

PHYSICAL EDUCATION (MARKING SCHEME)

Q. N.	ANSWER	MARKS DISTRIBUTION	TOTAL
1	d) Shuttle Run	1	1
2	c) Combination	1	1
3	d) Fartlek	1	1
4	d) SPD	1	1
5	c) Ambiverts	1	1
6	a) Ardh-Matsyendrasana	1	1
7	d) Sensory impairment	1	1
	c) ASD		
8	d) Catching a ball	1	1
9	a) Law of Inertia	1	1
10	d) Vitamins	1	1
11	c) $N(N-1)/2$	1	1
12	c) 20inch	1	1
	d) All of these		
13	c) oxygen uptake	1	1
	c) \uparrow cardiac output		
14	c) Speed	1	1
15	b) Sprain	1	1
16	a) Flexion	1	1
17	d) Flatfoot	1	1
	c) Knock-knees		
18	a) Trikonasana	1	1
19	d) Calcium	1	1
20	a) Neuroticism	1	1
21	Types of coordinative abilities (any three) a) Orientation ability b) Coupling ability c) Reaction ability d) Rhythm ability e) Adaptation ability f) Balance ability	1+1+1	3
	Fartlek is a Swedish term meaning speed play. Used for development of Endurance. Blend of continuous training and interval training. Duration: 45min, Heartbeat: 140-150 beats/min Advantages: 1. Good aerobic and anaerobic fitness 2. Flexible in nature 3. More number of athletes can take part 4. Easily adapted 5. No equipment required. 6. Versatile	1+2	
22	Friction: Force that is at the surface of contact of two bodies and opposes their relative motion. a) Static friction: Body moves on surface of other body but actual motion has not started. b) Dynamic friction: Body moves on the surface of other body. i. Sliding ii. Rolling	1+1+1	3

<p>23</p>	<p>Aggression is a behavior with a goal of harming or injuring another being motivated to avoid such treatment.</p> <ol style="list-style-type: none"> Hostile: Inflicting physical or psychological harm. Instrumental: Displaying aggression in pursuit of non-aggressive goal. Assertive: Use of legitimate physical or verbal force to achieve one's purpose 	<p>1+1+1</p>	<p>3</p>
<p>24</p>	<p><i>Methods to Improve Flexibility(any three)</i></p> <ol style="list-style-type: none"> Active Stretching Passive Stretching Isometric Stretching Dynamic Stretching Ballistic Stretching 	<p>1+1+1</p>	<p>3</p>
<p>25</p>	<p>Corrective exercises for flatfoot deformity.(any three)</p> <ol style="list-style-type: none"> Jumping on toes Rope skipping Standing on toes or heels Walking on toes Sit properly 	<p>1+1+1</p>	<p>3</p>
<p>26</p>	<p>Fats: Fats and oils are important items in the diet of sportsmen. They contain carbon, hydrogen and oxygen. They are composed of fatty acids. Fats are a better source of energy than carbohydrates. Fat can be stored in the body. It is also known as fuel. Energy is produced by their burning process.</p> <p>Dietary fats are derived from two main sources:</p> <ol style="list-style-type: none"> Vegetable source: They include various edible oils like ground nut, mustard, cotton seed, coconut oil, rape seed etc. Animal Source: They include butter, ghee, lard, fish oil, and certain marine fish oil such as cod-liver oil and sardine oil etc. <p>Functions:</p> <ol style="list-style-type: none"> Fats improve the palatability of food. They are essential for the absorption of vitamins A, D, E and K. Fats are concentrated source of energy Fats impart firmness to the tissues. Fats protect delicate organs against being injured. <p>Pitfalls Of Dieting(any three)</p> <ol style="list-style-type: none"> Extreme reduction of calories Restrict nutrients Skipping meals Intake labeled foods Not exercising Underestimate calories 	<p>1+1+1</p>	<p>3</p>

<p>27</p>	<p>Female Athlete Triad: (Osteoporosis, Amenoria, Eating Disorders) The Female Athlete Triad is a syndrome (collection of signs and symptoms) that links three health problems including: disordered eating, amenorrhea and osteoporosis. Girls may begin to skip periods if they are not getting adequate nutrition for the amount of exercise they do (energy availability). Periods also may be irregular. Stress lowers estrogen levels, which may cause skipped periods. Low estrogen levels and a lack of menstrual periods can lead to low bone mass (low bone mineral density) and stress fractures (small cracks) in their bones. The female athlete triad is defined as the combination of disordered eating, amenorrhea and osteoporosis. This disorder often goes unrecognized. The consequences of lost bone mineral density can be devastating for the female athlete. Premature osteoporotic fractures can occur, and lost bone mineral density may never be regained.</p>	<p>1+1+1</p>	<p>3</p>
<p>28</p>	<p>External methods of motivating:</p> <ul style="list-style-type: none"> i) Reward ii) Praise iii) Punishment iv) Blame v) Cash prize vi) Certificates and trophies 	<p>1+1+1</p>	<p>3</p>
<p>29</p>	<p>Fitness Index (short form) = Fitness Index (long form) =</p> $\frac{(100 \times \text{test duration in seconds})}{(5.5 \times \text{pulse count between 1 and 1.5 mm})}$ $\frac{(100 \times \text{test duration in seconds})}{2 \times \text{sum of heart beats in the recovery periods}}$ <p>Senior Citizen Fitness Test–Rikli And Jones(any three)</p> <ul style="list-style-type: none"> a) Chair Stand test for lower body strength b) Arm Curl test for upper body strength c) Chair Sit and Reach test for Lower Body Flexibility d) Back Stretch for Upper Body Flexibility (e) Eight Foot Up and Go Test for Agility (f) Six minute walk test for Aerobic Endurance 	<p>1.5+1.5</p> <p>1+1+1</p>	<p>3</p>

<p>30</p>	<p>Types of Movements (ANY THREE)</p> <p>1. Flexion: Flexion is movement decreasing the angle between articulating bones. For example: flexion at the elbow is decreasing the angle between the ulna and the humerus.</p> <p>2. Extension: Extension is the opposite of flexion, describing a straightening movement that increases the angle between body parts. For example, when standing up, the knees are extended.</p> <p>3. Adduction: Adduction is movement towards the mid line of the body also applies to movements inwards and across the body. e.g. right femur extended out to the right side, inwards towards or across the centre of the body.</p> <p>4. Abduction: Abduction is movement away from the mid line of the body. For example: Abduction of the hip is when the femur (upper-leg bone) moves outward to the side.</p> <p>5. Rotation: Rotation is movement in which something e.g. a bone or a whole limb, pivots or revolves around a single long axis. For example: Rotation of the head slowly from left to right or hip rotation.</p>	<p>1+1+1</p>	<p>3</p>																																																																								
<p>31</p>	<p>1 Bye } 1 2 } 2 } 3 } 2 } 4 } 5 } 5 } 5 } 6 Bye } 5</p> <hr/> <p>7 Bye } 7 8 } 9 } 9 } 9 } UH 10 } 10 } 11 } 12 } 12 Bye } 12</p> <hr/> <p>13 Bye } 13 14 } 14 } 15 } 14 } LH 16 } 16 } 17 } 16 } 18 Bye } 16</p> <hr/> <p>19 Bye } 21 20 } 21 } 21 } 21 } 22 Bye } 23 23 Bye } 23</p> <p>K.O. (Knock out)</p>	<p>1+1+1+2</p>	<p>5</p>																																																																								
	<p>Number of matches = $\frac{N(N-1)}{2}$; where N is the number of teams</p> <p>If the number of teams = 11, then</p> <p>Number of matches = $\frac{11(11-1)}{2} = \frac{11 \times 10}{2} = \frac{110}{2} = 55$ matches</p> <p>Fixture of 9 teams Staircase Method Total teams = 9</p> <p>Number of matches = $\frac{9(9-1)}{2} = \frac{9 \times 8}{2} = \frac{72}{2} = 36$ matches</p> <table border="1" data-bbox="443 1742 842 1953"> <tr><td>1-2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>1-3</td><td>2-3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>1-4</td><td>2-4</td><td>3-4</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>1-5</td><td>2-5</td><td>3-5</td><td>4-5</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>1-6</td><td>2-6</td><td>3-6</td><td>4-6</td><td>5-6</td><td></td><td></td><td></td><td></td></tr> <tr><td>1-7</td><td>2-7</td><td>3-7</td><td>4-7</td><td>5-7</td><td>6-7</td><td></td><td></td><td></td></tr> <tr><td>1-8</td><td>2-8</td><td>3-8</td><td>4-8</td><td>5-8</td><td>6-8</td><td>7-8</td><td></td><td></td></tr> <tr><td>1-9</td><td>2-9</td><td>3-9</td><td>4-9</td><td>5-9</td><td>6-9</td><td>7-9</td><td>8-9</td><td></td></tr> </table>	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		<p>1+1+1+2</p>	
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<p>32</p>	<p>(a) Attention Deficit Hyperactivity Disorder (ADHD) It is a disorder in which a person is unable to control Behavior due to difficulty in processing neural stimuli, accompanied by an extremely high level of motor activity. ADHD can affect children and adults, but it is easiest to perceive during schooling.</p> <p>(b) Sensory Processing Disorder (SPD) Sensory Processing Disorder (SPD) is a neurological disorder that causes difficulties with processing information from the five senses: vision, auditory, touch, olfaction and taste, as well as from the sense of movement (vestibular system) and/or the positional sense (proprioception). Sensory Processing Disorder is a condition in which the brain has trouble receiving and responding to information that comes in through the senses.</p> <p>(c) Autism Spectrum Disorder (ASD) Autism is a complex neurobehavioral condition that includes impairments in social interaction and developmental language and communication skills combined with rigid, repetitive behaviors.</p> <p>(d) Oppositional Defiant Disorder (ODD): Oppositional Defiant Disorder is defined by the DSM–5 as a pattern of angry/irritable mood, argumentative/defiant behavior. Oppositional defiant disorder can be defined in this way that “Even the best behaved children can be difficult and challenging at times. But if your child or teen has a frequent and persistent pattern of anger, irritability, arguing, defiance or vindictiveness toward you and other authority.</p> <p>(e) Obsessive-Compulsive Disorder (OCD) Obsessive-compulsive disorder is a mental disorder in which people have unwanted and repeated thoughts, feelings, ideas, sensations and behaviors that drive them to do something over and over.</p>	<p>1+1+1+1+1</p>	<p>5</p>
<p>33</p>	<p>Physiological changes which occur due to ageing</p> <ol style="list-style-type: none"> 1) Change in muscle size and strength. 2) Change in metabolism and body composition 3) Change in bone density 4) change in respiratory system 5) Change in cardio vascular system 6) Change in Gastro intestinal system 7) Changes in senses 8) Change in flexibility 9) Change in Nervous system 	<p>$\frac{1}{2}+\frac{1}{2}+\frac{1}{2}+\frac{1}{2}+\frac{1}{2}+\frac{1}{2}$</p>	<p>5</p>
<p>34</p>	<p>Gomukhasana: Benefits:</p> <ol style="list-style-type: none"> 1) Strengthens legs 2) Improves functionality of lungs 3) Flexibility of shoulder joint 4) Reduces stress and anxiety. 5) Improves function of kidney <p>Contra indicators:</p> <ol style="list-style-type: none"> 1) Individual suffering from Shoulder, knee and back pain should avoid 2) Chronic Hip Injury 	<p>2+1+2</p>	

	<p>Shalabhasana:</p> <p>Benefits:</p> <ol style="list-style-type: none">1) Relief to slipped disc problem2) Strengthens the muscles of spine, buttocks and arms and legs.3) Improves posture.4) Helps in relieving stress5) Removes constipation6) Alleviates lower back pain <p>Contra indicators:</p> <ol style="list-style-type: none">1) Weak spine2) Weak heart3) High blood pressure4) Coronary problems	2+1+2	5
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**PHYSICAL EDUCATION
CHANGES MADE IN THE QUESTION PAPER**

1. In reference to point no.1 internal choices have been given from the same unit and two questions from each unit have been given in mcq.
2. In reference to point no. 2

BLUE PRINT OF THE PAPER

Unit no.	1 marker-MCQ- 4-QUESTIONS FOR CHOOICE	3marker 3-QUESTIONS FOR CHOOICE	5 marker 2-QUESTIONS FOR CHOOICE	TOTAL MARKS FROM UNIT
1	Q2,Q11	-	Q31(OPTION)	7
2	Q10,Q19	Q26(OPTION)		5
3	Q6,Q18	-	(Q34OPTION)	7
4	Q4,Q7(OPTION)	-	Q32	7
5	Q8,Q17(OPTION)	Q25,Q27		8
6	Q1,Q12(OPTION)	Q29(OPTION)		5
7	Q13(OPTION),Q15	-	Q33	7
8	Q9,Q16	Q22,Q30		8
9	Q5,Q20	Q23,Q28		8
10.	Q3,Q14	Q21(OPTION),Q24		8

3. In reference to point no.3 -Question no. 13 is from syllabus

Q13. The amount of oxygen which can be absorbed and consumed by the working muscles Blood is called_____.

- a) Oxygen intake b) oxygen transport c) oxygen uptake d)energy reserve

OR

Which one of these is a long term effect of exercise on cardiovascular system?

- a) ↑ Heart rate b)↑ Body temperature c)↑Cardiac output d) ↑BP

Unit VII Physiology & Injuries in Sports

- i. Physiological factor determining component of Physical Fitness
- ii. Effect of exercise on Cardio Respiratory System

4. In reference to point no. 4 Q16 and Q25 have been changed.
5. In reference to point no.5 internal choices has been kept in min d.