disability :

(A) Hearing (B) Speech

(C) Vision (D) **ADHD**

Q.2. Most suitable word used for disable person:

(A) Handicapped (B) Retarded

(C) **Divyang** (D) Blind

Q.3. Name of Olympics games for the persons with motor disability

(A) Summer Olympics (B) Winter Olympics

(C) Deaflympics (D) **Paralympics**

Q.4. Which is a disorder:

(A) Disrupts a person's performance

(B) **It is a mental illness**

(C) Lethal Gradually

(D) It is a physical inability

Q.5. Cognitive disabilty is not dealing with disrupt of.....

(A) Learning (B) speaking

(C) solving skills (D) walking

Q.6. Disability is caused by

(A) **Heridity** (B) Accidents

(C) Balance diet (D) **both (a) & (b)**

Q.7. Is not Types of disability-

(A) mental disability (B) physical disability

(C) **emotional disability** (D) walking disability

Q.8. Physical disability is a condition which deals

(A) **mobility or movement**

(B) speak & learn

(C) Process of information

(D) Calculation

Q.9. The main reason of Intellectual disability

(A) Vaccination

(B) Malnutrition

(C) **consumes alcohol or drugs during pregnant women**

(D) Physical Activities

Q.10. Give below are the statement labeled Assertion (A) and Reason (R)

Assertion (A) : Physical disability impair the physical activity and dexterity of a person

Reason (R) : Genetic disorders are one of the reason for disabilities.

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

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

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

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

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

Short Answer Type Question (40 to 60 words) (2 marks each)

Q.1 Differentiate between disability and disorder.

Ans. Disabilities can be physical disabilities also disorders are mostly related to mental diseases.

Physical disabilities are permanent in nature disorders can be cured treated. If the disorders are not treated in time then it may turn into a disability.

Q.2 Differentiate between cognitive disability and intellectual disability.

Ans. Cognitive Disability: It is a neurological state that creates hindrance or obstruction for an individual to store, process and produce information. This ability can affect an individual's ability or capability or read, computer, speak and write.

Intellectual disability : Intellectual disability once called mental retardation, is characterized by below-average intelligence or mental ability and a lack of skills necessary for day to day living. People with intellectual disabilities can learn new skills, but they learn them more slowly. There are varying degrees of intellectual disability, from mild to profound.

We can measure intellectual disabilities by IQ test but cognitive disability cannot be measured.

Q.3 Brief about Nature of Physical Disability.

Ans. 1. Physical Disability can be by birth of after birth.

2. Childhood problems result in Physical Disability in the future

3. Many types of physical disability are caused due to heredity.

4. Physical disability can be from the weakness of bones and muscles for example osteogenesis disease.

5. The weakness of muscles and nerves can also cause physical disability for example spina bifida and polio disease.

Q.4 Explain cognitive abilities and their nature.

Ans. **Cognitive Disability:** it is a neurological state that creates hindrance or obstruction for an individual to store, process and produce information. This ability can affect an individual's ability or capability or read, compute, speak and write.

Nature of cognitive ability

I. Problem in remembering

ii. Dyslexia (a problem in reading)

iii. Limited self-care skills

Q.5 Explain cognitive abilities and their nature.

Ans. **Intellectual Disability:** Intellectual Disability once called mental retardation, is characterized by below-average Intelligence or mental ability and a lack of skills necessary for day to day living. People with Intellectual disabilities can learn new skills, but they learn more slowly. There are varying degrees of Intellectual disability, from mild to profound.

Nature of Intellectual Disability

I. Slow acquisition of new knowledge and skills
ii. Immature behavior
iii. Limited self-care skills

Q.6 Discuss the type of disability? (3)

Ans. Disabilities are mainly three types
(a) Physical (b) Cognitive (c) Intellectual

(a) **Physical Disabiltiy:** A physical disability is a limitation on an individual's physical functioning, mobillity, dexterity or stamina. Other impairments such as respiratory disorders, blindness, epilepsy and sleep disorders, which limit other factes of daily.

(b) **Cognitive Disability:** it is a neurological disorder that creates hindrance or obstruction for an individual to store, process and produce information. This ability can affect an individual's ability or capability or read, compute, speak and write.

(c) **Intellectual Disability:** Intellectual disability in a disability characterised by significant limitations both in intellectual functioning (reasoning, learning, problem solving) and in adaptive behaviour, which covers a range of everyday social and practical skills. Indeed, this disability is related to the individual's though processes, communication, money, learning, problem solving and judgement.

Q.7 Differentiate betweren Disability and Disorder (3)

	Disability	Disorder
Ans.	(1) It is a physical, mental, cognitive, condition that impairs, interferes with or limit a person's ability to engage in certain action of participate in daily activites and interaction	1. It is an illness or dysfuctional factor that affecr or disrupt the person physical or mentally
	(2) There is no chances to become normal	2. High chances to become normal
	(3) Disability is concerned with various parts of the body	3. Disorder is concerned with mental ability
	(4) Disability is 3 tyres a physical, cognitive & intellectual disability	4. Disorder is 5 types ADHD, SPD, ASD, OCD & ODD

Long Answer Question (150 to 200 words)

Q.1. Elaorate the causes of disability. (5)

Ans. Causes of Disability

There are various casues of disability that are stated below.

1. **Genetic Causes:** Some disabilities are known to be inherited such as spinal muscular atrophy and muscular dystrophy. Abnormalities in genes and genetic inheritance cause intellectual disability in children. Sometimes diseases, illnesses and over exposure to X-rays may cause genetic disorder.
2. **Poverty:** Poverty is one of the major causes of disability. Generally, it is seen that poor persons are the most vulnerable to disability because they live and work in unsafe environment with poor sanitation. They don't have good living conditions. They usually have little access to education, safe drinking water and proper nutrition.
3. **Mental Health Problems:** Mental health problems such as depression, bipolar disorder, etc., may lead to disability. As a matter of fact, the causes of mental health problems are very difficult to diagnose. They tend to be some of the most misunderstood disabilities.
4. **Accidents:** Nowdays, life is so fast that accidents may occur anywhere, anytime and to anyone. These accidents may happen at workplace, on the roads or in the air. These accidents may lead to disability.

5. **Infectious Diseases:** Infectious diseases may also cause disabilities. If the immunity power of a child is low, he is susceptible to fall sick or contact more serious illnesses. If a child is not immunised well, he becomes vulnerable to infectious diseases like mumps, which can cause hearing impairment or polio, which can cripple the child.

6. **Disturbance in Endocrine Glands:** Disturbance in endocrine glands may also lead to disability. Owing to such disturbance, a child may suffer from various physical and mental deficiency.

7. **Malnutrition:** Malnutrition is another significant cause of disability, especially our country. If a child does not get appropriate nutrition, he may be physically weak Even deficiency of calcium leads to malformation of bones. Deficiency of iodine may diminish the growth of body. Similarly, deficiency of vitamin 'A' may cause blindness, in children. Deficiency of vitamin B12 may lead to loss of memory and cause paralysis.

8. **Poor Approach to Health Care:** Many disabilities can be prevented easily, if it is proper access or approach to health care facilities. Sometimes, good health care facilities are not available during difficult labour and birth. It may cause a baby. To be born with a disability such as cerebral palsy. Professionally trained persons could handle such emergencies. They can prevent babies from being born with such disabilities. Proper immunisation can also help in preventing many disabilities. Usually people who live in remote areas, do not have proper access to health can facilities, and thus, sometimes babies suffer disabilities.

9. **Nuclear Accidents:** Many persons have suffered after being exposed to radiation. It nuclear radiations has also been increase in the number of children born with cognitive disabilities such as Down Syndrome.

10. **Toxic Materials Pesticides Insecticides:** Toxic materials like lead and mercury, etc. found in various products, use of insecticides and pesticides, other harmful chemicals may cause disabilities in people and birth defects in babies. As a matter of fact such toxic materials may cause damage to brain which ultimately leads to disabilities.

11. **Illnesses:** The illnesses like cancer, heart attack, diabetes, etc., cause a number of long-term disabilities. Arthritis, back pain, musculoskeletal disorders, etc., are also significant causes of disability. Some illnesses to pregnant woman may cause physical or learning problems to her baby when born.

12. **Lack of Education:** Lack of education may lead to disability. Generally, labourers are not educated. They fall prey to certain diseases which can be avoided by using scientific methods or by taking precautions. But due to ignorance they do not adopt such precautionary methods. Hence, their chances to get a disability are rised.

13. **Wars:** It is usually seen in wars that the most of the civilians are killed or disabled along with the soldiers. Bomb explosions cause people to become deaf, dumb and lose their limbs. Not only the physical health but mental health of the individuals is also badly affected by nuclear, biological and atomic weapons.

14. **Medicines and Vaccines:** No doubt medicines and vaccines are essential to protect health and prevent disability but there are a number of practitioners in the medical field who are not qualified or registered. They don't take proper care while dealing with patients. The use of unclean syringes may cause serious diseases like hepatitis or HIV/AIDS. Improperly stored as well as wrong vaccines may cause allergic reactions, poisoning and deafness to child.

15. **Dangerous Working Emviromment:** If individuals work in factories, mines or in agricultural fields under improper working environment, they may be exposed to dangerous machinery, tools or chemicals and wide variety of health hazards. In such conditions they may get disabilities on the long-run.

4.3 Type of Disorder

ADHD Attention Deficit Hyper activity Disorder

SPD: Sensory Procerssing Disorder

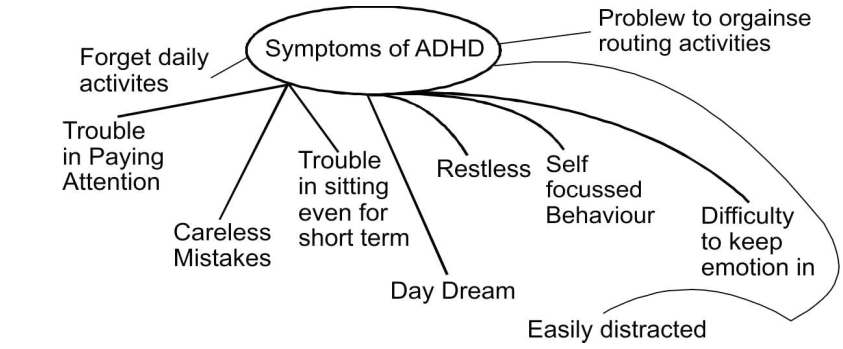
ASD: Autism Spectrum Disorder

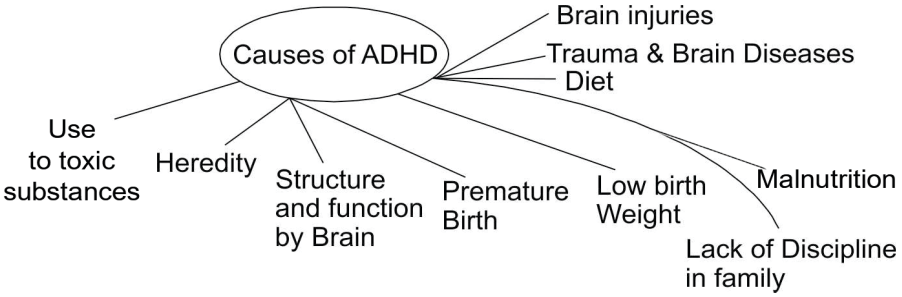
OCD: Obsessive Compulsive Disorder

ODD: Oppositive Defiant Disorder

1. ADHD (Attention Deficit Hyper activity Disorder)

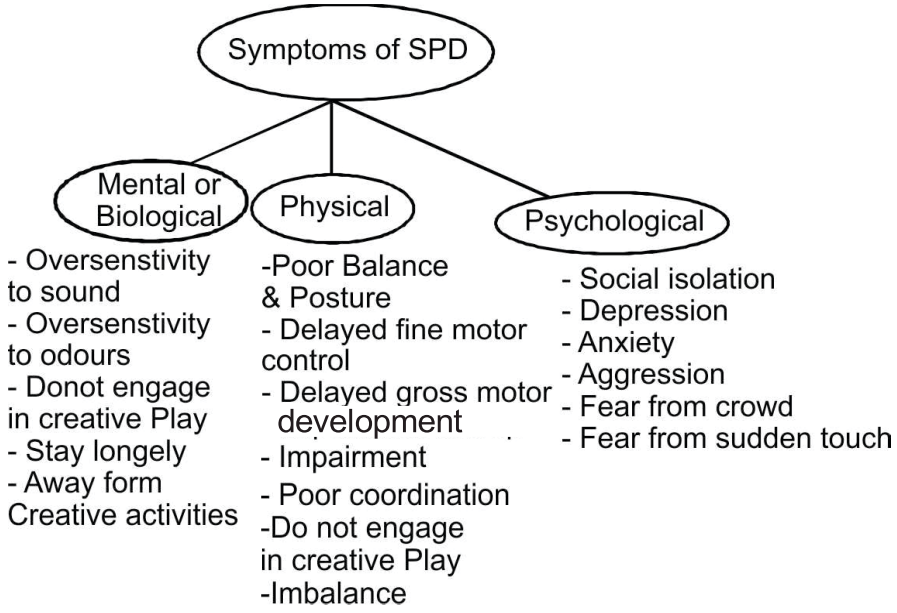
Attention dificity hyperactivity disorder is a group of behavioural symptoms that include in attentirness hyperactivity & impusiveness.

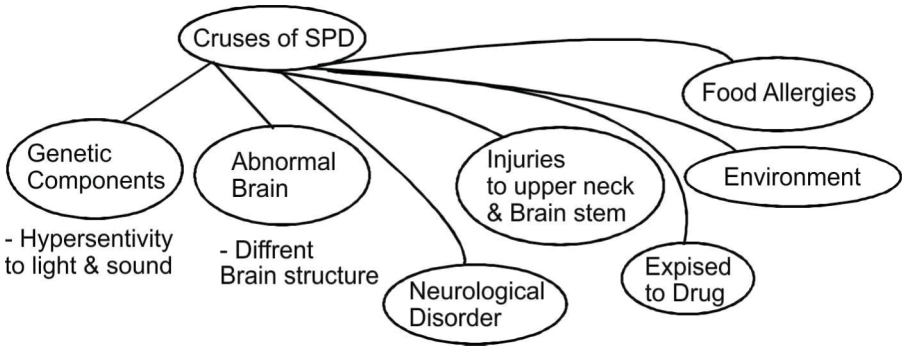




2. SPD: (Sensory Procerssing Disorder)

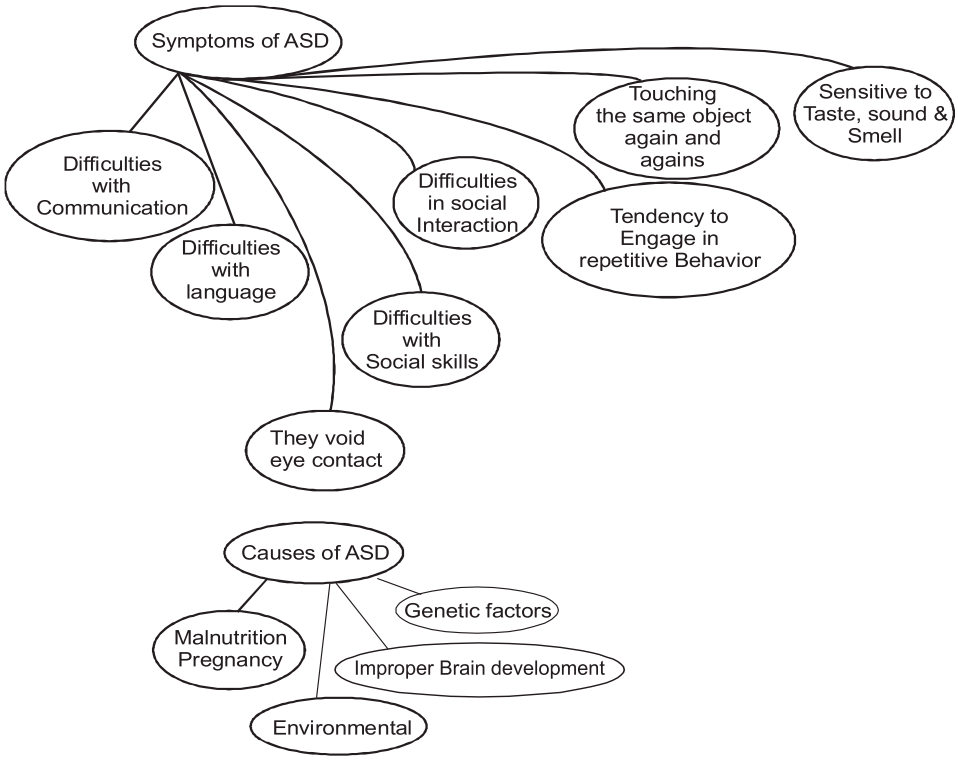
It is a conditon is which the brain has difficulty in reactiving & responding to information that can as in through the sensens organs.





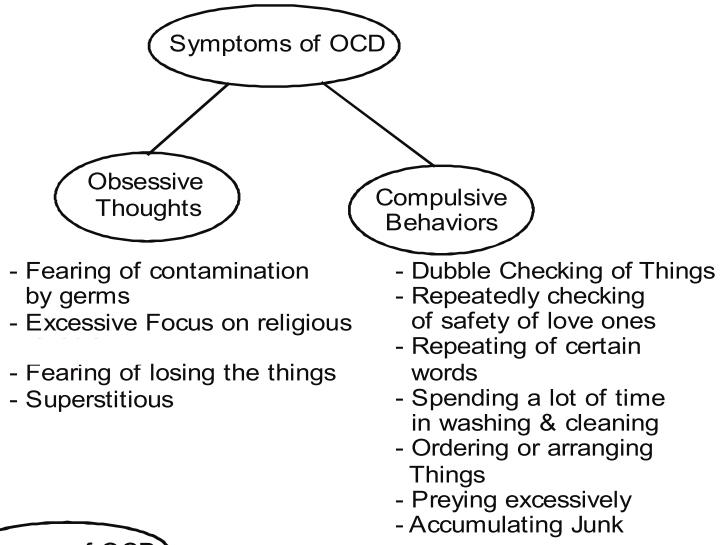
3. ASD: (Autism Spectrum Disorder)

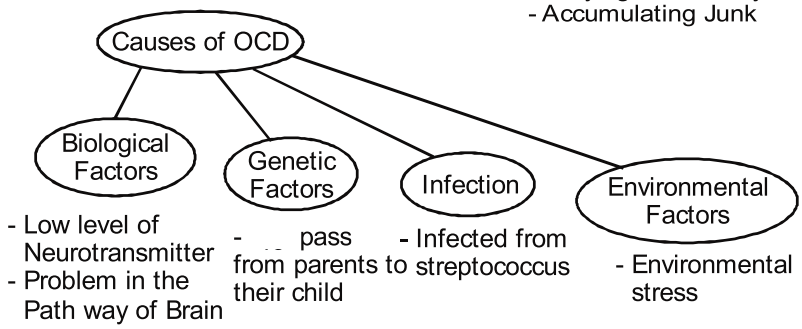
It is a neurological and developmental disorder in which have difficulty with communication, language, social skill and behaviour.



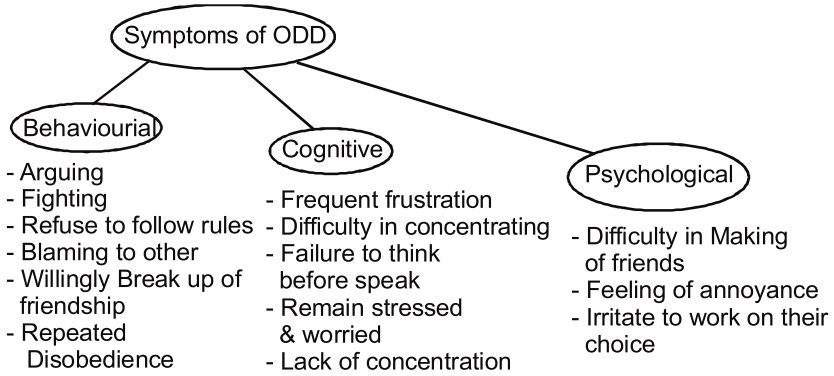
4. OCD: (Obsessive Compulsive Disorder)

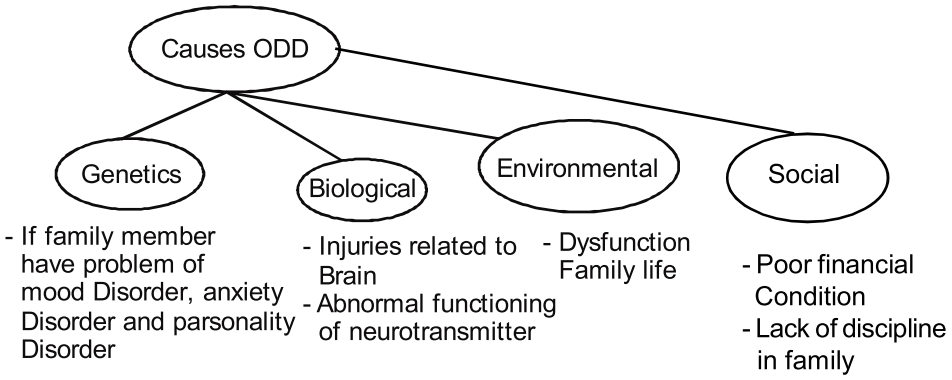
This is a mental disorder that causes repeated unwanted thoughts.





5. ODD: (Oppositive Defiant Disorder)





Nature of Disorder:

- Impairment in social Interacation
- Impairment in language and communication skills,
- Disorder usually concerned with Nervous system,
- Beharioural Problems,
- Limits to perform activitism
- Not Permanent,
- Mostly gain by birth.

MCQ (Multiple Choice questions)

Q.1. SPD's expended form is

(A) Special poilce department
(B) Special processing Disorder
(C) **Sensory processing Disorder**
(D) Sensory processing department

Q.2. Repeated Action are called

(A) ADHD (B) **ODD**
(C) OCD (D) ASD

Q.3. Child is not able to adjust within society is suffering from

(A) **ADHD** (B) ASD
(C) ODD (D) OCD

Q.4. Expended from of ADHD

(A) Automatic deficit hyper discorder

(B) **Attention defict hyper activity disorder**

(C) Attention disorder of hypoactive defict

(D) Automatic disability high defect

Q.5. ASD is --------

(A) **Austism spectrum Disorder**

(B) Austism special disability

(C) Automatic special disorder

(D) Austism seusory disorder

Q.6. Disorder are not caused by ----

(A) Heredity

(B) Environment

(C) Less Brain development

(D) **Balanced food**

Q.7. Expended form of ODD is

(A) Opposite different disorder

(B) **Oppositional deficient disroder**

(C) Opposite different disability

(D) Obessive defect disability

Q.8. Expended form of OCD is

(A) Opposite compolsive defect

(B) Obsessive compulsive disability

(C) **Obessive compulsive disorder**

(D) Opposite compare disorder

Q.9. Children suffering from which disorder find it difficult to pay attention to things and are always restless?

(A) Sensory processing

(B) **Attention deficit hyperactivity disorder**

(C) Obsessive-compulsive disorder

(D) Oppositional defiant disorder

Q.10. Oppositional defiant disorder patients do not show the sign of....

(A) Calmness
(B) Anger
(C) Vindictiveness
(D) Irritation

Q.11. Given below are the two statement labeled Assertion (A) and Reason (R).

Assertion (A): Mental disorders are contagious.
Reason (R): Mental disorders can be managed.

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

(A) Both (A) and (R) are true and (R) is the correct explanation of (A)
(B) Both (A) and (R) are true but (R) is not the correct explanation of (A)
(C) (A) is true, but (R) is false.
(D) (A) is false, but (R) is true

Short Answer Type Question (40 to 60 words) (2 marks each)

Q.1 Differentiate between ASD and OCD on the basis of their symptoms.

Ans.
i. Doing or checking things repeatedly
ii. Always putting things in proper order or symmetry
iii. Constant doubting and the need for reassurance
iv. Hoarding things

Symptoms of ASD

i. Deficits in social-emotional reciprocity
ii. deficits in nonverbal communicative behaviors used for social interaction
iii. deficits in developing, maintaining, and understanding relationship
iv. Stereotyped or repetitive motor movements, use of objects, or speech

Q.2 What is the difference between ADHD and ODD?

Ans. ADHD is a neurodevelopmental disorder

Children who have ADHD are very hyper in performing their activities. They are unable to pay attention.

ODD is a disruptive impulse control disorder and conduct disorder

A person suffering from ODD shows the symptoms of anger, hostile aggression, and vindictiveness. They often find difficulty in making friends.

Q.3 What is the symptoms of sensory processing disorder?

Ans.
1. It affects one or multiple senses of an individual, like hearing, touch or taste etc.,
2. Poor coordination any body balance
3. Oversensitive to sound or color
4. The person doesn't respond to extreme heat, cold or pain
5. The person may be oversensitive or under-sensitive to certain situation

Q.4 Does genetic factor cause ADHD (attention deficit hyperactivity disorder)?

Ans. Research studies have indicated that there is a strong genetic link in ADHD it is not a disorder that is passed socially. Research studies indicate that parents siblings and children of people with ADHD may be up to five times more likely to have the disorder than people who are not related to someone with ADHD.

Q.5 How social environment becomes a cause of ODD (oppositional defiant disorder)?

Ans. Children may develop ODID if they don't have good relationship with parents or have neglectful parents or have the inability to develop social relationship. Sometimes poverty indiscipline in the family negative relationship between father and mother, not taking proper care of the children may lead to you may become a cause of the oppositional defiant disorder.

Q.6 What is the nature of Autism Spectrum Disorder (ASD)? (3)

Ans. Autism Spectrum Disorder (ASD) is a complex neuro-

behavioural condition that includes impairment is social interaction and developmental language and communication skills combined with rigid, repetative behaviours. Children are autism may have repetative, stereotyped body movemtns such as rocking, pacing or hand flapping. They may have unusual responses to people, attachments to objects, resistance to change in their routines, or aggrerssive or self-injurious behaviror.

At times the may seem not to notice people, objects, or activities in their surroundings.

Q.7 X is a seven-year old boy, his teacher complains that he keeps running around the class, talks excessively and frequently interrupts others. Despite several warning, he doesn't stop squirming or fidgeting in his seat. He is easily distracted and can't sustain attention on tasks for long.
The teacher brings up her concern to the parents and they decide to consult the school psychologist. After observation, the school counselor believes that X's symptoms may be characterized as ADHD. (3)

Based on this case, answer the following question-

(i) **In which gender is the percentage of ADHD higher?**

A. Males
B. Females
C. Both A and B
D. None of the above

(ii) **which of the following is not a symptoms of ADHD?**

A. Excessive talking
B. Running around
C. Restlessness
D. Deficits in social communication

(iii) **which one of the following is a cause of mental disorder?**

A. Hereditary
B. Premature birth
C. Environment
D. All the above

Q.8 What is the nature of Oppositional Defiant Disorder (ODD)? (3)

Ans. Children and teens with Oppositional Defiant Disorder (ODD) have behavioural problems, such as attention deficit disorder, learning disabilities, mood disorder (such as depression), and anxiety dirorders. Some children with ODD go on to develop a more serious behavior disorder called conduct disroder. These children exhibit the habit of excessively arguing with adults, especially those with authority. They may actively refuse to complete with requests and rules and deliberately trying to annoy or upset others, or being easity annoyed by others. Blaming other for your mistakes and frequent outbursts of anger and resettlement are common among them.

Q.9 What is the nature of Obsessive-compulsive disorder (OCD)? (3)

Obsessive-compulsive disroder (OCD) is a potential disabling illness that traps people in endless cycles of repetitive thoughts and behaviros. People with OCD are plagued by recurring and distressing throughs, fears, or image (obsessions) they cannot control. Such people used to have fear to dirt or contamination by germs or fear of causing harm to another or making mistakes. Fear of being embarrassed or behaving in socially unacceptable manner or fear of thinking evil or sinful thoughts are become part and parcel of their life. Similarly, need for order, symmetry or exactness excessive doubt and the need for constant reassurance hunts them always.

Practice Questions

Q.1. Explain the causes of ADHD. (½ x 6 = 3)

Q.2. Detail the causes of ASD? (1 x 3 = 3)

Q.3. Explain the symptoms of SPD (½ x 6 = 3)

Q.4. Explain the symptoms causes of OCD. (1½ + 1½ = 3)

Q.5. Mention the symptoms and causes of ODD. (1½ + 1½ = 3)

Long Answer Question (5 marks 150–200 words)

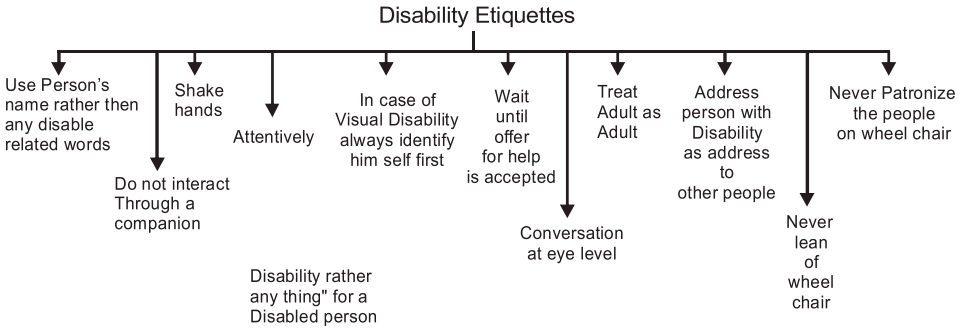
Q.1. Discribe the symptons and causes of ADHD in detail.

Q.2. Explain the nature of SPD and ODD in detail.

4.4. Disability Etiquettes

Etiquettes acceptable behaviour in society with good manners & proper conduct.

Disability etiquettes, It is a set of guide lines dealing specifically with person with disabilites to approach.



Short Answer Type Questions (3 Marks 40 to 50 words)

Q.1 Mention any two disability etiquettes while talking to a person using a wheelchair.

Ans. i. Wheelchair is a part of the body for the user. While talking with such a person, always be in front of him/her and maintain eye contact.

ii. It is inappropriate to automatically assist the individual without his/her permission. If your assistance is rejected, respect their decision.

iii. If the conversion with a wheelchair user lasts longer, either knee down or sit down at a nearby place to give the individual a more comfortable viewing angle.
I mention any two disability etiquettes While talking to a person with visual disabilities.

iv. Always introduce yourself and the people accompanying you before starting a conversation with such people.

v. While walking with a person having a visual disability, offer your arm for them to hold. Guide the person about the curve ditches, potholes, or steps along the way.

vi. Always inform them before ending a conversation or leaving the room. Do not walk away without informing.

Q.2 Mention any two disability etiquettes while talking to a person with Hearing impairment.

Ans. i. While communicating with a person having a hearing disability, make sure there is no background noise.

ii. Wave your hand or tap them on the shoulder to grab their attention.

iii. Talk slowly and clearly so that they are able to read your lip movements. People with hearing disability often rely on lip movement, gestures of facial expressions for understanding conversations. Use sign language only if both of you are familiar with it.

Q.3 Mention any two disability etiquettes while talking to a person with speech impairment.

Ans. i. Be very attentive and patient while conversing with a person having speech impairment. Do not rush him/her.

ii. Always allow them to complete the sentences themselves instead of completing it for them.

iii. Convey the points you do not understand and allow them to respond freely. Do not pretend to understand if you don't.

iv. Always encourage such people rather than correcting them.

Multiple Choice Questions MCQ (1 Marks)

Q.1 Match the Following

1.	Visualy impairment	a.	behaaviour towards others
2.	Difficulty is speaking	b.	tap the person onthe shoulder
3.	Hearing impairment	c.	Introduce self first
4.	Etiquettes	d.	Speech therpy

(A) 1–b, 2–d, 3–a, 4–c

(B) 1–c, 2–d, 3–b, 4–a

(C) 1–a, 2–b, 3–c, 4–d

(D) 1–d, 2–c, 3–b, 4–a

Q.2 Give below are the two statements labeled Assertion (A) and Reason (R).

Assertion (A) : Disability etiquettes are set of guidelines while dealing with person with disability.

Reason (R) : We should help a person with disability before their ask for it.

In the context the above two statements, which one of the followingis correct?

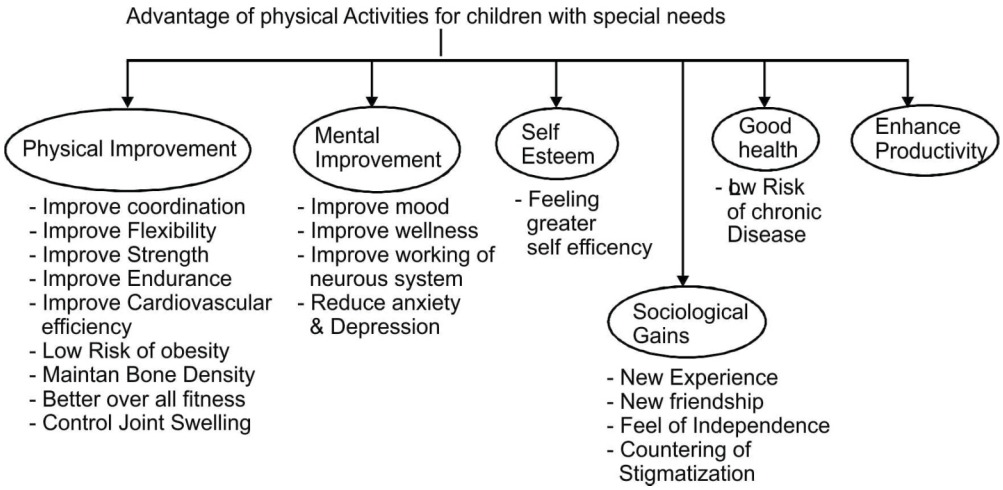
(A) Both (A) and (R) are true and (R) is the correctexplanation of (A).

(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.

4.5. Advantage of physical activities for children with special need



Multiple Choice Questions (1 Marks)

Q.1. Physical improvement CWSN by phyical activities

(A) Strengthen Heart

(B) Spengthen Bones

(C) Not control body weight & blood pressure

(D) Both (a) and (b)

Short Answer Type Question

Q.1. Explain the advantages of physical activities for children with special needs.

Ans. **(1) Physical improvement:** Improvement in concentration.

* Improvement in flexibility
* Improvement in strength
* Improvement in endurance
* Improvement in cardiovascular efficiency
* Decrease the Risk of obesity
* Better over all fitness.
* Improvement in Motor ability
* Minimize joint swelling.

(2) Mental improvement

- Improvement in mood
- Improvement in wellness
- Improvement the working of nervous system.
- Brain release endophins that help to feel good and ease from depression anxiety.

(3) Improved the sense of self esteem

- feeling of greater self efficiency

(4) Sociological Gains

- New experiences
- New friendship
- feel of independance
- countering of stigmatization

(5) Good health

- Low risk of disease

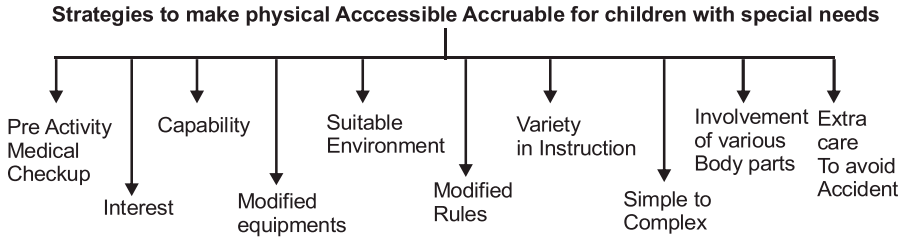
(6) Enhance Productivity

- Improve the working efficiency

Practice Question

1. Explain any three benefits of physcial activities for children with special needs? **(3)**
2. How physical activities improve the mental & social status of CWSN? **(1½ + 1½ = 3)**

4.6. Strategies to make physical activities for children with special needs.



Long Answer Type Question (150-200 words)

Q.1. Explain the strategies to make physical activities accessible for children with special needs.

Ans.

1. **Medical Check-up:** First of all, it is essential to have a medical check-up of all the children with special needs or with various disabilities. Because without medical check-up, the teachers of physical education cannot come to know about the type of disability the child is facing. Indeed, if we really want to make physical activities accessible for the children with special needs, we need to understand the type of disabilities of the children.

2. **Physical Activities Must Be Based on Interests of Children:** Indeed, physical activities must be based on the interests, aptitudes, abilities, previous experience and limitations of children with special needs. So, the teachers of physical education should have a deep knowledge of limitations, interests and aptitudes of children. After that physical activities can be made accessible for children with special needs more easily.

3. **Equipment Related to Physical Activities Should Be According to the Needs of children:** The equipments/ objects related to physical activities should be according

to the needs of children. These equipment should vary in size, shape, colour and weight. These equipment should be according to the capability and level of children. A child with visual impairment should use bright coloured ball. A yarn should be tied to the ball to bring the ball back to children. So, various types of equipment must be provided for children with special needs.

4. **Specific Environment Should Be Provided:** The area of physical activities should be limited as movement capabilities of children with special needs are limited. Specially, in case of children who have autism, they must be provided specific playing area because they may need some time to relax. Light and sound are also vital for making good environment for such children.

5. **A Variety of Different Instructional Strategies Should Be Used:** For performing various types of physical activities, a variety of different instructional strategies such as verbal, visual and peer teaching should be used. It can give children the opportunity to start learning on their own and become more independent. Pictorial books are also vital in terms of instructions regarding physical activities.

6. **Rules Should Be Modified According to the Needs of Children with Disabilities:** In the beginning, rules of the physical activities should be simple but later on these rules can be modified according to the needs of the children. They can be provided extra attempt or time to perform a physical activity. They can also be given additional resting time before doing the next physical activity.

7. **Children's Previous Experience Must Be Taken into Consideration:** For making physical activities more accessible for children with special needs, the concerned teacher of physical education should have comprehensive understanding and knowledge of children's previous experience about physical activities.

In conclusion it can be said that the above mentioned strategies are very significant to make physical activities accessible for children with special needs.

Practice Question (80-90 words)

Q.1. Distinguish between physcial disabilities & Introllectual disabilites. **(3)**

Q.2. Discuss the things we keep in our mind when we prepare the activity plan for a person with disability. **(½ x 6 = 3)**

Q.3. Math the following

1.	Cognitive	a.	Disorder
2.	OCD	b.	Etiquettes
3.	Sympathy	c.	Improvement techniques
4.	Physcial activities	d.	Disability
5.	Medical check-up	e.	Paralympics
6.	Competition in sports & games for CWSN	f.	Strategies or plans

Ans. 1–d, 2–a, 3–b, 4–c, 5–f, 6-e.

Q.4. X is a visually impaired student in the 6th class in an inclusive school. His school is organizing a Sports Day and wants to ensure that all students get to participate. You are a member of the Sports Committee and have to plan the event in an inclusive manner. Keeping that in mind, answer the following question:

(i) Which strategy would you choose to include X in the Sports Day?

(A) His previous experience must be taken into consideration

(B) Modify rules

(C) Take X's interest into account

(D) All of the above

(ii) What kind of instructional should be used on the groubd?

(A) Waving flag

(B) Sound producing equipment

(C) Braille

(D) None of the above

(iii) Physical activities for CWSN leads to_____

(A) Increased stress

(B) Decreased self-esteem

(C) Improved physical fitness

(D) Increased health risk

UNIT - 5

Children and Women in Sports

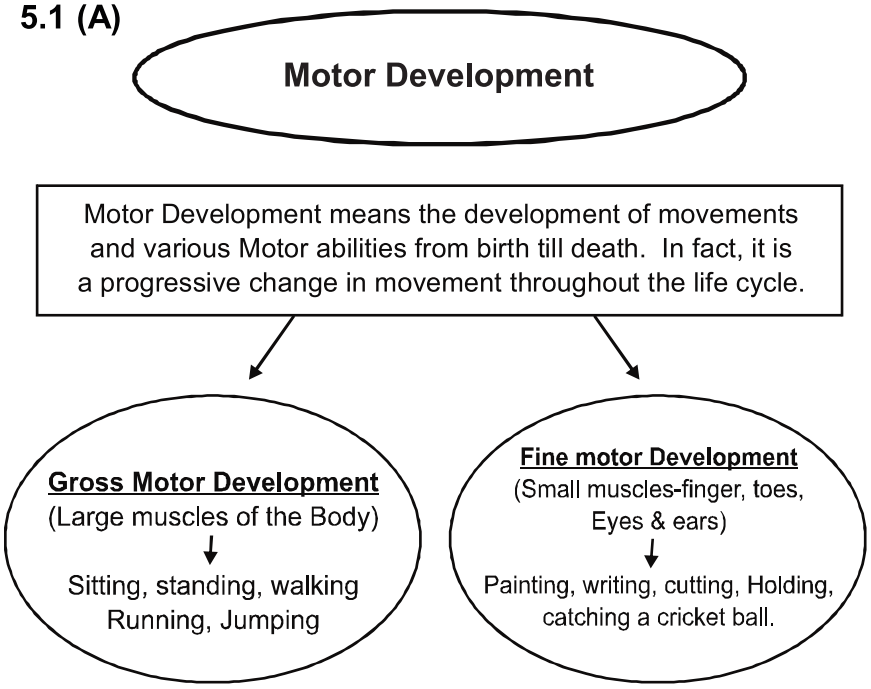
UNIT - 5

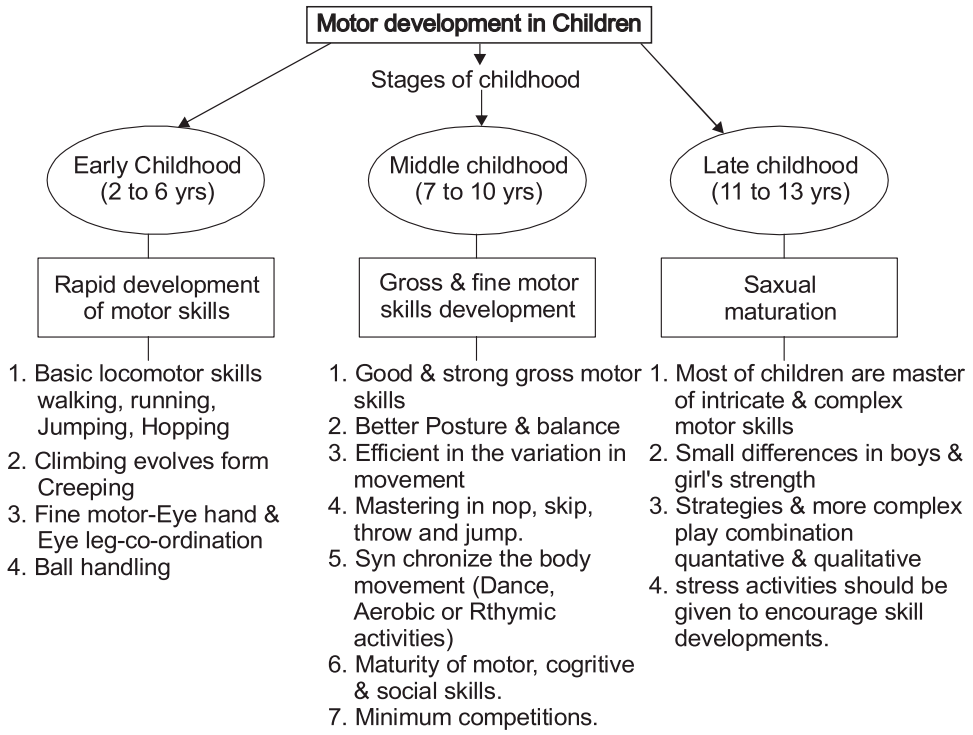
Children and Women in Sports

Key Points :-

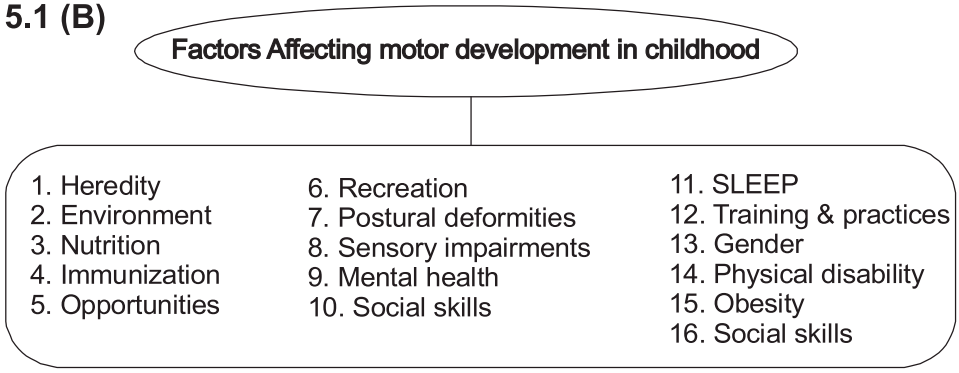
5.1. Motor Development and factors affecting it.
5.2. Exercise Guidelines at different stage of growth and development.
5.3. Common postural Deformities knock knee, flat toot, Round shoulders, Lordosis, kyphosis, Bow legs and scoliosis and their corrective measures
5.4. Sports participation of women in India.
5.5. Special consideration (Menarch & Menstural Disfunction)
5.6. Female Athlets Triad (Oestoporosis, Amenoria, Eating Disorders)

5.1 (A)





5.1 (B)



Multiple Choice Questions MCQ (1 Marks)

Q.1 Which development is motor development

(A) **Bones & muscles**

(B) Sense Organs

(C) Disorder development

(D) Postural deformity

Q.2 Select the right no. of motor skills development in children

(A) 2

(B) 4

(C) 6

(D) 1

Q.3 Painting, catching activities are the examples of

(A) Gross motor skill development

(B) Fine motor skill development

(C) Sensory skill development

(D) Bone & musles development

Q.4 Choose the correct one

1. Big muscles activies	a. 3 to 6 yrs
2. Small muscles activities	b. Running, jumping
3. Early childhood	c. Painting, cathing

(A) 1–a, 2–b, 3–c

(B) 1–c, 2–b, 3–a

(C) 1–b, 2–c, 3–a

(D) 1–c, 2-a, 3-b

Q.5 Elucidate the meaning of motor development. (2)

Ans. Motor development refers to the development of a child's bones, muslces and ability to move around and manipulate his/her environment. In simple words, motor development means the development of movement various motor abilities from birth till death. In other words, motor developmetns the progressive change in movement thoughout the life cycle. As a matter of fact, the ability to move is essential for human development. Various motor movements or motor skill are essntial for everday life activies such as sitting, walking, running, climbing, catching or holding, jumping skipping or throw etc. Motor development can be divided into two types i.e,. gross motor development and fine motor development.

Q.6 Mention types of motor development in new child. (3)

Ans. 1. **Gross motor development:** It involves the development of large muscles in the child's body such as sitting, walking, running, climbing etc.

2. **Fine motor development.** It involves the small muscles of the body specially in the small movement of the fingers and hands. For example, holding of javelin, discus, pole, catching a cricket-ball, smashing a volley ball and gymnastic exercies with or without apparatus etc.

Q.7 Explain any five factors affective motor Development in children. (5)

Ans. The following are the most important factor which affect he motor development in children.

1. **Heredity:** Children get genes' for all the developments from their parents. It has been seen motor development of a child follows the same pattern as of their parents. These factors are related to body weight, size and strength.
2. **Envirnmental Factrs:** Envirnmental factors such as physical and social factors are likely to effect the motor development. Encouragement, love and security help the child to take risk to explor fearlessy which leads to better motor development. Those children, who are notencouraged or motivated towards motor activities have slow rate of motor development.
3. **Nutrition:** Nutritive food promoter good motor development. If they get nutritive food, they get stronger & their development is good. If they dont get proper nutrition they are found to be less energetic & their motor development taken place slowly.

4. **Physical Acitivities:** Those children, who do not perform or practise physical activities regularly their motor development becomes slow. However, the physical activities must be according to the capabilities of children.
5. **Opportunities:** Children who get more opportunites to perform more activities, motor development is better in them. Opportunities to play give a better chance of developing sensory motor activities. If porper opportunities are not given to children their motor development cannot take place in those childern properly.
6. **Disability and Disease:** Disability and disease affects motor development. It reduces perfection in motor skills whereas healthy perosn gain faster motor development.
7. **Body Weight:** Overweight and obese children have less motor development whereas healthy child has more skill perfection.
8. **Mental Ability:** Motor development depends upon mental level, thus small children have less perfectionn.
9. **Regular Practice:** With regular practice motor development and perfection is gained.
10. **Immuniztion:** If mother and child both are immunized at a proper time it leads to good sensory motor development.

Practice Questions

Q.1 Elucidate the meaning of cross motor development. (2)

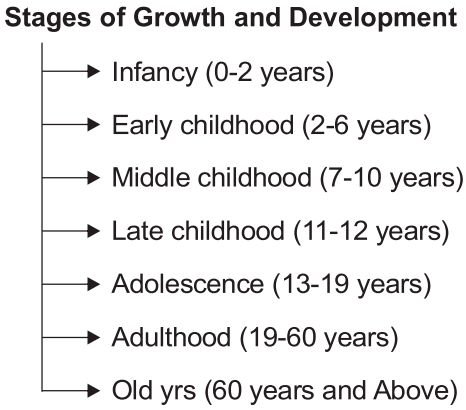
Q.2 What do you mean by fine motor development? (2)

Q.3 Mention any 4 facts affecting motor development. (½ x 4 = 2)

Q.4 What is motor development? write any two facts. (1+2=3)

Q.5 Explain any fine facts affecting motor development in children. (5)

5.2 Exercise Guidelines at Different Stages of Growth and Development.



1. Infancy (0-2 years)

- Exercise to develop head control, sitting & crawling,
- Gross motor activities should be promoted,
- Exercies for moving arms, legs, reaching to object,
- Exercies like throwing, catching & kicking a ball,

2. Early childhood (2 to 6 years)

- Exercies to develop competence in movement skills.
- Emphasis on participation not on competition.
- Activites related to fine motor skills.
- Minimum one hour regular medium exercise.
- Recreative & enjoyable methods of physical activies.
- Clean & safe environment.

3. Middle child hood (7 to 10 years)

- Exercise to develop fine & gross motor skills
- Exenises to bulid & improve co-ordination skills
- Exensises to develop synchronize the movements of body's parts.
- Introduction of major sports activies cognitives and social skills.

4. Later childhood (11 to 12 years)

- Exercise to develop body control, strength and coordination.
- Activities related to edurance should be avoided.
- Organised or team games to develop social-consciousness.
- Teach basic rules of sports i.e., fair, play, simple strategies.
- Introduction to concept of sport training.

5. Adolesence (13 to 19 years)

- Moderate to vigorous intensity physical activity.
- 60 min to several hrs everday.
- Muscle strengthening exercies at least 3 times a week.
- Bone strengthening exercies and resistance exerciese by weight training.
- Running swimming etc. for stamina building.

6. Adulthood (19-60 years)

- Moderate intersity physical every day.
- Muscles strengthening exercise at lest 2 times a week.

- Bone strengthening exercies and resistance exercise.
- Running, swimming, etc. for stamina building.

7. Old age (60 years and above)

- At least 5 days of moderate intensity activities such as walking, light-jump etc. It should be done for above 45-60 minutes. These actions shold be done over a period of 10-10 minutes.
- Those who are more active than an eldearly mature, They should do more than 30 mintues of high-strength activitiy, combined with the actions of moderate intensity. Such as climbing stairs, running etc.

Benefits of Physical Exerises on children

- Builds healthy muscles,
- Good Digestive Process,
- Boost Energy level,
- Improve neuro-muscular co-ordination,
- Strengthen the lungs & Heart,
- Control healthy weight,
- Improve brains funciton,
- Reduce injuries and diseases risk,
- Improve joint's flexibilty,
- Maintain good postures,
- Strengthnes bones & musles,

Multiple Choice Questions MCQ (1 Marks)

Q.1 Select the correct development during infancy state.

(A) Moral values

(B) Various senses

(C) Fine motor skill

(D) Writing skills

Q.2 Pre-school children learn things by

(A) Imagination

(B) Practice

(C) Lecture

(D) Repetition

Q.3 In the childhood, children's beheviour is mostly influenced by

(A) Friends

(B) School

(C) Peer group

(D) Family

Q.4 In adolscence exerises help to

(A) Strengthens of cardio-vascular system

(B) Increases age toward old

(C) Move away from society

(D) Remove various senses

Q.5 Match List-A with List-B & select correct answer from the code

List - A	List - B
1. Infany	(a) 13-18 years
2. Old age	(b) 19 to 59 years
3. Adulthood	(c) 60 years and above
4. Adolescence	(d) 3 to 12 years
5. Childhood	(e) 0-2 years

Code

	1	2	3	4	5
A	a	b	c	d	e
B	e	c	b	a	d
C	c	d	e	b	a
D	b	c	d	a	e

Q.6 Explain briefy abour the motor development in middle childhood? (2)

Ans. Middle childhood: The period of middle chiildhood starts for 7th year and continues up till 10th year. During this period the changes, which takes place are-

a. Children become more energetic.
b. Strong desire to engage in various physical movements and activities.
c. Good eye-hand-leg coordination.
d. Better in balance and postures.
e. Motor skills are perfected and stabilized.
f. Coordinative abilities develop at the high level, while the flexibility develop at the slow level.

Q.7 Write the benefits of exerises during old age? (2)

Ans. Benefits of exercies during old age

- In low the chances of heart-related diseases.
- Increases ability to work in daily life without fatigue.
- Slows down ageing process.
- The mode remains good, which reduces the change of depression.
- Physcial capacity increases.
- Bones and muscles remain strengthened.
- Reduces the chance of many lifestyle related diseases, such as diabetes, cancer and high blood pressure, etc.

Q.8 Describe the exercies for Adolescnce. (3)

Ans. Adolescence (13 to 19 years):

- During adolescence, moderate to vigorous intensity exercises or physical activities should be performed for at least 60 minutes or little more daily.
- Adolescents should also indulge in muscle strengthening exercies at least three days per week.
- They should also perform bone strengthening exercises.
- Adolescents or teenagers should avoid sedentary lifestyle.
- Physcial activities or exercises such a running, gymnastics, push ups, jumping rope, playing hockey, basketball, swimming, tennis, and resistance exercises (weight training) are also very beneficial during adolescence.

Practice Questions

Q.1 What exercises shouuld be done in old age? (2)

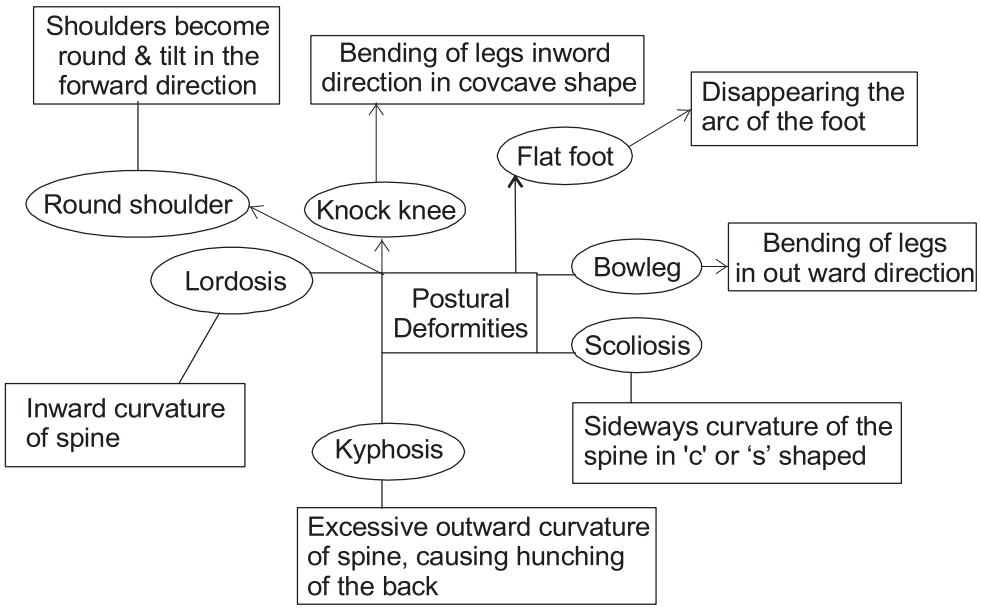
Q.2 Describe the exercise for the adulthood. (2)

Q.3 Explain the benefits of physical exercises on the children. (3)

Q.4 Write down the different stage of growth & development. (5)

5.3 Common Postural Deformities and their Corrective. Measures

Postural deformity is the malformation of any components are body part or joint of the body.



Multiple Choice Question (1 Mark)

Q.1 Deformity means

(A) The mauformation of any component of the body

(B) The of malfunction of body's organs

(C) The malfunction of joints of the body

(D) De-spaped of muscles

Q.2 Lordosis deformity is

(A) Lateral curvature of the spine

(B) Arch of sole of feet

(C) Abnormal backword curvatue of the thorasic region of the spin

(D) Aggra vated lower curvature of the lumber region

Q.3 Scoliosis is postural defornity where the person body positionbecome-

(A) Lateral curvature of the spine

(B) Arch of sole of feet

(C) Wide gap between the knees

(D) A side way curvature of the spine

Q.4 What are the causes of "flat foot".

(A) Weak muscles of the foot

(B) Improper shoes of carry heavy weight

(C) Healthly muscles of the body

(D) Both (a) & (b)

Q.5 Match List-A with List-B & select the correct answer from the code.

List - A	List - B
1. Round shoulder	a. Abdomen is ahead of body
2. Scoliosis	b. sideways curvature of the spine
3. Lordosis	c. Forward rounding of upper back
4. Kyphosis	d. forward bending of shoulder

Code

	1	2	3	4
(A)	d	b	a	c
(B)	a	d	c	b
(C)	c	a	b	d
(D)	b	c	d	a

Q.6 Explain the symptoms & corrective measures of kyphosis? (3)

Ans. **Symptoms:** Distance between the scapula increase.

- The length of the chest muscles become short.
- Shoulders tilt forward.
- Neck tilt forward
- Upper Body wt. lean forward.

Corrective Measures :- In order to cure kyphosis such types of exercises are suggested, those increase the length of the pectorals and provide strentgh to the thoracic region muscles.

such as :

- Back stroke swimming
- Chakrasana
- Bhujangasana
- Dhanurasana
- Reverse bending on the swiss ball
- Reverse butterfly
- Pillow back extension
- Marjaryasana (cat pose)
- Adhomukha shananasana (Down word dog pose)
- Ustrasana (Camel pose)
- Half wheel pose (Ardha chakaarasana)

Q.7 Mention the symptoms causes & corrective measurs of knock knee. (3)

Ans. **Symptoms :**

- Knees touch each other in standing position.
- Knees touch each other in walking.
- Knees touch each other in running.

Causes :-

- Obesity
- Defficiency of vit D
- Rickets
- Early age walk or standing
- Malnutrition
- Enlargement of Enlargement of medial ligament of both knees quickly as compare to lateral ligament.
- Lifting heavy load for long time.

Corrective measures :-

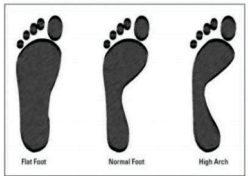
- Horse riding
- Padamasana
- Standing with pillow between the knee
- Use walking calliper
- Straight leg lift
- Straight leg knee press on the towel placed under the knee
- Side kicking the football

Q.8 Disscus the sypmtoms, causes & corrective neasuns of flat feet.

Ans. **Symptoms :**

- Pain in mid part of feet during standing & walking.
- Disappearing the long arch of the feet
- Complete feet print can be seen on the floor.

Causes

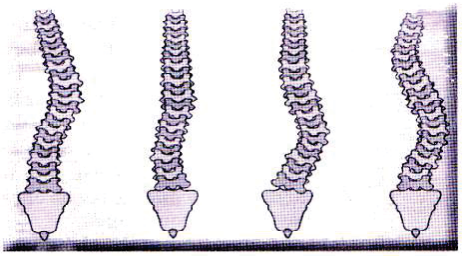


- Weakness of muscles & bones
- over weight
- Obesity
- Carrying heavy load for long time
- Injuries
- Malnutrition
- Faulty shoes

Corrective Measures :-

- Writing with legs
- Walking or running on the sand
- Jumping on toe
- Wearing proper shoes
- Pick the pebble with help of feet
- Walking on toe
- Tadasana
- Vajra-asana
- Ball under the feet game
- Wear the shoe with hankey inside the mid part of the feet

Q.9. Descibe the symptoms, causes & corrective measuring of scoliosis.



Ans. **Scoliosis**

Postural adaptation of the spine in lateral direction is called scoliosis. In fact, these are sideways curves and may be called scoliotic curves. Indeed these curves are identified as either convexity right of right convexity. A simple or single curve to the left or curve. Scolotic curves may be found in 'S' shape.

Causes of Scoliosis: Scoliosis may be due to many reasons but the main reasons are diseases in the joints of bones, under-developed legs, infantile paralysis, rickets, carrying heavy loads on one shoulder, unhealthy conditions, like inadequate lighting arrangement, uncomfortable desks, partial deafness and wrong standing posture. It may be caused by congenited or acquired abnormalities of vertebrae, muscles or nerves.

Precautions:

- Balanced diet should be taken
- Studying should be avoided in sideways bending position.
- Avoid walking for the long time while carrying weight in one hand.

Remedies:

Scoliosis can be remedied by doing the following exercises:

- Bending exercises should be done on the opposite side of the 'C' shaped curve.
- Hold the horizontal bar with hands and lift your body or hange for some time.
- Hold the horizotal bar with your hands and swing your body to the left and right sides.
- Swim by using breaststroke technique.

Q.10. Discuss the symptoms, causes & corrective measure of bow legs?

Ans. Bow legs: There is a wide Gap between the kness.

Symptoms :

- Gap between the knees are increased
- Knee moves in outward direction in standing, walking & running.
- Shape of legs look like the bow.

Causes :

- Inlargement of lateral ligment of both knee quickly as compare to medial ligament.

- Weakness of bones and muscle.
- Long time cross leg sitting.
- Faulty style of Walking.
- Obesity
- Rickets
- Early age standing and walking.

Corrective measures :

- Walking (feet twisted inward)
- Use of walking callipers.
- Massage therapy.
- Use those exercise which strengthen the muscles surrounding the knee such as leg extension in laying position.
- Use yoga strap to bind the legs together then make cow face posture & forward bending are recomended.
- Pilate exercise such as roll up & ballerina arms are effective to tone legs.
- Garud Asana, Ardh-Matsyendrasana

Practice Questions (3 Marks 80 to 90 words)

Q.1 What do you mean by hump back? Explain the causes of it. (1 + 2 = 3)

Q.2 Discuss the causes & corrective measures of scoliosis. (3)

Q.3 What is flat foot? write its precaution for it. (1½ + 1½ = 3)

Q.4 What is postural deformities? write down about the knok knee & bowlegs. (1+1+1 = 3)

Q.5 Write any three symptoms & precaution of round shoulder. (1½ +1½ = 3)

Q.6 Elaborate the factor cause postural deformities. (5)

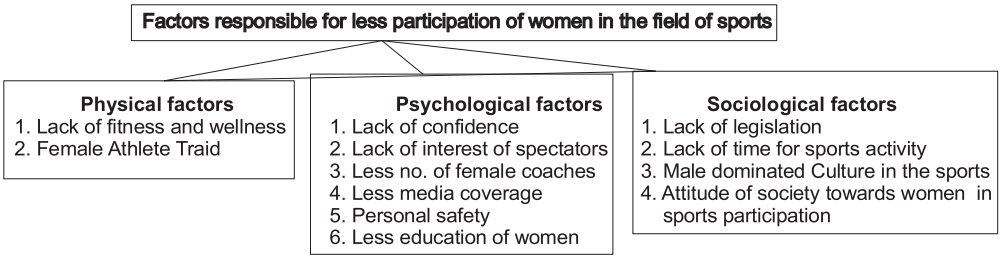
Q.7 Suggest physical activities as corrective measures for postural deformities. (5)

Q.8 Describe the steps taken to protect the postural deformities. (5)

Q.9 Describe the symptoms, cause & corrective measures for kyphosis. (5)

5.4 Sports Participation of Women in India

Sports Participation of women means women Particiapation in the field of sports and games. In 1952 Olympic games, the first India women took part. In 2000 Olympia games, karnam malleshwari (weight lifting) become the first Indian women to have won a bronze medal.



Multiple Choice Questions MCQ (1 Marks)

Q.1 Select the correct reason for less participation of female in sports.

(A) Low physical fitness

(B) Lack of education

(C) Good Legal system

(D) (a) & (b) both

Q.2 Select the correct reason to improve participation of female in sports

(A) Good legal system

(B) Female role model

(C) Improper motivation

(D) Both (a) & (b)

Q.3 Express the reasons for woment to have less participation in sports? (3)

Ans.
- Lack of legislation
- Lack of time
- Lack of self-confidence
- Male dominated caltural of sports
- Lack of interest of spectators
- No media coverage of women's sports
- Lack of female sports person as role models
- Lack of fitness & wellness movement.
- Lack of education among women.
- Attitudes of society towards women's sports participation.
- Lack of personal safety.
- Lack of proper scientific equipments & facilities.
- Sports & games are considered masculine.

- Depression & Aggression level.
- Competitiveness.

Q.4 Elucidate the steps to improve participation of women in sports & games. (5)

Ans. The steps to improve women particiation in the field of sports and games:

- Motivation and inspiration to women for participation.
- Support from family and parents.
- To organise camps, seminar and workshops.
- To provide knowledge and media coverage.
- Educating women at grass root level for participation.
- Provide better infrastructure and facilities.
- Ensuring safety and securitiy of women.
- More opportunity for competition.
- Develop new techniques and environments.
- To build physical and psychological strength.
- Healthy and balance food.
- Better incentives and awards.
- Change in attitude and perception at village level.
- Equality and community mobilizing.
- Developement of self Confidence.
- Financial help
- Employment and career
- Designing and implementing government policies.

Practice Questions

Q.1 Write down the any four social factors of women participation in sports. (2)

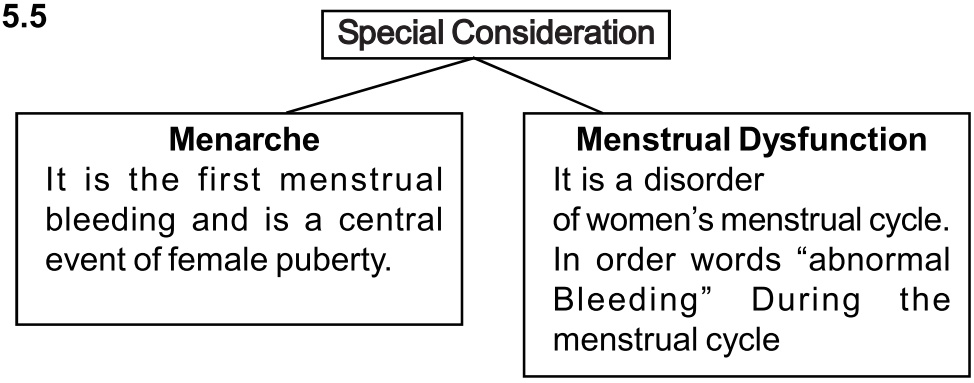
Q.2 Comment on the physical & physiological factors of less women participation in sports. (2)

Q.3 Discuss any three social suggestion to encourage the women participation in sports. (3)

Q.4 Discribe any three reasons of less participation of women in sports & games. (3)

Q.5 Suggest techniques to promote Paticipation of women in sports. (5)

5.5



Multiple Choice Questions MCQ (1 Marks)

Q.1 Menarche is the_____.

(A) Very first menstrual bleeding in girls

(B) Last menstrual bleeding in girls.

(C) Irregular bleeding in girls.

(D) Regular bleeding in girls.

Q.2 The average menstrual cycle consists of _____days.

(A) 10–15 days (B) 15–25 days

(C) 21–35 days (D) 05-10 days

Q.3 Define menstrual dysfunction

(A) Irregular menstrual bleeding

(B) Delay of menstrual Cycle

(C) Lack of Haemoglobin

(D) Extra amount of Haemoglobin

Q.4 Match the following:

a.	Menarch	1.	Irregular menstrual bleeding
b.	Menstrual cycle	2.	Very first menstrual bleeding
c.	Menstrual dysfunction	3.	21–35 days

(A) a–1, b–2, c–3, (B) a–3, b–2, c–1

(C) a–2, b–3, c–1 (D) a–1, b–3, c–2

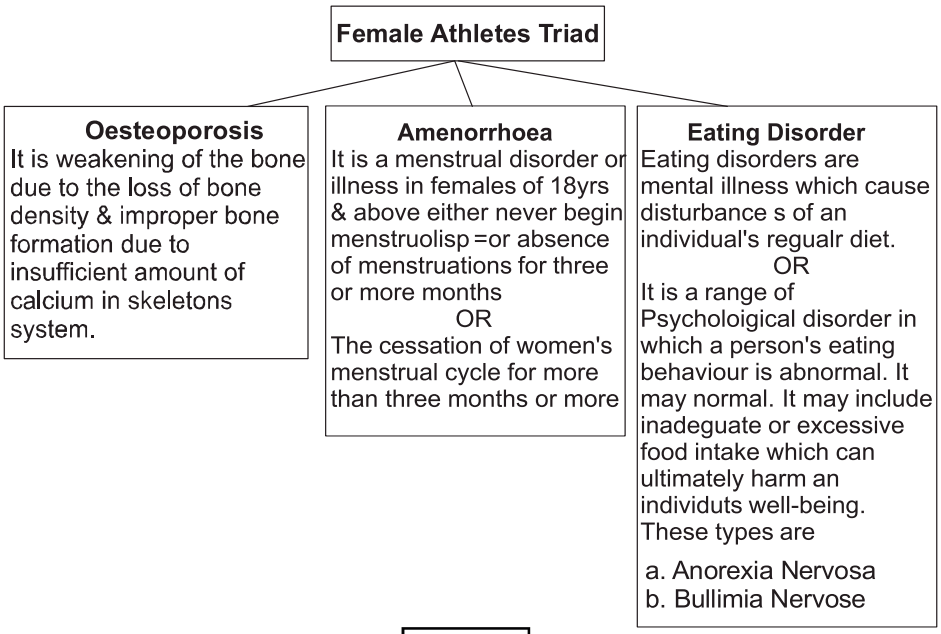
Practice Questions

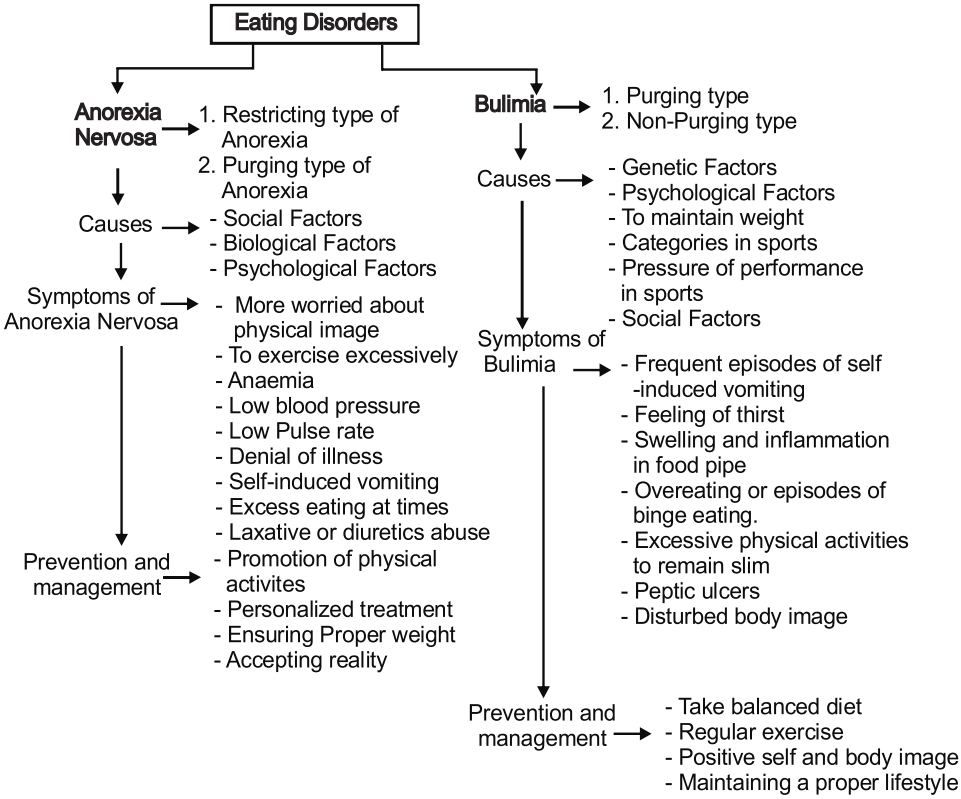
Q.1 Discuss the concept of menarch. (2)

Q.2 Write down the concept of menstrual cycle. (2)

Q.3 Define menstrual dysfunction. Elaborate the various types of problems related to menstrual dysfunction. (1 + 2 = 3)

5.6 Female Athletes Triad





Multiple Choice Question–1 Mark

Q.1 Oesteoporosis mean.

(A) Insufficient calcium in bone

(B) Low bone density

(C) Both A & B

(D) None of the above

Q.2 Anorexia nervosa is a

(A) Mental disorder illness

(B) Wrong perception

(C) Normal diet related diseases

(D) Serious disease

Q.3 Amenorrhoea is the caused by

(A) Hormonal imbalance, irregularity in diet

(B) Harmonal Imbalance in reproductive system

(C) Hormonal imbalance & irregular in menstrual cycle

(D) Hormonal balance regular in meustrual period

Q.4 Bullimia Nervosa is an

(A) Eating disorder

(B) Eating disability

(C) Eating of balance diet

(D) Eating of habits

Q.5 What are the causes and risk factors of oesteoporosis? (2)

Ans. Oesteoporosis is a sketal disorder which refers as to the decreased bone material contens. There are various factors, which lead to oesteoporosis, these are :

- **Insufficient calcium in diet :-** The main cause of oesteoporosis is intake of insufficient calcium in diet.
- **Amenorrhea :-** Women suffering from Menstrual dysfunction or Amenorrhoea for more than 6 months are likely to face oesteoporosis because the secretion of the hormone called Oestrogen is decreased in those women. This hormone is necessary for absorption of calcium in our body.
- **Eating disorder :-** Eating disorder like anorexia and bulimia etc. may also cause osteoporosis because their can be less amount of calcium intake.
- **Bad Eating Habits :-** Intake of Caffeine, Alchohol, tobacco or smoking may lead to osteoporosis. These products have a negative effect on Bone Density.

Q.6 Elaborate the various types of disorders/problems related to menstrual dysfunction. (3)

Ans.

- **Absence of menstrual periods :-** This problem may be due to eating disorder, excessive exercise schedule, extreme level of stress and medications etc.
- **Premenstrual syndrome :-** Many girls may have symptoms such as acne, backaches, Sore breasts, headaches, constipation, depression, irritability and feeling anxious etc.

  These symptoms may be faced by female before their menstruation.
- **Abnormal Cramps :-** These cramps are caused by a chemical in the body that makes the muscles in the uterus contract.
- **Heavy or prolonged peroid :-** It is common for a girl's menstrual period to be heavier on some days than others.
- **Irregular menstrual period :-** The regular menstrual cycle for a female is 28 days. However, it may very from 21 to 35 days.
- **Delay in the first menstrual period.**

Q.7 What do you mean by female triad? Explain the causes of it.

Ans. Female triad means a syndrome in which osteoporosis, amenorrhoea and eating disorders are present in the female. The triad is a serious disorder or illness with life long health consequences and can be very fatal. In fact it is syndrom of three interrelated conditions.

Osteoporosis : It is a skelton disorder which refers as to the decereased bone material contents.

- Insufficient calcium in diet,
- Eating disorder,
- Amenorrhoea,
- Bed eating habbits,

Amenorrhoea:- It is a menstrual disorder or illness in female of 18 years or above either never began menstruating or there is an absence of menstruation for three mothss and more.

The factors or causes which may inspire or enhance the chances of amenorrhoea,

- Hormone changes
- Intensive excises
- Intake of less carbohydrates or calories.

Eating disorders: When people began to eat more than normal or very small amounts it is known as eating disorders.

There are two types of eating disorder:

- Anorexia Nervosa
- Bulimia Nervosa

Q.8 What do mean by Anorexia Nervosa what are its causes, symptoms and preventions?

Ans. **Anorexia Nervosa:** This is a psycho-physical condition. It is characterised by lack of appetite and a associated with the subconscious desire to remain slim. Such a felling usually develops in young women or adolescene female in order to retain their body figure and image. As a result of this, there is a refusal to maintain normal body weight from their fear of becoming obese and spoiling their figure.

Anorexia is an eating disorder which is affecting the youth nowadays., It is a dangerous disorder for our health and well being.

Anorexia can lead to many problems such as bone loss, loss to skin integrity and many even cause menstruation to stop. It puts great stress on the heart and interreges the risk of heart attacks and other heart related problems. Individual suffering from anorexia also face an increased risk of death.

Causes of Anorexia : Anorexia is an eating disorder that is caused by a combination of several psychological social and biological factors. Several other factors such as family environment, personality traits and low self-esteem may also lead to anorexia. The factors causing anorexia are as follows:

- **Psychological factors:** Individuals suffering from anorexia are generally perfectionists. Due to their obsession with keeping themselves fit, they are always conscious about their body. For this, they do not even hesitate to use artifactual means. Eating too little, excessive exercise, always being conscious about their body weight and physical appearance become the main causes of anorexia.
- **Social factors:** Cultural and social constructs about being thin and beautiful put severe pressure on individuals and may cause anorexia. Specific social and cultural ideas relating to health and beauty, promote weight loss and begin thin as the ideal indicators of success and self-worth. Sometimes, parents and relatives may also be critical or their children's physical appearance which may lead to anorexia.
- **Biological factors:** Biological factors such a circular hormonal functions and nutritional deficients may cause anorexia. Genetics also play a significant role in anorexia as parents suffering from anorexia are more prone to having children who are likely to develop anorexia.

Symptoms of Anorexia

- **Significant underweight:** The individual having anorexia will not be able to maintain BMI and will lose weight significantly.

- **Anaemia:** Anorexia may be one of the leading causes of anaemia. This leads to tiredness in a individual.
- **Low pulse rate:** The individual having anorexia will have low heart rate.
- **Low blood pressure:** Anorexia may led to low blood pressure.
- **Decrease in body temperature:** Low body temperature is also one of the symptoms of anorexia. Due to low heart rate and low blood pressure, temperature of body is not maintained properly.
- **Failure of menstruations or cessation of the same once established:** Irregular menses or Amenorrhoea may be one symptom of anorexia. Irregularity in mensuration is one of the main causes of anorexia.
- **Denial of illness:** An individual suffering form anorexia has the tendency to deny the facts related to the disorder.
- **Self-induced vomiting:** An individual suffering from anorexia will go the wash room frequently and induce vomit, especially after and meal.
- **Excess eating at times.** An individual suffering form anorexia will eat excessively and when he is unable to digest the food, they will induce vomit.
- **Laxative or derelicta abuse.** An individual suffering from anorexia will use diuretics and drain out fluids from his/ her body to remain slim. Individuals also use laxatives or artificial sweeteners.

Prevention and Management of Anorexia

The prevention and management of anorexia and very important in the treatment of this disorder. The basic preventive measures used in anorexia are also follows:

- People should be encourage to inculcate a positive self-esteem and body image.
- Body sizes should not be criticized and students should not be taught to be preoccupied with their weight.

- Students should have knowledge of generic factors that determine body weight. They should be made to understand that being thin is not the most important means to be popular, beautiful or successful.
- They should have a healthy approach towards their eating and exercising habits and should avoid the company of those people who are obsessed about their body weight.

Q.9 What is Bulimia? What are its causes symptoms and prevention?

Ans. Bulimia is an affecting adolescence girls or young women it is characterised by period of excessive eating (binge) alternating with normal eating.

Types of Bulimia 1. Purging, 2. Non-purging.

Causes of Bulimia: Bulimia is not the result of a single or definitive cause. There are many factors that are related to bulimia.

- **Genetic factors:** Genetic factors play a vital role in the development of bulimia if one or both parents of an individing or siblinigs has bulimia then he/she is most likely to suffer from this disorder.
- **Psychological factors:** Psychological factors also play an important role in the development of bulimia in individuals. If an individual has a problem of low self esteem and body image,
- **To maintain weight categories in sports:** Sportspersons taking part in sports like Judo, wrestling, weight lifiting etc. which have different weight categories are more likely to suffer from this eating disorder.
- **Pressure of performance in sports:** Sportsmen reduced body weight will enhance their performance in sports and increase their chances of success, thereby making them vomit the food that they eat.
- **Social factors:** Social factors such as peer pressure and preconceived notious about body weight and being

thin, play a significant role in causing bulimia the media also encourage the desire to thin among the youth.

Symptoms of Bulimia :

- Frequent episodes of self-induced vomiting,
- Feeling of thirst,
- Swelling and inflammation in food pipe,
- Overeating or episodes of binge eating,
- Excessive physical activities to remain slim misuse of medical aids,
- Red coloured eyes due to broken blood vessels caused by vomiting jerks,
- Peptic ulcers,
- Erosion of dental enamel,
- Disturbed body image,

Revelation and Management of Bulimia :

- There is no fixed cure for Bulimia. This disorder may be prevented upto some extent by following.
- Individuals should take a balanced diet and follow healthy eating habits.
- A proper regimen of exercise should be followed regularly to maintain a healthy lifestyle.
- Bulimia can also prevented by having a positive self and body image. Individuals should not be critical of their body shapes and sizes and focus or maintaining proper lifestyle.

Practice Questions

Q.1 Given below are the two statements labelled Assertion (A) & Reason (R).

Assertion (A) : Eating disordes ia a mental illness.

Reason (R) : B. It is aften accomplished by lessay control of eating habbit.

From the above statement choose the correct option from below.

(A) Both statement are true and statement (B) is the correct explanation of statements (A)

(B) Both statement are true and statement (B) is the not correct explanation of statements (A)

(C) (A) is the true, But (B) is false

(D) (A) is the false, But (B) is true

Q.2 Which Athletes are at high risk in developing eating disorder.

(A) Weightlifter

(B) Boxer

(C) Synchronised Swimmers

(D) All of above

Q.3 What is eating disorders? Name its. (2)

Q.4 What are the symptoms of female athlete triad? (2)

Q.5 What you do means Osteoporosis? (2)

Q.6 What you do means by female athlete triad? (3)

Q.7 Write down a short notes on eating disorders. (3)

Q.8 How to recognize & prevent female athlete triad? (3)

Q.9 Discuss in detail about female athlete triad. (5)

Q.10 Explain various factors which usually lead to osteoporosis among women athlete. Explain the treatment also. (5)

Q.11 Match list - A with list - B & select right answer from code.

List - A	List - B
1. Round shoulder	a. Eating disorder
2. Menarch	b. Loss bone material
3. Oesteoporosis	c. First menstrual Bleeding
4. Anorexia nervosa	d. Posture deformity

Code

	1	2	3	4
(A)	a	b	c	d
(B)	d	c	b	a
(C)	c	d	a	b
(D)	b	a	d	c

Q.12 Match list - A with list - B & select correct answer

List - A	List - B
1. Adolesence	a. Postural Deformity
2. Kyphosis	b. Running
3. Big Muscles	c. 21 - 35 years
4. Menstrual cycle	d. 13 to 19 years

Code

	1	2	3	4
(A)	a	b	c	d
(B)	c	d	a	b
(C)	d	a	b	c
(D)	b	c	d	a

Q.13 Gives below are the two statements labelled Assertion (A) & Reason (R)

Assertion (A)- Children have postural deformities due to lack of exerciser

Reason (R)- Girls have more eating disorder than boys.

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

(B) Both (A) and (R) are true but (R) is not correct explanation of (A)

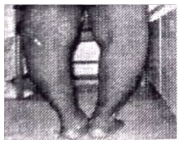
(C) (A) is true, but (R) is false

(D) (A) is false, but (R) is true

Q.14 Match list - A with list - B & select correct answer

(A)_____

(B)_____



(C)_____

(D)_____

Q.15 Sunil is a student of class VI & he has flat foot so he can not run fast. During the recent medical check up at school he corrective was advised to practice exercises & shoes for based on this case answer the following question

(i) The physical education teacher at the school has asked sunil to perform

(A) Walk on heels (B) Walk on toes from toes

(C) Pebble collection (D) All the above

(ii) Which one exercise is not help to correct flat foot

(A) Horse riding (B) Rope climbing

(C) Toes up & down (D) Heels up & down

(iii) **Sunil is also suffering from round shoulder for which he is advised to**

(A) Chakrasana
(B) Shavasana
(C) Walking with clippers
(D) None of above

UNIT - 6

Test & Measurement in Sports

UNIT - 6

Test & Measurement in Sports

Key Points :

6.1 Motor Fitness Test : 50 m Standing Start, 600 m Run/walk, Sit & Reach, Partial curl up, Push ups (Boys), Modified Push ups (Girls), Standing Broald Jump, Agility (4 ×10 m) Shuttle Run.

6.2. General Motor Fitness : Barrow three item general motor ability (Standing Broad Jump, Zig Zag run, Medicine Ball Put (For Boys: 03 Kg & For Girls: 01 Kg)

6.3. Measurement of Cardio Vascular Fitness :
Harvard Step Test/Rockport Test

Computation of Fitness Index =

$$\frac{\text{Duration of the Exercise in Second} \times 100}{5.5 \times \text{Pulse Count between 1 to 1.5 Min after Exercise}}$$

6.4. Rikli and Jones : Senior Citizen Fitness test

1. Chair Stand Test	for Lower Body Strength
2. Arm Curl Test	for Upper Body Strength
3. Chair Sit & Reach Test	for Lower Body Flexibility.
4. Back Scratch Test	for Upper Body Flexibility
5. Eight Foot Up & Go Test	for Agility.
6. Six Minutes Walk Test	for Aerobic Endurance.

6.1. Motor Fitness Test

1. 50 M Standing Start	2. 600 M Run/Walk
3. Sit and Reach Test	4. Partial Curl Up
5. Push Ups (Boys)	6. Modified Push ups (Girls)
7. Standing Broad Jump	8. Agility - 4 × 10 M Shuttle Run

Motor Fitness Test

Test Item	Purpose/Measure	Material Required
1. 50 M Standing Start	Speed	Measuring tape, Marking of 50 M Lanes with white powder, Flat & Clear Surface, Stopwatch, Pen & Paper for Maintain Record/Score
2. 600 M Run/Walk	Aerobic Endurance	Measuring tape, Marking of Track with white powder, Flat & Clear Surface, Stopwatch, Pen & Paper for Maintain Record/Score
3. Sit and Reach	Flexibility	Sit and Reach Box with Measuring Scale, Pen and Paper for Maintain Record/Score
4. Partial Curl Up	Abdominal Strength	Yoga/Exercise Mat, Flat & Clear Surface, Stopwatch, Pen and Paper for Maintain Record/Score
5. Push Up (Boys)	Upper Body Muscles Strength	Yoga/Exercise Mat, Flat & Clear Surface, Stopwatch, Pen and Paper for Maintain Record/Score
6. Modified Push Up (Girls)	Upper Body Muscles Strength	Yoga/Exercise Mat, Flat & Clear Surface, Stopwatch, Pen and Paper for Maintain Record/Score
7. Standing Broad Jump	Explosive Power of Legs	Flat & Clear Surface, Marking of Takeoff Line with White Powder, Measuring Tape, Pen and Paper for Maintain Record/Score
8. Shuttle Run (4 x 10 M)	Agility	Flat & Clear Surface, Marking of two Parallel Line with distance of 10 M, Two Wooden Blocks, Stopwatch, Pen and Paper for Maintain Record/Score

Multiple Choice Questions MCQ (1 Marks)

Q.1. Match the following

1. 600 M Run/Walk	A. Flexibility
2. Sit and Reach	B. Muscular Strength
3. Push ups (Boys)	C. Agility
4. Shuttle Run (4x10)M)	D. Endurance

(A) 1C, 2B, 3D, 4A

(B) **1D, 2A, 3B, 4C**

(C) 1B, 2C, 3D, 4A

(D) 1B, 2A, 3C, 4D

Q.2. Partial curl up test for

(A) To measure the explosive power of legs

(B) To measure agility and speed.

(C) **To measure abdominal strength**

(D) To measure acceleration speed

Q.3. Athlete speed (Acceleration) is measured by

(A) Modified push ups (Girls)

(B) 4 × 10 M shuttle Run

(C) **50 M Standing Start**

(D) Sit and Reach

Q.4. Modified push ups are meant for

(A) Volleyball player

(B) Boys

(C) Cricket player

(D) **Girls**

Q.5 Gives below are the two statements labelled Assertion (A) & Reason (R)

Assertion (A): Sit and Reach test is used for measuring flexibility.

Reason (R): The Purpose of Sit and Reach test is to measuring the ability of an individual to reach as forward as possible.

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

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

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

(C) (A) is true, but (R) is false

(D) (A) is false, but (R) is true

Short Question (3 Marks)

Q.1. Briefly describe the process and scoring of the 50 m standing start and 600 m walk/Run test.

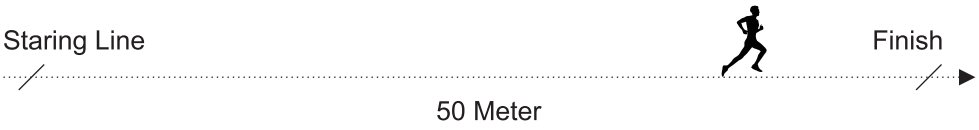
Ans. **50 M Standing Start**

Objective: To measure Speed ability

Material Required: Measuring Tape, Marking of 50 M Lanes with White Powder, Flat and Clear Surface, Stopwatch, Pen and Paper for Maintain Record/Score.

Procedure: The test involves running a single maximum sprint over 50 meters, with the time recorded, start from a stationary standing position (hands cannot touch the ground) with one foot in front of the other. The front foot must be behind the starting line. Once the subject is ready, the stater give the instructions “set” then “go” participant the teacher (tester) give the instructions"set"then go. participant should be encouraged to not slow down before crossing the finish line.

50 Meter Standing Start Run



Total Numbers of Trials: 3

Scoring: Best of three, time taken to cover 50 M distance is expressed in seconds.

600 M Walk/Run Test

Objective: To measure aerobic endurance ability

Material Required: Measuring Tap, Marking of Track with White Powder, Flat and Clear Surface, Stopwatch, Pen and Paper for Maintain Record/Score.

Procedure: 600 m walk and Run can be orgainzed on track subject runs a distance of 600 m. The subject takes a standing start from the starting line. The subject may walk in between. However, the purpose is to cover the 600 m distance in the shortest possible time when subject crosses the finish line.

Scoring: Subject's time taken to cover 600 M distance.

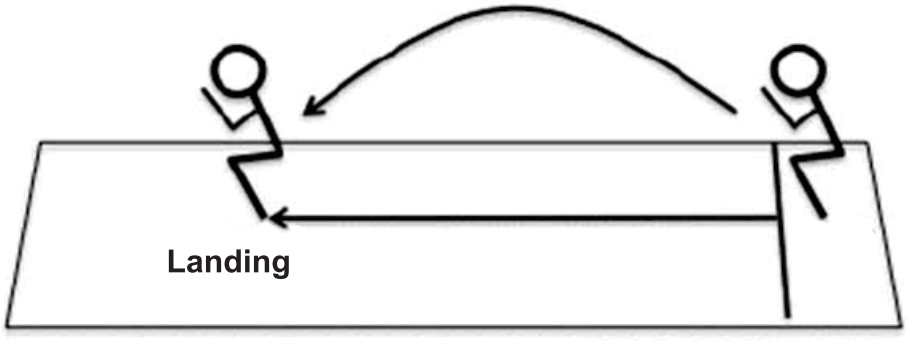
Q.2 Standing broad jump tests the strength of which part of the body? Explain the procedure of the test.

Ans. The explosive strength of the legs is tested by the standing broad jump test.

Objective: To measure explosive strength of legs

Material Required: Flat and Clear Surface, Marking of Takeoff Line with White Powder, Measuring Tape, Pen and Paper for Maintain Record/Score.

Procedure: A take off line is marked on the ground. Subject stands just behind the take off line with the feet several inches apart. The subject swings the arms and bends the knees to take a jump in the long jump pit. Three trials are given to the subject.



Standing Broad Jump

Total Numbers of Trials: 3

Scoring: Best of three Jumps, the distance is measured from the taken off line to the heel or other part of body that touches the ground nearest to the take off line.

Q.3. Briefly describe the process and scoring of the 4 x 10 M shuttle Run.

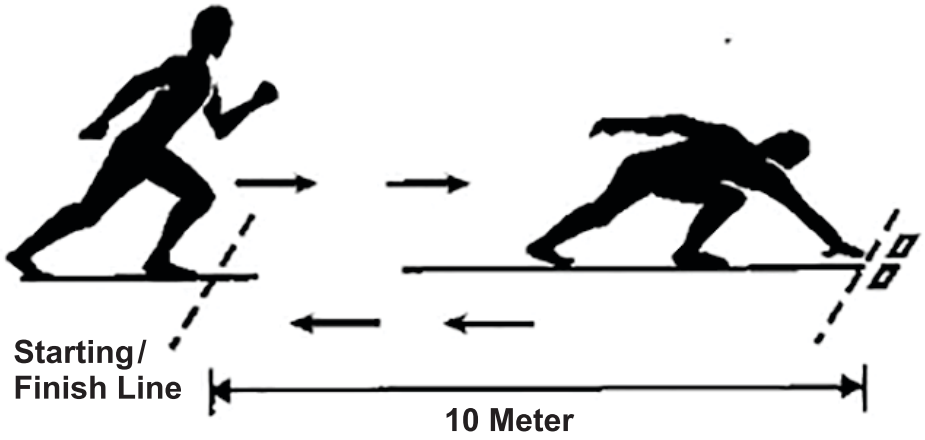
Ans. Shuttle Run

Objective: To measure agility

Material Required: Flat and Clear Surface, Marking of two parallel Lines with distance of 10 M, Two Wooden Blocks, Stopwatch, Pen and Paper for Maintain Record/Score.

Procedure: Two parallel lines are marked 10 meters apart wooden blocks (2 × 4 inches) on one side of marked line. The student stands just behind the starting line (opposite side, where two wooden blocks are placed). One the student is ready, the teacher (tester) gives the command "GO" then student runs towards wooden blocks and pick one of them and runs towards starting line and places the block behind the starting line. The student continues to run and similarly picks other block and place at starting line as quick as possible.

Shuttle Run



Total Numbers of Trials:2

Scoring: Best of two trials, record the time to complete the test in seconds.

Long Question Answer

Q.1. Enlist of motor fitness test and explain the process of any Two test.

Ans. Motor fitness test

1. 50 M standing Start
2. 600 M Run/Walk
3. Sit and Reach Test
4. Partial Curl Up
5. Push Ups (Boys)
6. Modified Push Ups (Girls)
7. Standing Broad Jump
8. (4 × 10 M) Shuttle Run

1. Sit and Reach Test

Objective: To measure the flexibility

Material Required: Sit and Reach Box with Measuring Scale, Pen and Paper for Maintain Record/Score.

Procedure:

- Student sits on the floor keeping his legs straight
- The soles of the feet are placed flat against the box
- Hands on top of each other, student reaches forward along the measuring line as far as possible, knees should be straight
- Student reaches out and holds that position for one to two seconds while the distance is recorded

Total Numbers of Trials: 3

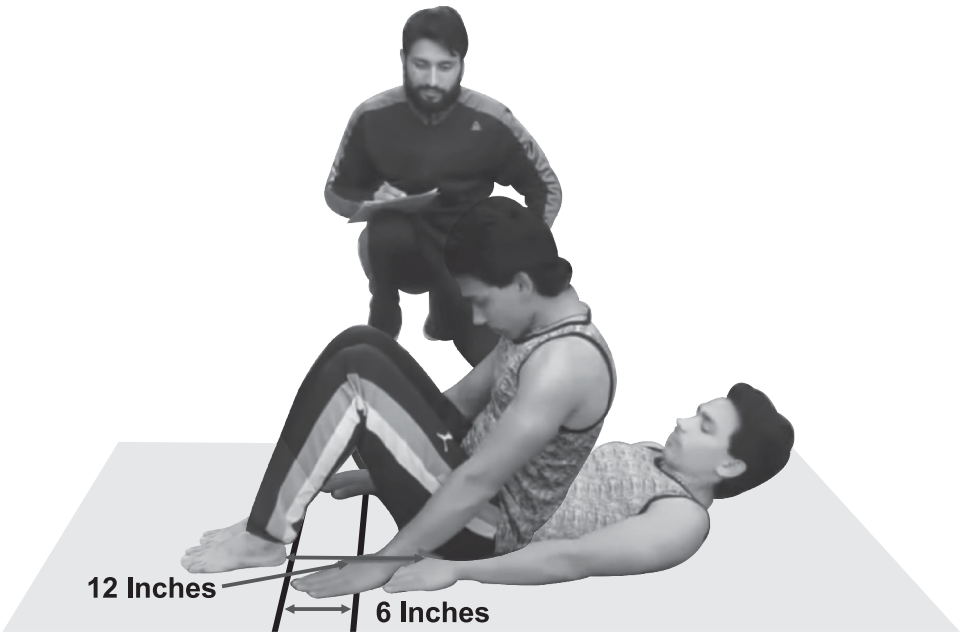
Scoring: Best of three trials, record the distance. The score is recorded to the nearest centimeter or half inch as the distance reached by the hand (figure tips).

2. Partial Curl Up

Objective: To measure the abdominal strength

Material Required: Yoga/Exercise Mat, Flat and Clear Surface, Stopwatch, Pen and Paper for Maintain Record/ Score

Procedure: The starting position is lying on the back with the knees flexed and feet 12 inches from the buttocks. The feet cannot be held or rest against an object. Hands straight on the sides (Palms facing downwards). The subject raises the trunk in a smooth motion, keeping the arms in position, curling up the desired amount (at least 6 inches along/above the ground towards the parallel strip).



Scoring: Record the total number of complete and corrected partial curl - ups in a certain time period 30 seconds.

Practice Question

Short Answer Question (2 Marks)

Q.1. What is motor fitness test? Enlist the test items of motor fitness test. (2)

Q.2 Which test is used for flexibility, muscular strenght, musculart endurance and speed? (½ X 4 = 2)

Short Answer Question (3 Marks)

Q.1. Explain procedure of any two tests in motor fitness test. **(1½ + 1½ = 3)**

Q.2. Which test is used for agility? Explain in detail. **(3)**

Q.3. Explain procedure of push-ups (for boys) and modified push ups. (for girls) **(1½ + 1½ = 3)**

Long Answer Questions (5 Marks)

Q.1. Explain in detail the procedure of any two test in motor fitness test. **(2½ + 2½ = 5)**

Q.2. Explain in detail the procedure and scoring of standing broad jump and sit and Reach test. **(2½ + 2½ = 5)**

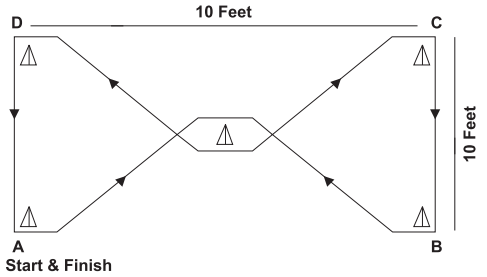
Q.3. Dinesh is very good in athletics and also has good muscle quality which helps in doing physical activities with speed but because of very less knowledge about how to check explosive power of legs he is not able to measure his power of legs. So according to you, which test item of motor fitness test he should perform to measure his explosive strength. Write the name of that motor fitness test. Also explain in details the procedure of its administration along with scoring system. **(5)**

6.2. General Motor Fitness

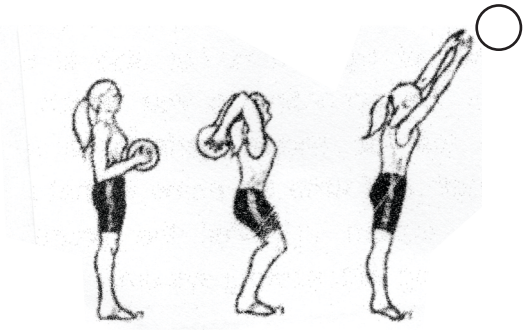
The ability to perform body actions or activities by a person is called general motor fitness. In general motor fitness includes speed, agility, strength, coordination and reaction time etc.

1. **Standing Board Jump**

2. **Zig - Zag Run**



3. **Medicine Ball Throw**



Multiple Choice Questions (1 Marks)

Q.1. Measurment of the field for Zig - Zag Run is _____

(A) 16 × 18 m (B) **16 × 10 m**

(C) 15 × 10 m (D) 16 × 12

Q.2. Weight of the medicine ball for Boys is_____

(A) 1Kg (B) 2Kg

(C) **3Kg** (D) 4Kg

Long Answer Questions (5 Marks)

Q.1. Explain General Motor Fitness Test.

Ans. **General Motor Fitness Test :**

Barrow's Three-items General Motor Ability Test

Motor abilities play a very vital role in achieving apex position in games and sports. Motor fitness invovles speed, agility, power, coordination, strength and so on. These components of fitness are necessary for competing at top levels.

1. Standing Broad Jump

Objective : To measure explosive strength of legs

Material Required: Flat and Clear Surface, Marking of Takeoff Line with White Powder, Measuring Rape, Pen and Paper for Maintain Record/Score.

Procedure: A take-off line is marked on the ground. Subject stands just behind the take-off line with the feet several inches apart. The subject swings the arms and bends the knees to take a jump in the long jump pit. Three trials are given to the subject.

Standing Broad Jump

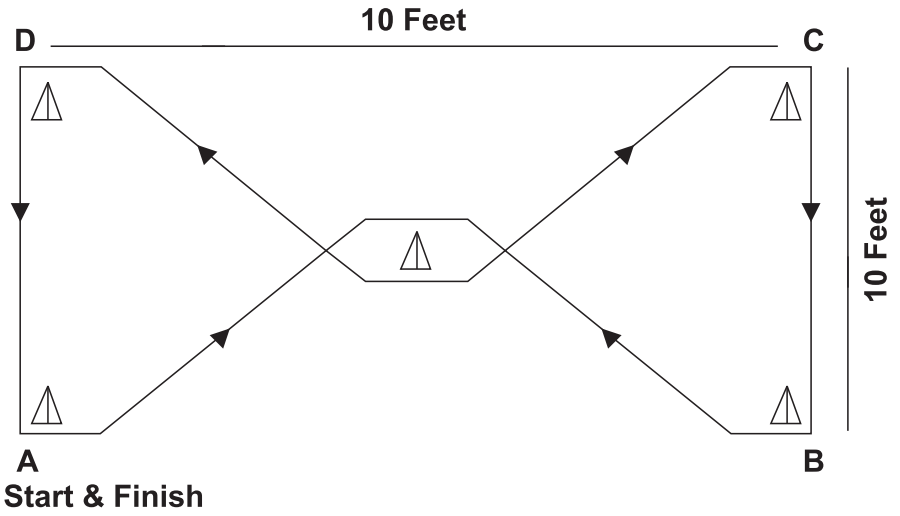
2. Zig-Zag Run

Material Required: Stopwatch, five obstacles (Cones) and space enough to accommodate the 16x10 feet course.

Objective : To measure Agility and Speed

Procedure: The subject begins from a standing start on the command "Go". The subject runs the prescribed pattern stated to him as quickly as he can complete. Three complete circuits are run. The stopwatch is started when the command to run is given and stopped immediately when the subject crosses the finish line. The time is recorded to the nearest tenth of a second. Before running the zig and zag run, the subject should warm up properly.

The subject should wear proper fitting shoes with good traction to avoid blisters and slipping. Demonstration of the pattern of the course should be given by the administrator before the beginning of the run.



Zig-Zag Run

Scoring: Record the subject's duration of test

3. Medicine Ball Put

Objective: To measure Arms and Shoulder Strength

Equipment and material: A medicine ball and measuring taps, Pen and paper to maintain record/score.

Procedure: The subject stands between two restraining lines which are 16 feet apart. In case of girls, a medicine ball of 1 kg is provided, whereas in case of boys a medicine ball of 3 kg is provided to be put. After that he/she attempts to put the medicine ball out as far as possible without crossing the restraining line. He/she should hold the medicine ball at the junction of the neck and shoulder then the ball should be put straight down the course.

Numbers of Trials: 2

Scoring: The best of three trials is recorded. The distance is computed to the nearest foot. A put in which the subject commits a foul is not scored. However, if all the trials are fouls, subject (he/she) should try until he/she make a fair put.

Practice Question

Multiple Choice Questions MCQ (1 Marks)

Q.1. Match the following

1. Medicine ball (Boys)
2. Zig-Zag Run
3. Standing Broad Jump
4. Medicine Ball (Girls)

A. Takeoff Line, Measuring Tape

B. One Kilogram

C. Three Kilogram

D. Stopwatch, Five Obstacles

(A) 1C, 2D, 3B, 4A

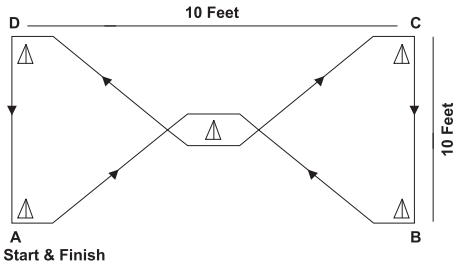
(B) **1C, 2D, 3A, 4B**

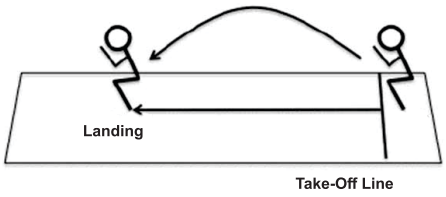
(C) 1B, 2C, 3D, 4A

(D) 1C, 2D, 3B, 4A

Short Answer Question (2 Marks)

Q.1. Identify the below given pictures and write the names.





(i)..... (ii).....

Short Answer Question (2 Marks)

Q.1. Explain about the Zig-Zag run. **(2)**

Q.2. What is the weight of medicine ball in medicine ball put test for boys and girls respectively? Explain the procedure. **(2)**

Short Answer Questions (3 Marks)

Q.1. List all three items of barrow test and explain any one. **(1+2=3)**

Q.2. Explain the procedure of medicine ball for boys and girls respectively with scoring system. **(3)**

Long Answer Question (5 Marks)

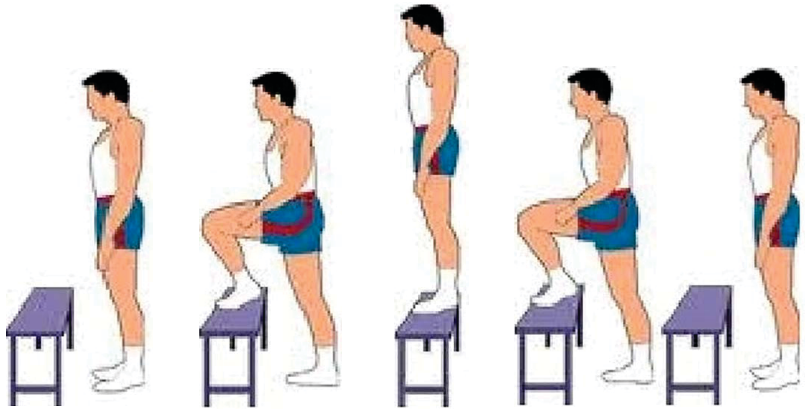
Q.1. What do you understand by general motor fitness test. Explain all off its parts in detail. **(½ + 1½ + 1½ + 1½ =5)**

6.3 Measurement of Cardio Vascular Fitness: Harvard step Test/ One Mile Rockport Test

Cardio-vascular Fitness. Cardio-vascular fitness is the ability of the heart and lungs to supply oxygen-rich blood to the working muscle tissues and the ability of the muscles to use oxygen to produce energy for movements.

(a) Harvard Step Test

It is a cardiovascular fitness test. It is also called aerobic fitness test. It is used to measure the cardiovascular fitness or aerobic fitness by checking the recovery rate.



Harvard Step Test

The Harvard step test is a test of aerobic fitness, developed by Brouha et al. (1943)

Objective: To monitor the development of the athlete's cardiovascular system.

Required Resources : Bench with 45 cm height, Stopwatch, Assistant (Tester)

How to conduct the test?

This test requires the athlete to step up and down off a 45 cm high gym bench for 5 minutes at a rate 30 steps/minute.

- The athlete warms up for 10 minutes
- The assistant gives the command “Go” and starts the stopwatch.
- The athlete steps up-up and down-down onto a standard gym bench once every two seconds for five minutes (150 steps)
- The assistant stops the test after 5 minutes.
- The assistant measures the athlete’s pulse rate after one minute finishing the test for 30 seconds then 30 seconds rest (pulse 1)
- The assistant measures the athlete’s after two minutes finishing the test for 30 seconds then 30 seconds rest (Pulse-2)
- The assitant measure the althlete’s pulse rate after three minutes finishing the test for 30 seconds (pulse 3)

Calculating of Fitness Index

$$\textbf{Fitness Index (F.I.)} = \frac{\text{Duration of exercise in Seconds x 100}}{2 \times \text{sum of three pulse counts after exercise}}$$

OR

$$\textbf{Fitness Index (F.I.)} = \frac{\text{Duration of exercise in Seconds} \times 100}{5.5 \times \text{pulse counts of 1-1.5 Min after exercise}}$$

(b) Rockport One Mile Test

It is also known as Rockport Fitness Walking Test. Its objective is to check or observe the development of the individual's VO_2 Max capacity i.e., maximum volume of oxygen.

Calculation of VO_2 max

= 132.853 - (0.0769 x Body wt.) - (0.3877 x Age) + (6.135 x Gender) - (0.0769 x Time) - (0.1565 x Heart Rate)

Where:

- Body wt. in pounds
- Age is in year
- Gender -male -1, Female 0
- Time in minutes & 100^{th} of a minutes.
- Heart Rate in beats/minute.

Practice Question

Multiple Choice Questions MCQ (1 Marks)

Q.1. In which year Harvard step test came into existence

(A) 1942 (B) **1943** (C) 1944 (D) 1941

Q.2. In Harvard step test, how much rest is given to the subject between first and second pulse counr:

(A) 1 min (B) 1.5 min (C) **30 sec** (D) 2 min

Q.3. What is the distance of walking in Rockport test in miles?

(A) **1 mile** (B) 1.6 mile (C) 2 mile (D) 2.6 mile

Q.4 Gives below are the two statements labelled Assertion (A) & Reason (R)

Assertion (A): Harvard step test is a cardiovascular fitness test.

Reason (R): It measure cardiovascular fitness index only for female subject.

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

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

(B) Both (A) and (R) are true but (R) is not correct explanation of (A)

(C) **(A) is true, but (R) is false**

(D) (A) is false, but (R) is true

Short Answer Questions (3 words)

Q.1 Explain the Rock port one mile test's Administration.

Ans. It is also known as Rock port fitness walking test. Its objective is to check or observe the development of the individual $VO_{2=}$ max, (maximum volume of oxygen.)

Administration of Rockport Fitness Walking Test :

The Athlete is asked to start the mile long walk and complete it as quikckly as possible. The Athlete has to bear in mind that She/he does not start running or jogging in an effort to complete the test. Once the athlete has completed walking the mile, the time taken to do so is recorded in minutes and hundreds of seconds and the heart rate is recorded as beats per minute. the following variables are also recorded: body weight in pounds, age in year and gender (for male -, & female 0). Then put the values in the below formula:

For the calculation of VO2 max
= 132.853 - (0.0769 x Body wt.) - (0.3877 x Age) + (6.135 x Gender) - (3.2649 x Time) - (0.1565 x Heart Rate)

Q.2. What do you understand by cardiovascular fitness! How to calculate the fitness index of an individual.

Ans. Cardiovascular fitness is the ability of the heart and lungs to supply oxygen rich blood to the workng muscle tissues and the ability of the muscles to use oxygen to produce energy for movement

Calculating Fitness index

$$\textbf{Fitness Index (F.I.)} = \frac{\text{Duration of exercise in seconds} \times 100}{2 \times \text{sum of three pulse couns after exercise}}$$

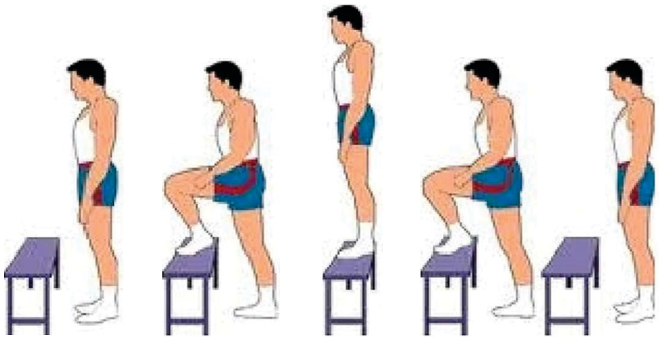
OR

$$\textbf{Fitness Index (F.I.)} = \frac{\text{Duration of exercise in seconds} \times 100}{5.5 \times \text{Pulse Counts of 1 to 1.5 Min after exercise}}$$

Long Answer Questions (5 Marks)

Q.1. Explain Harvard Step Test in Details.

Ans. It is a cardiovascular fitness test. It is also called aerobic fitness test. It is used to measure the cardiovascular fitness or aerobic fitness by checking the recovery rate.



The Harvard step test is a test of aerobic fitness, developed by Brouha et al. (1943).

Objective: To monitor the development of the athlete's cardiovascular system.

Required Resources : Bench with 45 cm height, Stopwatch, Assistant (Tester)

How to conduct the test?

This test requires the athlete to step up and down off a 45 cm high bench for 5 minutes at a rate of 30 steps per minute.

- The athlete warms up for 10 minutes
- The assistant gives the command “Go” and starts the stopwatch.
- The athlete steps up-up and down-down onto a standard bench once every two seconds for five minutes (150 steps)
- The assistant stops the test after 5 minutes.
- The assistant measures the athlete’s pulse rate after one minute finishing the test for 30 seconds then 30 seconds rest (pulse 1)
- The assistant measures the athlete’s pulse count after two minutes finishing the test for 30 seconds then 30 seconds rest (Pulse-2)
- The assistant measure the althlete’s after three minutes finishing the test for 30 seconds (pulse 3)

Calculating Fitness Index

$$\textbf{Fitness Index (F.I.)} = \frac{\text{Duration of exercise in Seconds x 100}}{2 \times \text{sum of three pulse counts after exercise}}$$

OR

$$\textbf{Fitness Index (F.I.)} = \frac{\text{Duration of exercise in Seconds} \times 100}{5.5 \times \text{pulse counts of 1 to 1.5 Min after exercise}}$$

Practice Question

Short Question (2 Marks)

Q.1. Which test is used for measuring cardiovascular fitness and aerobic endurance? (2)

Q.2. Explain the procedure of Harvard step test for girls. (2)

Short Question (3 marks)

Q.1. What do you understand by Rock port one mile test? Explain its Procedure. (1 + 2 = 3)

Q.2. Explain computations of fitness index with long and short methods. (1½ + 1½ = 3)

Long Question (5 marks)

Q.1. What do you understand by cardio-vascular fitness? Explain Harvard step test in detail (2 + 3 = 5)

Q.2. Explain the procedure, advantages and disadvantages of Rock port one mile test. (3 + 1 + 1 = 5)

6.4 Rikli and Jones (Senior Citizen Test)

Rikli and Jones developed the senior citizen fitness test in 2001. This test has proved to be beneficial for measuring fitness of senior citizens.

S. N	Test Items	Purpose/ Measure
1	Chair Stand Test	Lower Body Strength
2	Arm Curl Test	Upper Body Strength
3	Chair Sit & Reach Test	Lower Body Strength
4	Back Scratch Test	Upper Body Strength
5	Eight Foot Up & Go Test	Agility
6	Six Minute Walk Test	Aerobic Endurance

Multiple Choice Questions MCQ (1 Marks)

Q.1. Match the following

1. Arm curl test	A. lower back flexibility
2. Back scratch test	B. upper body strength
3. Six minute walk test	C. cardio-vascular endurance
4. Chair sit and Reach test	D. upper body flexibility

(A) **1B, 2D, 3C, 4A** (B) 1C, 2B, 3D, 4A

(C) 1C, 2B, 3A, 4D (D) 1D, 2C, 3B, 4A

Q.2. Rikli and Jones senior citizen test was developed in

(A) 1990 (B) 2000

(C) **2001** (D) 2002

Q.3. What is the height of chair in stand test of senior citizen?

(A) 40 cm (B) 42 cm

(C) **44 cm** (D) 45 cm

Q.4. Rikli and Jones test is done for

(A) Children (B) Adult

(C) Men (D) **Senior Citizen**

Q.5. Six minute walk test measures

(A) **Endurance** (B) Flexibility

(C) Strength (D) Agility

Q.6. Which of the following is assessed by eight foot up and go test ?

(A) Endurance (B) Flexibility

(C) Strength (D) **Agility**

Q.7 Gives below are the two statements labelled Assertion & Reason (R)

Assertion (A) : Rikli and Jones develop the senior citizen fitness test in 2002.

Reason (R) : The senior citizen test is to measure the fitness abilities of senior citizen only.

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

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

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

(C) (A) is true, but (R) is false

(D) **(A) is false but (R) is true**

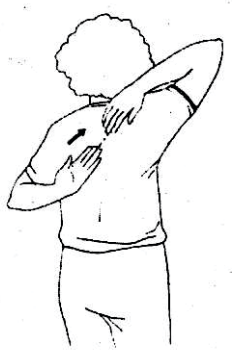
Short Question Answer (3 Marks)

Q.1. Discuss the Back Scratch test for upper body flexibility.

Ans. **Back Scratch Test :**

Purpose :- To assess the upper body (shoulder) flexibility, which is important in performing various daily lifestyle tasks such as combing one's hair, putting on overhead garments and reaching for a seat belt etc. Equipment

Required:- A ruler.



Procedure:- This test is performed in standing position. Keep one hand behind the head and back over the houlder and reach as far as possible down middle of the back. Palms should touch to body and the fingers should be downwards. Then carry other arm behind back palm facing outward and fingers upward and reach up as far as possible trying to touch or overlap the middle fingers of both hands. Fingers should be aligned. Measure the distance between the tips of the fingers.

Scoring:- If the finger tips touch then the score is zero. If they do not touch measure the distance between the fingertips (–ve score). If they overlap measure by how much (+ive score).

Note : Practise two times and then test.

Q.2. Explain the chair stand test for lower body strength.

Ans. **Chair Stand Test :**

Purpose. The main purpose of this test is to measure the lower body strength, particularly legs strength which is usually required to perform various daily tasks such as climbing stairs, getting in and out of vehicle, bathtub or chair.

Equipments Required : A chair with a straight back and a seat of at least 44 cm in height and a stopwatch.

Instructions for Participants:-

- The participant should sit in the middle of the chair.
- She/He should keep his hands on the opposite shoulder crossed at the wrists.
- The feet should be flat on the floor.
- Her/His back should be erect.
- Repeat sit up and down for 30 seconds.

Procedure : Keep the chair against the wall. The participant sits in the middle of the seat. His/her feet should be shoulder width apart and flat on the floor. The arms should be crossed at the wrists and held close to the chest. From the sitting position, at the start signal the participant stands up completely then back down. This is repeated for 30 seconds.

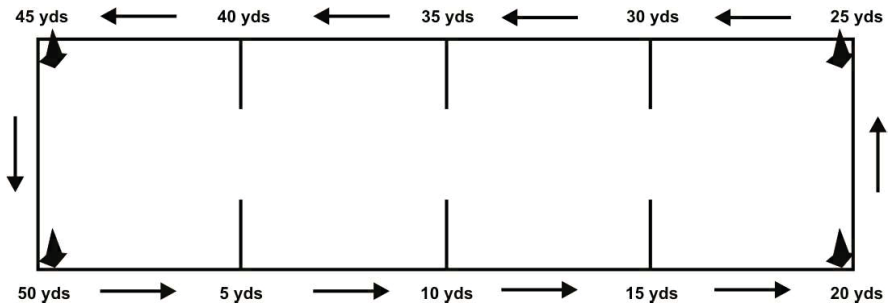
Scoring: Count the total number of complete chair stands. In case the participation has completed a full stand from the sitting position when the time is finished the final stand is counted in the total.

Q.3. **Write the test measure the aerobic fitness of senior citizen.**

Ans. **Six Minute Walk Test**

Purpose: This test measure aerobic fitness of senior citizen.

Equipment Required: Measuring tape to mark out the track distances, stopwatch, chairs positioned for resting.



Procedure:

- The walking course is laid out in a 50 yard (45.72m) rectangular area (dimensions 45 × 5 yards), with cones placed at regular intervals to indicate distance walked.
- The aim of this test is to walk as quickly as possible for six minutes to cover as much distance as possible.
- Subjects are set their own pace (a preliminary trials is useful to practice pacing), and are able to stop for a rest if they desire.

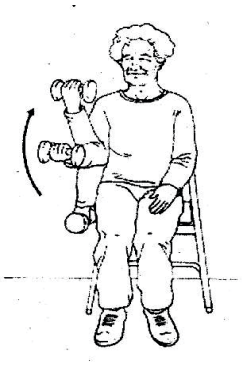
Scoring: Total distance covered in six minute.

Q.4. Discuss the test item of Rikli & Jone's to measure the upper body strength.

Ans. **Arm Curl Test of Rikli & Jones test items** used to Testing upper body strength of senior citizen

Equipment Required : 5 lb Weight and 8 lb weight, stopwatch, a straight-back chair with no arms.

Women will curl with 5 lb. weight in this test and men will curl with 8 lb. Weight for their test. It is extremely important to the accuracy of the test that we use the appropriate weight for men and women in this test.



Procedure :

- Test assistant will tell to begin the arm curl and will time for 30 seconds, using the stopwatch.
- Do as many curls as can in the allotted30-second time period, moving in a controlled manner.
- Do a full curl, squeezing lower arm against upper arm at the top of each curl and returning to a straight arm each time. Keep upper arm still.
- Do not swing the weight.
- If started raising the weight again and are over half way up when time is over, count that curl.
  Scoring : The score is the total number of controlled arm curls performed in 30 seconds.

Scoring : The total number of arm curls performed in 30 seconds.

Q.5. Which test is used to measure the agility of senior citizen? Write in detail.

Ans. **Eight Foot up and Go Test:**

This test is used for measuring the agility of senior citizens.

Purpose : To assess speed, agility and balance while moving. These are important in performing various daily tasks which require quick manoeuvring, such as getting of a bus in time and to answer the phone etc.

Equipments Required : A chair with straight back (about 44 cm high) a stopwatch, cone marker, measuring tape and an area without any hindrances.

Procedure : Keep a chair next to the wall and the marked, 8 feet in front of the chair. The participant starts completely seated, hands resting on the knees and feet flat on the ground. On the command 'Go'' stopwatch is started and the participant stands and walks (no running at all) as quickly as possible to and around cone and returns to the chair to sit down. Time is noted as She/he sits down on the chair. Two trials are given to the participant.

Number of Trials: 2

Scoring: Duration of test performed by participant.

Q.6. Discuss chair sit and reach test in briefly.

Ans. **Chair sit and reach test**

This test is used to measure lower body flexibility. Lower body flexibility is important for preventing lower back pain. It also plays a role in balance, posture, in fall prevention, or walking. Lower body flexibility is important for maintaining an active, independent lifestyle.

Purpose : This test measures lower body flexibility.

Equipment required : Ruler, straight back or folding chair, (about 17 inches/ 44 cm high)

Procedure :

- The subject sit on the edge a chair (placed against a wall for safety).
- One foot must remain flat on the floor. The other leg is extended forward with the knee straight, heel on the floor, and ankle bent at 90°.
- Place one hand on top of the other with tips of the middle fingers even. Instruct the subject to inhale, and then as they exhale, reach forward toward the toes by bending at the hip.
- Keep the back straight and head up. Avoid bouncing or quick movements, and never stretch to the point of pain.

- Keep the knee straight, and hold the reach for two seconds.

Number of trials: 2

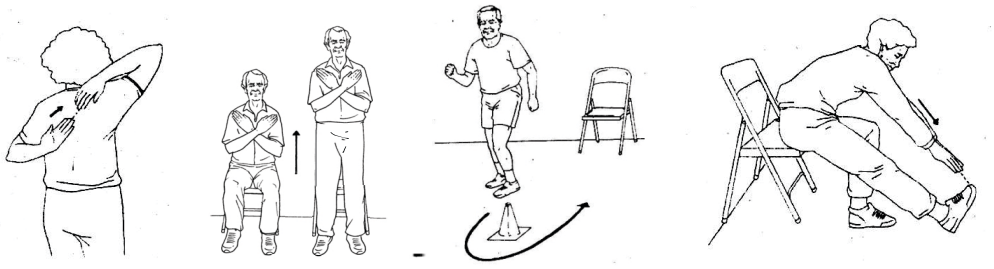
Scoring: The distance is measured between the tip of the fingertips and the toes. If the fingertips touch the toes then the score is zero. If they do not touch, measure the distance between the fingers and the toes (a negative score). If they overlap, measure by how much (a positive score).

Practice Question

Short Question (2 Marks)

Q.1. Enlist the items, which is used to measure aerobic endurance of senior citizen. (2)

Q.2. Identify the below given pictures and write the name of the test. (½ x 4 = 2)



(i)..... (ii)..... (iii)..... (iv).....

Short Question (3 Marks)

Q.1. Explain the procedure of test which is used to measure aerobic endurance of senior citizen. (3)

Q.2. Explain Rikli and Jones test for upper body strength. (3)

Q.3. Your grandfather thinks the flexibility of his body has decreased. What test would you suggest him explain. (3)

Long Question (5 Marks)

Q.1. What is the fitness test for senior citizens and why is it necessary? (2½ + 2½)

Q.2. Explain Rikli and Jones test in details? (5)

Practice Question

Q.1. Explain the test used to measure oxygen content in blood during exercise? (3)

Q.2. Differentiate between motor fitness test and general motor fitness test? ($_1$½ + $_1$½ = 3)

Q.3. Compare and state the similarities and differences between Harvard step and Rock port one mile test? (1½ + 1½ = 3)

Q.4. Name and explain the procedure of the test used to measure the strength of legs (1 + 2 = 3)

Q.5. Explain in details chair sit and reach test and sit and reach test? (2½ + 2½ = 5)

Q.6. In your school a camp is set-up to analyses the fitness of senior citizen of your society and the management decides that they will conduct Rikli and Jones's senior citizen test. You are selected as a volunteer to measure the upper body strength. Write the name which test you would conduct to measure the upper body strength and also explain in detail the procedure of this administration along with scoring system. (5)

Practice Question

Q.1. Match the following

1. 600 M Run/Walk	A. General motor fitness test
2. Zig - Zag Run	B. Rikli and Jones Test
3. Harvard step test	C. Motor fitness test
4. Six minute walk test	D. Cardio vascular fitness test

(A) 1D, 2C, 3B, 1A (B) 1C, 2A, 3D, 4B

(C) 1A, 2D, 3D, 4C (D) 1D, 2B, 3A, 4C

Q.2. Match the following

1. Motor fitness test	A. Chair stand test
2. Rikli and Jones test	B. Computation of fitness index
3. General motor fitness test	C. Standing Broad Jump
4. Cardio vascular fitness test	D. 4 x 10 m Shuttle Run

(A) 1C, 2B, 3A, 4D (B) 1B, 2A, 3D, 4C

(C) 1D, 2A, 3C, 4B (D) 1D, 2A, 3B, 4C

Q.3 Gives below are the two statements labelled Assertion (A) & Reason (R)

Assertion (A): Fitness test items are used to measure fitness level of an individuals.

Reason (R): In cardio vascular fitness test, fitness level of an individual calculated by using fitness index formula.

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

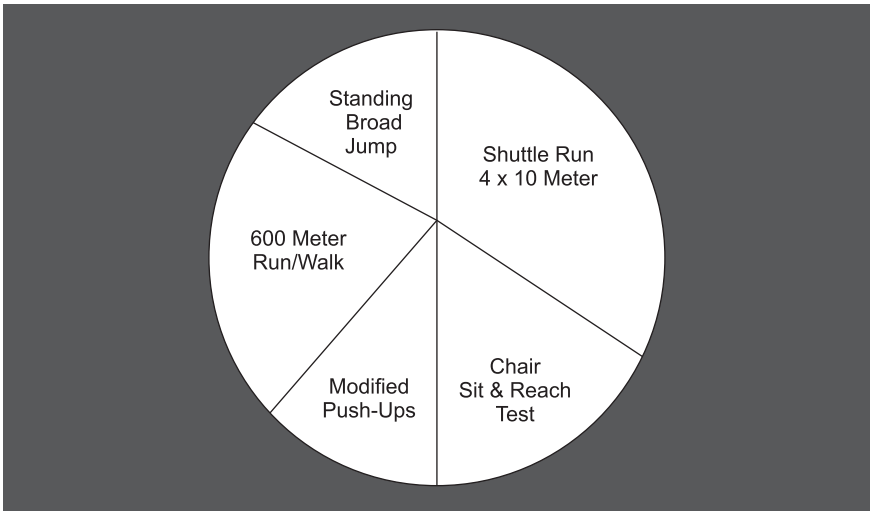
(A) **Both (A) and (R) are true and (R) is correct explanation of (A).**

(B) Both (A) and (R) are true but (R) is not correct explanation of (A)

(C) (A) is true, but (R) is false

(D) (A) is false, but (R) is true

Q.4. Below given the different test items: **(1 x 3 = 3)**



On the basis of the data, answer the following question:

(i) which test items in used to measure aerobic endurance?

(A) Shuttle Run (B) Chair Sit & Reach Test

(C) **600 Meter Run/Walk** (D) Standing Broad Jump

(ii) which test items in used to measure agility?

(A) **Shuttle Run** (B) Chair Sit & Reach Test

(C) 600 Meter Run/Walk (D) Standing Broad Jump

(iii) which test items is a part of Rikli and Jones Test?

(A) Shuttle Run (B) **Chair Sit & Reach Test**

(C) 600 Meter Run/Walk (D) Standing Broad Jump

UNIT - 7

Physiology and Injuries in Sports

UNIT - 7

Physiology and Injuries in Sports

Key Points :-

7.1. Physiological factors determining components of physical fitness.

7.2. Effect of exercise on cardio Respiratory system.

7.3. Effect of exercises on muscular system.

7.4. Physiological changes due to ageing

7.5. Sports injuries: Classification, Causes, Prevention and Treatment

(Soft Tissue injuries: Abrasion, Contusion, Laceration, Incision, Sprain and Stain)

(Joint Injuries: Dislocation)

(Bone Injuries: fractures, stress fracture, Green Stick fracture, Communated fracture, Transverse fracture, oblique fracture & Impacted fracture).

7.6. First Aid - Aims & objectives.

7.1. Physiological Factors Determining Components of Physical Fitness.

1. Strength

- Size of Muscle
- Morphology of Muscle
- Body Weight
- Intensity of Nerve Impulse (Force of Contraction of Motor Uint)
- Hypertrophy

2. Flexibility

- Age
- Gender
- Internal Environment
- Previous Injury
- Elasticity of Muscles
- Lifestyle (Active or Inactive)

3. Endurance

- Aerobic Capacity
- Lactic Acid Tolerance
- Movement Economic
- Muscle Composition **(Slow-Twitch (Type I)** Muscle Fibers)

4. Speed

- Muscular Strength
- Flexibility
- Explosive Power
- Mobility of Nervous System
- Muscle Composition **(Fast-Twitch (Type II)** Muscles Fiber

Multiple Choice Questions MCQ (1 Marks)

Q.1. Which physiological factor is specific needed for Speed?

(A) Body Weight (B) Slow-Twitch Muscle Fibers

(C) Aerobics Capacity (D) **Fast-Twitch Muscle Fibers**

Q.2. Flexibility is not determined by which physiological factor?

(A) Muscle Strength (B) Age & Gender

(C) Injury (D) **Aerobic Capacity**

Q.3. Endurance is determined by which physiological factor?

(A) Aerobic Capacity (B) Flexibility

(C) Age, Gender (D) **Injuries**

Q.4. Strength is determined by which physiological factor?

(A) **Body Weight** (B) Muscle Coordination

(C) Joints (D) Muscle Stretching

Q.5. Match the following:

(1). Speed (A). Age & Gender

(2). Strength (B). Slow-Twitch Muscles Fibers

(3). Endurance (C). Muscle Size

(4). Flexibility (D). Fast-Twitch Muscles Fibers

(A). **1D, 2C, 3B, 4A** (B). 1C, 2B, 3A, 4D

(C). 1B, 2D, 3A, 4C (D). 1A, 2B, 3D, 4C

Q.6 Gives below are the two statements labelled Assertion (A) & Reason (R).

Assertion (A) : Hypertrophy of Muscles is one of the important physiological Factorof determining strength.

Reason (R) : Previous injury can affect the components of physical fitness.

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

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

(B) **Both (A) and (R) are true but (R) is not correct explanation of (A).**

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

(D) (A) isfalse,but(R)is true.

Short Answer Questions (3 Marks)

Q.1 Discuss the physiological factors, determine the strength as a component of physical fitness.

Ans. **1. Muscle size:** Bigger and larger muscles can produce more force. Males have larger muscles than females so the size muscles and strong can be improved with the help of weight training

2. Body weight: The individuals who are heavier are stronger then the individuals who are lighter for example the heavier weight lifters than the Gymnastic or other games players.

3. **Muscle composition:** The muscels which have more percentage of fast twitch fibers can produce more strength while the slow twitch fibers are not capable to contract faster but they are capable to contract for a longer duration. The percentage of fast twitch fibers and slow twich fibers is genetically determined and can not be changed through training.

4. **Intensity of the never impulse:** When a stronger nerve impulse from central nervous system excite more number of motor units, the muscles will contract more strongly or it can side that the muscle will contract more strongly or muscle will produce more force or strength.

Q.2. Discuss the physiological factors, determine the endurance as a component of physical fitness.

Ans. **Aerobic capacity:**

- Oxygen intake
- Oxygen uptake
- Oxygen transport
- Energy Reserve

Anaerobic capacity :

- Storage in body of ATP and CP (phosphogen stock)
- Buffer capacity - in muscles lactic acid accumlation ineffective
- Endurance of lactic acid
- VO2 max. This is the quantity of oxygen, which active muscles use during exercise in one minute.

Long Answer Type Question (5 Marks)

Q.1 Discuss how physiological factors determine flexbility.

Ans. 1. **Muscle strength :-** The muscle should have minimum level of strength to make the movement, especially against the gravity or external force.

2. **Joint structure :-** There are different types of joint in human body, some of the joints intrinsically have greater range of motion than others. For example. The ball and socket joint of the shoulder has the greatest range of motion in comparison to the knee joint.

3. **Internal environment :-** Internal environment of athlete influences the flexibility. For example-warm bath increases body temperature and flexibility whereas 10 minutes outside stay in 10°c temperature reduces the body temperature and flexibility.

4. **Injury :-** Injuries to connecting tissues and muscles can lead to thickening or fibrocin on the effected area. Fibrous tissues are less elastic and can lead to limb shortening and lead to reduce flexibility.

5. **Age and gender :-** Flexbility decreases with the advancement of age. However it is trainable. It can be enhanced with the help of training, as strength and endurance are enhanced. Gender also determine the flexibility. Females tend to be more flexible than male.

6. **Active and sedentary life style :-** Regular activities enhance the flexibility, whereas inactive individual loses flexibility due to the soft tissues and joints shrinking and loosing extensibility.

7. **Heredity :-** Bony structures of joints length and flexibilities of the joint capsules and surrounding ligaments are genetically and can be altered by stretching programs.

Q.2. Describe the physiological factor determine the speed .

Ans. 1. **Explosive strength-** For every quick and explosive movement, explosive strength is required. Like, a quick punch in boxing can not be delivered if the boxer lacks explosive strength. Explosive strength further depends on muscle composition, muscle size, and muscle coordination.

2. **Muscle composition-** The muscle which have more fast twitst fibers. They can produce more speed. The muscle composition is genetically determined. We will improve it only by specific training methods.

3. **Mobility of nervous system-** Motor and sensory nevers of nervous system can be determined by the mobility of nervous system. By training only we can limited extent in the mobility of nervous system because speed is determined to a great extent by genetic factors.

4. **Elasticity and Relaxing capacity of muscle-** Through the elasticity of muscle, muscle can move to a maximum range which reduces the inner hurdles and is instrumental in speeding up the activity. The muscles which get relaxed soon, they contract easily.

5. **Bio-chemical Reserves and Metabolic Power-** For doing the exercises which are done quickly muscles need more energy. This energy in our muscles is obtained through the ATP-PC system. The percentage of power and quantity in ATP and PC can be increased through training.

Practice Question

Short Question (2 Marks)

Q.1. List down the physiological factors that affect flexibility and strength. (1 + 1 = 2)

Q.2. Explain the physiological factors affecting flexibility. (2)

Short Question (3 Marks)

Q.1. List down the physiological factors that affect endurance. Explain any two. (1 + 2 = 3)

Q.2. Explain the physiological factors affecting flexibility? (3)

Long Question (5 Marks)

Q.1. What are the component of physical fitness? Explain one in details with example. (1 + 4 = 5)

Q.2. Discuss what factors influence the speed of a person. (5)

7.2 Effect of exercise on cardio Respiratory system.

- Decrease in Resting heat Rate
- Increase the Efficiency of Heart and Lungs
- Increase the heart size and weight
- Increase Cardiac Output and Stroke Volume
- Increase the Active Number of Capillaries
- Increase Good Cholesterol Level (HDL-High Density Lipoprotein
- Fast Recovery Period
- Delay Fatigue
- Increase Blood Flow in the Body
- Increase Tidal Volume
- Decrease in Rate of Respiration
- Strengthens Diaphragm Muscle
- Delay in Second Wind
- Prevention form Diseases
- Increase in Endurance
- Passive Alveoli Become Active
- Increase in Size of Lungs and Chest
- Increase in Vital capacity.

Multiple Choice Questions MCQ (1 Marks)

Q.1. Cardiac output is.....

(A) **Blood pumped by heart per minute**

(B) Blood pumped per heart bead

(C) Blood pumped per minute during intense exercise

(D) Blood pumped per hour.

Q.2. Taking is oxygen from the atmosphere into the body in know as .....

(A) Exhalation (B) **Inhalation**

(C) Stroke value (D) Aerobic capacity

Q.3. Inhale of oxygen and exhale of carbon dioxide is called?.....

(A) Circulation (B) Vital capacity

(C) **Respiration** (D) Aerobic capacity

Q.4. Gives below are the two statements labelled Assertion (A) & Reason (R).

Assertion (A) : Aerobic exercises play a vital role to enhance the efficiency of cardio respiratory functioning.

Reason (R) : Increase the level of LDL and decrease the level of HDL due to regular exercise.

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

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

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

(C) **(A) is true, but (R) is false**.

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

Long Question Answer (5 Marks)

Q.1. Explain the five effect of exercise on the cordio-respiratory system.

Ans. **Increase in heart rate :-** When an individual starts exercise, his heart rate increases as per the intensity and duration of exercise.

Increase in stroke volume :- Stroke volume increases proportionally with exercise intensity. It is measured in ml/beat.

Increase in cardiac output :- Cardiac output increases proportionally with the intensity of exercise's is measured in liter/ minute.

Increases in blood flow :- Cardio-vascular can be distribute more blood to those tissues which have more demand of oxygen and nutrients.

Increase in blood pressure :- During the exercise, systolic blood pressure can increase while diastolic blood pressure usually remains unchanged even during the intensive exercise.

Increase in vital capacity- It is the amount of air which an individual can inhale and exhale with maximum effect. its capacity varies from 3500 cc. Due to exercise its capacity increases upto 5500 cc.

Increase in Residual air volume- Due to regular exercise increases the capacity of residual volume from normal capacity.

Passive Alveolus become Active- Regular exercise activates the unused alveolus because much amount of O_2 is required in prolonged exercise of daily routine.

Increase Endurance - If exercises is performed regularly and for a longer period, it increases endurance. An activity can be done for a longer period without taking any rest.

Practice Question

Short Answer Question (2 Marks) (40 to 60 words)

Q.1. Enlist the effects of exercise on the respiratory system. (2)

Q.2. Enlist the effects of exercises on the cardio-vascular system. (2)

Short Answer Question (3 Marks) (80 to 100 words)

Q.1. Explain any 3 effects of exercise on the respiratory system with examples? (3)

Q.2. Explain any 3 effects of exercises on the cardiovascular system with examples? (3)

Long Answer Question (5 Marks) (150 to 200 words)

Q.1. List down the effects of exercises on cardio-vascular system and explain any four? (1+4=5)

7.3 Effects of Exercise on Muscular System.

"Muscular is a specialized tissue. which enables the body and is part to move and give shape to the body"

Effects of Exercise:-

- Increase Temperature of Muscle
- Delay in Muscles Fatigue
- Increase Blood Flow
- Hypertrophy of Muscles
- Good Shape & Size of Muscles
- Increase Muscle Mass
- Reduction of Excess Fat
- Maintain Good & Correct Body Posture
- Increase Nutrients Storage in Muscle
- Improve coordination, Power, Balance, Speed, Agility, Reaction Time, Flexibility and Endurance of Muscles.

Multiple Choice Questions MCQ (1 Marks)

Q.1. Which of the following is a function of muscles?

(A) Oxygen intake (B) Oxygen Transport

(C) **Structure and support** (D) Blood flow

Q.2. Exercise not leads to

(A) Increase in size of muscles

(B) Better reaction time

(C) Increased muscle speed

(D) **Minute volume Decreases**

Q.3. Gives below are the two statements labelled Assertion (A) & Reason (R).

Assertion (A) : Exercises helps to maintain good shape and size of muscle.

Reason (R) : There are numerous benefits of regular exercises one of them is to increases the working efficiency of muscles.

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

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

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

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

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

Short Answer Questions (3 Marks)

Q.4. Differentiate between slow twich fibres and fast twich fibres.

Ans.

Slow Twitch Fibers (Red Fibers)	Fast Twitch Fibers (White Fibers)
The red fibers of muscles are mainly responsible for the endurance activities.	The white fibers of muscles are mainly responsible for the strength and speed activities.
The red fibers are produced energy by the nutrients in the presence of oxygen only	The white fibers are produced energy by the nutrients without the presence of oxygen only.

Long Answer Question (5 Marks)

Q.5. List the effects of exercise on muscular system and explian four in detail. (1+4=5)

Ans.

- Increase in shape of muscles
- Activation of inactive capillaries
- Muscles Remain in tone Position
- Increase in Activenese of fibres
- Correct body posture
- Improves Reaction time
- Reduction in extra fat
- Increase in strength of connective tissues
- Efficiency in muscle movements
- Delay fatigue
- Enhances body figure
- Excercise prevents diseases

- **Muscle Hypertrophy-** Due to regular exercise a good growth in size of muscles.
- **Control Extra fat-** Regular exercise controls the extra fat of body. Exercises burn the extra calories.
- **Delay fatigue-** Regular exercise delay fatigue. This fatigue is mainly due to formation of carbon dioxide, lactic acid and acid phasphate.
- **Posture-** Regular exercise helps in improvement of body posture from various postural deformities by strengthen muscles.
- **Strength and speed-** Regular exercise improve fitness components like Coordination, Power, Balance, Speed, Agility, Reaction Time, Flexibility and Endurance of Muscles.

Practice Question

Short Question (2 Marks) (40 to 60 words)

Q.1. Enlist four effects of exercise on muscular system. (2)

Short Question (3 Marks) (80 to 100 words)

Q.2. Explain any three effects of exercise on muscular system. (3)

Long Question (5 Marks) (150 to 200 words)

Q.3. Explain in detail the effects of exercise on muscular system.

(1x5=5)

7.4. Physiological Changes due to Ageing

"Ageing is a gradual and continuous irreversible process that results in structural and functional alternation"

- Decrease Bone density.
- Decrease in the capacity of functioning of body's system like muscular system, respiratory system, cardio-vascular system etc.
- Decrease in Metabolism rate.
- Loss in senses, hair, teeth etc.
- Decrease physical capacities like flexibility, speed, strength, power etc.

Multiple Choice Questions MCQ (1 Marks)

Q.1. Which of the following is not a signs of ageing

(A) Decrease in Bone Density

(B) Decrease flexibility

(C) Decrease in muscle size and strength

(D) **Increase in flexibility**

Q.2. Match the following

1. Change in Nervous system	A. Calcium deficiency
2. Change in cardio - vascular system	B. Slow reaction time
3. Loss in sensers	C. Reduction in cardiac output
4. Change in Bone Density	D. Loss of Hearing

(A) **1B, 2C, 3D, 4A**

(B) 1D, 2A, 3B, 4C

(C) 1A, 2C, 3B, 4D

(D) 1C, 2D, 3A, 4B

Q.3. Gives below are the two statements labelled Assertion (A) & Reason (R).

Assertion (A) : Ageing is a man made process and due to lack of exercise it take place in human life.

Reason (R) : Ageing is a gradual and continuous irreversible process.

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

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

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

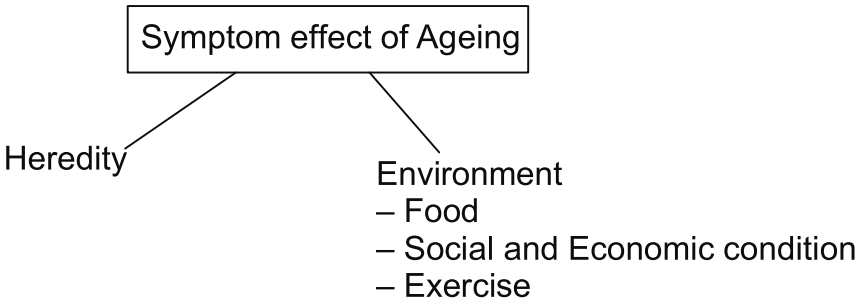
(C) (A) is true, but (R) is false.

(D) **(A) is false, but (R) is true.**

Long Answer Question (5 Marks)

Q.1. Elucidate Physiological change due to Ageing.

Ans. Ageing in the continuous and irreversible decline in the efficient of various physiological functions. There change are noticeable usually after 30's.



Physiological changes due to Ageing-

1. **Muscular system-** Decrease the muscle Mass, working capacity of muscle and strength.

2. **Changes in nervous system**

   - Loss of sense like Ear, Nose, smell power
   - Capacity of doing work by (CNS) center nervous system also reduced to receive & transmit information.

3. **Digestive system-** Decrease in metabolism of body composition

   - Reduction in HCL acid, saliva, digestive enzymes and size of salivary glands.

4. **Skeleton system-** Decrease bone density

   - Less bone density can result in osteoporosis which may lead to fracture
   - Collagen vascular disease

5. **Change in cardio- vascular system-**

   - Weakness in cardio-vascular muscles
   - Reduction in stroke volume, cardiac-output, and blood volume
   - Blood vessels also lose their elasticity
   - Feeling of fatigue

6. **Change in respiratory system-**

   - Decrease in work efficiency of lungs in advancing age
   - The airways and lung tissues become less elastic
   - Decrease oxygen uptake, oxygen exchange
   - Muscles of ribcage become weak

7. **Decrease physical fitness component Like :-** Strength, speed, flexibility, endurance co-ordination and activeness.

8. **Change in Urinary system-**

- Mass of the kidneys decreases for that reduction in the rate of blood filtration.
- Increase in residual urine.

Practice Question

Short Question (2 Marks)

Q.1. Enlist physiological change due to ageing.

Q.2. Enlist physiological change in muscular system due to ageing.

Short Question (3 Marks)

Q.1. Describe any three physiological change due to ageing.

Q.2. Explain physiological changes in digestive, respiratory and nervous system due to ageing.

7.5 Sports Injuries: Classification, Causes & Prevention

Sports injuries are those injuries which usually occur to be the sportsperson during training or sports competition.

Sports injuries are the situation of a sportsperson in which he/she is not able to participate in the sports events with same speed or strength.

Classification of Sports Injuries

- **Abrasion-** rubbing against a rough surface.
- **Contusion-** Blood capillaries ruptured & blood collects within damaged tissue.

- **Laceration-** Clean cut by sharp object.
- **Sprain-** Tearing of ligaments
- **Strain-** Tearing of tendon

Hard Tissue Injuries: Bone and Joint Injuries

Joint Injuries:

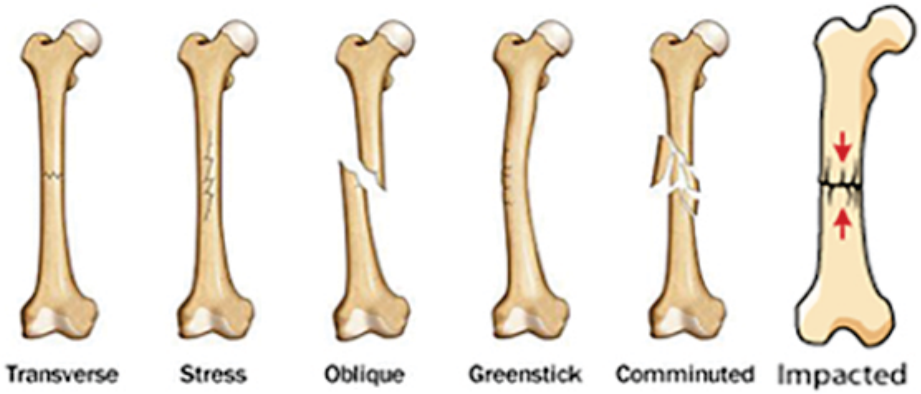
Dislocation- Injury to a joint, displacement of bone from its original place.

Example: Shoulder dislocation, hip dislocation, wrist dislocation, lower jaw dislocation, etc.

Bone Injuries:

Fractures

- **Stress Fracture-** Fracture of the bone caused by repeated stress over time
- Green Stick Fracture- Occur most often during infancy and childhood when bones are doft
- Commutated Fracture- Bone broken into more than two Pieces
- Transverse Fracture- Bone broken into right angle
- Oblique Fracture- Bone broken in diagonal
- Impacted Fracture- One bone driven into another bone



Causes of Sports Injuries	
Endogenous Causess	**Exogenous Causess**
• Level of Physical Fitness • Physical Limitation • Lack of Interest • Mental Sate	• Temperature • Surface • Equipment • Training Method • Opponent

Prevention of Sports Injuries:

- Proper warming-up, stretching and cooling down.
- Undertaking training prior to competition to ensure readiness to play.
- Including appropriate speed work in training program so muscle are capable of sustaining high acceleration force.
- Including appropriate stretching and strengthening exercises in weekly training programs.
- Gradually increasing the intensity and duration of training.

  maintaining high levels of cardiovascular fitness and muscle endurance to prevent fatigue.
- Allowing adequate recovery time between workouts or training sessions.
- Wearing protective equipment, such as shin guards. Mouth guards, helmets etc.
- Pre-participation medical check-up.
- Ensuring the playing surface and the sporting environment are safe and clear from any potentially dangerous objects.
- Wearing appropriate footwear that is well fitted and provides adequate support and contraction for the playing surface.

- Drinking water before, during and after play.
- Avoiding activities that cause pain.
- Avoid De-hydration & over training facilities.
- Adequate & effectively maintained facilities.
- Psychological & environmental condition of players.
- Balanced diet and many more.

Treatment of Sports Injuries

Soft tissues injuries

1. **Price Treatment**

P - Protect
R - Rest
I - Ice
C - Compression
E - Elevation

2. **Rest Therapy**

R - Rest
E - Elevate
S - Support
T - Tight

Treatment of Joint Injuries: (i) REST Therapy
(ii) PRICE Therapy

Treatment of Bone Injuries:

(i) PRICE Therapy

Step (1): PRICE Treatment

Step (2): Application of hot formation

Step (3): Rehabilitation of injuries with the help of Therapeutic Exercises

Rehabilitation

(i) Normal Movement

- Treatment
- Physiotherapy
- Massage

(ii) Training and Practice

- Strength
- Endurance
- Flexibility
- Speed
- Co-ordination & Agility

(iii) Specific Fitness

(iv) Psychological Build-up

(v) Test and Measurement

Multiple Choice Questions MCQ (1 Marks)

Q.1. Match the following

1. Abrasion	A. Joint Injuries
2. Green stick fracture	B. Soft tissue injuries
3. Shoulder Dislocation	C. Cause of sports injuries
4. Lack of fitness	D. Bone injuries

(A) 1D, 2A, 3C, 4B (B) 1B, 2A, 3C, 4D

(C) **1B, 2D, 3A, 4C** (D) 1A, 2D, 3B, 4C

Q.2. Which of the following is not a cause of sports injuries?

(A) Inadequate warming up

(B) Lack of sports Facilites

(C) Practice During Fatigue

(D) **Proper knowledge of spots skills.**

Q.3. You should use Ice on a soft tissue injury after.

(A) **5 minutes** (B) 10 minutes

(C) 20 minutes (D) 15 minutes

Q.4. An ankle sprain is an example of which type of injury.

(A) Skin (B) Hard tissue

(C) **Soft tissue** (D) Bone

Q.5. Which of the following is not a type of fracture?

(A) Stress fracture (B) Oblique

(C) **Contusion** (D) Communated

Q.6. Gives below are the two statements labelled Assertion (A) & Reason (R).

Assertion (A) : Do Proper warming-up stretching and cooling down to avoid sports injuries.

Reason (R) : Rehabilitation of injured part with the help of therapeutic exercises needed before back to sports event.

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

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

(B) **Both (A) and (R) are true but (R) is not correct** explanation of (A).

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

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

Short Answer Questions (3 Marks)

Q.1. Define soft tissue injuries in the sports. Write its preventive measures.

Ans. Soft tissue refers to tissues that connect, support or surround other structures and organs of the body the muscles, tendons, ligaments, fascial, nerves, fibrous tissue, blood vessels, etc. soft tissue injuries involve injuries to muscles, ligaments and tendons in the body.

Preventive measures of soft tissue injuries:'

- Proper warming up
- Proper conditioning of body
- Scientific equipment & facilities
- Clean & plain surface of play grounds
- Knowledge rules & regulation of sports events.
- Actively & alertness participation during the sports training & competition.
- Fatigue, sickness & injuries's condition to avoid the participation in the sports training.

Q.2. What do you mean by dislocation in joints? Explain any two dislocation in the body.

Ans. **Dislocation**

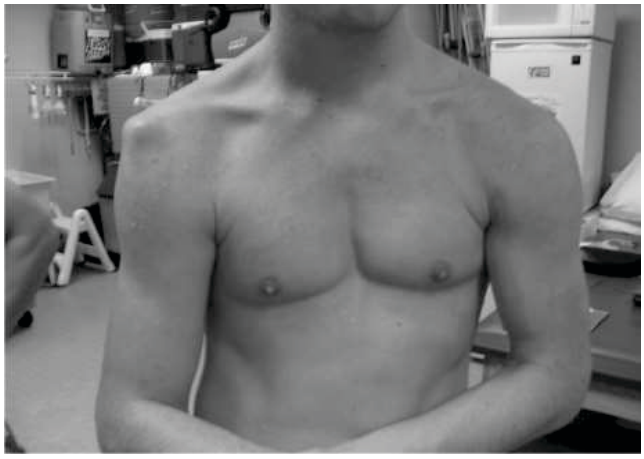
A dislocation is a separation of two bones where they meet at a joint. Joints are areas where two or more bones come together.

1. **Dislocation of Lower Jaw :** Generally, it occurs when the chin strikes to any other object. It may also occur if mouth is opened excessively.

   Example: Boxing, MMA etc.

2. **Dislocation of Shoulder Joint :** Dislocation of shoulder joint may occur due to sudden jerk or a fall on hard surface. The end of the humerus comes out from the socket.

Example: Judo, Wrestling etc.



Dislocation of Right Shoulder

Q.3. Write the signs & symptoms and treatment of dislocation.

Ans. Discuss the preventive measures of dislocation.

Signs and symptoms :

A dislocated joint may be

- Accopmpained by numbness or tingling at the joint or beyond it.
- Intensely painful, especially if you try to use the joint or put weight on it.
- Limited in movement at injured part.
- Swollen or bruised.
- Injured part may be directly visible

Teatment of Dislocation

R – Rest of injured part	P – Protection
E – Elevate if possible	R – Rest
S – Support the part	I – Ice
T – Tie for support	C – Compressin wound
	E – elevate if feel comfort
(Rest Therapy)	**(Price therapy)**

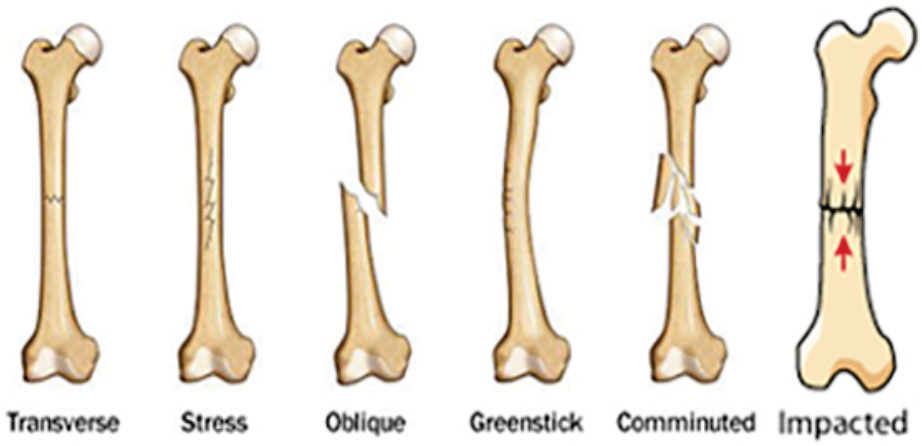
Prevention of Dislocation of Joints :

- Adequate warm-up should be performed prior to any physical activity.
- Proper conditioning should be done in preparatory period.
- Stretching exercises should be included in warm-up.
- Players should be careful and alert during practice and competition.
- Protective equipment should be used as per the requirement of the games/sports.
- Practice should be discontinued during fatigue.
- Players should have good anticipation and concentration power.
- Always obey the rules and regulations.

  Proper cooling down after the physical activities.

Q.4. Enumerate the types of fractures. Write briefly about any three type of fracture.

Ans. Types of Bone Fractures



Greenstick fracture : An incomplete fracture in which a bone bends and cracks. This type of fracture usually occurs in children because their bone are soft and flexible.

Transverse fracture : A fracture at a right angle to the bones axis or a straight break right across a bone.

Oblique fracture : A fracture is a that occurs when a force is applied diagonally an angle to a bone's long axis.

Impacted fracture: It is loss of continuity in the structure of bones. One bone driven into another bone.

Stress fractures : It is a crack in bone due to high impact physical activity.

Comminuted Fracture : A fracture in which the bone broken into more than two pieces.

Q.5. Discuss the causes of fracture.

Ans. Fracture usually occurs due to a high impact on the bone. It can be caused by overuse.

The most common causes of fracture are:

- In such sports events where there is a high impact.
- Traumatic, forceful and unnatural movements of the body.
- Prolong long distance walking & running
- Sudden falls on hard surface
- Direct strike or hit with any solid sports equipment
- Osteoporosis

Long Answer type Question (5 Marks each)

Q.1. How you will prevent injuries in sports?

Ans. **Prevention of Sports Injuries**

Competitive athletes may have difficulty avoiding sports injuries due to the intensity and frequency of their training and competition. However, it is possible to prevent most of the sports injuries by undertaking following preventive measures.

1. **Proper warming up :** Before the start of any practice of competition proper warming-up is essential. Sports injuries can be prevented to a greater extent. Proper warming up helps our muscles to get ready for the work.

2. **Proper conditioning :** Many injuries occur due to weakness of muscles which are not ready to to meet the demand of sports. So, for getting proper compatibility is a must for muscular power training load and circumference training weight training circuit training methods which develops Neuro-muscular co-ordination among muscles and prevents us from injuries.

3. **Balanced diet :** Balanced diet helps us (to some extent) prevent from injuries. For example, intake of calcium, phosphorous and vitamin D in lots of quantity to meet demands of muscles and organs to practice of activities.

4. **Proper knowledge of sports skills:** Proper knowledge of sports skills is necessary for the prevention of injuries. Players are fully skilled or sound knowledge of sports skills can prevent injuries.

5. **Use of protective equipment :** The use of protective equipment is necessary for the prevention of sports injuries. So always, wear protective equipment while playign sports. They provide security to the bodies. For their better results, always try to put on high quality protective equipments.

6. **Proper sports facilities :** Sports facilities and sports injuries have relation between them. In fact, sports injuries can be prevented if there are high-quality protection sports equipment and proper play grounds are available for practice and competition.

7. **Unbiased officiating :** If the team officials take decisions without any bias, injuries can be minimised. If the officials or referees practise partiality, these may be more changes of indiscipline among players which leads to injuries. So unbiased officiating can prevent injuries in sports fields.

8. **Avoid overtraining :** Physical training should be gradually increased to avoid injury. Exercise should be according to the current status of physical fitness level of the athletes to increase the strength and quality of musicals. Avoid training which muscle is fatigued or weakened.

9. **Use of proper technique :** Using proper techniques of playing different sports prevents us from severe sports injuries, such as tendonitis and stress fracture.

10. **Obeying the sports rules :** Obeying the sports rules is also helpful in preventing sports injuries to a greater extent.

11. **Proper cooling down :** After regular practice or competition, cooling down is equally important as warming-up before practice or competition. Cooling down should be done properly.

12. Avoid training when you are tired.

13. Increase your consumption of carbohydrate during periods of heavy training.

14. Any increase in training load should be preceded by an increase in strengthening.

15. Treat even seemingly minor injuries very carefully to prevent them from becoming a big problem.

16. Proper atmosphere & surface use training & competition.

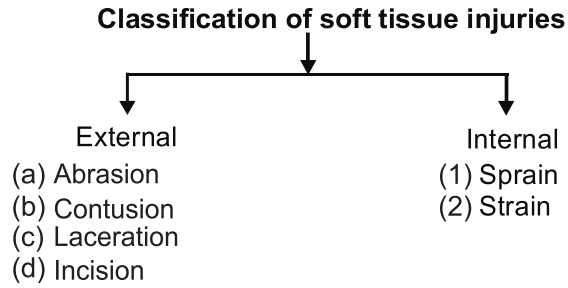
17. Proper Protection from infection areas during training or competition

18. Pay attention to hydration and nutrition during HO training or competition.

19. Use proper clothes, shoes, equipments are during the training of difference surface & environment.

Q.2. Classified the soft tissue injuries cause & preventive measures in detail.

Ans. Soft tissue injuries mean injuries of muscles, tendons, ligaments, fascia, nerve, fibrous tissues blood vessels, synovial membranes. Basically soft tissues refers to tissues that connect, support or surround other structure & organs of the body.



(a) **Abration:-** It is a superficial injury to the skin when something rubs against it.

(b) **Contusion:-** It is a muscle injury caused by a blow to the skin such on geting hit or bumping against something, which leads to raptured blood vesseis.

(c) **Laceration:-** It is a warmed of the skin caused by a relatively sharp object so that the skin cuts through its full thickness (both dermi & epidernis)

(d) **Incision:-** Commanly called cuts, These are wounds made by sharp instruments.

1. **Sprain:-** Sprain is the result of injury to the ligaments because of over stretching or learing. The extent of injury and the no. of injured ligaments determine.

2. **Stress:-** It is caused by exercise use or forced stretching of the muscle or kidons.

Causes of soft tissue injuries

- Over use
- Falls
- Stops & twists
- Improper equipments
- New & Increased activities
- Fatigue

- Poor warning up
- Impact
- Unilateral movement
- Faulty techniques & posture

Prventive measures of soft tissue injuries.

- Proper warming up
- Appropriate condition of body.
- Sound technical knowledge of skills and equipment.
- Healthy diet.
- Efficient use of techniques
- Use of proper protective gears
- No over training & over use of body
- Obey safety rules
- Fair and unbiased officiating
- Proper cooling down.

Practice Questions

Short Question (2 Marks)

Q.1. Enlist the cause of sports injuries.

Q.2. What is the difference between bone and joint injury?

Short Question (3 Marks)

Q.1. Describe endogenous cause of sports injuries.

Q.2. What is the different soft tissue and hard tissue injuries? Explain with example.

Long Question (5 Marks)

Q.1. Explain preventive measures that can be take in against sports injuries.

7.6 First Aid: Aim and Objectives

First Aid: "It is care that is given to an injured or sick person prior to treatment by medically trained person".

OR

"First Aid is a combination of some simple procedures and the application of common sense to relief an injured person."

OR

It is immediate & temporary care give to an injured or an accident or sudden illness before the services of a physician as obtained.

Aim of First Aid:

The Aim of first aid to save the life of an injured & ill person.

Objectives of first aid

- To preserve life
- To alleviate pain & suffering
- To prevent the condition from worsening
- To promote recovery.
- To procure Early medical Aid.

Multiple Choice Questions MCQ (1 Marks)

Q.1. In what situations first aid is given.

(A) In case of chronic disease.

(B) **In case of sudden illness or injury**

(C) Along with doctor's treatment

(D) Old wounds

Q.2. Which of the following comes under first Aid?

(A) To go for doctor's consultation.

(B) **Preventing blood flow from the wounds**

(C) Immunization the prevent diseases

(D) Surgery

Short Answer Questions (2 Marks)

Q.1. Explain the objectives of first aids?

Ans. It is an immediate & temporary care given to a victim of an accident or sudden illness before the services of a physician= is obtained.

Objectives of first aid

- To preserve life
- To alleviate pain & suffering
- To prevent the condition from worsening
- To promote recovery
- To procure early medical Aid

Practice Questions

Q.1. Explain the objectives of first Aid.

Q.2. When first Aid is given?

Q.3. When first Aid is important? Explain the objectives of first Aid in sports.

Practice Questions

Multiple Choice Questions MCQ (1 Marks)

Q.1. Match the following

1. Components of physical fitness	A. Decrease in bone density
2. Effect of exercies on cordiorespiratory system	B. Flexibilty
3. Effect of exercise on muscular system	C. Increase inendurance
4. Physialogical change due toold age	D. Improvement in body shape

(A) **1B, 2C, 3B, 4A** (B) 1C, 2D, 3A, 4B

(C) 1D, 2C, 3B, 4A (D) 1A, 2C, 3B, 4D

Q.2. Match the following

1. Security of life	A. Injury of hard tissue
2. follow rules of sports	B. Injury of soft tissure
3. strain	C. First Aid
4. fracture	D. Prevention of sprots Injory

(A) 1C, 2D, 3A, 4B (B) **1C, 2D, 3B, 4A**

(C) 1A, 2B, 3C, 4D (D) 1D, 2C, 3B, 4A

Q.3. Gives below are the two statements labelled Assertion (A) & Reason (R).

Assertion (A) : First aid is the care that is given to an injured person prior to treatment by medically trained person.

Reason (R) : Correct and accurate first aid may help to preserve life of an injured person.

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

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

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

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

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

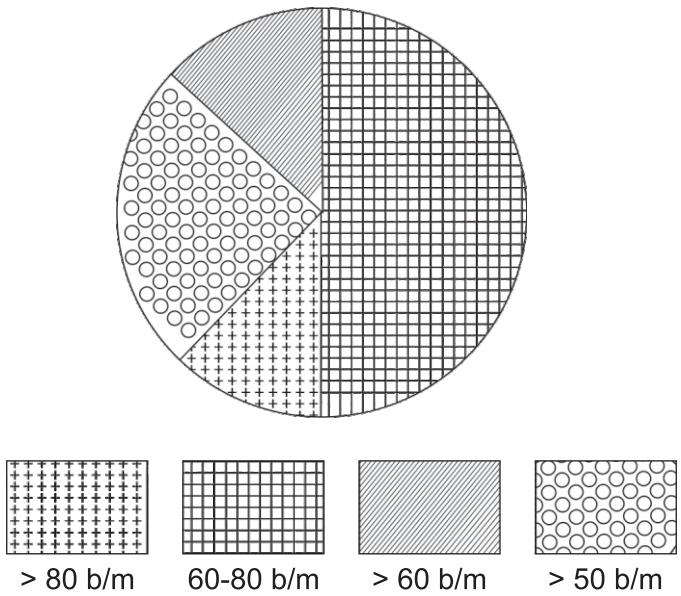
Short Questions (2 Marks)

Q.1. Identify the type of fracture and write their names.

(i)..... (ii)..... (iii)..... (iv).....

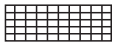
Short Question (3 Marks)

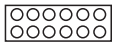
Q.1 Below given is the data: Effect of daily exercise on pulse rate. (1 x 3 = 3)



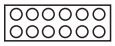
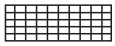
One the basis of the data, answer the following question:

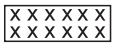
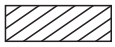
(i) **Which group have more students?**

(A)  (B) 

(C)  (D) 

(ii) **Which group have less number of students?**

(A)  (B) 

(C)  (D) 

(iii) **What is a trained athlete's heart rate during rest?**

(A) less than normal (B) more then normal

(C) both (i) & (ii) (D) none of the above

Long Question (5 Marks)

Q.1. Classify sports injuries and write down the aim & objectives of first Aid (2 + 3 = 5)

UNIT - 8

Biomechanics and Sports

UNIT - 8

Biomechanics and Sports

Key Points :

8.1. Meaning and Importance of Biomechanics

8.2 Types of Movements (Flexion, Extension, Abduction and Adduction)

8.3 Newton's Laws of Motion & its Application in Sports

8.4 Friction & Sports.

8.1 **Meaning & Importance of Biomechanics Meaning of Biomechanics:**

Bio + Mechanics

- 'Bio' means Living Organism
- Mechanics means Branch of Physics which deal with forces acting on a body in static or moving condition.

Biomechanics is the study of internal or external forces & their effects on the movements of human body or on its any part.

Importance of Biomechanics

- Better Understanding of Mechanical Advantage and Disadvantage of Human Movements.
- Helps in measurement and Evaluation of Sports Performance.
- Helps in Selection of the Players for Particular Games & Sport.
- In selection, Improvement and Development of New Techniques.
- Helps in Selection and Development of Advanced Sports Equipments.

- Helps to Corrective Posture for Posture Deformities.
- To Develop New Training Methods.
- Improves Fitness Components.
- To Speed-up Recovery Process.
- Helps in Prevention, Protection and Rehabilitation of the Sports injuries.
- For Movement Economy and many more.

Multiple Choice Questions MCQ (1 Marks)

Q.1. Which is not the Importance of Biomechanics?

(A) Improvement of Technique

(B) To understand the structure of Movement & effect of forces on the Movement

(C) **To understand Physiology of human body**

(D) Improvement of sports equipments

Q.2. Biomechanics Deals with

(A) Muscles involved in Movement

(B) **Effect of force on different Movements done by human body**

(C) To understand the physiology of the body

(D) To understand Time & Distance concept of Various Movements

Q.3. Gives below are the two statements labelled Assertion (A) and Reason (R).

Assertion (A) : Biomechanics deal with motion and cause of motion.

Reason (R) : Mechanical laws and principles are not applied on human body.

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

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

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

(C) **(A) is true, but (R) is false.**

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

Long Question (5 Marks)

Q.1. What is Biomechanics? How it helps in the field of sports & games? **(1 + 4 = 5)**

Ans. **Bio :** living organism

Mechanics : Branch of Physics. Which deals with effect of force on the object

Biomechanics is branch of physics which deals with effect of forces acting on a living of organism in moving or in Stationary conditon. Biomachanics helps in the field of sports in the following way.

1. **Imporvement of Technique:** Biomechanics helps to improve technique. It determine how the technique should be execute to get best result.

   Example: Shiftingfrom orthodox to disco put rotational technique in shotput.

2. **Improvement of Equipment:** If helps to Improve equipments According to nature of activity & ensure safety players.

   Example: In the high jump, sand landing replaced with thick mat.

3. **Improvement in Training Method:** It helps to develop new Training methods to get better result.
Example: Devlopment of Isotonic mehtod to develop strength.

4. **Development of Sports skills:** Biomechanics help to improve & to understand sports skills.
Example: Change of dealing skills in cricket.

5. **Help in measurement and evaluation of sports performance** with the help of different biomechanical equipments.
Example: Goniometer, Dynamometer etc.

Short Questions (2 Marks)

Q.1. What do you understand by word Biomechanics? Write any two importance of Biomechanics. (1 + 1 = 2)

Q.2. Explain the importance of biomechanics. (2)

Short Questions (3 Marks)

Q.1. Biomechanics helps to improve technique & equipment of sports Explain with suitable examples.

Long Questions (5 Marks)

Q.1. What do you under understand by Biomechanics? Explain its importance with four suitable examples.

Q.2. What is Biomechanics? How it helps to promote sports & games.

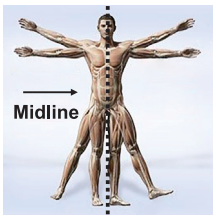
8.2 Types of Movements (Flexion, Extension, Abduction, Adduction)

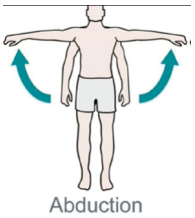
- Flexion refers to decrease angle between joints.

  Example: Elbow Flexion & Squats downward position.

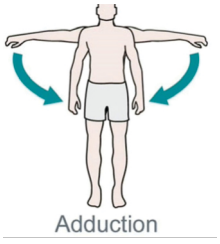
- Extension refers to increase angle between joints. Maximum extension possible to 180 degree.
  Example: Elbow Extension & Squats upward position.

- Abduction refers to the movement of a body part away from the body's midline.





- Adduction refers to the movement of a body part toward the body's midline.



Multiple Choice Question (1 Mark)

Q.1. Match the following.

(a) Flexion	(i) Increase in Angle
(b) Extension	(ii) Away from Mid line of body
(c) Abduction	(iii) Towards the Mid line of body
(d) Adduction	(iv) Decrease in angle

(A) a–IV, b–I, c–III, d–II (B) **c–II, d–III, a–I, b–IV**

(C) a–IV, b–I, c–II, d–III (D) c–I, d–IV, a–III, b–II

Q.2. Bending of Elbow when our hand is going toward our chest is

(A) **Flexion** (B) Extension

(C) Abduction (D) Adduction

Q.3. Opening of hand sidewise when our hand is moving away from midline of body is example of

(A) **Abduction** (B) Adduction

(C) Flexion (D) Extension

Q.4. Gives below are the two statements labelled Assertion & Reason (R).

Assertion (A) : Flexion, extension, abduction are the types of movement.

Reason (R) : Movement away from the body's midline is known as adduction.

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

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

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

(C) **(A) is true, but (R) is false.**

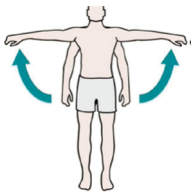
(D) (A) is false, but (R) is true.

Long Question (5 marks)

Q.1. Discuss the Abduction, Adduction, flexion & extension with suitable examples in detail. Name the Movements which occours in legpress exercise. **(4 + 1 = 5)**

Ans. **(1) Abduction:** It is the Movement in which body part move away from the midline of body.

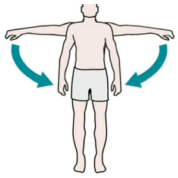
Example: Moving of hand in sidewise disection i.e. hand going away from body.



Abduction

(2) Adduction: It is the Movement in Which angle decreasing between joints.

Example: to back his hand to Attention position from the hands opening sides stage



Adduction

(3) **Flexion:** It is that movement in which angle is decreasing between joints.

Example: Bending of Elbow and bending off knee

(4) **Extension:** It is the movement in which angle is increasing between joints.

Example: Straighting of elbow from bending position

During Leg Press Exercises

Straighting of knee from bending position is known as Extension and bending of knee is known as flexion.

In leg press exercise flexion of knee joint and extension of knee joint take place.

Short Questions (2 Marks)

Q.1. What is the Abduction? Give Two suitable examples.

Q.2. What is Flexion? Give two suitable examples.

Short Questions (3 Marks)

Q.1. Differentiate Between flexion and extenhsion with suitable examples.

Q.2. Differentiate between Abduction and Adduction with suitable examples.

Long Questions (5 Marks)

Q.1. Explain Abduction, Adduction, Flexion & Extension with suitable examples.

Q.2. How we can Identify the Abduction, Adduction, Flexion & extension movements is various joints of our body? Explain with examples.

8.3 Newton's Laws of motion and their application in sports.

- **1st Law of Motion: Law of Inertia**

  Any object will be remains in its state (in rest or in motion) until or unless an external force is applied on it.

- **2nd law of motion: Low of Acceleration**

  The second law of motion is also known as "Law of Momentum".

  The rate of change of acceleration is directly proportional to the force applied on the object and Inversely proportional to the mass of the object.

  The net force of an object is equal to the product of its mass and acceleration.

  Force = Mass x Acceleration

- **3rd law of motion: Low of Action-Reaction**

  In this law of motion, for every action, there is an equal and opposite reaction.

Multiple Choice Questions MCQ (1 Marks)

Q.1. Newton's IInd law is also known as

(A) Law of Action Reaction
(B) Law of Inertia
(C) **Law of Acceleration**
(D) Law of velocity

Q.2. In long jump, during take-off which Newton's law works

(A) Ist law of newton
(B) IInd law of newton
(C) **3rd law of newton**
(D) Low of conservation of mass.

Q.3. Gives below are the two statements labelled Assertion (A) & Reason (R).

Assertion (A) : There are three newton's law of motion.

Reason (R) : Third law of motion says, for every action, there is an equal and opposite reaction.

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

(A) **Both (A) and (R) are true and (R) is correct explanation of (A).**
(B) Both (A) and (R) are true but (R) is not correct explanation of (A).
(C) (A) is true, but (R) is false.
(D) (A) is false, but (R) is true.

Long Answer Questions (5 Marks)

Q.1. What are the newton's law of motion? Explain the Application of 2nd law of Motion in sports. (3 + 2 = 5)

Ans. **1st Law of Motion (Law of Inertia):** any object will be remains in its position until or unless any external force is applied on it.

2nd law of motion (Law of Acceleration): The rate of change of acceleation is directly proportional to the force applied on the object and Inversly proportional to the mass of the object.

3rd law of motion (Law action and Reaction): There will be equal and opposite reaction to each and every action.

Application of IInd law of motion

Example 1:
According to 2nd lawof motion if we want to produce acceleration in football then a large force will be required to put on the ball. In the same ratio to which force is applied on the ball will be accelerate.

Example 2:
Landing of high jump initially done on the sand but with the time change now landing of high jump will be done on the mats as according to 2nd law when rate of change of momentum will be done in large time period less force will be produce which will helpful to avoid injury. So according to 2nd law of motion landing on the mats is more favorable for high jumper to avoid injury.

Short Questions (2 Marks) (40 to 60 words)

Q.1. Explain the 1st law of motion with suitable examples. (2+1=3)

Q.2. Write the 2nd law of motion? Give one suitable example. (2+1=3)

Short Questions (3 Marks) (80 to 100 Words)

Q.1. Explain all the three laws of motion. (1 + 1 + 1=3)

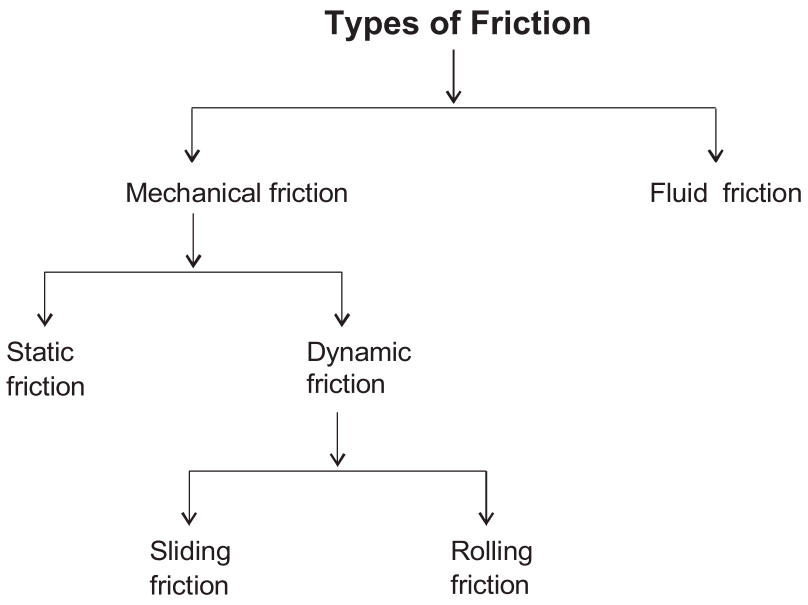
Q.2. To accelerate any object what condition should be follow according to IInd law of motion. Explain with suitable examples. (2 + 1 = 3)

Long Questions (5 Marks) (150 to 200 words)

Q.1. Explain how newton's law of mation help to enhance sports performance with suitable examples.

Q.2. State laws of motion & there applications in the field of sports.

8.4 Friction: is a force that devlops when the surfaces of two objects comes in contract to each other & there will be relative motion between these objects or tends to do relative motion between these two object. Friction force alway act in opporite direction to the movement.



Multiple Choice Questions MCQ (1 Marks)

Q.1. The force which oppose the relative motion between the surfaces of two object is known as

(A) **Frictional force** (B) Gravitational force

(C) Applied force (D) Tension force

Q.2. The force produced when the sarfaces of two objects comes to contract of each other & tends to move but their is no relative motion between them is known as

(A) **Static friction** (B) Sliding friction

(C) Rolling friction (D) Fluid friction

Q.3. Gives below are the two statements labelled Assertion (A) & Reason (R).

Assertion (A) : Friction is a force that occurs when two surface oppose to each other.

Reason (R) : Pushing a wall is known as static friction In the context of above two statements, which one of the following is correct?

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

(B) **Both (A) and (R) are true but (R) is not correct explanation of (A).**

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

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

Long Question (5 marks)

Q.1. What is Friction? Discuss Discus static, rolling and sliding friction with example. (1 + 4 = 5)

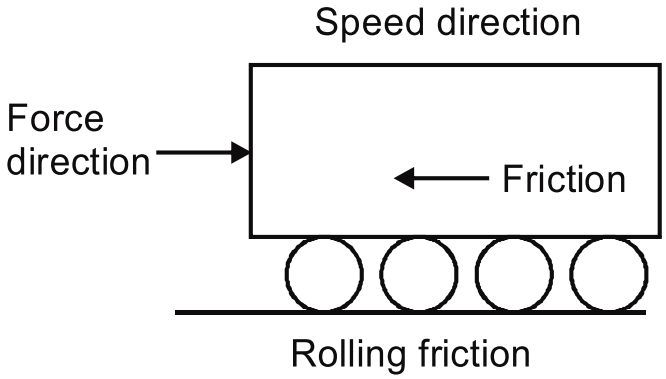
Ans. Friction is a force that occurs when two surface oppose each other. Friction always acts in the opposite direction of the applied force.

Static, Rolling and Sliding Frictions:

Static friction: The opposite force that comes into play when one body is actually not moving over the surface of another body.

Example: Pushing a wall

Rolling friction: The oppsing force that comes into play when body is actually rolling over the surface of another body. For example, hockey/cricket ball is hit



Sliding Friction: The opposite force that comes into play when one body is actually slide over the surface of other body for example sliding on the field of cricket by a fielder.

Q.2. Differentiate between advantage & disadvantage of friction in the field of sports.

Ans. Friction is usually called necessary evil. It means it is essential in the life and we can not do any work without it.

Advantages of friction	Disadvantages of friction
(a) Keeps the object at position by friction, the objects can be placed at position and shaped.	(a) Wear and tear of object: Due to friction, there is wear and tear of objects. Lubrication is used to allow the parts to move easier, moreover, prevents wear and tear.
(b) Helps to move: Frictional forces helps to move the object. It helps in running, walking. with friction of feet/ shoes on the surface.	(b) Wastage of Energy: Excess of friction means extra energy, thus energy is being wasted.
(c) Helps to speed up. Frictional force helps to move the object in the speed. For example: Spikes are used by the athletes to run fast.	(c) Slow down the speed: in the roller sketting, Rolling shoes and smooths surface are used to minimize friction.
(d) Hold or grip an object: with the help pf friction the ridges of skin of our fingers and our palm enable us to grab & hold objects. **Example** : Badminton players use grip to hold it.	

Short Questions (2 Marks) (40 to 60 words)

Q.1. What do you understand by friction? Enlist its types

Q.2. Define Rolling and Sliding friction.

Short Questions (3 Marks) (80 to 100 words)

Q.1. Explain dynamic friction with suitable examples.

Q.2. What is the difference among static friction, kinetic friction & fluid friction?

Long Questions (5 Marks) (150 to 200 words)

Q.1. How friction is helpful in sports give five suitable examples?

Q.2. What is friction? Explain its role in spots.

Practice Question

Multiple Choice Question (1 Marks)

Q.1. Match the following

(a) Abduction	(i) Decreasing in Angle
(b) Newton's IInd law	(ii) Frictional force
(c) Force that opposre Movement	(iii) Away from midline
(d) Flexion	(iv) Law of Acceleration

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

(B) a –iv, b – iii, c – ii, d – i

(C) a – iv, b – iii, c – i, d – ii

(D) a – ii, d – iv, b – iii, c – i

Q.2. Match the following

(a)	Mechanical friction	(i)	Increased in angle
(b)	Law of Inertia	(ii)	Object are solid comes in contract
(c)	Take off highjump	(iii)	IIIrd law of motion
(d)	Extension	(iv)	Things Remains in its postion

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

(B) a – iv, b – ii, c – iii, d – i

(C) a – iv, b – ii, c – i, d –iii

(D) a – iii, b – ii, c – i, d – iv

Q.3. Gives below are the two statements labelled Assertion (A) and Reason (R).

Assertion (A) : Frictional force is a part of biomechanics.

Reason (R) : Biomechanics is the study of forces and their effects on the movement of human body.

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

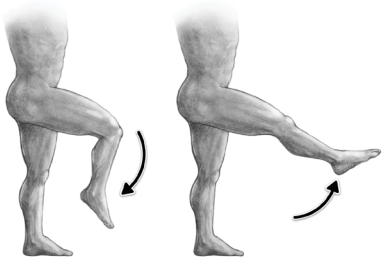
(A) **Both (A) and (R) are true and (R) is correct explanation of (A).**

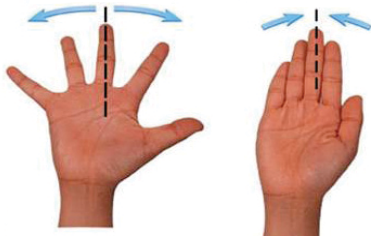
(B) Both (A) and (R) are true but (R) is not correct explanation of (A).

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

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

Q.4. Identify the human movement and write their Name





(i)..... (ii)..... (iii)..... (iv).....

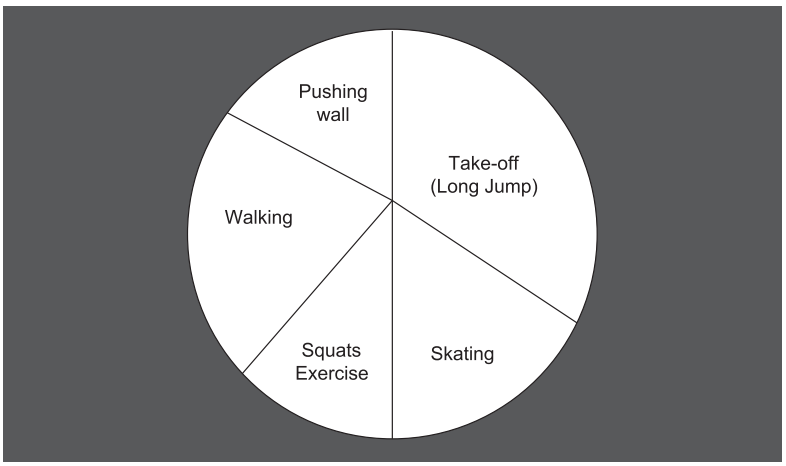
Q.5. What do you understand by Biomechanics? Explain the flexion with two suitable examples. (1 + 1 + 1 = 3)

Q.6. Diffrentiate between flexion & Extension with examples. (1½ + 1½ = 3)

Q.7. Diffrentiate between Abduction & Addaction with suitable examples (1½ + 1½ = 3)

Q.8. Explain newton's IIIrd law of motion with two suitable examples from the field of sports. (1 + 2 = 3)

Q.9. Below given the different test items:



One the basis of the data, answer the following question:

(i) **In which activity Newton's second law of motion used?**

(A) Skating (B) Take-off (Long Jump)

(C) Walking (D) None of Above

(ii) **In which activity flexion and extension take place?**

(A) Skating (B) Walking

(C) Squats Exercise (D) Both (B)& (C)

(iii) **In which activity static friction is used?**

(A) Skating (B) Take-off (Long Jump)

(C) Pushing Wall (D) Walking

Q.10. Enlist the names of newton's laws of motion & explain any one of them with suitable examples. (1 + 2 = 3)

Q.11. What is biomechanics.? Explain extension, Abduction and Adduction movements? (1 + 4 = 5)

Q.12. Explain the two newton's laws of motion? Write any four importance of IInd law of motion (3 + 2 = 5)

Q.13. What is friction? Explain advantages & disadvantages of friction in sports. (1 + 4 = 5)

UNIT - 9

Psychology and Sports

UNIT - 9

Psychology and Sports

Key Points :

9.1. Personality; its definition and type-trait and type (Sheldon and jung classification) and big five theory.

9.2 Motivation, its type and techniques

9.3 Exercise Adherence; Reasons to Exercise, Benefits of Exercise.

9.4 Strategies for Enhancing Adherence to Exercise.

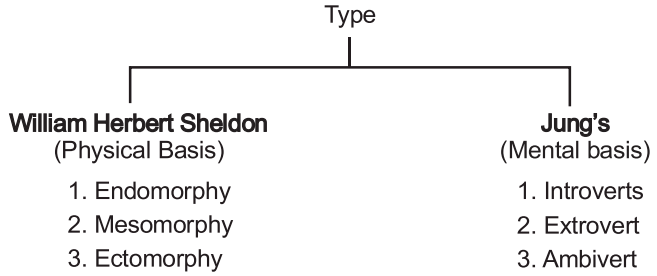
9.5 Meaning, concept and types of Aggressions in sports.

9.1 **Personality:**

The word personality is derived from the latin word 'Persona', which means 'the mask'. So we say that personality is a mask that is used by an individual to deal with the society or the environment. Personality covers all the physical, mental, social, emotional interest and behavioural qualities of an individual.

"It is the integration of an individual's most characterstics structure, mode of behaviour, interest, attitudes, capacities, aptitudes, and abilities.

Personality: Includes the physical, mental, social and emotional qualities, interest and behavior of an individual".



Big five personality theory

1. Openness
2. Conscientiousness
3. Extraversion
4. Agreeableness
5. Neuroticism

Openness	**Conscientiousness**	**Extraversion**
Social	Self discipline	Energetic
Imaginative	Dedicated	Positiveness
Interest	Hard worker	Accepting nature
Curiousity	Aspirant	Social
Creativity		Talkative
Emotional		Friendly

Agreeableness	**Neuroticism**
Cooperative	Angryness
Managed	depression
Soft hearted.	worried

Multiple Choice Questions MCQ (1 Marks)

Q.1. The word personality is derived from the latin word _____.

(A) **Persona** (B) Endomorphy

(C) Perjona (D) Person

Q.2. The person having round body shape is called _____.

(A) **Endomorphic** (B) Mesomorphic

(C) Ectomorphic (D) Ambivert

Q.3. A person having strong built up is known as _____.

(A) Endomorphic (B) **Mesomorphic**

(C) Ectomorphic (D) Ambivert

Q.4. A thin, long, depressed personality trait is known as _____.

(A) Endomorphic (B) Mesomorphic

(C) **Ectomorphic** (D) Ambivert

Q.5. The physical traits Endomorphic, Mesomorphic, Ectomorphic is given by _____.

(A) **Sheldon** (B) Jung

(C) Big-5 (D) Eysean

Q.6. Traits of High-self confidence, social, friendly, confident etc lies in

(A) Ambivert (B) **Extrovert**

(C) Introvert (D) Ectomorphic

Q.7. Traits of Extrovert, Introvert and Ambivert is given by _____.

(A) **Jung** (B) Sheldon

(C) Big-5 (D) Eysean

Q.8. Big-5 theory is also known as _____.

(A) **Five factor model** (B) Five traits model

(C) Five personality model (D) Five temperanent model.

Q.9. The word 'Endo' in endomorphy is for _____.

(A) **rounded body** (B) muscular

(C) thin body (D) Lazy body

Short Answer Type Question (2 Marks)

Q.1. Distinquise between introvert and extrovert on the basis of their characterstics. (Any two)

Introvert	Extrovert
Poor self confidence	Confident
Moody	Energetic
Quiet	Lively
Pessimistic	Optimistic
Unsocial	Social

Short Answer Questions (3 Marks)

Q.1. Elaborate the classification of personality given by Herbert sheldon.

Ans. Sheldon classified the body into 3 different parts: He was an American pychologist who was born in 1, Nov 1898. He divided personality on the basis of three physical structure.

(1) **Ectomorphy with Cerebrotonia:**

Ectomorph has narrow shoulder, thin arms and legs, a narrow face and a flat chest. They are slim and slender, thoughtful, quite, self concious, pessimistic and are not fond of physical activity.

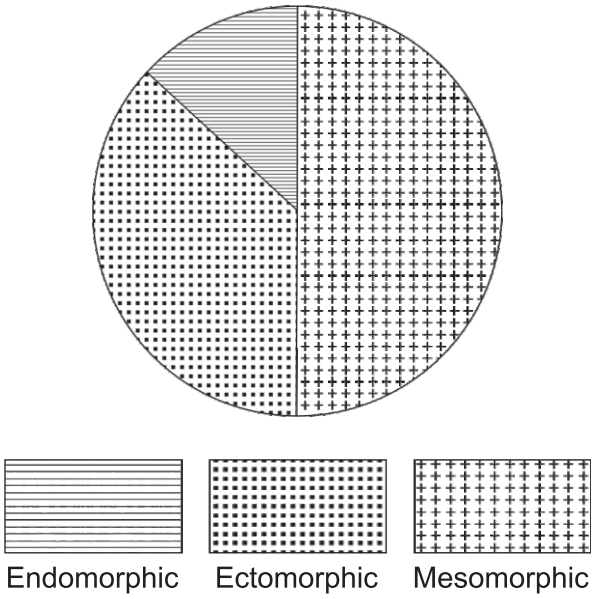
(2) **Mesomorphy with somatotonia:**

Mesomorph are likely to have an athletic physic. There shoulders are broad, chest narrow, arms and legs strong. They have more muscles than fat. They are courageous, adventurous, assertive and competitive in nature.

(3) **Enclomorphy with viscerotonia:**

Endomorphs has a round body characterised by wide hips, narrow shoulders and plump fatt they have extra body fat on their body parts such as arms and thigh. They are relaxed, easy going, fun loving and sociable in nature.

Q.2. Below given is the data of the personality traits collected in the school to select the students for the sports day.



On the basis of above data, answer the following question-

(i) **Who proposed these traits personality?**

(A) Jung (B) **Sheldon**

(C) Both A & B (D) None of these

(ii) **Students with _____ traits are best suited for all sports activities.**

(A) Endomorphic (B) **Mesomorphic**

(C) Ectomorphic (D) Introvert

(iii) **_____ personality is good for power sports.**

(A) Ectomorphic (B) **Endomorphic**

(C) Mesomorphic (D) Both A & C

Long Answer Question (5 Marks)

Q.1. Define personality, write any four traits of Big-5 theory of personality in detail. (1 + 4 = 5)

Ans. The word personality is derived from the latin word "Persona" means "Mask". But it has the broader meaning like Biological-Appearance, Psycholgical-Tolerance and sociological-Character. The following are the traits of Big-5 personality

1. **Openness Traits:** The accessment of openness traits shows that how the person is
   - Imaginative
   - Insightful
   - having variety of interest
   - with degree of intellectual curiosity
   - creative
   - able to enjoy the new experiences
   - able to learn new changes & concept

2. **Conscientionsuess:** The accessment of this trait show that how the person is able to
   - Compete with life challenges
   - control self discipline
   - To act dutifully
   - To plan & to organize
   - Work independently
   - To do hard work

3. **Extraversion:** The assessment of this trait shows that how the person.

- is energetic
- has positive emotions
- has Assertiveness
- is sociable
- is talkative
- is fun loving
- has friendly nature or has tendency to make new friends
- able to get affection from other

4. **Agreeableness:** The assessment of this trait shows that how the person.

- has sense of cooperation
- is systematic
- is kind
- is friendly
- is gentle

5. **Neuroticism:** The assessment of this trait shows. How the person.

- has emotional stability
- is able to control anger
- is able to control the level of anxiety

Practice Question

Q.1. Distinquise between "Mesomerph" and Ectomorph on the basis of their characterstics. (any two) (1+1=2)

Q.2. Differentiate with "Extroversion" and "Neuroticism" on the basis of their characterstics. (any two) (1+1=2)

Q.3. Define personality. Differentiate between Introvert and extrovert. **(1 + 2 = 3)**

Q.4. Personality traits are very useful for the Identification of sports. How the knowledge of Sheldon's traits are useful in the selection of sports. **(1 × 3 = 3)**

Q.5. Differentiate between Endomorphy and mesomorphy. **(3)**

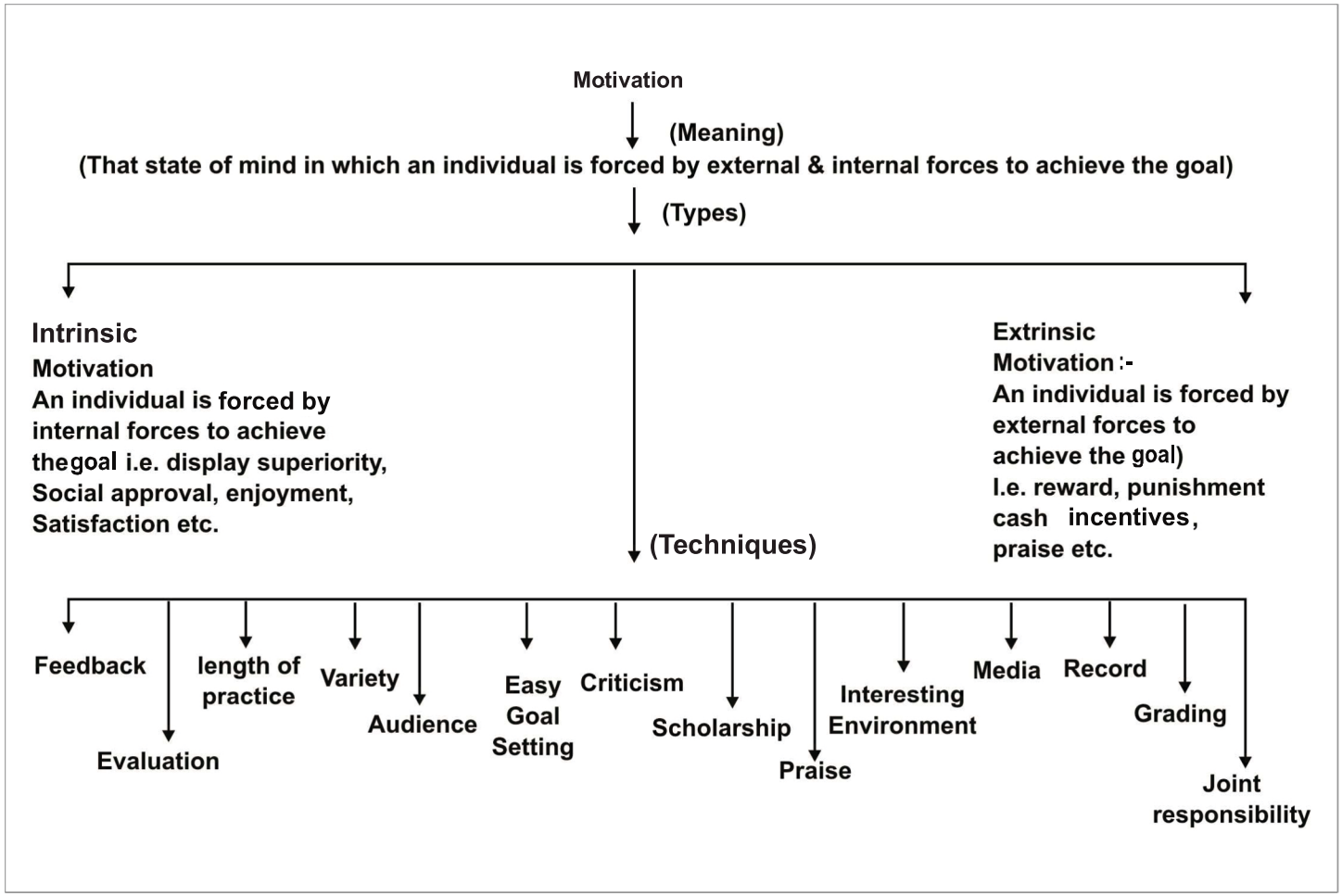
Q.6. Personality and selection of sports are the two sides of a coin. Justify.

Q.7. Elaborate the Big-5 theory of personality. **(1 × 5 = 5)**

9.2 Motivation

The word motivation is derived from the latin word "movere" which means to move so in the condition of motivation an individual is moved by internal & external forces towards the goal.

It is widely accepted that "Miracle is possible only when you are motivated" It is nothing but arousing Sustaining and regulating the activity. No learning is successful unless it is motivated enough. In sports, the role of teacher and coachs are not to teach, train the athlete but motivate to learn.


Motivation
(Meaning)
(That state of mind in which an individual is forced by external & internal forces to achieve the goal)
(Types)
Intrinsic Motivation
An individual is forced by internal forces to achieve thegoal i.e. display superiority, Social approval, enjoyment, Satisfaction etc.
Extrinsic Motivation :-
An individual is forced by external forces to achieve the goal)
I.e. reward, punishment cash incentives, praise etc.
(Techniques)
Feedback
Evaluation
length of practice
Variety
Audience
Easy Goal Setting
Criticism
Scholarship
Praise
Interesting Environment
Media
Record
Grading
Joint responsibility

Multiple Choice Questions MCQ (1 Marks)

Q.1. The word motivation is derived from the latin word _____

(A) **movere** (B) moves

(C) moorer (D) move

Q.2. Natural motivation is also known as –

(A) **Intrinsic** (B) Extrinsic

(C) Intrim (D) Extreme

Q.3. If an Individual is moved by Internal external forces towards the goal is known as

(A) Goal setting (B) outer forces

(C) Inner force (D) **motivation**

Q.4. Reward, cash, punishment falls in which category of

(A) **External** (B) intrinsic

(C) Psychological (D) Biological

Short Answer Types Question (2 Marks)

Q.1. Write any two examples of internal motivation.

Ans. When a person involves in any sports to have mastery to display superiority or to gain social approval in called internal motivation.

Short Answer Type Questions: (3 marks)

Q.1. Explain the types of motivation? or Differentiate between "Internal" and "External" motivational.

Ans. Motivation are two types

(i) Intrinsic Motivation :- In this type of motivation an individual is forced by his internal forces to achieve the goal. In intrinsic motivational state "an individual is motivated by their own desire not by any external factor" i.e. for enjoyment, for satisfaction, to show mastery over skills, to display superiority or to get social approval, fame etc.

(ii) Extrinsic Motivation :- In this kind of motivation, an individual is forced by the external forces to achieve the goal such as prize, praise, scholarship, grade, job, money etc.

In the extrinsic motivational state "an individual is motivated by some external factors.

Q.2. Astha is good zonal athlete, who was not performing well for past few teacher Sunita used some motivational techniques to motivate her to perform well. As a result she performed well.

Based on this case answer the following question:-

(i) Following are motivational techniques except.

(A) Evaluation (B) Spectators
(C) Prizes (D) **Personality**

(ii) _____ in External motivation.

(A) Self-respect (B) Self- satisfaction
(C) Pleasure (D) **Scholorship**

(iii) _____ in Internal motivation.

(A) Money (B) Job
(C) Saticfaction (D) Praise

Long Answer Questions (5 Marks)

Q.1. Vinod a physical education teacher trains athletes in his school. His students Haseen has not been performing well for past few days. Vinod used some motivational techniques to improve his performance. Enlist the techniques used by Vinod and explain any four of them.

Ans. Following are the motivational techniques used in sports Evaluation, variety, Role of spectators. Criticism. Modern equipment, Length of practice, level of aspiration/Goal setting Innovative curriculum, Reward punishment, Praise Appreciation, Competition feedback, self appraisal, social pressure, Grading and reward, Success Achievement, Role of media

"Motivation is the general level of arousal to action in an individual".

Following mentioned techniques of motivations are applied on sportspersons, which can enable them to achieve the top position in the field of sports and games.

(i) **Evaluation :-** Evaluation make and aware the sportsmen from his abilities and motivate him/her for higher position.

(ii) **Variety :-** Variety in the training programme make the practice more interesting and always to motivate the sportsman to perform better to best.

(iii) **Role of Spectators :-** The presence of audience / spectators help to sportsman to perform in dynamic form too.

(iv) **Criticism :-** Criticism for the poor performance of an athlete motivate to perform better.

(v) **Cash Prizes, Scholoarship etc. :-** Good incentive to the sports persons always motivate and strives hard to achieve better in the competitions.

(vi) **Latest Equipments :-** Use of latest equipments in training make the training more interesting and motivated the athlete to achieve the goal.

(vii) **Practice Session :-** By reducing the length of practice an athlete is motivated to be continue in their training and to achieve the goals.

(viii) **Resetting of Goal : -** Resetting of goal from easy to complex motivate the athlete to continue in training to achieve the goals.

(ix) **Awards :-** Awards for good performance of athlete motivate him to do better.

(x) **Praise :-** Praise given by the society for the performance of athlete always motivate athlete to do better.

(xi) **Positive Environment :-** Environment make more interesting by including music audience etc. and interesting environment help to perform better.

(xii) **Role of Mass Media :-** When the performance of an athlete is telecasted by media he is motivated to perform well, to get praise from the society.

(xiii) **Record :-** Record always aware an athlete to his current performance and his past performance which help to motivate him to perform better.

(xiv) **Jobs :-** On the basis of achievement and educational qualifications, outstanding sports persons should be offer good jobs. There are various department — Police, Bank, Railways, Air India etc. offer good jobs. This opportunity is also a motivating force.

(xv) **Feed back :-** With the help of feedback an athlete can remove easily negative factors from his performance and try to perform better.

(xvi) **Sharing Responsibilities :-** Sharing responsibilities always help to develop and motivate an individual to perform well.

(Explanation of any four points in detail).

Practice Questions:

Q.1. Differentiate any two between Internal and External motivation
(1 + 1 = 2)

Q.2. Define motivation. Identify and Reward is a type of motivation which forces an athlete to excel in sports, Discuss.
(1 × 3 = 3)

Q.3. Different motivational techniques works differently for every athlete. Enumerate three motivation techniques used in sports.
(1 × 3 = 3)

Q.4. Define Intrinsic Extrinsic motivation. Elaborate any three motivational techniques used in sports. (2 + 3 = 5)

Ans. **Exercise Adherence:** Refers to maintainings a systematic approach to exercise for a prolonged period of time following the initial adoption phase. Exercise Adherence reflects about the continued participation of an individual in exercise training programme.

Reason to Exercise : There is lot of reasons to do exercise daily. It helps to perform daily task of an Individual smoothly and efficently. It differ person to person, ex. my grand parents reason to exercise is ditterent from me, Reason for male and female may be different, and reason to exercise for children will be ditterent. Reason to exercise for everyone will be dependent on the needs and requirement of the individual. It may be for to stay fit or for prevention of disease and disorder.

Need or Reasons to Exercise/Benefits of Exercise

Physiological Needs or Benefits of Exercise

– To improve the working efficiency of various system of such as

* Cardio vascular system
* Digestive system
* Respiratory system
* Nervous system
* Muscular system
* Skeletal system
* Excreatory system
* Endocrine system

Psychological Needs or Benefits of exercise

– To reduce stress and Anxiety level
– To improve intelligence
– To improve personality
– To sharpen memory
– To improve self esteem
– To improve body image
– To improve attention and concentration
– To improve group behaviour
– To control aggression level
– For positive attiude
– To make good Habits
– To improve mood
– To recreate
– To better control overs emotions
– To improve motor learning

Health & Fitness Related Needs or Benefits of Exercise

– To prevent major and minor diseases
– To improve physical fitness
– To improve health related fitness
– To slowing down ageing process
– To become more energetic
– To prevent obesity
– For better growth and development
– To maintain lean body mass

Multiple Choice Questions MCQ (1 Marks)

Q.1. Stick to the fitness programme is known as

(A) Fitness (B) **Exercise adherence**

(C) Performance (D) Training

Q.2. Participation in regluar Exercise programme is knownas

(A) **Exercise adherence** (B) Wellness

(C) Fitness (D) Performance.

Short Answer type Question (2 Marks)

Q.1. Stick to Write any four psychological benefit of exercise.
(½ x 4 = 2)

Ans.
- To improve self-esteem
- To improve mood
- To reduce stress and anxiety
- To improve motor teaching

Short Answer Questions (3 Marks)

Q.1. Elucidate the term "Exercise Adherence. Write any two Reason to do exercise. (1 + 2 = 3)

Ans. Exercise is any bodily activty that enhances or maintains physical fitness and overall health and wellness.

Exercise adherence refers to maintaining a systematic approach to exercise for a prolonged period of time following the initial adoption.

Reasons to Exercise:

- Psychological Reason Superiority, frustration
- Biological and physiological Reason -struggle for survival
- Social Reason - Cooperation, compete
- Economical Reason - earn to live
- To perform daily task efficiently.
- To prevent from disease and disorder.
- To improve working efficiency of all organs.
- To adjust with working place or society.
- To slowing down aging process.

(a) **To improve working efficiency of all organs:** Through participation of exercise programme, individual learn about body and its functional value in daily life. Exercise help to maintain or increase the efficiency of all organs of the body which helps to lead a happy life.

(b) To perform daily task efficiently: Exercise not only helps to maintain or develop physical fitness of an individual but also helps to develop self esteem, perception, relaxation, Reduce frustration etc which help him/her to perform daily task efficiently.

Q.2. Write any six benefits of exercise. or Enumerate any six Reason to exercise. **(1/2 × 6 = 3)**

Ans. (i) Prevention from major diseases like coronary heart disease, diabetes etc.

(ii) Helpful to improve personality.

(iii) Helpful to improve the working of various system such as cardio vascular system, digestive system etc.

(iv) Helpful to improve physical fitness as well as health related fitness.

(v) Helpful to improve group behaviours, attention and concentration.

(vi) Help to make good habits such as discipline, hard working etc.

Long Answer Questions (5 Marks)

Q.1. Participation in exercise programme for a long time helps to develop physiologically, psychologically and sociologically individual in the society Justify.

Ans. Exercise is any bodily activity that enhances or maintains physical fitness and overall health and wellness, following are the benefits of exercise.

(1) Physiological Benefits

Improve the working of various system such as

Cardiovascular system

- Cardiac out put and stroke volume increases
- Elasticity of blood arteries increases
- Normal blood pressure
- Heart rate per minute decreases

Respiratory system

- Min. volume and Tidal volume increases
- Respiratory rate per min decreases
- Vital capacity and total lung capacity increases

Muscular system

- Size of the muscles increases
- Storage capacity of muscle increases
- Maintained muscle tone

(2) Psychological Benefits

- Stress and anxiety level : Participation in exercise release good harmone in our body which helps to reduce the stress and anxiety level.
- Personality : Participation in exercise promote all the dimension of personality such as physical, mental, social and emotional.
- Intelligence and memory: Participation in exercise has good effect on the working on nervous system which help to increase the level of intelligence and memory.
- Recreation : Participation in exercise is one of good source of recreation so helpful to recover from mental fatigue.
- Group behaviour : Participation in exercise is helpful to improve group behaviours as at the time of exercise person has to do exercise with his/her group member which is helpful in improving group behaviour.

(3) Health & fitness related benefits

- Helpful to prevent from diseases like cancer, cronary heart diseases, diabetes etc.
- Helpful to improve the components of physical fitness such as strength, speed, flexibility, endurance etc.
- Helpful to improve the components of health related fitness such as muscular strength, cardio vascular endurance, body composition etc.
- Helpful to maintain healthy weight.

Practice Questions

Q.1. Elucidate any two Reasons to Exercise. (1 x 2 = 2)

Q.2. Define Exercise Adherence. Write any two physiological benefits of Exercise. (1 + 2 = 3)

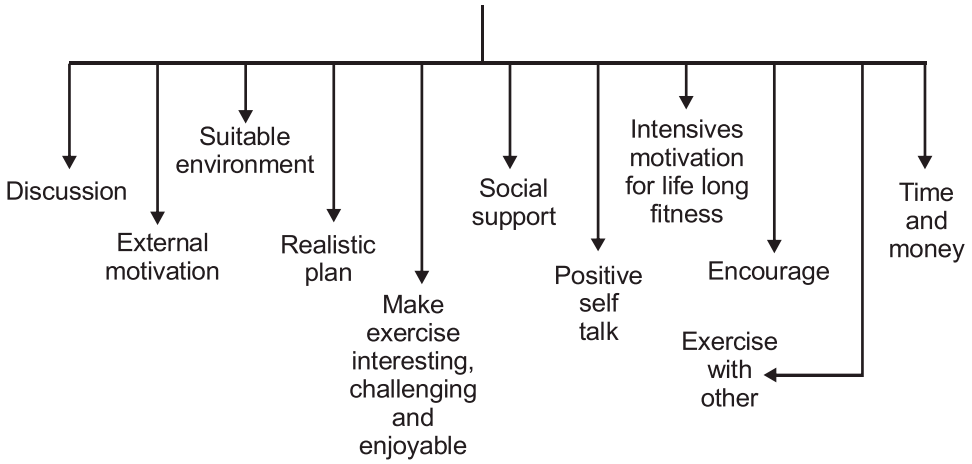
Q.3. Write any three psychological and physiological benefits of Exercise. (1½ + 1½ = 3)

Q.4. Elucidate exercise adherence. Write any four health related benefit of exercise. (1 + 4 = 5)

9.4 Strategies for enhancing Adlherence to exercise:

Strategies for enhancing adherence to exercise are the methods which are used to enhance the consisting participation of people in exercise programme.

Strategies for Enhancing Adherence to Exercise



Multiple Choice Questions MCQ (1 Marks)

Q.1. Methods which are used to enhance the participation of people in exercise programme is known as.

(A) **Strategies** (B) techniques

(C) training (D) Skill

Long Answer Question (5 Marks)

Q.1. Aruna gets allergic to the changing weather. Her teacher discussed with her about strategics of exercise adherence and asked to follow then. Enlist the strategies of exercise adherence suggested by her teacher and briefly explain any four in detail.

Ans. There are so many strategies used to enhance the adherence to exercise. A few strategies are given below

- **Discussion :** With the discussion on the benefits of exercise, adherence to exercise can be improved.
- **External motivation :** With the help of the positive reinforcement as praise, prize, records the such to exercise can be improved.
- **Suitable environment :** At the time of exercise training programme suitable environment should be provided. If environment is with latest facilities it will to improve adherence to exercise.
- **Realistic plan :** Planning Goal setting should be realistic Goal setting should be according to the capability of the athlete such type of planning and goal setting improve the adherence to exercise.
- **Social support :** From family, school and society is helpful to enhance adherence to exercise.
- **Exercise with other :** Company of exercise partner improve the adherence to exercise.
- **Make exercise interesting, challengeable and enjoyable :** Exercise plan should be intresting it should not be repeated daily. It should be challengeable and enjoyable.

- **Intrinsic motivation :** Intrinsic motivation for good health and good fitness is helpul to promote exercise adherence.
- **Time and money :** Sufficient availability of money and availability of time helpful to promote exercise adherence.

(Explain any five in detail)

Practice Question

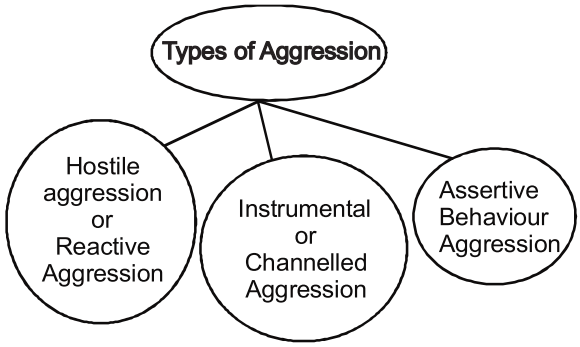
Q.1. Intrinsic Write any two strategies of exercise adherence. (1 + 1 = 2)

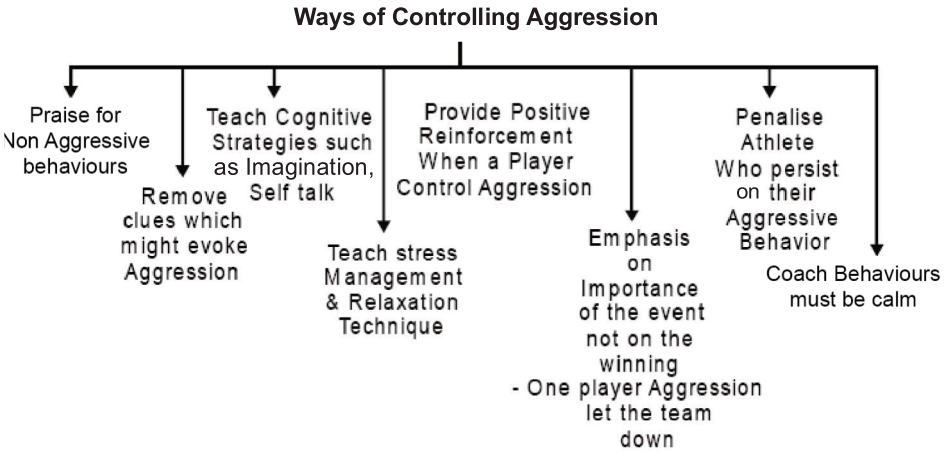
Q.2. What do you mean by exercise adherence. Elucidate any two strategies of exercise adherence (1 + 2 = 3)

Q.3. Describe any five strategies of exercise adherence in detail. (1 x 5 = 5)

9.5 Aggression

It is a physical or verbal behavior which is directed towards the goal of harming other living being either physically or psychologically.





The term aggression refers to a range of behaviours that can result in both physical and psychological harm to yourself, others, or objects in the environment. This type of behavior centers on harming another person either physically or mentally.

Concept: The concept of aggression is important to nursing because further knowledge of aggression can be helped to generate a better theoretical model to drive more effective, and intervention and prevention approaches.

Psychologist have given different views related to aggression As per instinct theory, aggression is an inbuilt emotion in human benig per social learing theory, it is acquired, frustration theory pointed out that frustration is the cause of aggression.

Multiple Choice Questions MCQ (1 Marks)

Q.1. Behaviour Carried out with intention of harming other person is known as.

(A) Stress (B) Motivation

(C) **Aggression** (D) Tension

Q.2. Any physical behaviour intentionally aimed to injure other is known as—

(A) **hostile aggression** (B) instrumental aggression

(C) assertive aggression (D) negative aggression

Q.3. Unintentional physical harm is known as

(A) hostile aggression (B) **instrumental aggression**

(C) assertiue (D) negative aggression

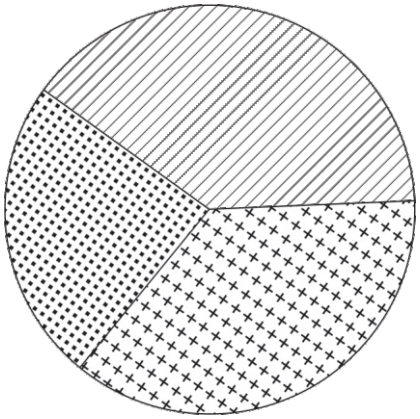
Q.4. Verbal behaviour which harm the living being is known as

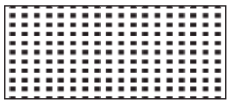
(A) Hostile aggression (B) Instrumental aggression

(C) **Assertive aggression** (D) Negative aggression

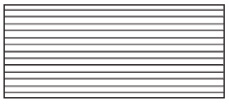
Short Answer Questions (3 Marks)

Q.1. During a recent aggression & behaviour studly in the sports day of a school, students were classified as given below in the pie chart:-

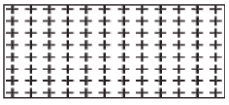




Hostile Aggression



Instrumental Aggression



Assertive behaviour

(i) **Which aggression was seen in majority**

(A) Hostile Aggression (B) Instrumental Aggression
(C) **Assertive Behaviour** (D) None of these

(ii) **Which This is also known as reactive aggression**

(A) **Hostile Aggression** (B) Assertive Behaviour
(C) Instrumental Aggression (D) None of these

(iii) **Which This form of aggression is not planned & often takes place in the heat of the movement**

(A) Instrumental Aggression (B) **Assertive Behaviour**
(C) Hostile Aggression (D) All the above

Long Answer Question (5 Marks)

Q.1. Write the meaning and concept of aggression Describe the types of aggression in sports.

Meaning

Ans. Any physical or verbal behavior that is intended to harm another either physically or psychologically intentionally or unintentionally.

Concept

Different psychologists have given different meaning to the term aggression. As per instinct theory, aggression is an inbuilt emotion in human being, as per social learning theory, it is acquired. Frustration theory point out that frustration is the cause of aggression.

There are three types of Aggression in sports.

- **Hostile Aggression:** Any physical behaviour which is aimed to physically injured the living being intentionally is known a Hostile Aggression.
- **Instrumental Aggression:** Any physical behavior which is aimed to achieve high performance but unintentionally physically harm to the living being is known as instrumental Aggression.
- **Assertive Aggression:** Any verbal behaviour under the Rules & Regulation of the sport which is used to harm psychological to living being. In this only legitimate forces are used.

Practice Questions

Q.1 Multiple clioice Question—

1. Endomorphic	A. Round body
2. Mesomorphic	B. Thin body
3. Ectomorphic	C. Self centered
4. Introvert	D. Muscular

(A) 1-A, 2-D, 3-B, 4-C (B) 1-B, 2-C, 3-D, 4-A,
(C) 1-C, 2-D, 3-B, 4-A (D) 1-C, 2-D, 3-A, 4-B

Q.2 Verbal behaviour which is used to harm the opponent is known as _____.

(A) Assertive aggression (B) Instrumental aggression
(C) psto;e aggression (D) Negative aggression

Q.3 Define personality Explain any one types of Jung's classification of personality. (1 + 1 = 2)

Q.4 Write any two types of sheldons classification of personality. (1 + 1 = 2)

Q.5 Write Differentiate between "Extroversion" and "Openness" on the basis of their characterstics. (1 + 1 = 2)

Q.6 Write any two strategies enhance exercise adherence. (1 + 1 = 2)

Q.7 Write a note on Jung's classification of personality. (1 x 3 = 3)

Q.8 Elucidate motivation and write any two technique of motivation. (1 + 2 = 3)

Q.9 Define Aggression. Write any two types of aggression in sports. (1 + 2 = 3)

Q.10 Define Exercise Adherence. Discuss any two strategies used for enhancing Adherence to exercise. (1 + 2 = 3)

Q.11 Expiain the types of motivation. write any three Strategies for enhancing adherence to exercise. (2 + 3 = 5)

Q.12 Discuss about the concept of Aggression. Write the types of aggression often seen in sports. (2 + 3 = 5)

Q.13 Breifly explain the Jung's and sheldon's classification of personality. (2½ + 2½ = 5)

UNIT - 10

Training in Sports

UNIT - 10

Training In Sports

Key Points :-

10.1 **Strength -** Definition, Types and methods of improving strength- isometric, isotonic and isokinetic.

10.2 **Endurance -** Definition, types and methods to develop endurance (continuuos training, interval training and fartlek training.)

10.3 **Speed-** Definition, types and methods to develop speed- (Acceleration run and pace run.)

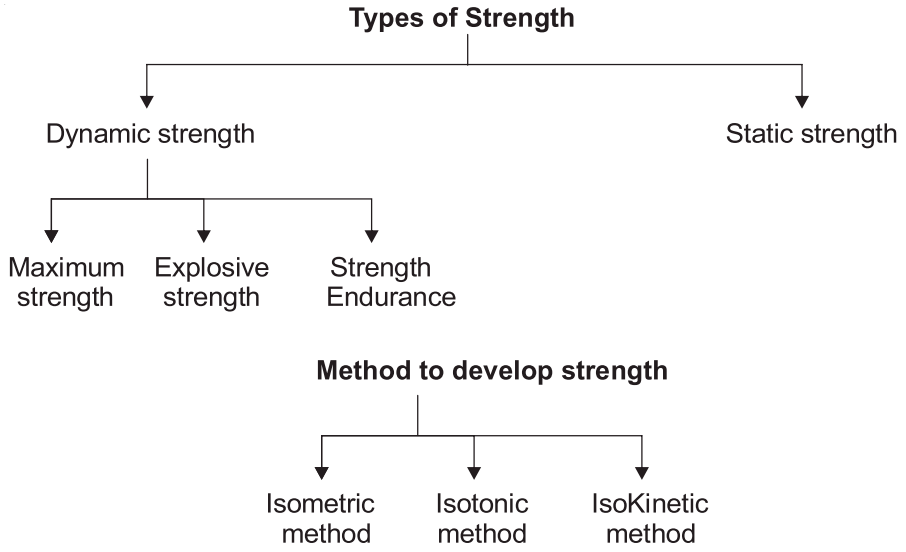
10.4 **Flexibility -** Definition, types and methods to improve flexibility.

10.5 **Co-ordinative Abilites -** Definition and types.

10.6 **Circuit training -** Introduction and its importance

10.1 Strength

It is the ability to act or to over come the resistance.



Multiple Choice Questions MCQ (1 Marks)

Q.1 The method in which there will be no change in the length of the muscle is known as

(A) **Isometric method**

(B) Isotonic method

(C) Isokinetic method

(D) Fartlek method

Q.2 Name of the ability which help to over come the resistance with speed is known as

(A) Maximum strength

(B) **Explosive strength**

(C) strength endurance

(D) static strength

Q.3 Pushing a wall is an example of-

(A) Isometric (B) Isotonic

(C) Fartiek (D) Isokinetic

Q.4 When the length of the muscle changes, It is called _____ exercises.

(A) Isokinetic (B) Isometric

(C) Isofonic (D) Intraval

Q.5 Swimming is an example of which exercise.

(A) Isotonic (B) Isokinetic

(C) Isometric (D) Explosive Strength

Short Answer Questions (3 Marks)

Q.1 What is strength? Explain its types. (1 + 1 = 2)

Ans. Strength is an ability to act against a resistance. The following are its types.

(a) **Maximum strength:** - Ability to act a against maximum resistance

(b) **Explosive strength:** Ability to act aganist resistance with speed

(c) **Strength Endurance:** Ability to act against resistance under condition of fatigue.

Long Answer Questions (5 Marks)

Q.1. What are the methods for developing strength?

Or

Write the difference between Isometric, Isotonic and Isokinetic exercises.

Ans. **Strength** - It is the capacity of the whole body or of any of its parts to exert force.

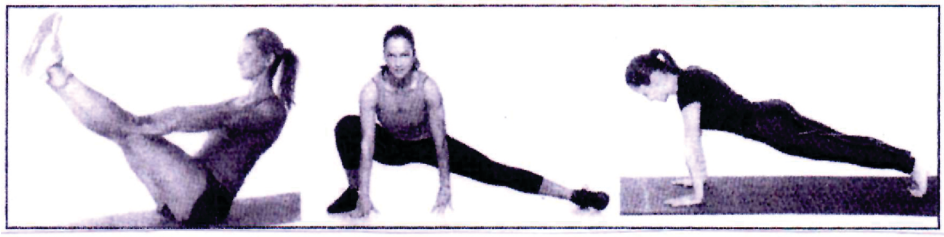
There are two types of strength - Dynamic and static strength Following mention methods are used to improve strength.

1. **Isometric Exercise :** The word Isometric is comprised of 2 words “Iso”, “same” and “metric”, “length”. Means when we do these exercises work done cannot be observed. These exercise require less time and equipments and can be carried out anywhere. These exercises are useful for maintaining strength in case of injury.

   Eg. Archery, Weight lifting, Gymnastic are the examples of Isometric movements.

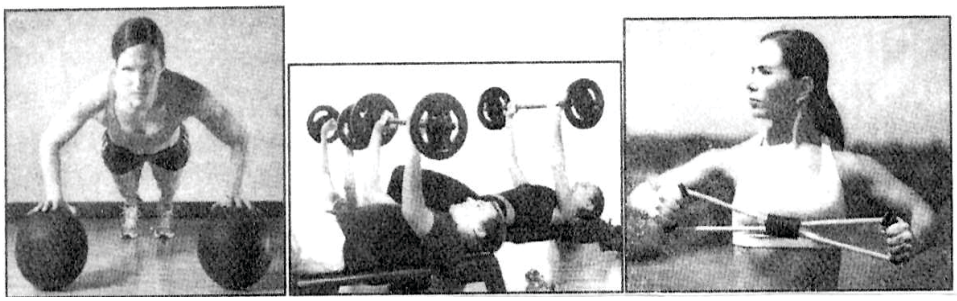
Work done = Force X Distance moved

but distance moved is 0, therefore work done is zero.



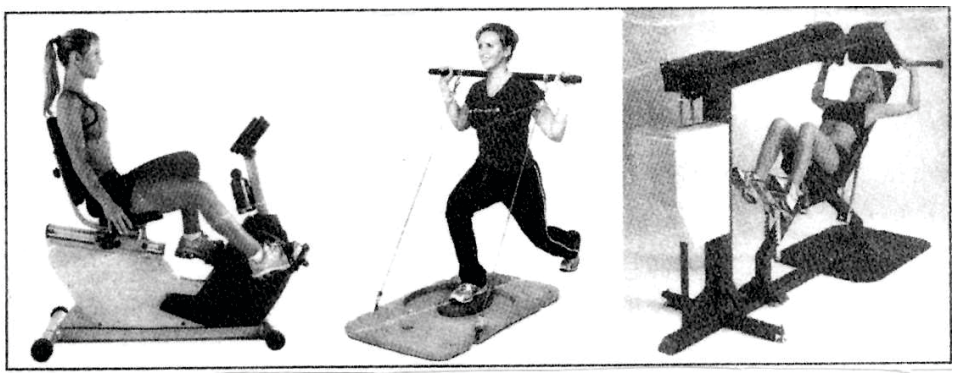
2. **Isotonic Exercises :-** "Iso" Means 'same' and 'tonic' means tone.

In these types of exercise when we do movements it can be observed directly. The length of muscles can be seen and called eccentric contraction and concentric contraction accordingly. Example When we throw a ball, jump, run, weight training, these type of contraction occurs. These Type of exercise is widely seen in games and sports. We can do these exercise with equipment or without equipment. These increase the length of the muscles and are good for conditioning in sports.



3. **Iso-Kinetic Exercises** -- "Iso" - 'Same' "and' kinetic - motion'. These exercises were introduced by J.J. perrine in 1968. These exercise are done by specially design machine and are combination of Isotonic and Iso-metric exercises.

These exercises develop strength of muscles. These type of movements are usually not applied in games and sports except water sports, skating, climbing, running etc.



Practice Question

Q.1. Write any two types of strength. (1 + 1 = 2)

Q.2. Write Differentiate between Isotonic and Isometric strength (any two (1 + 1 = 2)

Q.3. What do you understand by explosive strength and maximum strength. (3)

Q.4. What is strength? Name the training method to improve the strength & explain any one of then. (1+2=3)

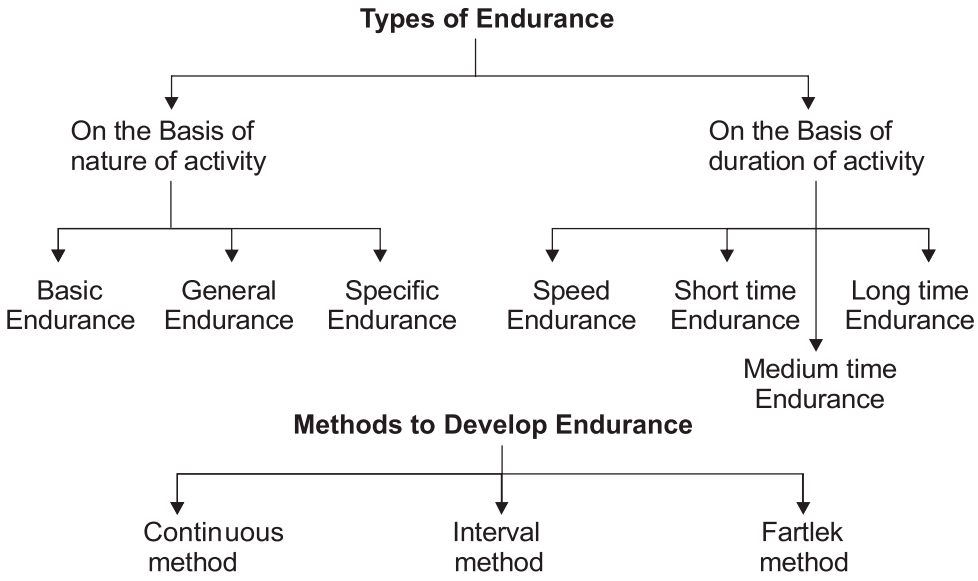
Q.5. What is strength? Explain isometric method in detail? (1+2=3)

Q.6. Explain the Advance training method to devlop strength. (3)

Q.7. Explain Isometric, isotonic and Isokinetic method to develop strength. (3)

10.2 Endurance

It is ability to continue the activity under the condition of fatigue or for a long time.



Multiple Choice Questions MCQ (1 Marks)

Q.1. Which is not the training method to develop Endurance?

(A) Fartlek method (B) **Post iso metric stretch method**

(C) Continuous method (D) Interval method

Q.2. Speed play is another name of which method.

(A) **Fartlek method** (B) Continuous method

(C) Interval method (D) Isokinetic method

Q.3. Given below are the two statements labeled Assertion (A) & Reason (R).

Assertion (A): It the ability to work during fatigue.

Reason (R): Fartlek training improves endurance.

In the context of above two statement, which one of the following is correct.

(A) **Both (A) & (R) true & (R) is the correct explanation of (A).**

(B) Both (A) & (R) 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.

Short Answer Questions (3 Marks)

Q.1. Differentiate between Interval and Fartlek training.

Ans. **(1 + 1 = 2)**

Fartlek Training	Interval Training
1. There is change of pace 2. Timing is 15 to 45 minutes 3. There is no rest period 4. It is done continuously	1. No change of pace 2. Distance from 30 to 150 meters 3. Rest period is there 4. Here is interval between training

Short Answer Type Questions (3 Marks)

Q. 1. Describe fartlek Training Method.

Ans. It is another method to develop the endurance ability. This method was developed by Swedish coach " Gosta Holmer" in 1930. So it is also known as "Swedish play" or "Speed play" (charges his/her pace. Himself/herself according to surrounding (Hills, River, Forest, Mud etc.)

This method helps in development of endurance of the sports person. Athlete changes his/her speed according. So it is self-disciplined in nature. The heart rate fluctuate between 140 - 180 beats/ minute Fartlek training involves varying our pace throughout our run. Alternating between fast and slow pace.

Q.2 Briefly explain the types of endurance.

or

"Endurance is one of the most important factor for high performance in games and sports" Explain

Ans.

1. **Basic Endurance :-** It is the ability of an Individual to do the movement in which large no. of body and muscles involve at slow pace for a duration such as Walking, Jogging, Swimming at a moderate speed.

2. **General Endurance :-** It is the ability of an individual to resist fatigue satisfactorily caused by different type of activities.

3. **Specific Endurance :-** It is the ability of an individual to complete the task without any fatigue. It's requirement depends upon the nature of activity (Games and Sports) requirement of specific endurance of a boxer is different from that of a wrestler.

- **Speed Endurance :-** It is the ability of an individual to perform a movement with high speed to resist of fatigue in activities upto 45 seconds.
- **In short term endurance :-** Short term endurance is needed to resist fatigue in sports activities lasting from 45 seconds to 2 minutes. Ex. 800 m race.
- **The medium term endurance :-** It is the activity lasting from 2.min to 11 minutes. Ex. 1500 & 3000 mts.
- **Long term Endurance :-** It is needed for those sports which require more than 11 minutes time ex. 5000m to 1000m cross country race.

(any three)

Long Answer Questions (5 Marks)

Q.1. Differentiate between the continuous method and interval method. Describe its advantages.

Ans. **Continuous Method :-** In continuous of method, the exercise is done for a long duration without taking rest. We do the exercise for a long duration. So the intensity of work is low. The heart rate during the exercise for a sportsman should be between 140-160 beats per minutes. For fast continuous method the heart rate of an athlete should be increased about 175 - 180. Min.

Its duration of exercise should be more than 30 minutes. Ex. running walking, cycling, cross-country race etc.

Advantages :

- Doing work continuously in spite of being tired strengthens the will to work.
- According to this method increases the red blood cells in muscles.
- In this method the working efficiency of heart and lungs get enhanced.
- In this method Glycogen in muscles and liver gets increased.
- Player develop self discipline and self confidence. Apart from this their will power also gets enhanced.

Interval Method :- This method is very effective for developing endurance for track runners. Intervals are given to the athlete in between the repetition for recovery. The recovery period for athlete varies from person to person. The Heart should go up to 18 beat/ min. and when the heart rate comes down to 120-130 beats/ min again the repetition / work starts. The training load should be given again after checking the heart rate of the athlete.

Ex. Middle distance race, foot ball, hockey etc.

Advantages :-

- If an athlete perform these exercise in proper way then it will help to improve the working capacity in short time.
- This method has a positive effect on both respiratory system and circulatory system.
- The trainer can observe a player easily. The player in short time can enhance his endurance.
- The player comes to learn about the effect of his training.
- If the player mistake in executing the coach/ trainer can give him useful suggestion during recovery time. Thus, the players moral may be boosted.

Practice Question (2 Marks)

Q.1. Write any two types of endurance on the basis of nature of activity. (1 + 1 = 2)

Q.2. Write any two types of endurance on the basis of duration of activity. (1 + 1 = 2)

Question (3 Marks)

Q.3. What is Endurance? Explain its types.

Q.4. Describe the types on endurance on the basis of time with suitable example.

Q.5. Write down the method to develop endurance? Explain one of them.

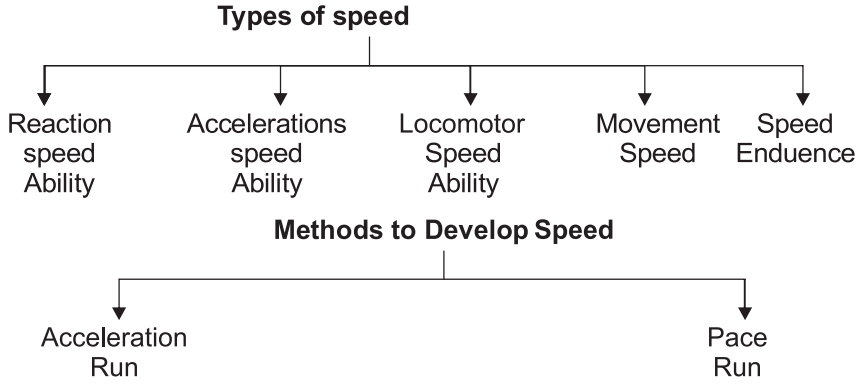
Q.6. Explain Fartlek method with its parameter.

Q.7. What is Endurance? Enlist the methods to Develop endurance and explain any one of them in detail.

Q.8. Explain any two methods to devlop the ability helps an individual to continue it activity under the condition of fatigue.

10.3 Speed

It is the ability to do movement as quick as possible.



Multiple Choice Questions MCQ (1 Marks)

Q.1. Which is not the type of speed ability

(A) Reaction speed (B) Movement speed

(C) Speed Endurance (D) **Speed Play**

Q.2. The ability which is helpful to Maintain max speed for long time

(A) Reaction speed (B) **Locomotor speed**

(C) Speed Endurance (D) Movement speed

Q.3. Given below are the two statements labeled Assertion (A) & Reason (R).

Assertion (A): Endurance is the ability to resist the fatigue.

Reason (R): Speed in the ability to do movements as quick as possible.

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

(B) **Both (A) & (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.

Short Answer Type Questions (3 Marks)

Q.1. Explain the types of speed Ability?

1. **Reaction speed ability:** It is the ability to act against a signal.
2. **Acceleration speed ability:** It is the ability to achieve max speed in minimum possible time.
3. **Movement speed ability :** It is the ability to do a single small movement in minimum possible time.
4. **Locomotor speed ability:** It is the ability to maintain max speed as long as possible.
5. **Speed Endurance:** It is the ability to do the movement as quick as possible under the condition of fatigue.

Long Answer Type Question (5 Marks)

Q.1. Differentiate between pace run and acceleration run.

Or

Explain about acceleration Run and pace run.

Or

Beifly explain the methods for improving speed.

Ans. **Pace run :** Pace run means running the whole distance with a constant speed. Generally 800 metre and above races are included in pace races. An athlete can run a distance of 300 metre. at full speed but in longer races such a 800 mtr. or above, he must conserve his energy by reducing the speed. Example-If there is a runner of 800m race. His best time is 1 minute 40 seconds. So he should run first 400 m in 49 seconds and next 400m in 51 seconds. This procedure is called pace race or pace run.

Acceleration Run : Acceleration run are usually used to develop speed indirectly by improving explosive strength, technique, flexibility and movement frequency. It is the ability of a sprinter to achieve high speed from a stationary position. For direct improvement of acceleration speed a sprinter should do 25-30 mt. sprint of 6-12 times. The maximum speed should be achieved within 5-6 sec. Sufficient intervals should be provided between the repetitions.

Practice Question

Q.1. Write any two method to improve speed. (3)

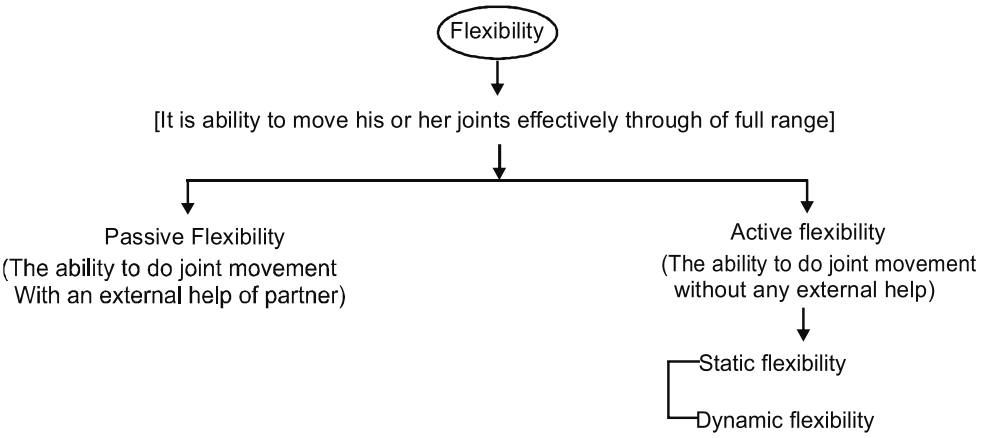
Q.2. Explain pace run method. 3

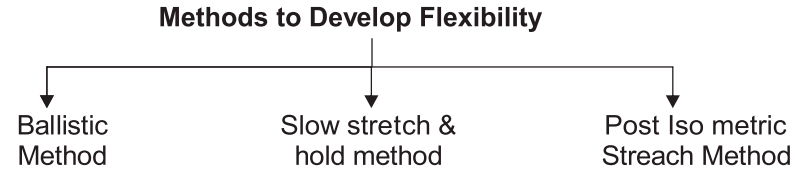
Q.3. Explain Acceleration run method. (3)

Q.4. What is speed? Discuss the methods to develop speed ability. (1 + 2 + 2 =5)

Q.5. Discuss the types of speed. Explain any one method to develop speed. (1 + 4 + =5)

10.4 Flexibility





Multiple Choice Questions MCQ (1 Marks)

Q.1. The ability which helps to the movement with greater range is known?

(A) Endurance (B) Strength

(C) **Flexibility** (D) Speed

Q.2. Which is not the method to improve flexibility?

(A) Ballistic method

(B) Slow stretch and hold method

(C) Post Iso metric stretch method

(D) **Slow continuous method**

Q.3. Which is the most latest method to improve flexibility?

(A) Ballistic method

(B) Slow stretch & hold method

(C) Post Iso metric stretch method

(D) Iso tonic method

Short Answer Questions (3 Marks)

Q.1. What do you mean by flexibility? Write any one type of it.

Or **1 + 1 = 2**

What is the difference between active and passive Flexibility?

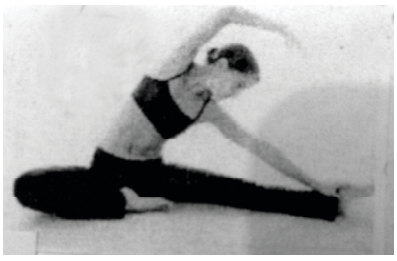
Ans. Flexibility is the range of movement of the joint of a sports person.

1. **Active flexibility :-** The ability of an individual to do the joint movement for a longer range without any external help. Active flexibility is less than passive flexibility. Ex. doing any stretching exercise without external help.

It is two kinds :-

- **Static Flexibility :-** It is usually required by a sports person when he remains in static position e.g. Diving, Sitting, Lying, etc.
- **Dynamic Flexibility :-** It is needed for walking and running its increase by static stretching.

2. **Passive Flexibility :-** The ability to do joint movement with a greater range with an external help of partner. This flexibility is largely determined by joint structure, stretch ability of the



muscle and ligament. Passive flexibility helps in the development of active flexibility.

Long Answer type question (3 Marks)

Q.1. What are the methods to develop flexibility? Explain.

Or **(1 x 3 = 3)**

What is the difference between ballistic method and post Isometric method? (1 ½ + 1 ½ = 3)

Ans. To maintain flexibility in games and sports stretching exercises should be done. By following methods, one can improve their flexibility.

- **Slow Stretch and hold method -** We stretch our joint to maximum limit and hold it for a few seconds before returning to the initial Phase. The holding period must be not more than 3 to 8 sec.This method is also use for improving passive flexibility.
- **Ballistic Method -** In this method the stretching exercises are done in a swing, so this is called the ballistic method. A proper warm - up should be done before these exercise. Due to stretching of the muscle can be done in a rhythm.
- **Post - Isometric Stretch Method -** This method is based on the principle of proprio- Ceptive neuro- muscular facilitation means, If a muscle is contracted maximally for a few seconds, isometrically. It gives very low resistance to that Stretch. The duration of the stretch should be increased up to 8-10 second and repeated 4-8 times for each muscle group.

Question (3 Marks)

Q.1. Write the two types of flexibility.

Q.2. Enlist the methods to develop flexibility & explain any one of them.

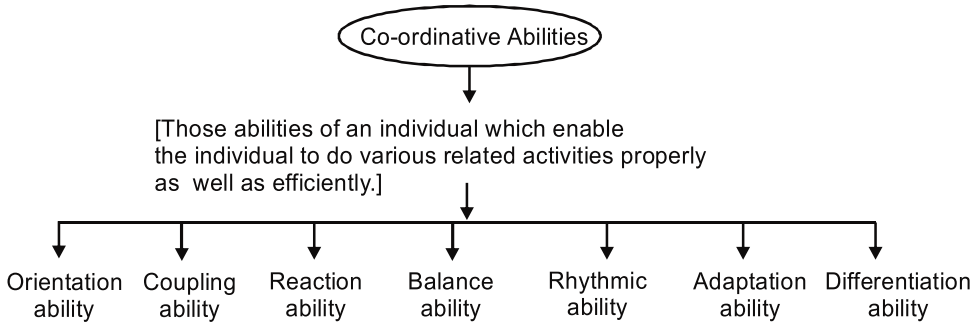
Q.3. Discuss post Iso-metric stretch method.

Q.4. Discuss Ballisitic method.

Q.5. Discuss slow stretch & hold method.

Q.6. Define flexibility? Explain its type & one method to develop flexibility.

10.5. Co-ordinative Abilities



Multiple Choice Questions MCQ (1 Marks)

Q.1. Ability which help to change on the spot, predecided movement.

(A) Differentiation ability (B) Coupling ability

(C) Rhythm ability (D) **Adaptation ability**

Q.2. Ability help to make hormony among the different body parts & then related movements.

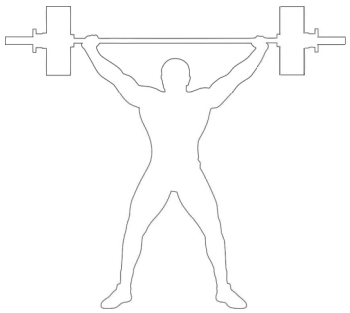
(A) Reaction Ability (B) Adaptation ability

(C) **Differentiation ability** (D) Balance ability

Short Answer Questions (3 Marks)

Q.1. Identify the fitness component and write their name-

(½ + 4 = 2)

(A) 

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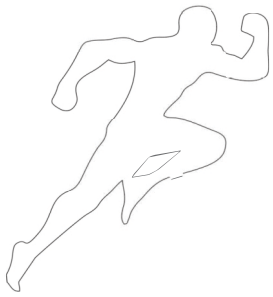
(B) 

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(C) 

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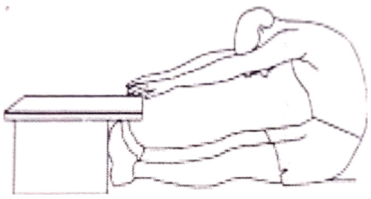
(D) 

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Short Answer type Question (3 Marks)

Q.1. Discuss Reaction Ability.

Ans. Reaction ability is the ability which help to react against an signal. These are two types.

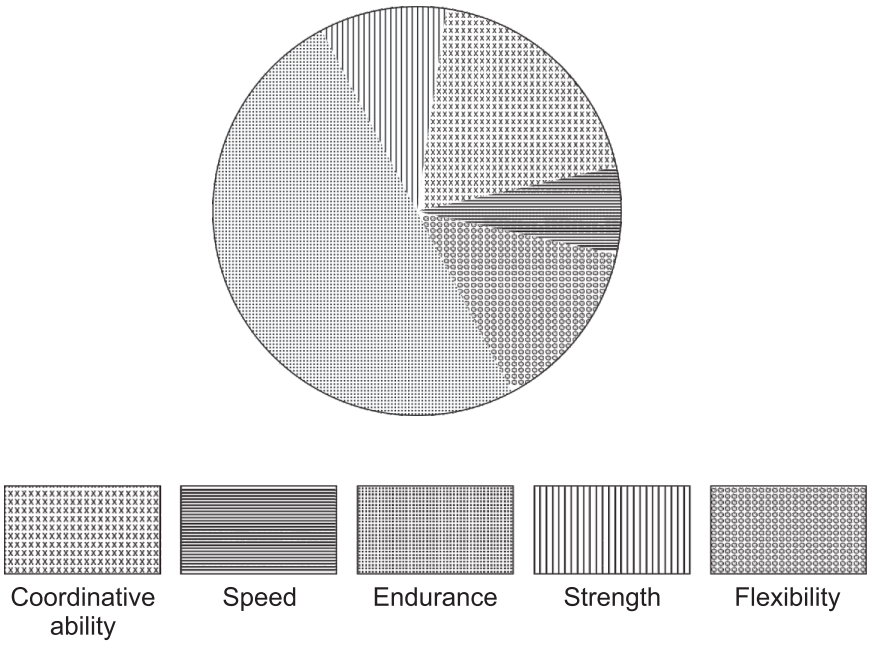
(a) **Simple Reaction ability.** That ability help to react against the known signal.

(b) **Complex Reaction ability:** That ability which help to react against the known singal.

Example:

- **Simple Reaction ability:** Reaction of Batsman according to the coming Ball.
- **Complex Reaction Ability:** Do the aerobic exercise according to unknown music.

Q.2. Discuss Below given is the fitness component data of a school going student-



On the basis of the above data answer the following Question:-

(i) Which fintness component school should focus to improve

(A) **Speed**

(B) Coordinative ability

(C) Flexibility

(D) Strength

(ii) Which component of physical fitness was more common in student:-

(A) Speed

(B) Strength

(C) Flexibility

(D) **Endurance**

(iii) It is the ability overcome the resistance:-

(A) **Strength**

(B) Speed

(C) Flexibility

(D) Endurance

Q.3 During the long jump of Sunil, his coach found that he lacked strength in his leg which prevented him to perform well. He advised him to follow the methods to develop strength.

Based on this case answer the following question

(i) Which exercise is suitable for leg strength-

(A) Push-up (B) Depth-Jump

(C) Cool-up (D) Bench Press

(ii) There is no change in the length of the muscles is called _____ exercise.

(A) Push-up (B) Depth-Jump

(C) Cool-up (D) Bench Press

(iii) There Which exercise is not for developing strength.

(A) Push-up (B) Depth-Jump

(C) Cool-up (D) Bench Press

Long Answer Type Questions (5 Marks)

Q.1. What are co-ordinative abilities in sports? Enlist the type of co-ordinative abilities. Explain any two them.

Ans. Co-ordinative abilities are those abilities which stabilized and generalized pattern of motor control. These abilities help the sportsman to do a group of movements with better quality and effect.

Co-ordinative abilities primarily depend upon the central nervous system. In sports, the co-ordinative abilities are following:-

1. Differentiation ability
2. Orientation ability
3. Coupling ability
4. Reaction ability
5. Balance ability
6. Rhythm ability
7. Adaptation ability

1. Orientation ability :- It is ability of a person to adjust himself as per the time and condition of place. This ability has Different importance in each game.

2. **Coupling ability :-** It is the ability of a player to move his physical organs in order to do his activities. For example. Coordination between hands and eyes, feet and eyes etc. Example in Volleyball the smasher smashes the ball according to the lift of the ball and blockers co-ordinating the movements of his hands head and feet.

3. **Reaction ability :-** It is the ability to react quickly and effectively to a signal. There are two types of reaction ability, simple and complex reaction ability.

4. **Balance ability :-** Balance ability to keep body and its parts is a relatively stable position in both static and dynamic condition. It means to regain balance quickly after disturbing movements.

5. **Rhythm ability :-** It is the ability to understand the rhythm of movement and to do the movement with the required rhythm. It some sports like gymnastic, the athlete has to recognise on external rhythm given in the form of music and to express it in his movements.

6. **Adaptation ability :-** It is ability to adjust or bring about an effective change in the movement on the basis of changes or anticipated changes in the situation.

7. **Differentiation ability :-** The ability to attain a high degree of accuracy and economy of separate body movements and movement phase in a motor action is called Differentiation ability.

Practice Question

Q.1 Discuss any two coordinative ability. (1 + 1 = 2)

Q.2 Differentiate between coupling and orientation ability. (1 + 1 = 2)

Q.3 What are coordinative abilities discuss how they are used in games and sports. (1 + 1 = 2)

Q.4 Discuss any five coordinative abilities in details. (1 + 1 = 2)

10.6 Introduction to Circuit Training

Circuit training is a specific method of training which is used develop physical fitness. In the circuit training all the exercise are performed in circuit with out any break.

Rules for Circuit Training

- No of station can be from 6 to 10
- Same exercise will not be repeated at two consecutive stations
- Same body parts will not be repeated at two consecutive stations
- Distance between two stations should be optimum
- Duration / repetitions should be according to the fitness level of an individual
- Free hand exercise will be preferred for circuit training
- No Recovery between 2 stations, 12 Min Recovery between Two circuits
- In a training session maximum 3 circuits can be done.
- Proper warmup should be done before participate in the circuit traning
- Movements should be done on each station with high speed.

Multiple Choice Questions MCQ (1 Marks)

Q.1. How many no of stations for a circuit training is permitted

(A) 3 – 5 (B) **6 – 10**

(C) 12 – 15 (D) 1 – 5

Q.2. Recovery time between two stations in circuit training will be

(A) 3 sec (B) **Incomplete**

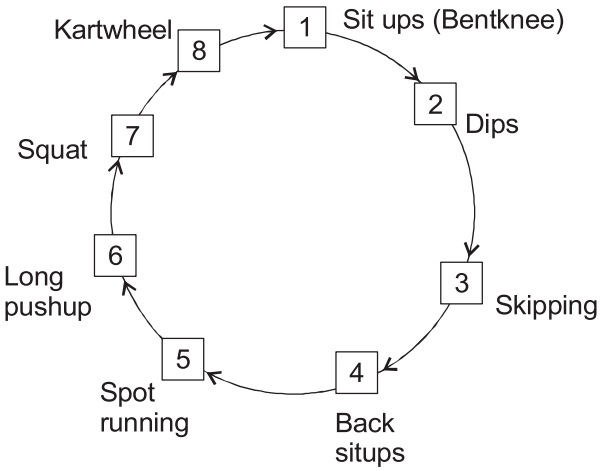
(C) 5 sec (D) 8 sec

Long Answer Questions (5 Marks)

Q.1. What is the circuit traning? Make a diagram of circuit traning for 8 stations. write two benefits of circuit training.

1 + 2 + 2 = 5

Ans. **Circuit training:** is a specific traning used to devlop plysical fitness. In the circuit traning all the execrises are performed in circuit without any recovery period.



Benefits of Circuit Training

- Help to improve physical fitness
- Help to improve cardio vascular fitness

Questions (3 Marks)

Q.1. Write any six benefits of circuit training

Q.2. What do you understand by circuit training? Write any two rules for circuit training.

Q.3. What is circuit training? Explain its rules & benefits in detail.

Q.4. Write down the characteristics & benefits of circuit training.

Multiple Choice Questions MCQ (1 Marks)

Q.1. Match the following

(a) Explosive Strength	(i) Endurance
(b) Continuous method	(ii) To over come Resistance with speed
(c) Post Isometric Strength 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,

Q.2. Match the following (1 Marks)

(a) Isometric method	(i) Heart rate 140 b/mt 180 b/m
(b) Fartlek method	(ii) Speed
(c) Circuit training	(iii) Length of muscle remains same
(d) Pace Run method	(iv) to exercise with out 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

Q.3. What is strength? Explain any one method to develop endurance (1 + 2 = 3)

Q.4. Differentiate between active and passive flexibility. (1 + 1 = 2)

Q.5. Differentiate between Isotonic and Isometric. (1 + 1 = 2)

Q.6. What is flexibility? Explain post iso metric strength method to develop flexibility. (1 + 2 = 3)

Q.7. Explain fartlek training method. (1 + 2 = 3)

Q.8. What is strength? Discuss the isotonic & Isokinetic method to develop strength training. (1 + 2 + 2 = 5)

Q.9. Draw the diagram of circuit training for 6 station? Explain any two coordinative abilities with suitable examples. (3 + 2 =5)

Q.10. Write short note on following.

(a) Methods to develop endurance (any two)

(b) Methods to develop flexibility (any two) (2½ × 2 = 5)

PRACTICE PAPER - 1
SUBJECT: PHYSICAL EDUCATION (048)
CLASS: XII

Maximum Marks : 70 **Time : 3:00 Hrs**

1. The question paper consists of 30 questions and all are compulsory
2. Question 1-12 carry 01 mark each and are Multiple Choice Questions
3. Questions 13-16carry 02 marks each and shall not exceed 40-60 words
4. Questions 17-26 carry 03 marks each and shall not exceed 80 - 100 words
5. Questions 27 - 30 carry 05 marks each and shall not exceed 150-200words

Choose the correct option: **Marks**

Q.1. One of the is a method to improve flexibility 1

(A) Interval training method
(B) Ballistic training method
(C) Circuit training method
(D) Isometric training method

OR

To cover a given distance in the shortest possible time is known as... 1

(A) Flexibility
(B) Strength
(C) Endurance
(D) Speed

Q.2. Increase in the angle of the joint is known as.. 1

(A) Abduction
(B) Flexion
(C) Extension
(D) Adduction

Q.3. When the bone is broken into many pieces at one place or different places it is called... 1

(A) Impacted fracture

(B) Comminuted fracture

(C) Green stick greenstick fracture

(D) Compound fracture

OR

Overstretching of the ligaments near the joints is known as.

(A) Contusion (B) Sprain

(C) Laceration (D) Fracture

Q.4 One of the following is an external source of motivation… 1

(A) Safety (B) Happiness

(C) Self satisfaction (D) Cash prize

Q.5. One of the following is not a cognitive disorder.. 1

(A) Polio (B) Autism spectrum disorder

(C) Down syndrome (D) Dyslexia

Q. 6. To calculate the number of matches in a League fixture one of the following formulas is used. 1

(A) N+½ (B) N-½

(C) N(N-1)/2 (D) N(N+1)/2

Q.7. The amount of oxygen Taken and absorbed by the muscles is known as 1

(A) Oxygen intake (B) Oxygen transport

(C) Oxygen uptake (D) Oxygen expenditure

Q.8 One of the following is not related to coordinative ability 1

(A) Orientation ability (B) Coupling ability

(C) Endurance ability (D) Rhythmic ability

Q.9 This test is conducted to check the agility 1

(A) 600 m run (B) 50 m run

(C) Shuttle run (D) Modified push ups

Q.10 One of the following is not a fat soluble vitamin 1

(A) Vitamin B (B) Vitamin A

(C) Vitamin D (D) Vitamin E

Q.11 Given below are the two statements labeled Assertion (A) andReason (R). 1

Assertion (A): round shoulders are an unnatural posture characterized by an exaggerated curvature of the upper back

Reason (R): due to postural deformity the knee knocks with each other

In the context of 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, but (R) is not the correct explanation of (A).

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

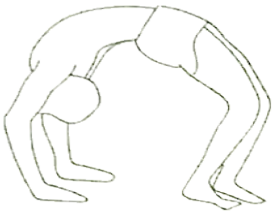
(D) (A) is false, but (R) is true

Q.12. Match List – I with List – II and select the correct answer from the code given below: 1

List - 1			List - 2	
(i)	Underweight		(1)	18.5 to 24.9
(ii)	Overweight		(2)	30.0 to 34.9
(iii)	Normal weight		(3)	25.0 to 29.9
(iv)	Obesity		(4)	<18

		Code		
	(i)	(ii)	(iii)	(iv)
(A)	1	2	3	4
(B)	4	3	2	1
(C)	4	3	1	2
(D)	3	4	2	1

Q.13. Identify the below given asana and write the names. 2



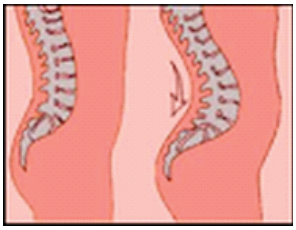
(A)_____

(B)_____

(C)_____

(D)_____

Q.14. Identify the below given deformities and write their names 2



(A)_____

(B)_____

(C)_____

(D)_____

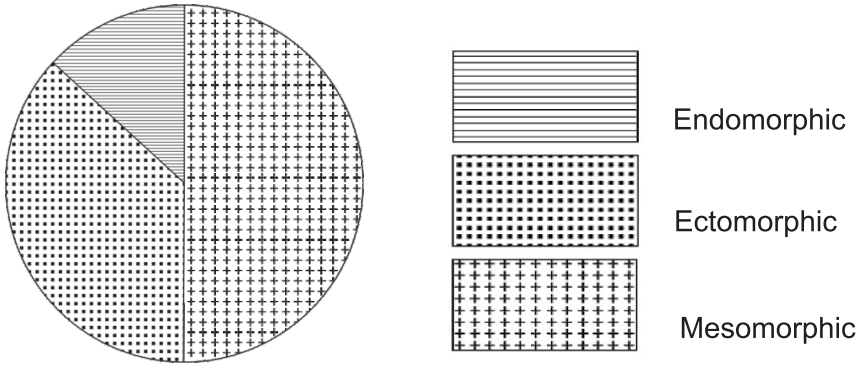
Q.15. Differentiate between adduction and abduction. 2

Q.16. State any two differences between knockout tournament and League tournament 2

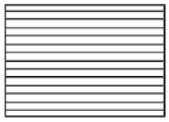
OR

Discuss the functions of any two committees during the tournament.

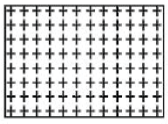
Q.17. During a survey in a school it was found that the physical composition of the students is different from each other. It was found to affect their habits, behaviour and character. Now look at the given picture and answer the following questions. 3



(i) Which of the following have a 'Pear' shape body?

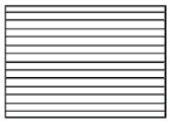
(A) 

(B) 

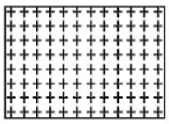
(C) 

(D) Both A & B

(ii) **Choose from the following who have thin and long muscles their metabolic rate is also high.**

(A) 

(B) 

(C) 

(D) None of these

(iii)  Choose This personality is also known as...

(A) Somatotonia

(B) Cerebrotonia

(C) Visecerotonia

(D) Hypertonia

Q.18 During a medical check up in school ,Suresh found that his blood pressure is 90 /140mmHg He was advised to perform some yoga asanas (from the syllabus) and to make some changes in his diet also, so that his blood pressure can be controlled. 3

(i) What is the normal rate of blood pressure?

(A) 80 /120mmHg

(B) 70/130mmHg

(C) 70/140mmHg

(D) 75 125mmHg

(ii) Yoga teacher at the school advised Suresh to perform

(A) Tadasana

(B) Vajrasana

(C) Shavasana

(D) All of these

(iii) Which food item should be controlled in cases of high blood pressure?

(A) Potato

(B) Milk

(C) Salt

(D) Black gram

Q.19. Compare any three Macronutrients on the basis of their sources and benefits. 3

OR

Suggest some measures to maintain healthy body weight.

Q.20. Differentiate between 'flat foot 'and 'knock knee ', also suggest two exercises for each to correct these deformities. 3

Q.21 Enlist the different tests taken to check the flexibility of senior citizens and explain about any one of them. 3

OR

Enlist the items of motor fitness test and explain the procedure of the test taken to check the speed.

Q.22. Explain Newton's Law of Motion and give examples from sports. 3

Q.23. What is the height of the bench for boys and girls in the Harvard step test. ? If the duration of exercise is 300 seconds and the heart rate is 95 then calculate the fitness index by short-term fitness formula. 3

Q.24 Explain any three factors affecting motor development. 3

OR

Give your suggestion to improve the participation of women in sports in India.

Q.25 Draw a fixture of 13 teams on the basis of knockout tournament and show the calculations for 'Bye'. 3

Q.26. What are the types of motivation? Give examples from each type. 3

OR

Explain in detail about the different types of aggression

Q.27. Suggest the strategies to make the physical activities accessible for children with special needs 5

Q. 28 Explain in detail about the long term effects of exercise on the Muscular System. 5

OR

What are the long term effects of exercise on the cardiorespiratory system?

Q.29. Which are the Asanas Practiced for Preventing Diabetes? Write in detail about any two of them. 5

OR

Which are the Asanas practiced for preventing Asthma? Write in detail about any two of them.

Q.30 Siddharth and Lakshya want to join a stadium. Siddharth is interested in weight lifting, Lakshya is interested in Marathon. 5

Which element of physical fitness Siddharth need to practice for weightlifting and what kind of exercises should he perform. for the preparation of Marathon which element of physical fitness should be improved and how ? Explain the procedure of any one method.

MARKING SCHEME - 1
SUBJECT: PHYSICAL EDUCATION (048)
CLASS: XII

Ans. 1. B. Ballistic training method

OR

D. Speed

Ans. 2. C. Extension

Ans. 3. B. Comminuted fracture

OR

B. Sprain

Ans. 4. D. Cash prize

Ans. 5. A. Polio

Ans. 6. C. N(N-1)/2

Ans. 7. C. Oxygen uptake

Ans. 8. C. Endurance ability

Ans. 9. C. Shuttle run

Ans. 10. A. Vitamin B

Ans. 11. B. Both (A) and (R) are true, but (R) is not the correct explanation of (A)

Ans. 12. C.

Ans. 13. A. Chakrasana

B. Paschimottanasana

C. Tadasana

D. Bhujangasan

(½+½)½+½)

An. 14. A. Lordosis

B. Kyphosis

C. Bow legs

D. Knock Knees

(½+½)½+½)

Ans 15. Abduction: This movement involves taking the body part away from the midline of the body thus when we lift up our arms over the shoulders we are doing abduction.

Adduction: This movement brings the Limbs close to the middle midline of the body. Thus when we bring down our arms from the Shoulders we are doing adduction.

(1+1)

Ans 16 Difference between knockout and League tournament

1. Knock out tournaments are less expensive than league tournaments.
2. League tournament gives more opportunity to the players to show their talent.
3. the knockout tournament takes less time than the League tournament.

(any two points 1+1)

Ans 17. (1) A (Endomorphs have pear shape body)

17. (2) C (Ectomorphs have long muscles)

17. (3) A (Somatotonia)

(1+1+1)

Ans 18. (1) A (80/120 mmHg)

(2) D (All of these)

(3) C (Salt)

(1+1+1)

Ans.19.

	Protein	Carbohydrates	Fats
Sources	Milk and Milk products, meat, egg, fish, legumes and pulses	serials and grains, roots and tubers Sugar and jeggery	Butter vegetables oils nuts and oilseeds
	Proteins are the building blocks of our body. They perform the function of repair and maintenance	carbohydrates are the primary source of energy	fats are the secondary source of energy it provides coverage to the vital organs. It stores the fat-soluble vitamin

(any other relevant point 1.5+1.5)

Ans 20. Flat foot - In this deformity, the normal curvature of the feet is missing and the feet fall flat fully on the ground thus it leads to strain on knees, hip, and spine.

Corrective exercises for flat foot

1. Rope skipping
2. Walking on the toes, walking on the heels
3. Standing on uneven balls
4. Picking papers for Marbles from the ground with toes

Knock knees - This is a condition in which the knees touch each other before the feet can close together in a fully erect posture. As a result the knees strike each other.

Corrective exercises for knock knees

1. Side leg raises
2. plank exercise
3. Horse riding
4. Squats

(Any two exercises 1.5+1.5)

21. The following tests are taken to check the flexibility in senior citizens

1. Chair sit and reach test Lower body flexibility
2. Back scratch test for upper body flexibility

Chair sit and reach test is to measure lower body flexibility: Sit at the front edge of the chair. Keep one foot flat 90o and extend the other leg. Place one hand on top of the other with tips of the middle fingers reach toward your toe b v bending at your hip. Keep your back straight and head up. Avoid bouncing or quick movements and never stretch to the point of pain. Keep the knee straight and hold the reach for 2 seconds. Your partner will measure the distance between your fingertips and your toes. If you reach toe the score is zero. If you don't reach your toe the score is a negative distance such as 3 inches. If you reach beyond your toe the score is a positive distance such as 1 inch. The goal to reach at least 2 inches away from your toe for women and 4 inches for men.

Back Scratch Test: Purpose: To assess the upper body shoulder flexibility which is important in performing various jobs such as combing one's hair putting on overhead garments and reaching for a seat belt etc. Equipments required: A ruler. Procedure: This test is performed in standing position. Keep one had behind the head and back over the shoulder and reach as for as possible down middle of your back.

Your palm should touch your body and the fingers should be downward. Then carry your other arm behind you back palm facing outward and fingers upward and reach up as far as possible trying to touch or overlap the middle fingers of both hands. Fingers should be aligned. Measure the distance between the tips of the fingers. If the fingers tips touch then the score is zero. If they do not touch measure the distance between the fingertips -ve score. If they overlap measure by how much +ve score. Practice two times and then test two times.

(1.5+1.5)

OR

Motor fitness test

1. 50 m standing start
2. 600 m Run/walk
3. Sit and Reach test
4. Partial Curl up
5. Push-ups (Boys)
6. Modified push-ups (Girls)
7. Standing Broad Jump
8. Agility - 4 × 10 m shuttle Run

Test to check the speed

. 50 m standing start. Procedure: The test involves running a single maximum sprint over 50 meters, with the time recorded, start from a stationary standing position (hands cannot touch the ground) with one foot in front of the other. The front foot must be behind the starting line. Once the subject is ready, the stater gives the instructions “set” then “go” participant should be encouraged to not slow down before crossing the finish line. Scoring: Time taken to cover 50 m distance is expressed in seconds. (2+1)

Ans 22.

Ist Law of Motion (Law of Inertia): any object will remain in its position until or unless an external force is applied to it.

Example

1. a golf ball will remain still unless a force, applied by the golf club, makes it move. Or that same golf ball will continue to move at a constant velocity unless a force acts on it to slow it down or change its direction

2. The body of a player quickly sprinting down the field will tend to want to retain that motion unless muscular forces can overcome this inertia

IInd law of motion (Low of Acceleration): The rate of change of acceleration is directly proportional to the force applied on the object and Inversely proportional to the mass of the object.

Example -

1. When a ball is thrown, kicked, or struck with an implement, it tends to travel in the direction of the line of action of the applied force. Similarly, the greater the amount of force applied, the greater the speed the ball has.

2. If a player improves leg strength through training while maintaining the same body mass, they will have an increased ability to accelerate the body using the legs, resulting in better agility and speed.

IIIrd law of motion (low of action and Reaction): There will be equal & opposite reaction to each & every action

Example:

1. A swimmer propels herself through the water because the water offers enough counterforce to oppose the action of her hands pushing, allowing her to move.

2. An athlete can jump higher off a solid surface because it opposes his body with as much force as he is able to generate, in contrast to sand or another unstable surface. (1+1+1)

Ans 23. Harvard step test

height of the bench for boys 20 inches

height of the bench for girls 16 inches

Short method physical fitness Index =

$$\frac{\text{Duration of exercise (In sec) x100}}{\text{5.5 × pulse cont of 1-1.5 min after exercises (one count)}}$$

$$\frac{300 \times 100}{5.5 \times 95}$$

$$= 57.42$$

(1+2)

Ans.24

1. Heredity
2. Environment
3. Nutrition
4. Immunization
5. Opportunities
6. Postural deformities
7. Sensory impairments
8. SLEEP
9. Training & practices
10. Physical disability
11. Social skills

(any three points in detail)

(1+1+1)

OR

The steps to improve women participation in the field of sports and games:

1. Motivation and inspiration to women for participation.
2. Support from family and parents.
3. To organize camps, seminar, and workshops
4. To provide knowledge and media coverage.
5. Educating women at the grass-root level for participation.
6. Provide better infrastructure and facilities.
7. Ensuring the safety and security of women.
8. More opportunity for competition.
9. Develop new techniques and environments.
10. To build physical and psychological strength.
11. Healthy and balanced food.
12. Better incentives and awards.
13. Change in attitude and perception at the village level
14. Equality and community mobilizing.

(any three points)

(1+1+1)

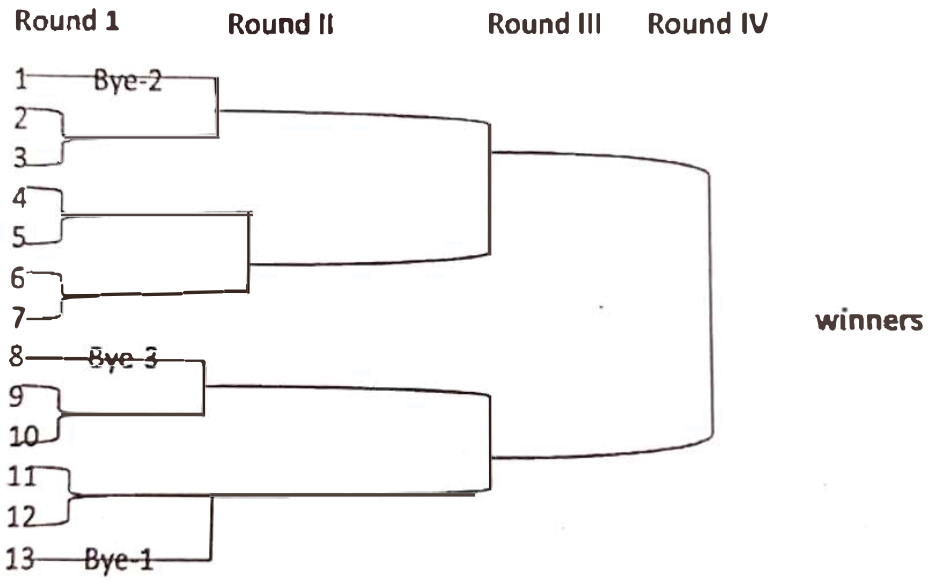
Ans 25. Fixture for 13 teams on the basis of knock out.

Total no. of matches:- Total no teams -1 13-1=12 matches

Total no of round = 2*2*2*2 Digit 2 repeats four-time

so no of round = 4 rounds

Total no bye:- next power of 2- total no. of team 16-13 =03



(1+2)

Ans 26. Types of motivation

1. Intrinsic Motivation:- In this type of motivation an individual is forced by his internal forces to achieve the goal. In an intrinsic motivational state, "an individual is motivated by their own desire not by any external factor" i.e. for enjoyment, for satisfaction, to show mastery over skills, to display superiority, or to get social approval, fame, etc.

2. Extrinsic Motivation:- In this kind of motivation, an individual is forced by external forces to achieve the goal such as prize, praise, scholarship, grade, job, money, etc. In the extrinsic motivational state, "an individual is motivated by some external factors. (1.5+1.5)

OR

There are three types of Aggression in sports.

(a) Hostile Aggression: Any physical behaviour which is aimed to physically injure the living being intentionally is known as Hostile Aggression.

(b) Instrumental Aggression: Any physical behavior which is aimed to achieve high performance but unintentionally physically harms the living being is known as instrumental Aggression.

(c) Assertive Aggression: Any verbal behaviour under the Rules & Regulation of the sport which is used to harm psychological to living beings. In this only legitimate forces are used.

(1+1+1)

Ans.27 The strategies to make physical activities accessible for children with special needs?

1. Medical Check-up: First of all, it is essential to have a medical check-up of all the children with special needs or with various disabilities. Because without a medical check-up, the teachers of physical education cannot come to know about the type of disability the child is facing. Indeed, if we really want to make physical activities accessible for children with special needs, we need to understand the type of disabilities of the children.
2. Physical Activities Must Be Based on Interests of Children: Indeed, physical activities must be based on the interests, aptitudes, abilities, previous experience and limitations of children with special needs. So, the teachers of physical education should have a deep knowledge of the limitations, interests and aptitudes of children. After that physical activities can be made accessible for children with special needs more easily.
3. Equipment Related to Physical Activities Should Be According to the Needs of children: The types of equipment/ objects related to physical activities should be according to the needs of children. These types of equipment should vary in size, shape, color and weight.

This equipment should be according to the capability and level of children. A child with visual impairment should use a bright colored ball. Yarn should be tied to the ball to bring the ball back to the children. So, various types of equipment must be provided for children with special needs.

4. Specific Environment Should Be Provided: The area of physical activities should be limited as the movement capabilities of children with special needs are limited. Especially, in the case of children who have autism, they must be provided a specific playing area because they may need some time to relax. Light and sound are also vital for making a good environment for such children.
5. A Variety of Different Instructional Strategies Should Be Used: For performing various types of physical activities, a variety of different instructional strategies such as verbal, visual, and peer teaching should be used. It can give children the opportunity to start learning on their own and become more independent. Pictorial books are also vital in terms of instructions regarding physical activities.
6. Rules Should Be Modified According to the Needs of Children with Disabilities: In the beginning, rules of the physical activities should be simple but later on these rules can be modified according to the needs of the children. They can be provided an extra attempt or time to perform physical activity. They can also be given additional resting time before doing the next physical activity.
7. Children's Previous Experience Must Be Taken into Consideration: For making physical activities more accessible for children with special needs, the concerned teacher of physical education should have a comprehensive understanding and knowledge of children's previous experience with physical activities.

(Any five points)

Ans 28.

Effects of exercise in the muscular system.

1. Muscle Hypertrophy- Due to regular exercise a good growth in size of muscles.
2. Capillarization- Increase the number of capillaries due to regular exercise and the colour will be dark red.
3. Control Extra fat- Regular exercise controls the extra fat of the body. Exercises burn the entra calories.
4. Delay fatigue- Regular exercise delay fatigue. This fatigue is mainly due to formation of carbon dioxide, lactic acid and acid phosphate.
5. Posture- Regular exercise helps in improving posture by improving postural deformities.
6. Strength and speed- Regular exercise improves the strength and speed of muscle cells.
7. Increases food storage- The food storage capacity is increased when regular exercise are done. This storage of food can be utilised immediately when it is needed.

(Any five points)

OR

The effect of exercise on the cardiorespiratory system.

1. Increase in heart rate :- When an individual starts exercise, his heart rate increases as per the intensity and duration of exercise.
2. Increase in stroke volume :- Stroke volume increases proportionally with exercise intensity. It is measured in ml/ beat. Increase in cardiac output :- Cardiac output increases proportionally with the intensity of exercise is measured in ltr/ minute.

3. Increases in blood flow :- Cardio-vascular can distribute more blood to those tissues which have more demand and less blood & those tissues which have less demand for oxygen.
4. Increase in blood pressure :- During the exercise, systolic blood pressure can increase while diastolic blood pressure usually remains unchanged even during the intensive exercise.
5. Increase in vital air capacity- It is the amount of air which an individual can inhale and exhale with maximum effect. its capacity varies from 3500 cc. Dut to exercise its capacity increases upto 5500 cc
6. Increase in Residual air volume- Due to regular exercise increases the capacity of residual volume from normal capacity. Passive Alveolus become Active- Regular exercise activates the unused alveoles because much amount of 02 is required in prolonged exercise of daily routine
7. Minute volume decrease- Decrease the volume of oxygen in per minute.

(Any five points)

Ans 29 Asanas for diabetes

bhujangasan, paschimottasan, Pavanmuktasana, Ardhmatsyendrasana.

Ardhmatsyendrasana : (Half Lord of the fishes pose)

Procedure :

1. Sit and keep both legs straight.
2. Bending the knee of the right foot and put right heel below the left hip.
3. Bend left leg and placed the left foot to the right side of the right knee , keep Left knee closed to the chest.

4. Exhale from the right nostril and turn towards the left, and touch the toe of the left leg from the right hand.
5. Body and head move towards the left. Repeat while changing the position of legs

Paschimottanasana :

Procedure :

1. Sit down with your legs stretching straight in front of you.
2. Keep your head, neck and spine erect and stretch hands upwards with a deep breath.
3. Now, exhale and bend your head and trunk slowly forward to catch the toes with the thumb.
4. Try to touch head, chest and stomach to the legs and elbows to the floor.

Pavanmuktasana :

Pre Stage : Lie flat on your back and keep the legs straight.

Method :

1. Inhale slowly and lift the legs and bend the knees.
2. Bring knee upwards to the chest till your thigh touches the stomach.
3. Hug your knees and lock your fingers, touch your chin to the knee while exhaling.
4. Repeat it with another leg.

Bhujangasana : (Cobra position)

Procedure : Lie down on your stomach. Joint the legs and stretch as much as possible. Place the palm near the chest facing the ground. Take a deep Breath and lift your upper body upwards. Elbows should be slightly, touch the ground, weight should be on the pelvic region.

Move your head and neck backwards as much as possible. Exhale and slightly bring the body in starting position.

(Procedure of any two)

(1+2+2)

Asanas for asthma

sukhasana, chakrasana, gomukhasana, parvatasana

Bhujangasana, paschimottasana, matsyasana

Gomukhasana : This asana gets its name because while doing this asana body resembles a cow face pose. In English it is called the cow face pose.

Procedure :

1. Sit in a sukhasana or dandasana pose.
2. Place the ankle of the left leg near right but under the anus.
3. Place the right leg over the left leg so that knees should place over the left knee.
4. Sweep your left hand behind your back, facing palms upwards. Sweep your right hand over the right shoulder, bend your elbow and place it behind your back.
5. Now interlock fingers of both hands behind your back.

6 Now stretch both hands in their respective directions. Look straight.

Matsyasana : If this asana is performed in a water body, it can float easily that's why it is called matsyasana.

Procedure : Sit in padmasana pose. Take support of your elbow and lie on your back, bend your neck with support of your hands, and try to touch your forehead to the ground.

Hold the toes of the feet firmly with both hands and touch the ground with the elbows.

Stretch the stomach as up as possible.

Sukhasana : Pre Stage : Keep both feet in front and sit straight.

Method : Sukhasana is simply sitting in the normal form.

1. Keep the left foot folded under the right leg's thigh.
2. Fold right and place it under the Left thigh.
3. Keep your head, neck and waist straight.
4. Keep both hands in the meditation (palms stacked up in lap) posture.
5. You can use it for longer periods of meditation.

   One Can change feet for sitting.

   Chakrasana : Procedure : Lie down on the back and make both legs straight.

1. Bend your knees so that the soles of your feet are on the floor.
2. Your hands must be placed behind your shoulders and fingers pointed towards your shoulders.
3. Then, press your feet and palms, and lift your entire body off the mat.
4. Hands and feets are half feet apart. Head hangs gently between hands. 5. Make the body stretch towards the top so that it becomes circle shape

   (Procedure of any two)

Ans.30

For weight lifting Sidharth should work on his strength Lakshya should work on his endurance for Marathon running

methods to develop strength

1. Isometric Exercise : The word Isometric consists of 2 words "Iso", "same" and "metric", "length". Means when we do these exercises work cannot be observed. These exercises require less time and equipment and can be carried out anywhere.

These exercises are useful for maintaining strength in case of injury. Eg. Archery, Weight lifting, and gymnastics are examples of Isometric movements.

2. Isotonic Exercises :- “Iso” Means ‘same’ and ‘tonic’ means tone. In these types of exercise when we do movements it can be observed directly. The length of muscles can be seen and called eccentric contraction and concentric contraction accordingly. Example When we throw a ball, jump, run, weight training, this type of contraction occurs. This type of exercise is widely seen in games and sports. We can do these exercises with equipment or without equipment. These increase the length of the muscles and are good for conditioning in sports.

3. Iso-Kinetic Exercises -- “Iso” - ‘Same’ “and’ kinetic - motion’. These exercises were introduced by J.J. perrine in 1968. These exercises are done by a specially designed machine and are a combination of Isotonic and Iso-metric exercises. These exercises develop strength of muscles. These type of movements are usually not applied in games and sports except water sports, skating, climbing, running etc

(One method)

Methods to Develop Endurance

1. Continuous method
2. Interval method
3. Fartlek method

. Describe fartlek Training Method.

Ans. It is another method to develop the endurance ability. This method was developed by Swedish coach “ Gosta Holmer" in 1930. So it is also known as “Swedish play” or “Speed play” (charges his/her pace. Himself/herself according to the surrounding (Hills, River, Forest, Mud etc.) This method helps in development of endurance of the sports person.

Athletes changes his/her speed accordingly. So it is self-disciplined in nature. The heart rate fluctuates between 140 - 180 beats/ minute Fartlek training involves varying our pace throughout our run. Alternating between fast and slow pace.

Continuous Method :- In continuous method, the exercise is done for a long duration without taking rest. We do the exercise for a long duration. So the intensity of work is low. The heart rate during the exercise for a sportsman should be between 140-160 beats per minute. For fast continuous methods the heart rate of an athlete should be increased about 175 - 180. Min. Its duration of exercise should be more than 30 minutes. Ex. running, walking, cycling, cross-country race etc.

Interval Method :- This method is very effective for developing endurance for track runners. Intervals are given to the athlete in between the repetition for recovery. The recovery period for athletes varies from person to person. The Heart should go up to 18 beat/ min. and when the heart rate comes down to 120-130 beats/ min again the repetition/ work starts. The training load should be given again after checking the heart rate of the athlete. Ex. Middle distance race, football, hockey etc.

(One method)

(2.5+2.5)

PRACTICE PAPER - 2
SUBJECT: PHYSICAL EDUCATION (048)
CLASS: XII

Maximum Marks : 70 **Time : 3:00 Hrs**

General Instruction:

1. The Question paper contains 30 questions, and all are compulsory.
2. Question No. 1 to 12 carrying of 01 marks each and are Multiple Choice Questions.
3. Question No. 13-16 carrying 02 marks and shall not exceed 40-60 words.
4. Question No. 17-26 carrying 03 marks and shall not exceed 80-100 words.
5. Question No. 27-30 carrying 05 marks and shall not exceed 150-200 words.

Choose the correct option: **Marks**

1. Which of the training method develops endurance? 1

(A) Isometric Method (B) Isotonic Method
(C) Fartlek Method (D) Pace Run Method

2. The Endomorphic, Mesomorphic and Ectomorphic is given by…….. 1

(A) Big-5 (B) Plato (C) Jung (D) Sheldon

3. The decrease in angle at elbow joint is known as…… 1

(A) Extension (B) Flexion (C) Abduction (D) Adduction

4. In what situation first aid is given? 1

(A) Chronic Injury (B) Sudden Injury
(C) Old Wounds (D) After two Days of Injury

P.T.O.

5. Agility is measured by…….. 1

(A) 50 M Dash Run (B) Shuttle Run

(C) Push Ups (D) Chin Ups

6. Sideways curvature of the spine is known as…… 1

(A) Round Shoulder (B) Kyphosis

(C) Scoliosis (D) Lordosis

7. Disorder is not caused by…… 1

(A) Heredity (B) Bad Environment

(C) Balanced Diet (D) Accident

8. Newton's 1st law of motion is known as …… 1

(A) Law of Acceleration (B) Law of Inertia

(C) Law of Action Reaction (D) All of the Above

9. If pancreas does not produce enough insulin it may cause…. 1

(A) Asthma (B) Obesity

(C) Hypertension (D) Diabetes

10. ……. is known as Complete diet. 1

(A) Fish (B) Potato

(C) Milk (D) Apple

11. Given below are the two statements labelled Assertion (A) and Reason (R). 1

Assertion (A): Planning should be the first step for organising a tournament.

Reason (R): A tournament can be conducted without planning.

In the context of 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, but (R) is not the correct explanation of (A).

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

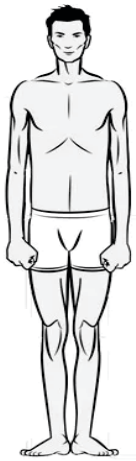
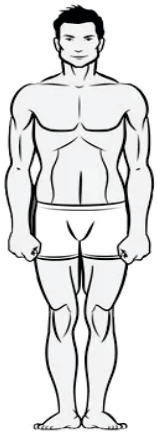
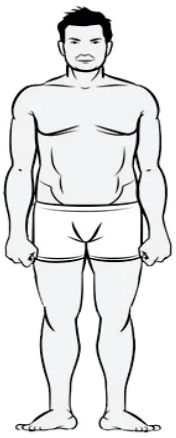
(D) (A) is false, but (R) is true.

12. Match List – I with List – II and select the correct answer. 1

List – I	**List – II**
(i) Speed	(1) 600 Meter Run
(ii) Agility	(2) 50 Meter Dash
(iii) Strength	(3) Shuttle Run
(iv) Endurance	(4) Push-ups

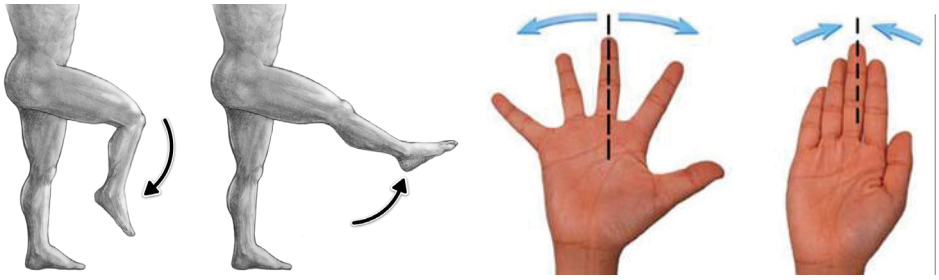
	(i)	(ii)	(iii)	(iv)
(A)	1	3	4	2
(B)	2	3	4	1
(C)	1	4	3	2
(D)	2	4	3	1

13. Identify the below given pictures and write the names 2


(i)..... (ii)..... (iii)..... (iv).....

14. Identify the human movement and write their names 2



(i)..... (ii)..... (iii)..... (iv).....

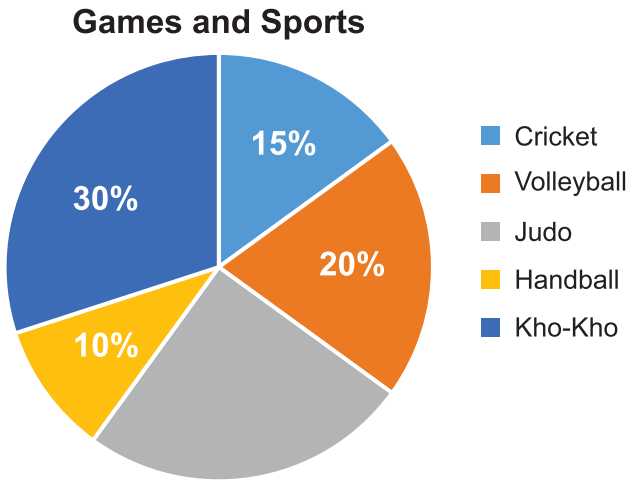
15. What is aggressions? Define its types. 2

OR

Define motivation and its types. 2

16. Write down the pitfalls of dieting. 2

17. Below given is the data of students participating in games of a school. 3



If total numbers of students participating in cricket is 30 so how many students participating in kho-kho?

18. Write down the procedure of Vajrasana. 3

19. What do you mean by Oppositional Defiant Disorder (ODD)? 3

20. What is Endurance? Explain its types. 3

OR

What is Flexibility? Explain its types. 3

21. Explain the newton's laws of motion. 3

22. Enlist the components of balanced diet and its functions. 3

23. What is personality? Write about Sheldon's different dimensions of personality? 3

24. Write a detail note on Harvard step test. 3

OR

Describe the senior citizen fitness test. 3

25. Explain the effects of exercise on muscular system. 3

OR

Explain the effects of exercises on cardio-respiratory system. 3

26. Write a short note on disability etiquettes. 3

27. Explain the soft tissue injuries and its types. 5

OR

Explain the hard tissue injuries and its types. 5

28. Explain the speed, its methods of improving speed. 5

29. Explain the sports participation of women in India. 5

30. Draw a fixture of 21 teams participating in the knockout tournament. 5

MARKING SCHEME - 2
SUBJECT: PHYSICAL EDUCATION (048)
CLASS: XII

Answer (1). (C) Fartlek Method

Answer (2). (D) Sheldon

Answer (3). (B) Flexion

Answer (4). (B) Sudden Injury

Answer (5). (B) Shuttle Run

Answer (6). (C) Scoliosis

Answer (7). (C) Balanced Diet

Answer (8). (B) Law of Inertia

Answer (9). (D) Diabetes

Answer (10). (C) Milk

Answer (11). (C). (A) is true, but (R) is false.

Answer (12). (B) 2 3 4 1

Answer (13).

(i) Ectomorphic

(ii) Mesomorphic

(iii) Endomorphic

(iv) Fracture

Answer (14).

(i) Flexion

(ii) Extension

(iii) Abduction

(iv) Adduction

Answer (15).

A type of behaviour intending to cause physical or mental harm.

In sport, aggression has been defined into two categories: hostile aggression and instrumental aggression.

Hostile aggression is when the main aim is to cause harm or injury to your opponent.

Instrumental aggression is when the main aim is achieve a goal by using aggression.

OR

Motivation is defined as the reasons why you are doing something, or the level of desire you have to do something.

Intrinsic Motivation: - motivation an individual is forced by his internal forces to achieve the goal. Intrinsic motivational state "An individual is motivated by his own desire not by any external factor" i.e. enjoyment, satisfaction, to show mastery over skills, to display superiority or to get social approval, fame etc.

Extrinsic Motivation: - motivation an individual is forced by the external forces to achieve the goal such as prize, praise, scholarship, grade, job, money etc. In the extrinsic motivational state "an individual is motivated by some external factors.

Answer (16).

(i) Intake of important nutrients in limit-insufficient intake of carbohydrates, protein, vitamins and fat creates many health problems.

(ii) Attitude to lose weight can lead to serious health problems.

(iii) Starvation-It is misconception that skipping of any meal can reduce weight but it can create any health problem.

(iv) Stress-over consciousness of losing weight creates anxiety and stress.

Answer (17). 60

Answer (18). **Procedure:-**

Step (1) Sit by kneeling on yoga mat

Step (2) Place knees and ankles together and bottoms of feet should face upward

Step (3) Sit back on legs and place hands on thighs

Step (4) Head, neck and back should be straight

Step (5) Breathe slowly

Answer (19).

Oppositional defiant disorder (ODD) is a type of behavior disorder. It is mostly diagnosed in childhood. Children with ODD are uncooperative, defiant, and hostile toward peers, parents, teachers, and other authority figures. They are more troubling to others than they are to themselves.

Answer (20).

Endurance - As the result of a physiologic capacity of the individual to sustain movement over a period of time.

Endurance in sports are of different types. These are as follows -

1. **Basic endurance: -** is the ability of an Individual to do the Movement in which large no. of body & muscles involve at slow pace for a duration such as Walking, Jogging, and Swimming at a moderate speed.

2. **General Endurance:** - is the ability of an individual to resist fatigue satisfactorily caused by different type of activities.
3. **Specific Endurance: -** is the ability of an individual to complete the task without any fatigue. It's requirement depends upon the nature of activity.

OR

Flexibility is the range of movement of the joint of a sports person.

1. **Active Flexibility:-** The ability of an individual to do the joint movement for a longer range without any external help. Active flexibility is always greater than passive flexibility. Ex. doing any stretching exercise without external help. It is two kinds:-

   Static Flexibility:- It is usually required by a sports person when he remains in static position e.g. Diving, sitting, lying, etc.

   Dynamic Flexibility:- It is needed for walking and running its increase by static stretching.
2. Passive Flexibility:- the ability to do joint movement with a greater range with an external help of partner. This flexibility is largely determined by joint structure, stretch ability of the muscle and ligament. Passive flexibility helps in the development of active flexibility.

Answer (21).

1st Law of Motion: Law of Inertia

Any object will remain in its state (in rest or in motion) until or unless an external force is applied on it.

2nd Law of Motion: Law of Acceleration

The second law of motion is also known as "Law of Momentum". The rate of change of acceleration is directly proportional to the force applied on the object and inversely proportional to the mass of the object.

The net force of an object is equal to the product of its mass and acceleration.

Force = Mass x Acceleration

3rd Law of Motion: Law of Action-Reaction

In this law of motion, for every action, there is an equal and opposite reaction.

Answer (22).

Components of Balanced diet are carbohydrates, proteins, fats, vitamins, minerals and water.

Functions of Balanced diet:-

(i) Sufficient energy is given by balanced diet.

(ii) It helps individual to grow and develop to optimum level.

(iii) Proper functioning of organs is done by balanced diet.

(iv) It helps to repair or replace the worn out tissue.

(v) Balanced diet improves the defence of body.

(vi) It helps to improve the overall health status.

(vii) Balanced diet improves metabolism.

(viii) it prevents deficiency diseases and maintain body weight thus overall efficiency of individual improves.

Answer (23).

The word personality is taken by the latin word “persona” which means “the mask”. So personality is mask that is worn by an individual to deal with the society or the environment.

Personality covers all the physical, mental social, emotional, Interest & behavioral qualities of an individual.

Sheldon classified people according to three body types:-

(i) Ectomorphic

(ii) Mesomorphic

(iii) Endomorphic

Answer (24).

The Harvard step test is a cardio vascular fitness test. It is also called aerobic fitness test. It is used to measure the cardio vascular fitness or aerobic fitness by checking the recovery rate. Equipment required: A gym bench or box of 20 inches high for man and 16 inches for woman stopwatch and cadence tape. Procedure: The athlete stands in the front of the bench or box. On the command “GO” the athlete steps up and down on the bench or box at a rate of 30 steps per minute. Calculation of the scores: Calculate with the help of following formula “fitness index score = 100 × test duration in seconds/ 2 × sums of heartbeat in recovery period”.

OR

A total of seven tests are conducted in the Senior Citizen Fitness Test, with the help of which the senior citizen is fit or not. In these seven investigations, exercises related to daily activities have to be done.

With the help of these tests, the physical strength of the senior citizen, strength of muscles, strengthening of bones, stamina, tolerance etc. are estimated.

Answer (25).

Effects of exercise on muscular system would benefit by increasing size and number of mitochondria, improved perception of muscle tone and also overall improved:

Coordination, Power, Balance, Speed, Agility, Body composition, Reaction time, Muscular endurance, Flexibility etc.

OR

- Supply energy to working muscles
- Remove waste
- Increase stroke volume
- Increase heart rate
- Increase cardiac output
- Increase blood pressure
- Hypertrophy of heart (Long term)
- Increase tidal volume
- Increase oxygen uptake
- Increase carbon dioxide removal
- Increase breath rate (during exercise)
  decrease breath rate (Long term)

Answer (26).

Disability etiquette is a set of guidelines dealing specifically with how to approach a person with a disability.

Basic disability etiquette involves treating people with disabilities with respect. For example, speak to the person

directly, not to the person accompanying them. Do not make assumptions about what they can or cannot do. The impact of a specific disability can vary widely from person to person, so offer assistance only if it appears to be needed. Acknowledge and respect the individual's ability to make decisions and judgments on their own behalf. Always use "people first" language. For example, use the term "people with disabilities." Do not use terms such as "the disabled" or "the handicapped." Avoid referring to people by their disability.

Answer (27).

The most common soft tissues injured are muscles, tendons, and ligaments. These injuries often occur during sports and exercise activities, but sometimes simple everyday activities can cause an injury. Sprains, strains, and contusions, as well as tendinitis and bursitis, are common soft-tissue injuries.

OR

Hard tissue injuries include fractures, dislocations and loss of teeth. That is, any injury to the skeletal system. A fracture is the technical term for a broken bone and there are various types of fracture with various degrees of complication. The other main hard tissue injury is a dislocation.

Answer (28).

Speed is the capacity of an individual to perform successive movement of the same pattern at a fast time. Speed is the product of genetic & environment factors. Genetic factors set limit of speed but environmental factors also play a vital role. In

fact following mentioned methods are usually adopted for the development of speed & these method help to training many organic systems & motor components.

Pace run: - Pace run means running the whole distance with constant speed. Generally 800mt and above races are included in pace races. An athlete can run a distance of 300m at full speed but in longer races such as 800mtr or above, he must conserve his energy by reducing the speed-If there is a runner of 800m race and his best time is 1minute 40 seconds. So he should run first 400 m in 49 seconds and next 400m in 51 seconds. This procedure is called pace race or pace run.

Acceleration Run - Acceleration run are usually used to develop speed indirectly by improving explosive strength, technique, flexibility and movement frequency. It is the ability of a sprinter to achieve high speed from a stationary position. For direct improvement of acceleration speed, a sprinter should do 25-30 mt. sprint of 6-12 times. The maximum speed should be achieved within 5-6 sec. sufficient intervals should be provided between the repetitions.

Answer (29).

Sport is universal in nature. In earlier days only men used to participate in most of the sports and women were not allowed to participate. Earlier women faced many constraints such as physiological, psychological, family, social, cultural; religious and so on but later they also started active participation in all events.

Women sports participants face many constraints or hurdles during their sports career. Such constraints prevent them from either staying involved in sports or prevent them from training.

Still, in India female handball players are not recognized the way female cricketers, hockey and badminton players are recognized. Recently girls handball team participated in 15th Asian Junior Girl Handball Championship under 19 held in Beirut, Lebanon. Only participation is not important. We should provide the best coaching and facilities to play well and to get medals. We all should encourage girls handball game in India and open a government-funded coaching centre to support players.

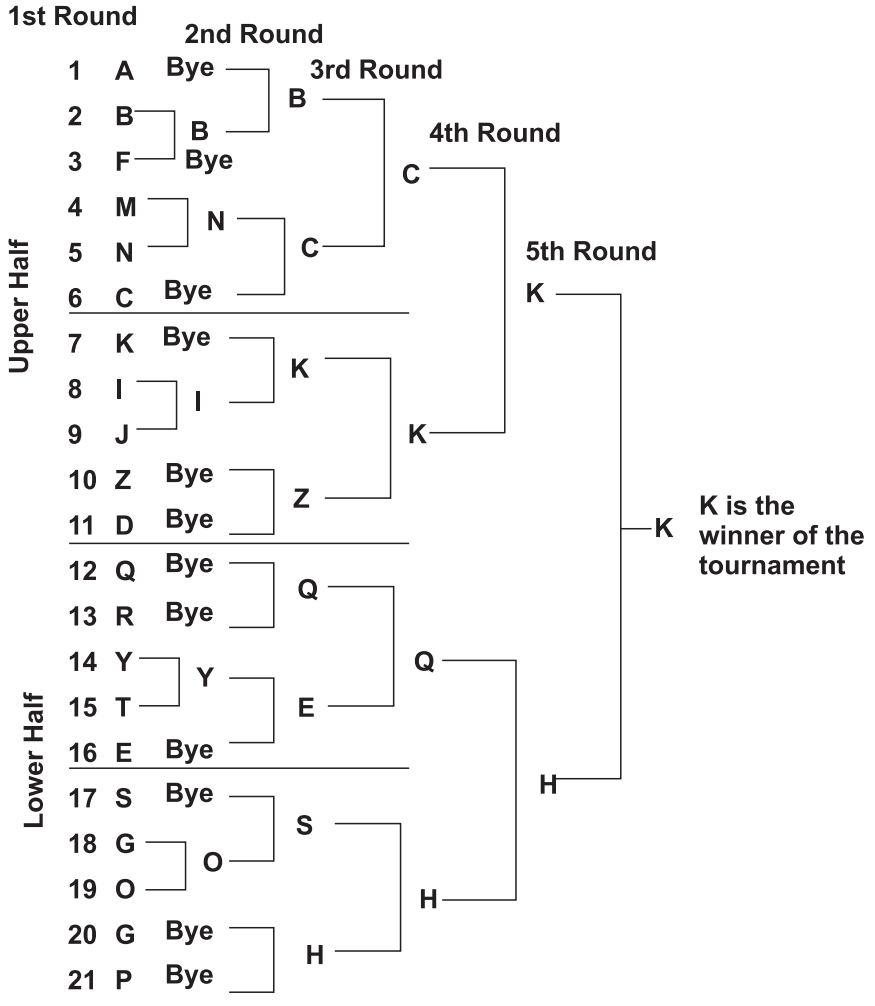
Campaigns for women sports participation should be encouraged in all schools, colleges and universities. Government, private bodies should conduct a regular awareness programme for women sports participation and should encourage them. The families should also support their girls to participate in all type of sports without any hesitation/social burden and not even think that what people say.

Now the time has changed and the Indian women are proving their capacity and marking their name in the top list of world scholars, sci entists, doctors and sports championship.

P.V. Sindhu, Sakshi Malik and Dipa Karmakar were conferred with the country' s highest sports award—Rajiv Gandhi Khel Ratna and other awards.

Media and sponsors can also play a bigger role in shaping or breaking gender bias in the recognition of sports personalities. Still, female sports players & their support staff getting lesser fee rather than male sports players. Women can get more medals in the National and International arena than men if encouraged and provided the best sports training facilities.

Ans 30.



PRACTICE PAPER - 3
SUBJECT: PHYSICAL EDUCATION (048)
CLASS: XII

Maximum Marks : 70 **Time : 3:00 Hrs**

GENERAL INSTRUCTIONS –

1 The Question Paper consists of 30 questions each and all are compulsory .

2 Question 1- 12, carry 01 mark each consists of multiple choice questions

3 Questions 13-16, carry 02 marks each and shall not exceed 40-60 words .

4 Questions 17- 26, carry 03 marks each and shall not exceed 80-100 words.

5 Questions 27- 30, carry 05 marks each and shall not exceed 150- 200 words .

Choose the correct option: **Marks**

Q.1. Which nutrient helps our body to fight against infections? 1

(A) Carbohydrate (B) Protein

(C) Starch (D) Fats

OR

Age between 13-19 years is called as– 1

(A) Childhood- (B) Adolescence

(C) Adulthood- (D) Infancy-

Q.2. Sit up is used to measure

(A) Flexibility (B) Strength

(C) Agility (D) Co-ordination ability

Q.3. Fatty acids are stored in .....? 1

(A) Connective tissue (B) Adipose tissue

(C) Upper most layer of skin (D) None of these

Q.4 Cobra pose is known as in Sanskrit---- 1

(A) Bhujangasana (B) Mayurasana

(C) Uajrasana (D) All of these

OR

Psychology deals with–

(A) Function of body (B) Activity of air

(C) Anatomy (D) Behavior

Q .5. Post Isometric Training is used for developing-

(A) Flexibility (B) Coordination

(C) Endurance (D) Speed

OR

'Speed Play' is also know as_____Training of method' 1

(A) Strength Training (B) Interval Training

(C) Endurance Training (D) Fartlek Training

Q.6. For every action, there is an equal and opposite reaction the formally stated Newton's. 1

(A) First Law (B) Second law

(C) Third law (D) None of above

Q.7.Which committee is responsible for to control the Law and Order in Tournament? 1

(A) Transport Committee (B) Supervising Committee

(C) Discipline Committee (D) Official Committee

Q.8.Which of following is an intrinsic reward of sports

(A) Certificate (B) Trophy

(C) Prize (D) Self-esteem

Q.9. Which organic system is related to "Asthma"? 1

(A) Muscular System (B) Digestive System

(C) Respiratory System (D) Skelton System

Q10.Number of ventricle contraction of heart per minute is known as_____. 1

(A) Heart Rate (B) Cardiac Output

(C) Minute Volume (D) Tidal Volume

Q.11. Match List -1 with List-2 and select the correct code 1

List - 1		List - 2	
NUTRIENT		DISEASE	
(A)	Iron	(i)	Muscles Cramps
(B)	Protein	(ii)	Osteoporosis-
(C)	Calcium	(iii)	Marasmus
(D)	Sodium	(iv)	Anemia

Code

(A) 1-a, 2-b, 3-c , 4-d (B) 1-d, 2-c, 3-b, 4-a

(C) 1-c, 2-d, 3-a, 4-b (D) 1-b, 2-a, 3-d, 4-c

Q.12. Given below are the two statements labeled Assertion (A) and Reason (R). 1

A. Assertion (A): Introverts Personalities are focussed Themselves .

B. Reason (R): They are players of good of Chess, Snooker

(A) Both (A) and (B) are true and (R) is correct explaination of (A).

(B) Both (A) abd (B) are true and (R) is not correct explaination of (A).

(C) (A) is true ,But(R) is false

(D) (A) is False ,But(R) is True

Q13.Identify the below given Items of Tests and name them. 2

(A)  .....

(B)  .....

(C)  .....

(D)  .....

Q.14. Identify the below given Asanas and name them 2

(A)  .....

(B) .....

(C)  .....

(D)  .....

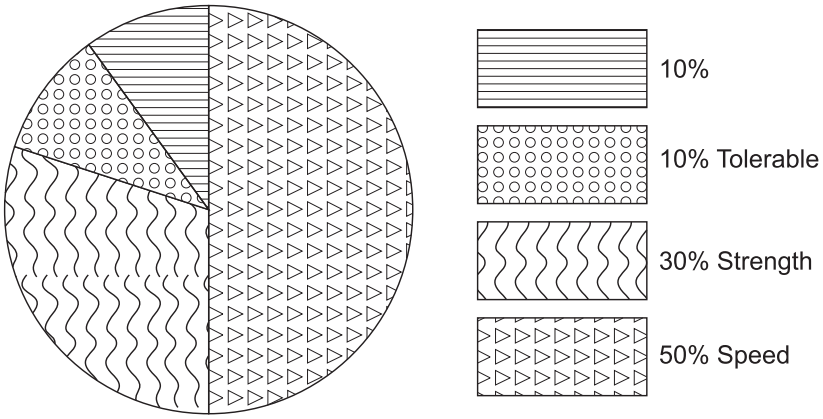
Q.15 Write any two causes of OCD ? 2

OR

What is Disability Etiquettes ?

Q 16 What is the height of the bench for boys and girls in the Harvard step test. ? If the duration of exercise is 300 seconds and the heart rate is 100, then calculate the fitness index by short-term fitness formula 2

Q.17. Below is the Fit India Movement Data of a Delhi Govt. school – 3



Answer the following questions on the basis of Data Available.

(i) In which motor Fitness Component School needs improvement

(A) Endurance

(B) Flexibility

(C) Both (a) & (b)

(D) Strength

(ii) Which component of fitness was found the most within children

(A) Endurance

(B) Flexibility

(C) Speed

(D) Strength

(iii) " Push-Ups" Measures which of the following Motor Component

(A) Agility

(B) Strength

(C) Flexibility

(D) Above all

Q.18. During the gymnastic session the trainer found eventually Mohan is suffering from not me and advised him some corrective measures and yoga asanas. 3

Based on this case answer the following question

(i) Choose the corrective measures for knock knee

(A) Run

(B) Walk

(C) Horse- riding

(D) Walk on toe

(ii) Choose the asana which can be helpful in knock –knees.

(A) Tadasan

(B) Ardhchakrasan

(C) Pavanmuktasan

(D) Gomukhasan

(iii) Following are the corrective measures for knock knees, except

(A) use cord liver oil

(B) walking calipers

(C) Padmasan

(D) Vajrasana

Q.19. Explain the Newton's Law of motions with examples 3

OR

Explain Flexion and Extension movement

Q.20 Explain interval training method 3

Q.21. Explain the techniques of goal determination and reinforcement in motivation. 3

Q.22. Write the spinal postural deformities.

Q.23.Explain Sheldon's classification of personality and explain its importance in physical education and sports.

Q.24 Explain Ballistic method to develop flexibility? 3

Q.25. Differentiate between disability and disorder 3

Q.26. Briefly describe any two asanas to prevent from Diabetes 3

Q.27. Explain in detail the physiological factors determining endurance? 5

OR

Explain the meaning and importance of Bio mechanics in sports

Q.28. Explain the Rikli and Jones Test (Senior Citizen Fitness Test) in detail. 5

Q.29. Describe ways to promote participation in women 's sports 5

OR

Draw a fixture for 19 teams on the basis of knock out tournament .

Q.30.Define strength and explain methods to develop strength. 5

****

PRACTICE PAPER - 4
SUBJECT: PHYSICAL EDUCATION (048)
CLASS: XII

Maximum Marks : 70 **Time : 3:00 Hrs**

GENERAL INSTRUCTIONS –

1. The question paper consists of 30 questions and all are compulsory
2. Question 1-12 carry 01 mark each and are Multiple Choice Questions
3. Questions 13-16 carry 02 marks each and shall not exceed 40-60 words
4. Questions 17-26 carry 03 marks each and shall not exceed 80 - 100 words
5. Questions 27 - 30 carry 05 marks each and shall not exceed 150-200words

Choose the correct option: **Marks**

Q1. In single league tournament, if 16 teams are taking part in a tournament, the number of total matches will be- 1

(A) 99
(B) 120
(C) 146
(D) 110

Q2. Which body part is measured by Chair stand test in Senior citizen test- 1

(A) To check the strength of the feet
(B) To check the strength of the waist
(C) To check the power of hands
(D) To check the power of shoulder

OR

Person with ---------- tends to be sympathetic, trust, cooperate and modest under which big five theory? 1

(A) Neuroticism
(B) extraversion
(C) conscientiousness
(D) Agreeableness

Q3. Which vitamins are easily destroyed by heat and air? 1

(A) Vitamin K
(B) Vitamin C
(C) Vitamin D
(D) Vitamin A

Q4. In flat foot deformities is also known as ? 1

(A) Pes Planus
(B) Genu Valgum
(C) Genu Varum
(D) None of these

OR

Number of ventricle contraction of heart per minute is known as_____. 1

(A) Heart Rate
(B) Cardiac Output
(C) Minute Volume
(D) Tidal Volume

Q5. Which fracture shows no break in the skin and no wound leading down to the bone ? 1

(A) Simple Fracture
(B) Green Stick Fracture
(C) Communicated Fracture
(D) Compound Fracture

OR

What is the height of the box used by boys in Harvard step test? 1

(A) 16 inch
(B) 18 inch
(C) 20 inch
(D) 22 inch \

Q6. Lifting your arms sideways in the jumping jacks is an movement of _____. 1

(A) Adduction
(B) Flexion
(C) Extension
(D) Abduction

OR

A disorder related to brains trouble in receiving and responding to information can be termed as……. 1

(A) ODD
(B) OCD
(C) ADHD
(D) SPD

Q7. Match list I and list II and select the correct option using the codes given below:-

List - 1		List - 2	
(A)	Personality	(i)	Endomorphic
(B)	Sheldon	(ii)	Night Blindness
(C)	Vitamin A	(iii)	Bread, Rice
(D)	Carbohydrates	(iv)	Big Five Theory

Codes:	**I**	**II**	**III**	**IV**
(A)	4	1	2	3
(B)	3	2	1	4
(C)	1	2	3	4
(D)	2	1	4	3

Q8. The irregular cut over the skin caused due to severe impact of object or the sharp edge? 1

(A) Incision
(B) Laceration
(C) Abrasion
(D) Sprain

OR

Which of the following personality types are more socially active in society? 1

(A) Introvert
(B) Extrovert
(C) Ambivert
(D) None of these

Q9. Which of the following the Vajrasana plays the main role in prevention of _____ disease? 1

(A) Obesity

(B) Back Pain

(C) Hyper Tension

(D) Diabetes

Q10. The resistance ability against fatigue is called : - 1

(A) Strength

(B) Speed

(C) Endurance

(D) Flexibility

Q11. Assertion (A) : Hostile aggression provokes one to harm others physically. 1

Reason (R): Aggression is an internal to harm another person mentally and / or physically.

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

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

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

(D) (A) is false , but (R) is correct.

Q12. Ability to react quickly and effectively to a signal is called 1

(A) Reaction Ability

(B) Orientation Ability

(C) Coupling Ability

(D) Adaptation Ability

OR

Speed play is also known as :

(A) Strength

(B) Speed

(C) Flexibility

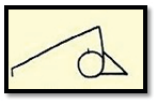
(D) Endurance

Q13. Identify the below given Asanas and write the name: 2

(A)  .....

(B)  .....

(C)  .....

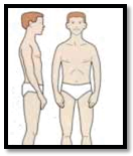
(D)  .....

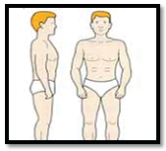
Q14. If a person weight 80 kg, and height is 1.75 m, there B.M.I. would be. ? Which criteria will it fall under? 2

Q15. If the total test time was 300 seconds (if completed the whole 5 minutes), and the number of heart beats between 1-1.5 minutes was 90, between 2-2.5 it was 80 and between 3-3.5 it was 70, then the long form Fitness Index score would be. 2

Q16. Identify the given below and write the names of exercises: 2

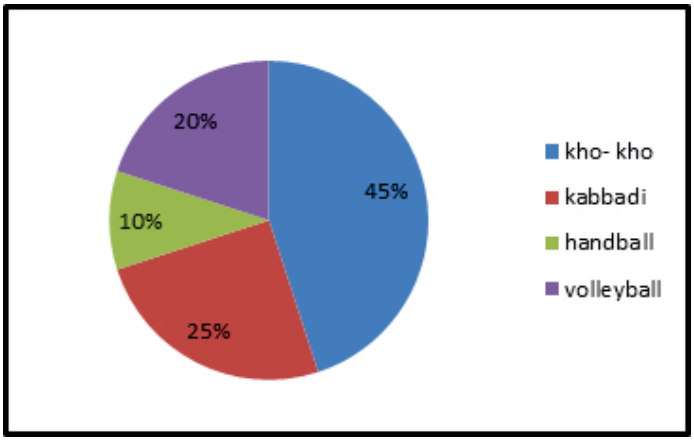
(A)  .....

(B)  .....

(C)  .....

(D)  .....

Q17. The following pie chart shows the most popular sports and games played in Delhi schools. 3



(i) Which of the following is the most popular sports and games played in Delhi schools.

(A) Handball

(B) Kabbadi

(C) Volleyball

(D) Kho kho

(ii) Which of the following are the least popular sports and games played in Delhi schools?

(A) Handball

(B) Kabbadi

(C) Volleyball

(D) Kho kho

(iii) In which sports required maximum area to play?

(A) Handball

(B) Kho kho

(C) Kabbadi

(D) Volleyball

Q18. Gaurav athlete is a preparing 400 m race. He is having his competition after one month. 3

Based on this case answer the following questions:

(i) Which nutrition's is the main source of energy?

(A) Carbohydrate

(B) Protein

(C) Fats

(D) Vitamins

(ii) A substances needed by body for growth, energy, repairs and maintenance is called _____.

(A) Nutrients

(B) Food

(C) Calorie

(D) Balanced diet

(iii) Acceleration runs are used to improve _____.

(A) Strength

(B) Endurance

(C) Speed

(D) Flexibility

Q19. Explain the Harvard Step test briefly. 3

Q20. Describe the precautions and causes of Knock- kn Knee. 3

Q21. What do you mean by balance diet and explain nutrients of balanced diet. 3

Q22. Write the immediate effects of exercise on cardio-vascular system? 3

Q23. Write about the deformities of spinal curvature. 3

Q24. Explain the classification of personality given by Sheldon. 3

Q25. Explain flexibility and one method to develop flexibility. 3

Q26 Write short notes: 3

a) Hostile Aggression

b) Sensory processing disorder

c) Bow Leg

Q27. Define obesity. Describe procedure and benefits/ contradiction of any two asanas that help reduce obesity. 5

Q28. Define Newton's Law of Motion and explain their application in sports of your choice. 5

Q29. Explain the Rickli and Jones : Senior citizen test in detail.

OR

Discussion of strategies to make physical activities assessable for children with special needs? 5

Q30. Draw a fixture of 27 teams providing 2 seeding in a knock-out tournament and explain the advantages of knockout tournament. 5

OR

What do you mean by league tournament? Write to prepare cyclic method fixture for 5 teams.

SAMPLE QUESTION PAPER
PHYSICAL EDUCATION (048)
SESSION 2021-22 (CLASS XII)
TERM 1

Max Marks:35 **Time:1hr 30min**

General instructions:

1. **There are three sections in the Question paper namely Section A, Section B and Section C.**
2. **Section A consists of 24 questions amongst which 20 questions have to be attempted.**
3. **Section B consists of 24 questions amongst which 20 questions have to be attempted.**
4. **Section C consists of 12 questions amongst which 10 questions have to be attempted.**

SECTION A (KNOWLEDGE AND UNDERSTANDING)

Q1. **What is the other name for Vitamin B2?**

(A) Niacin
(B) Thiamin
(C) Folic Acid
(D) Riboflavin

Q2. **What is the formula to divide an odd number of teams in the upper half for a knockout fixture?**

(A) N+1/2
(B) N-1/2
(C) N(N-1)/2
(D) N(N+1)/2

Q3. **Which test is developed to test fitness in senior citizens?**

(A) Harvard step
(B) Rikli and Jones
(C) AAHPER
(D) Rockport

Q4. 

Which action is shown in the illustration?

(A) Flexion
(B) Extension
(C) Adduction
(D) Abduction

Q5. **Gliding movement occurs at which joint?**

(A) Knee
(B) Hip
(C) Wrist
(D) Elbow

Q6. **Consolation tournaments are a part of which type of fixture?**

(A) Knockout
(B) league
(C) combination
(D) none of these

Q7. **Which amongst these is not a macro mineral?**

(A) Calcium
(B) Potassium
(C) Phosphorus
(D) Iodine

Q8. **Who discovered Vitamin A?**

(A) Dr. Mc Collum
(B) Dr. Coubertin
(C) Dr. J.B.Nash
(D) Dr. Harvard

Q9. **Formula for determining the number of bye in the lower half of a knockout fixture when number of byes are odd?**

(A) nb+1/2

(B) nb-1/2

(C) nb /2

(D) nb+1

Q10. **What is the name of the postural deformity caused due to increase in the curve at the lumbar region?**

(A) Knock knees

(B) Bow legs

(C) Kyphosis

(D) Lordosis

Q11. **Which test is used to test the functional ability amongst senior citizens?**

(A) Rockport one mile test

(B) Harvard step test

(C) Rikli and Jones test

(D) Fitness Index score

Q12. **What is the test duration for the Arm curl test?**

(A) 1min

(B) 2 min

(C) 30sec

(D) Number of repetitions

Q13. **Which postural deformity has Convexities right or left?**

(A) Flat foot

(B) Knock knees

(C) Kyphosis

(D) Scoliosis

Q14. **Which motor skill is involved in Smashing volleyball?**

(A) Gross motor skills

(B) Fine motor skills

(C) Cross motor skills

(D) Open skills

Q15. **Who gave Laws of motion?**

(A) Galileo

(B) Pascal

(C) Newton

(D) Darwin

Q16. **Harvard step is performed to check which kind of fitness?**

(A) Cardiovascular

(B) Explosive strength

(C) Muscular strength

(D) Reaction ability

Q17. **Which fixture is also known as 'Berger system '?**

(A) Knockout fixture

(B) Round robin fixture

(C) Combination fixture

(D) Challenge tournament

Q18. **Which of the following is not a spinal curvature deformity?**

(A) Kyphosis

(B) Scoliosis

(C) Lordosis

(D) Flatfoot

Q19. **What according to you is the main cause for night blindness?**

(A) Deficiency of Vit. E

(B) Deficiency of Vit. C

(C) Deficiency of Vit. A

(D) Deficiency of Vit. D

Q20. **Which law amongst the given ones is known as the First law of motion?**

(A) Law of inertia

(B) Law of reaction

(C) Law of momentum

(D) Law of acceleration

Q21. **What is the Ratio of carbon,hydrogen and oxygen in carbohydrates?**

(A) 1:2:1

(B) 2:2:1

(C) 2:1:1

(D) 1:2:2

Q22. **The formula for determining the number of rounds in a single league fixture when the number of teams is even?**

(A) N

(B) N-1/2

(C) N-1

(D) N(N-1)/2

Q23. **Which postural deformity is related to Posterior curve of the spine?**

(A) Scoliosis

(B) Kyphosis

(C) Lordosis

(D) Knock knees

Q24. **Which movement is caused by Moving a body part away from the medial line of the body?**

(A) Flexion

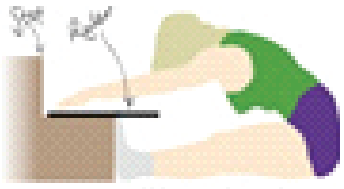
(B) Extension

(C) Adduction

(D) Abduction

SECTION B (APPLICATION + HOTS)

Q25. **Name the component which is measured by this test?**



(A) Endurance

(B) Speed

(C) Flexibility

(D) coordinative ability

Q26. **Which exercise should be done to cure this deformity?**

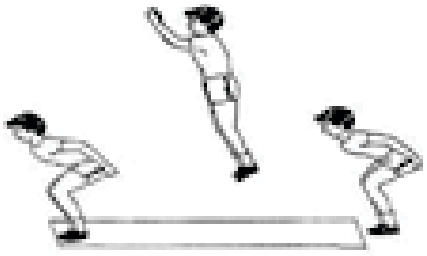
(A) Skipping

(B) Walking on heels

(C) Both a) and b)

(D) Hanging on horizontal bar

Q27. **Identify the component of fitness which is tested through this exercise**



(A) Maximum strength

(B) Explosive strength

(C) Strength endurance

(D) Static strength

Q28. **How many matches will be played if there are 22 teams for the knockout fixture?**

(A) 10

(B) 21

(C) 12

(D) 32

Q29. **How many byes will be given if there are 8 teams in the league tournament?**

(A) 7

(B) 5

(C) 4

(D) 0

Q30. **Halasana is used for curing which of the following deformities?**

(A) Kyphosis

(B) Scoliosis

(C) Lordosis

(D) Flatfoot

Q31. **Match the following:**

1.	Vitamin B12	(A)	Thiamin
2.	Vitamin B3	(B)	Biotin
3.	Vitamin B7	(C)	Cobalamin
4.	Vitamin B1	(D)	Niacin

(A)	4	3	1	2
(B)	2	3	4	1
(C)	1	2	3	4
(D)	3	4	2	1

Q32. **Match the following:**

1.  (A) lower body strength

2.  (B) lower body flexibility

3.  (C) upper body strength

4.  (D) abdominal strength

(A)	3	1	4	2
(B)	4	1	3	2
(C)	3	2	4	1
(D)	4	2	3	1

Q33. **Match the postural deformities with their remedial activity:**

1.  (A) 

2.  (B) 

3.  (C) 

4.  (D) 

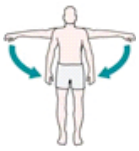
(A) 1 3 2 4

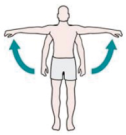
(B) 1 4 3 2

(C) 1 3 4 2

(D) 4 2 3 1

Q34. **Match the movements:**

1.  (A) Flexion

2.  (B) Adduction

3.  (C) Extension

4.  (D) Abduction

(A) 3 2 1 4

(B) 2 3 1 4

(C) 4 2 3 1

(D) 4 1 3 2

Q35. **Which statement is not true about protein?**

(A) Protein forms new tissues

(B) Protein regulates the balance of water and acids

(C) Protein helps in production of hormones.

(D) Protein makes antibodies.

Q36. **How many rounds will be played if the number of teams are 29 in the knockout fixture?**

(A) 5

(B) 6

(C) 7

(D) 3

Q37. **Identify the odd one.**

1. 
2. 
3. 
4. 

(A) 4

(B) 3

(C) 2

(D) 1

Q38. **Assertion (A):** UNICEF says that water is not included in macro nutrients but USDA includes it as part of macronutrients.

Reason (R): Water must be taken in large quantities therefore it can be considered a macronutrient.

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

(B) (A) is true, but (R) is false

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

(D) (A) is false, but (R) is true

Q39. **Assertion (A):** Physical activities as corrective measure are very effective in functional deformity in comparison to structural deformity.

Reason (R): muscles and ligaments are affected in functional deformity

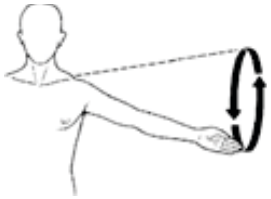
(A) Both (A) and (R) are true, but (R) is not the correct explanation of (A)

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

(C) (A) is true, but (R) is false

(D) (A) is false, but (R) is true

Q40. **Identify the movement**



(A) Rotation

(B) Circumduction

(C) Flexion

(D) Extension

Q41. **What will be the fitness index score of a girl if the test duration was 300sec and the pulse count(1min-1.5min) was 80.**

(A) 73.2

(B) 62.8

(C) 68.1

(D) 85.3

Q42. **Match the following**

(A)	Technical committee	(i)	To provide shifting facility
(B)	Finance committee	(ii)	To resolve dispute
(C)	Transport committee	(iii)	To deals with money and expenditure

(D) First aid committee (iv) To provide medical facilities.

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

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

Q43. **Match the following vitamin with the disease caused due to their deficiency**

1.	Vitamin A	(A) Rickets
2.	Vitamin B	(B) Night blindness
3.	Vitamin C	(C) Beri beri
4.	Vitamin D	(D) Scurvy

(A) 4 3 2 1

(B) 4 1 2 3

(C) 3 2 4 1

(D) 3 4 1 2

Q44. **Starting a throwing event in athletics is an example of which law of motion.**

(A) First law of motion

(B) Second law of motion

(C) Third law of motion

(D) First and third law of motion

Q45. **Assertion (A):** "A change in the acceleration of an object is directly proportional to the force producing it and inversely proportional to its mass"

Reason (R): Lighter mass will travel at a faster speed.

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

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

(C) (A) is true, but (R) is false

(D) (A) is false, but (R) is true

Q46. **Identify which one of these is not the objective of Planning?**

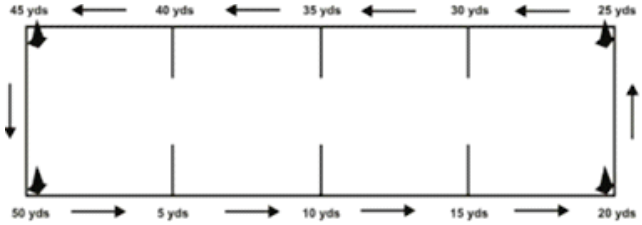
(A) Enhance creativity

(B) Increase efficiency

(C) Reduce chances of mistake

(D) Facilitates poor coordination

Q.47.



Identify the test for which this pattern is followed

(A) 600 mtr

(B) 50yard dash

(C) 400mtr

(D) 6min walk

Q48. **Calculate the BMI of a girl and identify the category if her weight is 68kg and height is 161cm.**

(A) Underweight

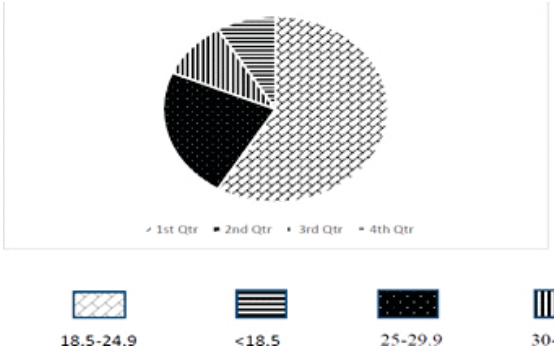
(B) Normal weight

(C) Overweight

(D) Obesity class I

SECTION C (CASE STUDIES)

Q49. **Below given is the BMI data of a school's health check-up**



In which category does the major student population fall into?

(A) Obese

(B)

(C) Normal weight Underweight

(D) Overweight

Q50. **Mr. Lakshman, aged 65 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 and spent time with his grandchildren. Nowadays he is experiencing difficulty in doing certain chores which involve physical movement.**

The test shown in the picture is performed to assess which component?

(A) agility (B) endurance

(C) speed (D) strength

Q51. **Physical education teacher of ABC school was teaching the students about Newton's Laws of Motion. While explaining he showed the students this picture and tried to explain how there is a difference in the speed of an object due to their weight. Can you name the Law?**

(A) Newton's First Law of Motion

(B) Newton's Second Law of Motion

(C) Newton's Third Law of Motion

(D) Action Reaction

Q52. **Jatin is a weightlifter in the 96 kg category. He has to participate in a weightlifting competition next week for which he is taking good care of his practice and diet. He has included all the essential nutrients in his diet. Based on this case, answer the following questions. What do you think would be the most important component of Jatin's diet?**

(A) Proteins

(B) Carbohydrates

(C) Vitamins

(D) Minerals

Q53. **Rohan and Satish organized a Volleyball tournament on Knock out basis. They found that the spectators were losing interest in the tournament because two good teams were out of the tournament as they were defeated in the beginning.**

Which provision could have avoided this kind of situation?

(A) Bye

(B) Seeding

(C) Pools

(D) Halves

Q54. **Sandy is diagnosed with postural adaptation of the spine in lateral direction. The curve is identified as convexity right. It happened due to Sandy's underdeveloped legs and carrying heavy loads on one side only.**

What kind of postural deformity doctors found in Sandy?

(A) Scoliosis

(B) Kyphosis

(C) Bow Legs

(D) Flatfoot

Q55. **Motor development only happens when the child is biologically and mentally ready for it. Motor development refers to the development of movement and various motor abilities from birth till death. It is the ability to move around and manipulate his/her environment. The first stage is marked by extremely rapid growth and development, as is the second stage. By the age of 2 years, this development has begun to level out somewhat. The final stage does not have any marked new development; rather it is characterized by the mastering and development of the skills achieved in the first two stages.**

Which Factor affecting motor development

(A) Biological,environmental,nutrition,opportunity

(B) Obesity, postural deformities, physical activities

(C) Both a & b

(D) Technique, skill and style

Q56. **Harvard step test is also called the Aerobic Fitness Test. It was developed by Brouha and others in1943. It is used to measure aerobic fitness by checking the recovery rate.**

Few students were asked to conduct Harvard step test for their classmates and they were asked to note down the complete details of their aerobic capacity. For conducting tests they required a bench separate for boys 20 inches and girls 16 inches with one stop watch to note down the timing and their recovery rate.

How many times is the reading taken for calculating a long term fitness index?

(A) 5

(B) 3

(C) 2

(D) 4

Q57. **Rishi who was studying in class XII is a science stream student. During his Physical Education class, he got confused how Newton's laws of Motion are useful in sports and how they can be applied in sports. But his teacher explained these laws with help of examples from sports which proved to be very helpful for him Swimming is the best example of which law of motion?**

(A) Law of inertia

(B) Law of acceleration

(C) Law of reaction

(D) Both a & c

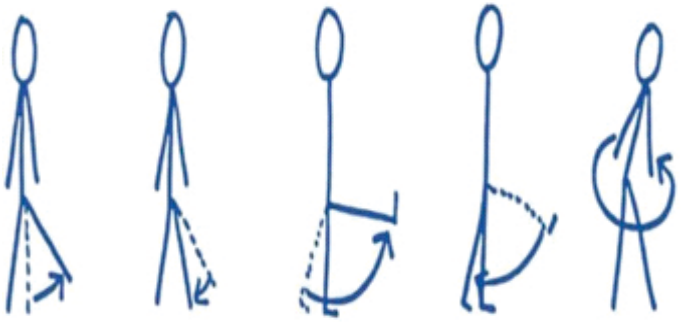
Q58. **Posture plays a very significant role in our daily activities. Correct posture means the balancing of the body in an accurate and proper manner. Various types of postural deformities can be identified in individuals.**

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

(A) Iron (B) Calcium

(C) Vit D (D) Both (b) & (c)

Q59. **Sohan, a new student in the school, was very much interested in sports and while learning various biomechanical aspects of the game including various movements he became curious to understand movements used in different games.**



Flexion and extension comes under which movement.

(A) gliding (B) angular

(C) rotation (D) Circumduction

Q60. **ABC School is one of the reputed schools in their location for the number of sports facilities it provides to its stake holders.Keeping that in consideration CBSE Sports cell has given them the responsibility of conducting CBSE Football cluster.35 teams have sent their entry for participation in the tournament.**

A. Due to the large number of teams willing to participate the school should conduct the competition by which fixture?

(A) League

(B) Knock out

(C) Staircase

(D) Challenge