

Test Booklet No. _____

This booklet consists of 100 questions and 11 printed pages.

RGUCET/2024/___/___

Series

NIL

RGUCET 2024
Common Entrance Test, 2024

MASTER OF SCIENCE (SPORTS BIOMECHANICS)

Full Marks: 100

Time: 2 Hours

Roll No.

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Day and Date of Examination: _____

Signature of Invigilator(s) _____

Signature of Candidate _____

General Instructions:

PLEASE READ ALL THE INSTRUCTIONS CAREFULLY BEFORE MAKING ANY ENTRY.

1. DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE TOLD TO DO SO.
2. Candidate must write his/her Roll Number on the space provided.
3. This Test Booklet contains 100 Multiple Choice Questions (MCQs) from the concerned subject. Each question carries 1 mark. There shall be negative marking of 0.25 against each wrong attempt.
4. Please check the Test Booklet to verify that the total pages and total number of questions contained in the test booklet are the same as those printed on the top of the first page. Also check whether the questions are in sequential order or not.
5. Candidates are not permitted to enter into the examination hall after the commencement of the entrance test or leave the examination hall within one hour thirty minutes.
6. Making any identification mark in the OMR Answer Sheet or writing Roll Number anywhere other than the specified places will lead to disqualification of the candidate.
7. Candidates shall maintain silence inside and outside the examination hall. If candidates are found violating the instructions mentioned herein or announced in the examination hall, they will be summarily disqualified from the entrance test.
8. In case of any dispute, the decision of the Entrance Test Committee shall be final and binding.
9. The OMR Answer Sheet consists of two copies, the Original copy and the Student's copy.

| | | | | | |
|----|--|-----------------------------------|-------------------------------------|-------------------------|----------------------------------|
| 1 | Which Indian cricketer has the nickname "Master Blaster"? | | | | b |
| | a) Rahul Dravid | b) Sachin Tendulkar | c) Virat Kohli | d) MS Dhoni | Sachin Tendulkar |
| 2 | Who is known as the "Flying Sikh" of India? | | | | c |
| | a) Sachin Tendulkar | b) Kapil Dev | c) Milkha Singh | d) Dhyan Chand | Milkha Singh |
| 3 | Which of the following is not a function of the human skin? | | | | d |
| | a) Protection | b) Regulation of body temperature | c) Sensation | d) Blood circulation | Blood circulation |
| 4 | Which of the following rights was described by BR Ambedkar as the heart and soul of the Constitution? | | | | c |
| | a) Right to equality | b) Right to property | c) Right to constitutional remedies | d) Right to education | Right to constitutional remedies |
| 5 | The first woman to climb mount Everest was | | | | c |
| | a) Marie Jose perec | b) Florence Griffith Joyner | c) Junko Tabei | d) Jackie Joyner Kersee | Junko Tabei |
| 6 | Choose the odd from the group | | | | d |
| | a) Earth | b) Mercury | c) Venus | d) Moon | Moon |
| 7 | Choose the one which can be substituted for 'Words different in meaning but similar in sound' | | | | d |
| | a) Synonym | b) Acronym | c) Antonym | d) Homonym | Homonym |
| 8 | The idiom 'Face the music' means | | | | b |
| | a) Complete loss | b) be punished | c) For a short time | d) for a long time | be punished |
| 9 | Cow: Mammal::Housefly: ? | | | | d |
| | a) Reptile | b) Herbivore | c) Carnivore | d) Insect | Insect |
| 10 | Choose the most appropriate phrase to complete the sentence. I persuaded the boys..... the room before the teacher entered. | | | | b |
| | a) leave | b) to leave | c) left | d) leaving | to leave |
| 11 | What is the perimeter of a rectangle with length 6 cm and width 4 cm? | | | | c |
| | a) 10 | b) 12 | c) 16 | d) 24 | 16 |
| 12 | Which of the following is a rational number? | | | | c |
| | a) π | b) $\sqrt{2}$ | c) $1/3$ | d) e | $1/3$ |
| 13 | If 11 (170)16, 11(203)19, then value of 17(?)18 will be – | | | | b |
| | a) 200 | b) 300 | c) 400 | d) 250 | 300 |
| 14 | Look at this series: 53, 53, 40, 40, 27, 27, ... What number should come next? | | | | b |
| | a) 12 | b) 14 | c) 27 | d) 34 | 14 |
| 15 | The total ages of Amar, Akbar and Anthony is 80 Years. What was the total of their ages three years ago? | | | | a |
| | a) 71 years | b) 72 years | c) 74 years | d) 77 years | 71 years |
| 16 | 'Phrygian caps', which was announced recently, is the mascot of which event? | | | | a |
| | a) Paris 2024 Olympics | b) Los Angeles 2028 Olympics | c) 2026 Winter Olympics | d) 2030 Winter Olympics | Paris 2024 Olympics |
| 17 | Which country hosts the 'FIFA World Cup 2022'? | | | | b |
| | a) India | b) Qatar | c) Australia | d) Argentina | Qatar |

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| 18 | Which company became the official partner of FIH Odisha Hockey Men's World Cup 2023? | | | | b |
| | a) Byju's | b) Tata Steel | c) Reliance Industries | d) Jio | Tata Steel |
| 19 | What is the theme of International Day of Yoga (IDY) 2024? | | | | d |
| | a) Yoga for Heart | b) Yoga and Science | c) Yoga for Humanity | d) Yoga for self and society | Yoga for self and society |
| 20 | Which social media company has released its first annual human rights report? | | | | b |
| | a) Twitter | b) Meta | c) LinkedIn | d) Snapchat | Meta |
| 21 | Which branch of psychology focuses on the study of mental processes such as perception, memory, and problem-solving? | | | | b |
| | a) Behavioral psychology | b) Cognitive psychology | c) Psychoanalytic psychology | d) Humanistic psychology | Cognitive psychology |
| 22 | What term describes the internal state that activates behavior and directs it towards a goal? | | | | a |
| | a) Motivation | b) Emotion | c) Personality | d) Intelligence | Motivation |
| 23 | Which of the following cognitive processes involve memory? A. Learning B. Emotion C. Intelligence D. Cognition | | | | d |
| | a) Only A and B | b) Only B and C | c) Only C and D | d) Only A and D | Only A and D |
| 24 | <p>Given below are two statements: one is labelled as A: Assertion and the other is labelled as B: Justification</p> <p>A: What is the primary purpose of quality control in food production?</p> <p>B: Quality control ensures that food products meet specific standards and regulations to guarantee consumer safety and satisfaction.</p> <p>In the light of the above statements. choose the correct answer from the options given below</p> | | | | a |
| | a) Both the assertion and justification are true, and the justification explains the assertion | b) Both the assertion and justification are true, but the justification does not explain the assertion | c) The assertion is true, but the justification is false | d) The assertion is false | Both the assertion and justification are true, and the justification explains the assertion |
| 25 | Match the type of nutrient with its primary function: | | | | c |
| | A. Carbohydrates | | i. Regulation of body processes and immune function | | c |
| | B. Proteins | | ii. Storage of energy and insulation | | |

| | | | | | |
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| | C. Fats | iii. Providing energy to the body | | | |
| | D. Vitamins | iv. Building and repairing body tissues | | | |
| | a) A-iii, B-ii, C-i, D-iv | b) A-ii, B-i, C-iii, D-iv | c) A-iii, B-iv, C-ii, D-i | d) A-ii, B-iii, C-i, D-iv | A-iii, B-iv, C-ii, D-i |
| 26 | Which of the following is NOT a mood disorder? | | | | c |
| | a) Unipolar disorder | b) Bipolar disorder | c) Schizophrenia | d) Depression | Schizophrenia |
| 27 | Which of the following are symptoms of schizophrenia? A. Hallucinations B. Mood swings C. Delusions D. Excessive worrying | | | | b |
| | a) Only A and D | b) Only A and C | c) Only A and B | d) None of the above | Only A and C |
| 28 | Which type of learning occurs through the observation of others' behavior? | | | | d |
| | a) Operant conditioning | b) Classical conditioning | c) Insight learning | d) Social learning | Social learning |
| 29 | Which of the following is a characteristic property of a vector quantity? | | | | b |
| | a) It has only magnitude | b) It has both magnitude and direction | c) It remains constant in motion | d) It can be measured in kilograms | It has both magnitude and direction |
| 30 | Which personality trait refers to the degree to which a person is open to new experiences and ideas? | | | | d |
| | a) Extraversion | b) Neuroticism | c) Agreeableness | d) Openness | Openness |
| 31 | Which of the following is NOT a symptom of depression? | | | | b |
| | a) Persistent sadness | b) Increased energy levels | c) Loss of interest in activities | d) Feelings of worthlessness | Increased energy levels |
| 32 | Which of the following quantities has both magnitude and direction? | | | | b |
| | a) Scalar | b) Vector | c) Distance | d) Speed | Vector |
| 33 | Which of the following are symptoms of unipolar disorder (major depressive disorder)? A. Persistent sadness B. Loss of interest in activities C. Feelings of worthlessness D. Increased energy levels | | | | c |
| | a) Only A and D | b) Only A and C | c) Only A and B | d) None of the above | Only A and B |
| 34 | Given below are two statements: one is labelled as A: Assertion and the other is labelled as B: Justification A: The moment of inertia depends solely on the shape of the object. B: The moment of inertia depends on the distribution of mass relative to the axis of rotation. | | | | d |

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| | In the light of the above statements. choose the correct answer from the options given below | | | | |
| | a) Both the assertion and justification are true, and the justification explains the assertion | b) Both the assertion and justification are true, but the justification does not explain the assertion | c) The assertion is true, but the justification is false | d) The assertion is false | The assertion is false |
| 35 | Which of the following represents an example of elastic deformation? | | | | c |
| | a) Bouncing of a basketball | b) Dropping a feather | c) Stretching a rubber band | d) Swinging of a pendulum | Stretching a rubber band |
| 36 | Which of the following is a vector quantity? | | | | d |
| | a) Temperature | b) Distance | c) Speed | d) Displacement | Displacement |
| 37 | What cognitive processes are involved in problem-solving? A. Learning B. Emotion C. Intelligence D. Cognition | | | | d |
| | a) Only A and D | b) Only A and C | c) Only A and B | d) None of the above | None of the above |
| 38 | What term describes the product of an object's mass and velocity? | | | | b |
| | a) Force | b) Momentum | c) Work | d) Energy | Momentum |
| 39 | What is the SI unit of force? | | | | a |
| | a) Newton (N) | b) Joule (J) | c) Meter per second squared (m/s ²) | d) Kilogram (kg) | Newton (N) |
| 40 | Which of the following is a unit of momentum? | | | | c |
| | a) Newton | b) Joule | c) Kilogram meter per second | d) Watt | Kilogram meter per second |
| 41 | What term describes the rate of change of displacement? | | | | b |
| | a) Force | b) Velocity | c) Acceleration | d) Work | Velocity |
| 42 | Which of the following statements about projectile motion is true? | | | | a |
| | a) Horizontal velocity remains constant | b) Vertical velocity remains constant | c) The projectile's velocity is constant | d) Gravity does not affect projectile motion | Horizontal velocity remains constant |
| 43 | Scalars and vectors are differentiated based on: A. Whether they have direction only B. Whether they have magnitude only C. Whether they have both magnitude and direction D. Whether they are stationary only | | | | d |
| | a) Only A and B | b) Only C and D | c) Only B | d) Only C | Only C |
| 44 | Given below are two statements: one is labelled as A: Assertion and the other is labelled as B: Justification | | | | d |

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| | <p>A: The potential energy of an object depends on its mass and velocity.</p> <p>B: Potential energy is the energy associated with the position of an object relative to other objects.</p> <p>In the light of the above statements. choose the correct answer from the options given below</p> | | | | |
| | a) Both the assertion and justification are true, and the justification explains the assertion | b) Both the assertion and justification are true, but the justification does not explain the assertion | c) The assertion is true, but the justification is false | d) The assertion is false | The assertion is false |
| 45 | What type of energy is stored in a compressed spring? | | | | a |
| | a) Potential energy | b) Kinetic energy | c) Thermal energy | d) Chemical energy | Potential energy |
| 46 | What term describes the energy stored in an object due to its position or configuration? | | | | a |
| | a) Potential energy | b) Kinetic energy | c) Mechanical energy | d) Thermal energy | Potential energy |
| 47 | <p>In circular motion, the centripetal force acts:</p> <p>A. In the direction of motion</p> <p>B. Perpendicular to the direction of motion</p> <p>C. Opposite to the direction of motion</p> <p>D. Tangential to the circular path</p> | | | | b |
| | a) Only A and B | b) Only C and D | c) Only B | d) Only C | Only B |
| 48 | Which of the following principles states that the total energy in a closed system remains constant over time? | | | | c |
| | a) Law of inertia | b) Law of conservation of momentum | c) Law of conservation of energy | d) Law of universal gravitation | Law of conservation of energy |
| 49 | In which scenario does an object possess kinetic energy? | | | | c |
| | a) A stretched rubber band | b) A stationary book on a table | c) A moving car | d) A ball at the top of a hill | A moving car |
| 50 | What property of a material allows it to return to its original shape after being deformed? | | | | a |
| | a) Elasticity | b) Plasticity | c) Ductility | d) Brittleness | Elasticity |
| 51 | Which of the following quantities represents the rotational equivalent of linear momentum? | | | | c |
| | a) Angular velocity | b) Torque | c) Angular momentum | d) Moment of inertia | Angular momentum |
| 52 | What term describes the resistance of an object to changes in its rotational motion? | | | | c |
| | a) Torque | b) Angular momentum | c) Moment of inertia | d) Radius of gyration | Moment of inertia |
| 53 | The conservation of energy principle states that: | | | | a |

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| | <p>A. Energy cannot be created or destroyed B. Energy can only be created C. Energy can only be destroyed D. Energy is not conserved in nature</p> | | | | |
| | a) Only A | b) Only C | c) Only A and B | d) Only C and D | Only A |
| 54 | <p>Given below are two statements: one is labelled as A: Assertion and the other is labelled as B: Justification</p> <p>A: The conservation of energy principle applies only to closed systems.</p> <p>B: The conservation of energy principle states that the total energy of an isolated system remains constant over time.</p> <p>In the light of the above statements. choose the correct answer from the options given below</p> | | | | a |
| | a) Both the assertion and justification are true, and the justification explains the assertion | b) Both the assertion and justification are true, but the justification does not explain the assertion | c) The assertion is true, but the justification is false | d) The assertion is false | Both the assertion and justification are true, and the justification explains the assertion |
| 55 | Which of the following represents an example of circular motion? | | | | b |
| | a) A ball in the air | b) A rotating ceiling fan | c) A moving car | d) A falling apple | A rotating ceiling fan |
| 56 | Which of the following nutrients is the body's primary source of energy? | | | | c |
| | a) Protein | b) Fat | c) Carbohydrate | d) Vitamin | Carbohydrate |
| 57 | Which of the following statements about force is true?: | | | | d |
| | <p>A. It is a scalar quantity B. It can only cause objects to move in a straight line C. It is measured in kilograms D. It is a vector quantity</p> | | | | |
| | a) All are true | b) B, C and D are true | c) C and D are true | d) Only D is true | Only D is true |
| 58 | What is the main function of the kidneys in the body? | | | | c |
| | a) Digestion | b) Regulation of blood pressure | c) Filtration of blood | d) Production of insulin | Filtration of blood |
| 59 | Which of the following is a scalar quantity? | | | | c |
| | a) Force | b) Velocity | c) Mass | d) Acceleration | Mass |
| 60 | What is the purpose of personal hygiene for food handlers? | | | | b |
| | a) To enhance taste | b) To prevent food contamination | c) To reduce cooking time | d) To increase shelf life | To prevent food contamination |

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| 61 | What is the term for a substance added to food to improve its appearance or texture? | | | | c |
| | a) Nutrient | b) Preservative | c) Additive | d) Antioxidant | Additive |
| 62 | Which of the following diseases is caused by a deficiency of vitamin B12? | | | | d |
| | a) Rickets | b) Scurvy | c) Beriberi | d) Pernicious anemia | Pernicious anemia |
| 63 | Elasticity is the property of a material to: A. Attract other objects B. Resist deformation under stress C. Increase its volume D. Decrease its density | | | | b |
| | a) Only A | b) Only B | c) Only A and B | d) Only C and D | Only B |
| 64 | Given below are two statements: one is labelled as A: Assertion and the other is labelled as B: Justification A: In projectile motion, the path followed by an object is a straight line. B: Projectile motion involves the simultaneous motion in the horizontal and vertical directions under the influence of gravity. In the light of the above statements. choose the correct answer from the options given below | | | | d |
| | a) Both the assertion and justification are true, and the justification explains the assertion | b) Both the assertion and justification are true, but the justification does not explain the assertion | c) The assertion is true, but the justification is false | d) The assertion is false | The assertion is false |
| 65 | When a car is parked at the top of a hill, which form of energy does it possess? | | | | a |
| | a) Potential energy | b) Kinetic energy | c) Mechanical energy | d) Elastic energy | Potential energy |
| 66 | Which food group is the primary source of dietary fiber? | | | | d |
| | a) Milk and milk products | b) Cereals and millets | c) Flesh foods and eggs | d) Fruits and vegetables | Fruits and vegetables |
| 67 | The moment of inertia of an object depends on its: A. Mass and shape B. Density and volume C. Length and width D. Temperature and pressure | | | | a |
| | a) Only A | b) Only B | c) Only A and B | d) Only C and D | Only A |
| 68 | Which of the following is a symptom of lactose intolerance? | | | | a |

| | | | | | |
|----|--|--|---|---|---|
| | a) Diarrhea after consuming dairy products | b) Excessive thirst | c) Brittle nails | d) Hair loss | Diarrhea after consuming dairy products |
| 69 | What type of motion is exhibited by a spinning table tennis ball? | | | | c |
| | a) Linear motion | b) Circular motion | c) Rotational motion | d) Vibrational motion | Rotational motion |
| 70 | What is the term for a condition caused by insufficient intake of nutrients over an extended period? | | | | a |
| | a) Malnutrition | b) Over nutrition | c) Obesity | d) Scurvy | Malnutrition |
| 71 | <p>Statements:</p> <p>A. The human heart has four chambers.</p> <p>B. Ribosomes are responsible for producing energy in cells.</p> <p>C. All bacteria are harmful to humans.</p> <p>D. Photosynthesis occurs in the mitochondria of plant cells.</p> | | | | a |
| | a) True, False, False, False | b) True, True, False, False | c) False, False, True, True | d) True, False, True, False | True, False, False, False |
| 72 | <p>Given below are two statements: one is labelled as A: Assertion and the other is labelled as B: Justification</p> <p>A: The human body shivers in cold weather to generate heat.</p> <p>B: Shivering is an involuntary response triggered by the body's attempt to maintain its core temperature when exposed to cold conditions.</p> <p>In the light of the above statements. choose the correct answer from the options given below</p> | | | | a |
| | a) Both Assertion and Reasoning are true, and Reasoning is the correct explanation of the Assertion. | b) Both Assertion and Reasoning are true, but Reasoning is not the correct explanation of the Assertion. | c) Assertion is true, but Reasoning is false. | d) Assertion is false, but Reasoning is true. | Both Assertion and Reasoning are true, and Reasoning is the correct explanation of the Assertion. |
| 73 | <p>Statements:</p> <p>A. The human body has four main blood types.</p> <p>B. The large intestine is primarily responsible for the digestion of carbohydrates.</p> <p>C. The small intestine is longer than the large intestine.</p> <p>D. The human skeletal system is made up of 206 bones.</p> | | | | d |
| | a) True, False, False, False | b) True, True, False, False | c) False, False, True, True | d) True, False, True, True | True, False, True, True |
| 74 | What is impossible to change when a body is in the air- | | | | b |
| | a) Movement of the body | b) Mass of the body | c) Shape of the body | d) Position of the body | Mass of the body |

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| 75 | Success in long jump extremely relies on- | | | | b |
| | a)Stride frequency | b)speed | c)Leg strength | d)Muscle power | speed |
| 76 | Planter flexion movement only occur in- | | | | d |
| | a)Thumb | b)Elbows | c)Knee | d)Ankle | ankle |
| 77 | Endo skeleton include- | | | | c |
| | a)Bones only | b)Covering of skin, hair and nails | c)Bones and cartilages | d)None of the above | Bones and cartilages |
| 78 | Muscles contract more strongly if they are put on- | | | | d |
| | a)Flexion | b)Extension | c)Alert | d)Stretch | stretch |
| 79 | Diving in kho-kho need massive amount of timing and speed along with-a | | | | a |
| | a)Accuracy | b)Balance | c)Muscle tone | d)Movement | accuracy |
| 80 | 'Zygomatic' bone is present in | | | | d |
| | a)Upper extremities | b)Lower extremities | c) Vertebral column | d)Skull | Skull |
| 81 | What kind of skills does javelin throw require- | | | | b |
| | a)Throwing | b)Projecting | c)Propelling | d)Lifting | Projecting |
| 82 | Pulls a part toward the midline of the body is- | | | | d |
| | a)Flexion | b)Extension | c)Abduction | d>Adduction | adduction |
| 83 | Bending of head towards right or left side of the shoulder is | | | | c |
| | a) Extension | b) flexion | c) Lateral flexion | d) Lateral extension | Lateral flexion |
| 84 | Synovial joints are | | | | b |
| | a) Slightly movable | b) Freely movable | c) Both (a) and (b) | d) None of the above | Freely movable |
| 85 | Study of joints is called | | | | d |
| | a) Kinesiology | b) Biology | c)Anthropometry | d) Arthrology | Arthrology |
| 86 | 'Hunch back' is also known as | | | | d |
| | a) Back pain | b) scoliosis | c) lordosis | d) kyphosis | Kyphosis |
| 87 | Largest bone in the human body is | | | | a |
| | a) Femur | b) hummers | c) Tibia | d) fibula | Femur |
| 88 | Which of the following is a joint of reciprocal innervations? | | | | b |
| | a) Pivot joint | b) Saddle joint | c) Condylloid joint | d) Hinge joint | Saddle joint |
| 89 | Imaginary line passing laterally from one side to other is called | | | | c |
| | a) Sagittal axis | b) sagittal plane | c) vertical axis | d) lateral axis | vertical axis |
| 90 | What type of muscles is capable of resisting fatigue in a long duration activity? | | | | a |
| | a) Slow-twitch | b)Fast Twitch | c)Deltoid | d)Both (b) and (c) | Slow-twitch |
| 91 | Pedograph is used to measure | | | | b |
| | a)Hunch back | b)Flat foot | c)Knock knees | d)Bow legs | Flat foot |
| 92 | What is the name of the unit used to measure force? | | | | b |
| | a) Joule | b) Newton | c) Watt | d) Kilogram | Newton |
| 93 | What is the term used to describe the change in position of an object over time? | | | | b |

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| | a) Distance | b) Displacement | c) Velocity | d) Acceleration | Displacement |
| 94 | A dynamometer measures | | | | c |
| | a) Velocity | b) Acceleration | c) Force | d) Pressure | Force |
| 95 | On 'SET' command the sprinter is in | | | | b |
| | a) Stable equilibrium | b) Unstable equilibrium | c) Neutral equilibrium | d) None of the above | Unstable equilibrium |
| 96 | Which among the following is an example of Law of Inertia | | | | d |
| | a) Starting in throwing the hammer | b) Starting in sprinting | c) Starting in rowing | d) All of the above | All of the above |
| 97 | 'Lumbar' vertebrae are | | | | c |
| | a) 6 in number | b) 7 in number | c) 5 in number | d) 4 in number | 5 in number |
| 98 | The specific function of tarsal bone is | | | | b |
| | a) Protection | b) Gives strength | c) Act as lever | d) None of the above | Gives strength |
| 99 | What is the primary purpose of a kinetic chain in sports biomechanics? | | | | a |
| | a) To optimize force generation by coordinating body segment movements | b) To reduce the impact force on joints during landing | c) To increase the range of motion in athletic movements | d) To enhance the body's metabolic response to exercise | To optimize force generation by coordinating body segment movements |
| 100 | What is the formula for calculating force? | | | | a |
| | a) Force = mass \times acceleration | b) Force = mass \div acceleration | c) Force = acceleration \div mass | d) Force = mass + acceleration | Force = mass \times acceleration |