

**Strictly Confidential: (For Internal and Restricted use only)**  
**Senior School Certificate Examination-2020**  
**Marking Scheme – PHYSICAL EDUCATION**  
**(SUBJECT CODE : 048 ) (PAPER CODE : 75 ) SERIES: HMJ/4**

**General Instructions: -**

1. You are aware that evaluation is the most important process in the actual and correct assessment of the candidates. A small mistake in evaluation may lead to serious problems which may affect the future of the candidates, education system and teaching profession. To avoid mistakes, it is requested that before starting evaluation, you must read and understand the spot evaluation guidelines carefully. **Evaluation is a 10-12 days mission for all of us. Hence, it is necessary that you put in your best efforts in this process.**
2. Evaluation is to be done as per instructions provided in the Marking Scheme. It should not be done according to one's own interpretation or any other consideration. Marking Scheme should be strictly adhered to and religiously followed. **However, while evaluating, answers which are based on latest information or knowledge and/or are innovative, they may be assessed for their correctness otherwise and marks be awarded to them.**
3. The Head-Examiner must go through the first five answer books evaluated by each evaluator on the first day, to ensure that evaluation has been carried out as per the instructions given in the Marking Scheme. The remaining answer books meant for evaluation shall be given only after ensuring that there is no significant variation in the marking of individual evaluators.
4. Evaluators will mark( ✓ ) wherever answer is correct. For wrong answer 'X'be marked. Evaluators will not put right kind of mark while evaluating which gives an impression that answer is correct and no marks are awarded. **This is most common mistake which evaluators are committing.**
5. If a question has parts, please award marks on the right-hand side for each part. Marks awarded for different parts of the question should then be totaled up and written in the left-hand margin and encircled. This may be followed strictly.
6. If a question does not have any parts, marks must be awarded in the left-hand margin and encircled. This may also be followed strictly.
7. If a student has attempted an extra question, answer of the question deserving more marks should be retained and the other answer scored out.
8. No marks to be deducted for the cumulative effect of an error. It should be penalized only once.
9. A full scale of marks **0-70** has to be used. Please do not hesitate to award full marks if the answer deserves it.
10. Every examiner has to necessarily do evaluation work for full working hours i.e. 8 hours every day and evaluate 20 answer books per day in main subjects and 25 answer books per day in other subjects (Details are given in Spot Guidelines).
11. Ensure that you do not make the following common types of errors committed by the Examiner in the past:-
  - Leaving answer or part thereof unassessed in an answer book.
  - Giving more marks for an answer than assigned to it.
  - Wrong totaling of marks awarded on a reply.
  - Wrong transfer of marks from the inside pages of the answer book to the title page.
  - Wrong question wise totaling on the title page.
  - Wrong totaling of marks of the two columns on the title page.
  - Wrong grand total.
  - Marks in words and figures not tallying.
  - Wrong transfer of marks from the answer book to online award list.
  - Answers marked as correct, but marks not awarded. (Ensure that the right tick mark is correctly and clearly indicated. It should merely be a line. Same is with the X for incorrect answer.)

- Half or a part of answer marked correct and the rest as wrong, but no marks awarded.
12. While evaluating the answer books if the answer is found to be totally incorrect, it should be marked as cross (X) and awarded zero (0)Marks.
  13. Any unassessed portion, non-carrying over of marks to the title page, or totaling error detected by the candidate shall damage the prestige of all the personnel engaged in the evaluation work as also of the Board. Hence, in order to uphold the prestige of all concerned, it is again reiterated that the instructions be followed meticulously and judiciously.
  14. The Examiners should acquaint themselves with the guidelines given in the Guidelines for spot Evaluation before starting the actual evaluation.
  15. Every Examiner shall also ensure that all the answers are evaluated, marks carried over to the title page, correctly totaled and written in figures and words.
  16. The Board permits candidates to obtain photocopy of the Answer Book on request in an RTI application and also separately as a part of the re-evaluation process on payment of the processing charges.

**PHYSICAL EDUCATION (048)**  
**CLASS XII – SESSION 2019 – 20**  
**MARKING SCHEME**

Q.No	ANSWER	MARKS DISTRIBUTION	TOTAL
	<b>SECTION – A</b>		
1.	The total number of matches in a knock out tournament of 34 teams are <b>Ans: (C) 33</b>	1	1
2.	The primary goal of Intramural competition is <b>Ans:(A)To provide opportunity for mass participation of students</b>	1	1
3.	The food component present in sugar is <b>Ans: (D) carbohydrate</b>	1	1
4.	The main source of Vitamin C is <b>Ans: (A) Guava</b>	1	1
5.	Which asana is helpful in maintaining normal blood pressure? <b>Ans: (A)Shavasana</b>	1	1
6.	Gomukhasana, Chakrasana and Matsyasana are helpful in curing which disease? <b>Ans: (C)Asthama</b>	1	1
7.	When child is not able to adjust within society or having no friends, is suffering from <b>Ans: (B)ASD &amp; (C)ODD (any one of these) (or)</b> <b>Obsessive Compulsive Disorder is a/an</b> <b>(B) Anxiety disorder</b> <b>In Hindi version (B or C option is correct)</b>	1	1
8.	Cognitive disability may cause difficulty in which of the following activity? <b>Ans: (D) All of the above</b>	1	1
9.	Menarche is defined as the <b>Ans:(B)Beginning of menstrual period in women</b>	1	1
10.	Scoliosis is a postural deformity related with <b>Ans: (C) vertebral column</b>	1	1
11.	Sit and reach test is conducted for <b>Ans: (A) Flexibility</b>	1	1
12.	Barrow Fitness Test does not include : <b>Ans: (C) 600 meters run</b> <b>(OR)</b> Rock Port one mile test is conducted to measure <b>(A) Cardio vascular Fitness</b>	1	1
13.	Movement possible in Ball and Socket joint are : <b>Ans: (D) all of the above</b> <b>(OR)</b>	1	1

	The Law of acceleration is also known as <b>(C) Law of momentum</b>		
14.	Match List 1 and List 2, selecting the correct option : <b>Ans: (A) 2,4,1,3</b>	1	1
15.	Bio-mechanics helps in which of the following? <b>Ans: (D) all of these</b>	1	1
16.	The force of friction depends upon <b>Ans: (C) Both (a) and (b)</b>	1	1
17.	Emotionally unstable, anxiety, sadness are attributes of which personality dimension? <b>Ans: (B) Neuroticism</b> (OR) Aggressive behaviour of a sportsperson is influenced by <b>(D) All of the above</b>	1	1
18.	The body structure of mesomorphic people is like <b>Ans: (B) Large muscles and bones or (C)Solid</b>	1	1
19.	Fartlek training was developed in <b>Ans: (A) Sweden</b>	1	1
20.	If a muscle contracts and changes its length to produce force, the contraction type is : <b>Ans: (A)Isotonic</b>	1	1
	<b>SECTION – B</b>		
21	<b>Explain the procedure of Harvard step test in detail.</b> <b>Ans:</b> Equipment:-A bench or box 20" for male or 16" for female, stop watch. Administration 1. A tester gives a demonstration of the stepping-up Style to be followed by the subjects during the test. 2. After the command 'Go' the stop watch is started and athlete steps – up and down for five minute at the rate of 30 steps per minute. 3. The stop watch is stopped after 5 min and athlete is asked to stop. 4. The heart – rate is measured between 1 to 1.5min, after finishing the exercise. 5. The same is repeated after 2 to 2.5 minutes and 3 to 3.5 minutes. The pulse of all the 3 half minute counts are recorded together and computed in the fitness index. (OR) <b>List down the test items of Rikli and Jones fitness test and explain the procedure of any one.</b> <b>Test items of Rikli &amp; Jones</b> 1. Chair stand test 2. Arm curl test 3. Chair Sit and Reach test	3	3

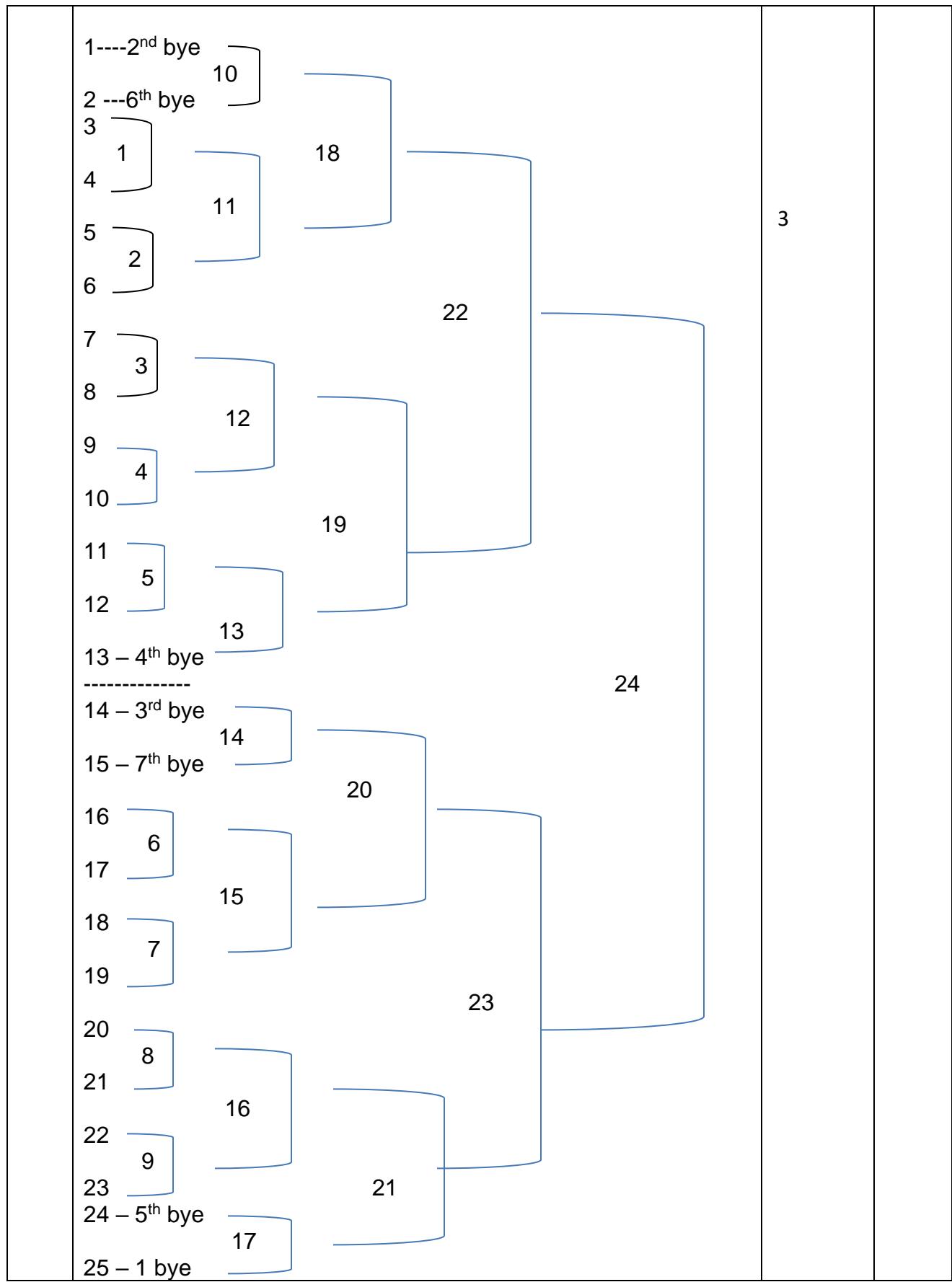
	<p>4. Back Scratch test      5. 8 Foot up and Go test      6. Six minute walk test</p> <p style="text-align: right;"><b>(any three test)</b></p> <p><b><u>Eight foot up and go test for Agility</u></b></p> <p><b>Aim:</b> The '8 foot up and Go' is a coordination and agility test for the elderly, which is a part of the Senior's Fitness Test .This test measures speed, agility and balance while moving.</p> <p><b>Equipments required:</b> Stopwatch, straight back or folding chair (about 17 inches/44 cm high), one marker, Measuring tape, area without any hindrance.</p> <p><b>Procedure:</b> Place the chair next to a wall (for safety) and the marker 8 feet away in front of the chair. Clear the path between the chair and the marker. The subject starts fully seated, hands resting on the knees and feet flat on the ground. On the command, "Go," stop watch is started and the subject stands and walks (no running) as quickly as possible (and safely) to and around the cone, returning to the chair to sit down. Timing stops as they sit down. Two trials are given to each participant      (Or explanation of any other test from above list.)</p>		
22.	<p><b>League tournament is a better way to judge the best team of the tournament. Comment.</b></p> <p><b>Ans:</b> League tournament is a better way to judge the best team of the tournament as:</p> <p>Every team gets maximum opportunity to show its efficiency. Ample number of opportunities is available to the teams/players to improve their performance.</p> <p>Also, the ranking of team can be judged by the maximum number of matches or points won by the team.</p>	3	3
23.	<p><b>"Asanas can be used as a preventive measure." Comment.</b></p> <p><b>Ans:</b> - Asanas as preventive measures:</p> <ul style="list-style-type: none"> <li>a. Bones and joints become strong</li> <li>b. Circulation of blood becomes normal</li> <li>c. Immune system is strengthened.</li> <li>d. Respiratory organs become efficient.</li> <li>e. Enhancement in the efficiency of excretory system.</li> <li>f. Muscles become strong</li> <li>g. Stress management.</li> <li>h. Emotionally balanced.</li> <li>i. Spiritual development</li> <li>j. Provide relaxation</li> <li>k. Reduces mental tension</li> <li>l. Improve concentration</li> </ul> <p>(Any other 3 relevant point with explanation)</p>	1X3	3
24.	<p><b>Discuss in detail any one type of disorder.</b></p> <p><b>Ans:-</b> Different types of disorders are:</p> <ul style="list-style-type: none"> <li>1. ADHD</li> <li>2. SPD</li> </ul>	3	3

	<p>3. ASD 4. ODD 5. OCD(<b>Explain any one</b>)</p> <p><b>ADHD:</b> Attention Deficit Hyperactivity Disorder is a group of behavioral symptoms that include inattentiveness, hyperactivity and impulsiveness.</p> <p>It is a medical condition that affects how well can someone sit still, focus and pay attention. Such individuals cannot focus in the activity, may be hyperactive or may be impulsive. They are easily distracted.</p> <p>Day Dreamer, Talkative, do careless mistakes and restless etc.</p>		
25.	<p><b>Suggest physical exercises for childhood and adulthood.</b></p> <p><b>Ans:- physical exercises for childhood</b></p> <p>1. Exercise must be planned which include co-ordinative ability like catching, throwing, jumping and kicking.</p> <p>2. Exercise must be structured which improve body control and strength.</p> <p>3. In this stage children should be introduced to competitive sports to develop social consciousness.</p> <p>4. Exercise like running, swimming, cycling, resistance exercise and fast work or rapid movement exercise must be included for wholesome development of the child.</p> <p><b>Physical exercises for adulthood.</b></p> <p>1. Adult should do brisk walking, bike riding, dancing, and swimming for active life style.</p> <p>2. They should also indulge in running, aerobic exercise, weight training, Calisthenics for muscular strength.</p> <p>3. They should engage themselves in resistance training for at least two days a week.</p> <p>4. They should actively engage themselves in team events or endurance activity.</p> <p>(Any three points from each)</p>	1 1/2	3
26.	<p><b>What do you understand by food myths?</b></p> <p><b>Ans:-</b> Food myths are unscientific unfounded practices followed by people regarding food items</p> <ul style="list-style-type: none"> <li>- They are more psychological in nature than actual</li> <li>- Wrong information regarding nutrition without any logic, that we start following creates food myth.</li> </ul> <p>For example:-</p> <ul style="list-style-type: none"> <li>(a) Potatoes make you fat.</li> <li>(b) Fat – free products will help you lose weight.</li> <li>(c) Eggs cause heart problems.</li> <li>(d) Weight gain is caused by unprocessed food.</li> <li>(e) Food cravings are driven by deficiency.</li> <li>(f) Do not drink milk after eating fish.</li> <li>(g) Spicy food cause ulcer.</li> <li>(h) Eat less if you have fever.</li> </ul>	1 1/2	3

	<p>(or any other relevant points)</p> <p><b>(OR)</b></p> <p><b>What are the pitfalls of Dieting?</b></p> <p><b>Ans:</b> -Many fat people in the world start dieting to lose their weight which is not a good thing to do. Dieting causes a lot of problems and your physique can become even worse than before. Some of the common pitfalls of dieting are:</p> <ul style="list-style-type: none"> <li>- Extreme reduction of calories</li> <li>- Restriction on some Nutrients</li> <li>- Skipping meals</li> <li>- Intake calories through beverages</li> <li>- Underestimating the calories</li> <li>- Intake of labeled food</li> </ul> <p><b>(Explain any 3, or any other relevant points)</b></p>		
27.	<p><b>Discuss the preventive measure of sports injuries.</b></p> <p><b>Ans:</b> - Proper warm up</p> <ul style="list-style-type: none"> <li>- Proper conditioning</li> <li>- Balanced Diet</li> <li>- Adequate knowledge about the sport skills</li> <li>- Use of protective equipments</li> <li>- Good sports facilities.</li> <li>- Unbiased officiating</li> <li>- Avoid over training</li> <li>- Proper Techniques</li> <li>- Obeying the rules</li> <li>- Proper cooling down.</li> <li>- Leveled ground(Or any 3 relevant point explained)</li> </ul>	1x3	3
28.	<p><b>With suitable examples explain the application of Newton's law in sports.</b></p> <p><b>Ans:-</b>Newton's first law of motion – <b>The law of inertia:</b> A body at rest tends to remain at rest. A body in motion tends to continue in motion with consistent speed and in the same direction unless acted upon by an outside force. E.g. A hockey ball hit by a player will move with the same speed in same direction until it is diverted by some obstruction on the floor or stopped by an opponent, which will be the external force.</p> <p><b>Newton's Second law of motion –The Law of Acceleration</b></p> <p>Newton's second law states that acceleration is produced when a force acts on a mass. The greater the mass of the object being accelerated, the more force is needed to accelerate that object and that is inversely proportional to the mass.</p> <p>The equation <math>F= ma</math>. For example, to throw a 4-kilogram shot-put as far as a 3-kilogram shot-put, the force applied must be greater.</p> <p><b>Newton third Law of Motion-The Law of Action and Reaction:</b></p> <p>Newton's third law of motion states that for every force/action that is exerted on a body there is an equal and opposite reaction. A Swimmer propels herself through the water by pushing the</p>	1x3	3

	<p>water backwards in exerting the force. Her hands pushing the water, allows her to move.  <b>(if only application of law is written give full marks)</b></p>																										
29.	<p><b>Discuss in detail any three techniques of motivation.</b>  <b>Ans:-</b> Techniques of motivation</p> <ol style="list-style-type: none"> <li>1. Goal setting.</li> <li>2. Verbal comments (praise or blame)</li> <li>3. Healthy sports environment</li> <li>4. Knowledge results</li> <li>5. Rewards and punishments</li> <li>6. Positive self talks</li> <li>7. Motivational music</li> <li>8. Positive Attitude</li> <li>9. Spectators  (or any other 3 relevant techniques to be explained)  <b>(OR)</b></li> </ol> <p><b>Define balanced Diet. Explain any four Micro Nutrients.</b>  <b>Balanced diet:-</b>A diet which consist of all the essential food constituents like proteins, carbohydrates, fats, vitamins, and water in correct proportion.</p> <p><b>Micro nutrient:-</b></p> <table border="0"> <tr> <td style="text-align: center;"><b>Minerals</b></td> <td></td> <td style="text-align: center;"><b>Vitamins</b></td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">Vitamin A</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">Vitamin B</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">vitamin C</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">vitamin D</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">vitamin E</td> </tr> <tr> <td colspan="2"></td> <td style="text-align: center;">vitamin K</td> </tr> <tr> <td colspan="3" style="text-align: center;"><b>(Any 4 from above)</b></td> </tr> </table>	<b>Minerals</b>		<b>Vitamins</b>			Vitamin A			Vitamin B			vitamin C			vitamin D			vitamin E			vitamin K	<b>(Any 4 from above)</b>			1x3	3
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<b>(Any 4 from above)</b>																											
30.	<p><b>Define flexibility and its types.</b>  <b>Ans:-</b>The ability of an individual to move his or her joints through its complete range of motion  <b>Or</b>  Flexibility refers to the range of movement in a joint.  <b>Types of flexibility</b></p> <ol style="list-style-type: none"> <li>1. Active flexibility</li> <li>2. Passive flexibility</li> </ol> <p><b>Active flexibility:-</b> It is the ability to do movement with greater amplitude without any external support.  <b>Passive flexibility:-</b> It is the ability to do movement with external support (or static and dynamic)</p>	1	$\frac{1}{2} \times 4$																								
31.	<p><b>What is circuit training? Draw a diagram of circuit training with 12 stations and explain its importance in sports.</b>  <b>Ans:-</b> circuit training is a form of body conditioning training</p>																										

<p>which targets strength building and muscular endurance. It is basically performing any series of exercise with minimal, or no rest in between exercise.</p> <p><b>Importance / Advantages:</b></p> <ol style="list-style-type: none"> <li>1. Complete workout in less time.</li> <li>2. Can be done outdoor and indoors.</li> <li>3. Best during bad weather conditions.</li> <li>4. Variations can be done as per needs.</li> <li>5. More students can be engaged together.</li> <li>6. Smaller space used.</li> <li>7. Monitoring easy by the teacher.</li> <li>8. Minimal equipments used.</li> <li>9. Involves whole body.</li> <li>10. Max results in minimum time.</li> </ol> <p style="text-align: center;">(Any 2 to be written)</p> <p style="text-align: center;">(OR)</p> <p><b>Draw a knock out fixture for 25 teams with all steps involved.</b></p> <p>No. of teams -25</p> <p>Number of matches      <math>N-1 = 25-1 = 24</math></p> <p>No of teams in U/H <math>\frac{N+1}{2} = \frac{26}{2} = 13</math></p> <p>No of teams in L/H <math>\frac{N-1}{2} = \frac{24}{2} = 12</math></p> <p>No of Rounds            5 rounds</p> <p>No of byes = next power of 2 – N = <math>32-25 = 7</math></p> <p>No of byes in U/H <math>\frac{NB-1}{2} = \frac{7-1}{2} = 3</math></p> <p>No of byes in L/H <math>\frac{NB+1}{2} = \frac{7+1}{2} = 4</math></p>	<p>1</p> <p>2</p> <p>2</p>
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32.	<p><b>How physical activities are helpful for children with special need? Explain strategies to make physical activities accessible for them.</b></p> <p><b>Ans:-</b>Physical activities are very helpful for children with special needs.</p> <ol style="list-style-type: none"> <li>1. Physical improvement.</li> <li>2. Mental improvement.</li> <li>3. Cognitive benefits.</li> <li>4. Social interactions.</li> <li>5. Self-esteem.</li> </ol> <p>Physical improvement:- Exercise improve muscle strength co – ordination and flexibility. They help combat obesity and reduce risk of life style diseases like diabetes, asthma etc. Bone density improves due to exercises. Children experience better balance, improve motor skills and become aware of their body &amp; become physically fit.</p> <p>Mental improvement:- General mood of children improves and children tend to become happier.</p> <p>Social interactions:- Physical activities improve social interactions and improve the psychological and emotional ability of such children.</p> <p>Cognitive benefits:- Sports are a learning tool for self-regulation and decision making. Children learn to communicate when they get to interact with other children.</p> <p>Self-esteem:- confidence is developed which results in improvement of positive self – image such children start feeling that they can also contribute to the growth of society.</p> <p><b>Strategies</b></p> <ol style="list-style-type: none"> <li>1. Different playing rules.</li> <li>2. Specialized equipment.</li> <li>3. Trained Educators.</li> <li>4. Individual needs</li> <li>5. Regular medical check-ups.</li> <li>6. Safety supervision.</li> <li>7. Positive learning environment</li> <li>8. Modified games (etc.)</li> </ol>	$2\frac{1}{2} + 2\frac{1}{2}$	5
33.	<p><b>Give your outlook on participation of Indian women in sports.</b></p> <p><b>Ans:-</b>Sports in India is still dominated by the male world. It is a field where gender inequality still persists. India is a country of villages where education is still at backdrop.</p> <p>With changing times in the 20<sup>th</sup> century some states have made rapid progress in women participation but the other states still let back due to various reasons.</p> <ol style="list-style-type: none"> <li>1. Social discrimination -Women are still exploited to be confined in homes, cook, rear the children in family.</li> <li>2. Lack of safety-Outdoor sport expose women to all sorts of safety issues. On field, roads or on public transport women</li> </ol>	5	5

	<p>always feel unsafe. Lack of protected &amp; safe sports complexes also raise issues &amp; add to their misery. This provides a good reason to the parents to discourage them for participation.</p> <p>3. Poor spectator interest - As media coverage of female events is not adequate, people are less interested in seeing the events.</p> <p>4. Lack of adequate fitness- Women get little opportunity of being physically fit and active due to major responsibilities of home and family. Inadequate healthy &amp; nutritious food availability takes a toll on their health.</p> <p>5. Lack Awareness in families- Families are not aware about sports and woman participation and discourage women to pursue sport. This is because they feel that it is not a rewarding career. They feel that sports develop masculine traits and the women will have difficulty in conception and child birth.</p> <p>6. Lack of women centric govt. policies- funding and scholarships are lesser. Recent improvement in woman participation and results at international platform is however changing the thought perceptions.</p>		
34.	<p><b>Which asanas will you suggest for back pain? Explain the procedure, benefits and contraindications of any two asanas recommended for back pain.</b></p> <p><b>Ans:- Asanas for back pain:</b></p> <ul style="list-style-type: none"> <li>1. Tadasana</li> <li>2. Vakrasana</li> <li>3. Ardhamatsasyendrasana</li> <li>4. Shalabhasan</li> <li>5. Bhujangsana</li> </ul> <p style="text-align: right;"><b>(Any 2 names)</b></p> <p><b>Shalabhasan:-</b> lie down on the ground in a prone position on your chest and abdomen. Place hands under your thighs. Inhale and raise both legs in upward direction but don't bend them at the knee. Maintain the position for 1-2 minutes with normal breathing</p> <p><b>Benefits:-</b>Improves flexibility of back muscles. Helps to cure back pain. Improves strength of back muscles, hips and thighs especially hamstring muscle group, Improves alignment of the spine and tone the muscles of back, etc.</p> <p><b>Contraindication:-</b>Avoid this asana in case of any surgery, especially back or spine surgery.</p> <p>-High blood pressure or cardiac patients should avoid this asana.</p> <p>-Should be avoided by patients with advanced arthritis of the hips.</p> <p>(Explain any 2 asanas from the list)</p> <p style="text-align: center;"><b>(OR)</b></p>	1 2+2	5

	<p><b>What is the effect of exercise on cardio respiratory system and muscular system?</b></p> <p><b>Effects of exercise on cardio – respiratory system</b></p> <p>When we do exercise there are some immediate effects and long term effects on cardio-respiratory system as – stroke volume increases, cardiac output increases, blood flow increases, heart rate decreases, depth of respiration increases, Strengthen the diaphragm muscles, unused alveolus becomes active, Aerobic capacity increases, increase in tidal volume, vital capacity increases and increase in the size of lungs and heart etc.</p> <p>(Any other relevant point)</p> <p><b>Effects of exercise on muscular system:</b></p> <p>When we do exercise regularly there are some changes that take place in our muscular system like – it strengthens the muscles fiber, change in the shape and size of muscles, muscle tone improves, reduces extra fat, improves reaction time, efficiency in the movement of muscles, non-functioning fibers become active, delays fatigue and body posture remains correct etc.</p> <p>(Any other relevant point)</p> <p><b>(Explain any 5 points with at least 2 points for each system)</b></p>	5	
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