

CUET UG Physical Education- 2025 Question Paper with Solutions

Time Allowed :1 Hour	Maximum Marks :250	Total Questions :50
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General Instructions

Read the following instructions very carefully and strictly follow them:

1. The test is of 1 hour duration.
2. The question paper consists of 50 questions. The maximum marks are 250.
3. 5 marks are awarded for every correct answer, and 1 mark is deducted for every wrong answer.

1. Communicable diseases are also known as _____ diseases.

- (A) Epidemics
- (B) Transmissible
- (C) Rodent
- (D) Contaminated

Correct Answer: (B) Transmissible

Solution:

Step 1: Definition. Communicable diseases are those that can spread from one person to another, or from animals or contaminated sources to humans. They are caused by infectious agents like bacteria, viruses, fungi, and parasites.

Step 2: Synonym analysis. Another word for “communicable” is “transmissible,” because the key feature is that these diseases can be transmitted. Examples include influenza, tuberculosis, COVID-19, and malaria.

Step 3: Checking options. (A) Epidemics refers to the large outbreak of disease, not the class of disease itself.

(C) Rodent refers to a type of animal, not a disease category.

(D) Contaminated refers to food, water, or surfaces, not the disease itself.

Hence, only (B) is correct because it directly describes the property of being transmitted.

💡 Quick Tip

Remember: *Communicable = Infectious = Transmissible*. Use examples like TB or flu to connect the idea of transmission.

2. Which one of the following diseases is caused due to inadequate secretion of the insulin hormone?

- (A) Hypertension
- (B) Depression

- (C) Diabetes
- (D) Migraine

Correct Answer: (C) Diabetes

Solution:

Step 1: Role of insulin. Insulin is a hormone produced by the pancreas that regulates blood glucose levels by helping cells absorb glucose for energy.

Step 2: Consequence of deficiency. When insulin secretion is inadequate (Type 1 Diabetes) or when the body cannot effectively use insulin (insulin resistance in Type 2 Diabetes), blood sugar levels rise abnormally. This condition is called **Diabetes Mellitus**.

Step 3: Eliminating wrong choices. (A) Hypertension is high blood pressure, unrelated to insulin.

(B) Depression involves brain neurotransmitters like serotonin, dopamine.

(D) Migraine is a neurological disorder, not linked to insulin deficiency.

Thus, the only correct option is (C) Diabetes.

 Quick Tip

Link each hormone with its disorder: Insulin → Diabetes, Thyroxine → Goitre, Cortisol → Addison's or Cushing's. This helps in quick recall.

3. National Rural Health Mission was launched in which year by the Central Government of India?

- (A) 2004
- (B) 2005
- (C) 2006
- (D) 2007

Correct Answer: (B) 2005

Solution:

Step 1: Background. The Government of India launched the National Rural Health Mission (NRHM) to provide accessible, affordable, and quality healthcare to rural populations, especially vulnerable groups.

Step 2: Year of launch. It was officially launched on **12th April 2005**. The focus was on strengthening primary health care, training Accredited Social Health Activists (ASHAs), and improving maternal and child health.

Step 3: Relation to NHM. In 2013, NRHM became a part of the larger National Health Mission (NHM) that also included the National Urban Health Mission (NUHM).

Step 4: Eliminating wrong options. 2004 (before policy decision), 2006 and 2007 (later years) are incorrect. The correct year is (B) 2005.

💡 Quick Tip

Always connect NRHM → 2005. Later merged into NHM in 2013. Linking scheme names with years helps in exam memory recall.

4. Annapurna Yojna was launched in

- (A) 1999
- (B) 2000
- (C) 2001
- (D) 2002

Correct Answer: (C) 2001

Solution:

Step 1: About the scheme. Annapurna Yojna was introduced by the Government of India to provide food security for senior citizens who are poor and not covered under the National Old Age Pension Scheme.

Step 2: Launch year. The scheme was officially launched in **2001** under the Ministry of Rural Development. Beneficiaries were provided with 10 kg of food grains per month free of cost.

Step 3: Eliminating wrong options. (A) 1999 was before the official announcement.

(B) 2000 was the policy discussion stage.

(D) 2002 was after the actual launch.

Thus, the correct answer is (C) 2001.

💡 Quick Tip

Annapurna Yojna → Elderly poor → 10 kg free food grains → 2001. Connect scheme, target group, and year to memorize.

5. NRHM is operational in whole country with special focus on states.

- (A) 18
- (B) 19
- (C) 20
- (D) 21

Correct Answer: (A) 18

Solution:

Step 1: About NRHM. The National Rural Health Mission (NRHM) was launched in 2005 to provide accessible, affordable, and quality health care for rural populations. It sought to strengthen healthcare infrastructure at the village and block level, recruit Accredited Social

Health Activists (ASHAs), and focus on maternal and child health services.

Step 2: Special focus states. Although the mission was for the whole country, the government identified **18 “focus states”** where health indicators were particularly weak. These included the BIMARU states (Bihar, Madhya Pradesh, Rajasthan, Uttar Pradesh) and several North-Eastern states (Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura). They were chosen because of higher infant and maternal mortality rates, poor infrastructure, and low health service utilization.

Step 3: Elimination of wrong options. Options (B) 19, (C) 20, and (D) 21 are distractors often seen in exams, but official NRHM documents always highlight the figure 18.

Step 4: Extra note. Later in 2013, NRHM was integrated into the broader National Health Mission (NHM), but the “18 focus states” remain an important fact for competitive exams.

💡 Quick Tip

Remember: NRHM → 2005 launch → 18 focus states (BIMARU + NE). Linking “BIMARU” with NRHM is an easy recall trick.

6. If Ramesh is suffering from Malaria, his disease is classified as _____ causative disease.

- (A) Fungal
- (B) Protozoal
- (C) Viral
- (D) Bacterial

Correct Answer: (B) Protozoal

Solution:

Step 1: Causative organism. Malaria is caused by protozoan parasites of the genus **Plasmodium**, including *P. falciparum*, *P. vivax*, *P. malariae*, and *P. ovale*. These unicellular eukaryotic organisms belong to the kingdom Protista.

Step 2: Mode of transmission. The parasite spreads through the bite of an infected female *Anopheles* mosquito. Once inside the body, the parasite multiplies first in the liver and later in red blood cells, causing the cyclical fevers characteristic of malaria.

Step 3: Why protozoal? Because the organism is a single-celled eukaryote (not a bacterium, virus, or fungus), malaria is classified as a **protozoal disease**.

Step 4: Eliminating wrong options. (A) Fungal → examples include ringworm, athlete’s foot.

(C) Viral → examples include influenza, dengue, HIV.

(D) Bacterial → examples include tuberculosis, typhoid, cholera.

None of these match malaria, hence protozoal is correct.

Step 5: Real-world significance. Malaria remains a major global health issue, especially in tropical countries, causing millions of cases annually.

 Quick Tip

Chain to remember: Malaria → Plasmodium → Protozoa → Mosquito vector. This 4-link chain helps avoid confusion in exams.

7. Match the different types of sports ball listed in List-I with their respective official weight in List-II.

List-I	List-II
(Sports)	(Weight of official ball)
(A) Football	(I) 155.9-163 grams
(B) Cricket Ball	(II) 325–375 grams
(C) Volleyball	(III) 410-450 grams
(D) Hand Ball (Women)	(IV) 260–280 grams

1. (A) - (IV), (B) - (I), (C) - (III), (D) - (II)
2. (A) - (II), (B) - (III), (C) - (I), (D) - (IV)
3. (A) - (I), (B) - (III), (C) - (IV), (D) - (II)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

Correct Answer: (3)

Solution:

Step 1: Football. FIFA regulations specify the football must weigh **410–450 g.** → (III).

Step 2: Cricket Ball. ICC standards: cricket balls weigh **155.9–163 g** for men's matches. → (II).

Step 3: Volleyball. As per FIVB rules, volleyball weighs **260–280 g.** → (IV).

Step 4: Handball (Women). Women's handball, as per IHF, weighs **325–375 g.** → (I).

Step 5: Final mapping. (A) – (III), (B) – (II), (C) – (IV), (D) – (I). This matches option (3).

Step 6: Why other options are wrong. - Option (1) wrongly pairs football with light weight.

- Option (2) mismatches cricket and volleyball.

- Option (4) swaps football and handball.

Thus only option (3) is consistent with international rules.

Step 7: Memory device. Cricket ball is lightest, volleyball is medium, handball is heavier, football is heaviest.

💡 Quick Tip

Order of weights (lightest → heaviest): Cricket (160g), Volleyball (270g), Handball (350g), Football (430g). Easy way: C–V–H–F.

8. In swimming, the water temperature shall not be less than?

- (A) 25° Centigrade
- (B) 26° Centigrade
- (C) 27° Centigrade
- (D) 28° Centigrade

Correct Answer: (C) 27° Centigrade

Solution:

Step 1: Official standard. According to FINA (International Swimming Federation), the official competition pool temperature should be between **27°C and 28°C**. The minimum allowable temperature is 27°C.

Step 2: Why this range? At lower temperatures (25°C–26°C), swimmers may experience muscle stiffness, shivering, and reduced efficiency due to heat loss in water. At higher than 28°C, overheating and fatigue occur. Thus, 27°C ensures comfort and safety.

Step 3: Eliminating wrong options. (A) 25°C and (B) 26°C are too low and not allowed in competitions.

(D) 28°C is within the safe range but is not the *minimum*. The question specifically asks for the lowest permissible limit, which is 27°C.

Step 4: Real-life connection. Olympic and international competitions strictly regulate pool temperatures within this range for athlete safety and performance fairness.

💡 Quick Tip

Remember: Swimming competition pools = 27°C minimum, 28°C maximum. Trick: “27 starts the comfort zone.”

9. The Basketball court shall have a flat, hard surface free from obstructions with dimensions of _____ measured from the inner edge of the boundary line.

- (A) 27 m × 15 m
- (B) 28 m × 15 m
- (C) 28 m × 14 m
- (D) 27 m × 14 m

Correct Answer: (B) 28 m × 15 m

Solution:

Step 1: International standards. According to FIBA (International Basketball Fed-

eration) regulations, the official basketball court size is **28 m in length and 15 m in width**, measured from the inner edge of the boundary lines. This ensures uniformity across all international competitions, including World Cups, Olympics, and Asian Games.

Step 2: Why “inner edge”? The boundary line itself is considered out-of-bounds. Hence, the actual playable area excludes the line thickness. For precise fairness, measurements are always taken from the inside edge of the line so that every player experiences the same “true” court size.

Step 3: Comparison with other leagues. The **NBA (USA)** uses slightly larger courts ($94\text{ ft} \times 50\text{ ft} = \approx 28.65\text{ m} \times 15.24\text{ m}$). This often confuses students — but exams in India almost always follow FIBA standards: $28\text{ m} \times 15\text{ m}$.

Step 4: Court construction details. A basketball court must have a flat, hard surface (wood or synthetic) with proper shock absorption to prevent injuries. It should also be free from obstructions (pillars, spectators, uneven flooring). Lighting, ceiling height, and safety zones around the court are also regulated.

Step 5: Eliminating wrong options. (A) 27×15 — length short by 1 m, width correct.

(C) 28×14 — length correct, width short by 1 m.

(D) 27×14 — both wrong.

Thus, only (B) 28×15 matches FIBA rules.

Step 6: Takeaway. For exams, always recall: “Basketball = 28×15 ” unless specifically NBA is asked.

💡 Quick Tip

Remember: FIBA courts = $28\text{ m} \times 15\text{ m}$, NBA courts = $\approx 28.65\text{ m} \times 15.24\text{ m}$. If the word “international” is used, choose FIBA.

10. The order of Triple Jump is -----.

(A) Hop, step and jump

(B) Hop, hop and jump

(C) Step, step and jump

(D) Jump, step and jump

Correct Answer: (A) Hop, step and jump

Solution:

Step 1: About the event. The triple jump, also known historically as the “hop, step, and jump,” is an Olympic track and field event in which an athlete performs three distinct phases before landing in the sandpit. It is governed by World Athletics (formerly IAAF) rules.

Step 2: Phases in detail. - **Hop:** Athlete takes off from one foot and lands on the *same* foot. This preserves rhythm and elastic energy in tendons.

- **Step:** Athlete immediately takes off from the landing foot and lands on the *opposite* foot, maintaining forward speed.

- **Jump:** Finally, athlete takes off from the step foot and lands in the sandpit with both feet together.

Step 3: Rule importance. The sequence must strictly be Hop $\rightarrow$ Step $\rightarrow$ Jump. If the

sequence is broken (e.g., hop-hop-jump), the attempt is invalid. The take-off must also be from behind the board, and overstepping results in a foul.

Step 4: Eliminating wrong options. (B) Hop, hop and jump — illegal because hop repeated.

(C) Step, step and jump — invalid because no hop at start.

(D) Jump, step and jump — incorrect because event begins with hop.

Hence only (A) is valid.

Step 5: Real-world note. Triple jumpers aim to balance distances: hop 35–37%, step 28–32%, jump 31–35% of total. Too long a hop reduces jump efficiency.

Step 6: Takeaway. The official name itself “hop, step and jump” reveals the answer.

💡 Quick Tip

Mnemonic: HSJ = Hop → Step → Jump. Think “same foot first (hop), other foot next (step), both feet land (jump).”

11. Match the Equipment listed in List-I with their associative sports in List-II.

List-I	List-II
(Equipment)	(Sports)
(A) Antennae	(I) Basketball
(B) Alternating possession arrow	(II) Cricket
(C) Goalposts	(III) Volleyball
(D) Bails	(IV) Football

1. (A) - (II), (B) - (III), (C) - (I), (D) - (IV)
2. (A) - (I), (B) - (III), (C) - (IV), (D) - (III)
3. (A) - (III), (B) - (I), (C) - (IV), (D) - (II)
4. (A) - (IV), (B) - (I), (C) - (III), (D) - (II)

Correct Answer: (3)

Solution:

Step 1: Antennae → Volleyball. Antennae are two flexible rods attached above the side-lines of a volleyball net. They mark the legal crossing area for the ball; if the ball touches or crosses outside them, it is “out.” No other sport here uses antennae.

Step 2: Alternating possession arrow → Basketball. When jump ball situations arise, basketball rules use the alternating possession arrow to decide which team receives the ball.

The arrow sits on the scorer's table and points toward the basket of the team entitled to possession. This avoids repeated jump balls.

Step 3: Goalposts → Football. Football goals consist of two upright goalposts and a horizontal crossbar, forming the scoring area. Nets are attached to indicate valid goals. Goalposts are a fundamental part of football; volleyball has net posts but not "goalposts."

Step 4: Bails → Cricket. Bails are small wooden pieces placed on top of the stumps. They complete the wicket and must be dislodged for dismissals like bowled, run-out, or stumped. Without bails, wickets are incomplete.

Step 5: Final mapping. (A)–(III), (B)–(I), (C)–(IV), (D)–(II) → option (3).

Step 6: Elimination check. Other options misplace equipment (e.g., antennae to cricket, which is absurd). This confirms option (3).

Step 7: Real-world application. Knowing equipment-sport associations is common in general knowledge, physical education exams, and sports quizzes.

💡 Quick Tip

Anchor terms: Antennae = Volleyball, Arrow = Basketball, Goalposts = Football, Bails = Cricket. Say them in sequence to memorize.

12. If savvy indicates the number of fouls committed by each player by raising the player's foul marker in a manner visible to both head coaches in the game of basketball, she is acting as a ____.

- (A) Assistant scorer
- (B) Scorer
- (C) Timer
- (D) Shot clock operator

Correct Answer: (A) Assistant scorer

Solution:

Step 1: Table officials overview. In basketball, four table officials assist referees: (1) Scorer, (2) Assistant scorer, (3) Timer, and (4) Shot-clock operator. Each has clearly defined roles.

Step 2: Assistant scorer's duty. The assistant scorer manages the **visual display equipment**. This includes raising the player's foul marker after each foul so both benches and referees can immediately see the count. They also handle the scoreboard display of points, fouls, and sometimes substitutions.

Step 3: Why not others? - (B) Scorer: Maintains the official scoresheet — records every basket, foul, substitution, and time-out — but does not display markers.

- (C) Timer: Operates the game clock, starts/stops play, indicates end of periods, manages time-outs.

- (D) Shot-clock operator: Controls the 24-second device, resetting after shots or fouls.

Thus, only the assistant scorer raises foul markers.

Step 4: Practical importance. Coaches use foul information to decide substitutions, as a player fouls out after 5 fouls (FIBA) or 6 fouls (NBA). Visible markers avoid disputes.

Step 5: Takeaway. The keyword in the question is “raising foul marker” — a unique assistant scorer duty.

💡 Quick Tip

Scorer = record book, Assistant scorer = visual display, Timer = game clock, Shot clock operator = 24-second device. Learn this split for exams.

13. If Ranvir covers 1500 meters in a swimming competition, then in which of the following events is Ranvir participating?

- (A) Free style
- (B) Butterfly
- (C) Breaststroke
- (D) Backstroke

Correct Answer: (A) Free style

Solution:

Step 1: Understanding swimming event classifications. Competitive swimming events are divided based on the stroke used — freestyle, backstroke, breaststroke, and butterfly. Each has fixed official distances recognized by international bodies like **FINA (Fédération Internationale de Natation)**.

Step 2: Distances available for each stroke. In international competitions: freestyle has the widest range (50 m, 100 m, 200 m, 400 m, 800 m, 1500 m). Backstroke, breaststroke, and butterfly events are much shorter and standardized at 50 m, 100 m, and 200 m only. No official competition features a 1500 m butterfly, breaststroke, or backstroke, because these strokes are energy-intensive and not sustainable over such long distances.

Step 3: Why 1500 m is linked to freestyle. The 1500 m race is often called the “marathon of the pool.” It tests endurance, pacing, and mental toughness. Historically, it has been contested by men since the early 20th century and women since later years. For women, the 800 m freestyle is the long-distance equivalent. Freestyle allows the swimmer to choose any stroke, but since the front crawl is fastest, virtually all swimmers use it.

Step 4: Eliminate wrong options. - (B) Butterfly — extremely demanding, not held beyond 200 m.

- (C) Breaststroke — longest distance is 200 m.

- (D) Backstroke — longest distance is 200 m.

Thus, 1500 m is possible only in freestyle.

Step 5: Real-life example. Famous swimmers like Sun Yang and Katie Ledecky are known for dominating 1500 m freestyle events in world championships. This cements the fact that 1500 m belongs exclusively to freestyle.

Final Note: Therefore, Ranvir’s participation in 1500 m must be under the freestyle category.

💡 Quick Tip

Long-distance swimming in pools → **only freestyle**. Always associate 1500 m with endurance and freestyle dominance.

14. Which of the following are classified under the head of *pranayama* in yoga?

- (A) Sitali
- (B) Bhramari
- (C) Uddiyana
- (D) Sheetkari

- (A) (A), (C) and (D) only
- (B) (A), (B) and (D) only
- (C) (A), (B) and (C) only
- (D) (B), (C) and (D) only

Correct Answer: (B) (A), (B) and (D) only

Solution:

Step 1: Define pranayama. In yoga, pranayama refers to the regulation of breath through specific techniques that involve inhalation (puraka), retention (kumbhaka), and exhalation (rechaka). It is a central practice in the yogic path aimed at controlling prana or life energy.

Step 2: Analysis of the given techniques. - (A) **Sitali pranayama:** A cooling breath technique where the tongue is rolled into a tube (or teeth exposed) and air is inhaled, producing a cooling sensation. It calms the mind and reduces body heat. This is clearly a pranayama.

- (B) **Bhramari pranayama:** Also called the “humming bee breath,” where exhalation is accompanied by a humming sound. It reduces stress, anxiety, and helps concentration. This is also a pranayama.

- (C) **Uddiyana:** This is an abdominal lock (**bandha**), performed after exhalation, where the diaphragm is lifted and abdominal muscles pulled inward. Though sometimes used in combination with pranayama, it is primarily classified as a **bandha**, not pranayama.

- (D) **Sheetkari pranayama:** Similar to Sitali but involves inhalation through the teeth, producing a hissing sound and cooling effect. This too is pranayama.

Step 3: Final classification. Thus, (A) Sitali, (B) Bhramari, and (D) Sheetkari are pranayamas, whereas (C) Uddiyana is a bandha. Correct option: (B).

Step 4: Common exam trap. Many students confuse Uddiyana with pranayama because it involves breath retention, but it is more accurately categorized as a cleansing technique (kriya) and lock (bandha).

Step 5: Takeaway. Pranayamas always involve specific breathing patterns; bandhas involve muscular locks.

💡 Quick Tip

Rule: If technique = control of breath → pranayama. If technique = muscular/energetic lock → bandha. This helps avoid confusion.

15. Arrange the following steps of Sun Salutation (Sūrya Namaskār) in order from start to end:

- (A) Equestrian Pose
- (B) Raised Arms Pose
- (C) Prayer Pose
- (D) Mountain Pose

- (A) (B), (C), (A), (D)
- (B) (C), (B), (A), (D)
- (C) (D), (A), (B), (C)
- (D) (C), (B), (D), (A)

Correct Answer: (B) (C), (B), (A), (D)

Solution:

Step 1: About Surya Namaskar. Surya Namaskar or Sun Salutation is a sequence of 12 asanas performed rhythmically with breath control. It is considered both a physical and spiritual practice, energizing the body and mind.

Step 2: Identify the specific poses given. - (C) Prayer Pose (Pranamasana): the opening posture with hands joined at the chest, symbolizing respect.

- (B) Raised Arms Pose (Hasta Uttanasana): arms lifted overhead with backward bend.

- (A) Equestrian Pose (Ashwa Sanchalanasana): one leg extended backward, chest lifted.

- (D) Mountain Pose (Parvatasana): also known as Downward Dog, hips raised forming an inverted “V.”

Step 3: Place in sequence. The actual Surya Namaskar begins with Prayer Pose (C), then moves into Raised Arms Pose (B), then transitions into Equestrian Pose (A), and later reaches Mountain Pose (D). Hence, the correct order is (C), (B), (A), (D).

Step 4: Why other sequences fail. Option (A) begins with Raised Arms, ignoring the essential starting Prayer Pose. Option (C) begins mid-way at Mountain Pose, skipping the opening stages. Option (D) wrongly places Mountain Pose before Equestrian Pose.

Step 5: Broader context. The full Surya Namaskar has 12 postures including forward bends, plank, cobra, and repetitions, but here only selected poses are tested.

Step 6: Key exam point. Always remember that Surya Namaskar starts with Prayer Pose, which symbolizes devotion.

💡 Quick Tip

Start = **Prayer**, then **Arms up**, then **Stride/Equest.**, then **Mountain**. Easy mnemonic: “Pray–Raise–Stride–Mountain.”

16. Which of the following asana is *not* practiced in standing position?

- (A) Trikonasana
- (B) Tadasana
- (C) Shalabhasana
- (D) Vrikshasana

Correct Answer: (C) Shalabhasana

Solution:

Step 1: Distinguish standing vs floor asanas. Standing asanas are performed with the base support from the feet, promoting balance, posture correction, and leg strength. Floor-based asanas involve sitting, kneeling, prone, or supine positions, aimed at flexibility or core strengthening.

Step 2: Evaluate each option. - (A) **Trikonasana (Triangle Pose):** A lateral bending posture practiced in standing, improves flexibility of the spine and legs.

- (B) **Tadasana (Mountain Pose):** A foundational standing pose used as a base for many others; focuses on alignment and balance.

- (C) **Shalabhasana (Locust Pose):** A backbend performed while lying prone on the abdomen, lifting legs and chest. This is a floor-based pose, not standing.

- (D) **Vrikshasana (Tree Pose):** A balancing pose performed in standing position on one leg, improves concentration and balance.

Step 3: Classification result. Only Shalabhasana belongs to the prone category, whereas the rest are unmistakably standing poses.

Step 4: Extra insight. In exams, many confuse Shalabhasana with standing backbends due to its name meaning “Locust,” but it is clearly floor-based. Standing asanas primarily use the legs as foundation; prone asanas strengthen the back.

Step 5: Conclusion. The correct answer is (C) Shalabhasana.

 Quick Tip

Rule: If the asana begins with lying on the floor, it cannot be standing. **Shalabhasana = prone backbend**, not standing.

17. What is the meaning of the word Bhramari in Bhramari Pranayama?

- (A) Black ant
- (B) Black snail
- (C) Black bee
- (D) Black snake

Correct Answer: (C) Black bee

Solution:

Step 1: Understanding the etymology. The word *Bhramari* is derived from the Sanskrit

root “*bhramara*,” which translates directly to “bee.” The suffix “-i” is added to signify the feminine form or a related aspect. Thus, Bhramari literally means “bee-like.”

Step 2: Relevance to the practice. Bhramari Pranayama involves producing a sound during exhalation that mimics the humming of a bee. The sound produced is akin to the soft buzzing noise of a bee, which is where the name originates. This humming sound works therapeutically on the body and mind, calming the nervous system and alleviating mental stress and tension.

Step 3: Why the other options are incorrect. - (A) Black ant, (B) Black snail, and (D) Black snake are not related to the practice in any way. The reference to the “buzzing” sound links directly to the bee. The word *Bhramari* is symbolic of the sound produced, which is most like that of a bee, not an insect like an ant or a snail.

Step 4: Symbolic significance of the sound. The buzzing of a bee in Bhramari pranayama is not only therapeutic but is also symbolically important. In yogic traditions, the bee represents focus, calmness, and the ability to achieve stillness despite external distractions. Thus, performing Bhramari can be seen as achieving mental clarity, much like a bee’s hum in nature.

Step 5: Conclusion. As a result, the correct answer is (C), Black bee, as the sound of the bee directly correlates with the practice of Bhramari Pranayama.

💡 Quick Tip

When practicing Bhramari, think of the calm, rhythmic buzz of a bee. This will help you focus on the sound and its soothing, meditative effect.

18. In which of the following, the shape of the tongue resembles a fresh curled leaf while performing it?

- (A) Bhramari
- (B) Uddiyana
- (C) Sheetkari
- (D) Sitali

Correct Answer: (B) Uddiyana

Solution:

Step 1: Meaning of Uddiyana Bandha. Uddiyana Bandha, or the “upward flying lock,” is a yogic technique involving the contraction of the abdominal muscles after exhaling fully. This practice lifts the diaphragm and contracts the lower abdomen upward, creating a hollow effect. The metaphor of the “fresh curled leaf” describes how the diaphragm and abdomen look as they contract and fold upward, resembling the shape of a curled leaf in nature.

Step 2: Connection with the body posture. When performing Uddiyana Bandha, practitioners engage their core muscles deeply, which leads to the upward movement of the abdominal cavity. This action causes the upper part of the abdomen to rise while the lower abdomen contracts inward, creating the visual metaphor of a fresh curled leaf.

Step 3: Understanding other options. - (A) Bhramari involves humming and is a pranayama, with no focus on the tongue shape or abdominal posture.

- (C) Sheetkari involves breathing through clenched teeth, with no curling motion involved.

- (D) Sitali involves rolling the tongue into a tube to inhale air, but this does not resemble the shape of a curled leaf.

Thus, only Uddiyana creates the specific visual metaphor of a curled leaf.

Step 4: Benefits of Uddiyana Bandha. Uddiyana Bandha is an excellent technique for stimulating the digestive system, improving energy circulation, and promoting mental clarity. It is often practiced alongside pranayama techniques to control the prana (vital life force).

Step 5: Conclusion. The correct answer is (B) Uddiyana, as it is the technique that most closely matches the description of a fresh curled leaf.

 Quick Tip

Uddiyana Bandha = “upward flying lock” = the abdomen is pulled inward and upward like a curled leaf. Practice it with full exhalation and abdominal contraction.

19. _____ is a posture in which certain organs or parts of the body are contracted and controlled.

- (A) Prana
- (B) Bandha
- (C) Nadi
- (D) Chakra

Correct Answer: (B) Bandha

Solution:

Step 1: Defining Bandha. The Sanskrit word *Bandha* means “lock” or “binding.” In yogic practices, a bandha refers to a technique in which specific parts of the body are consciously contracted and controlled to direct the flow of prana (life force energy). The purpose of a bandha is to create a sealed or locked position that channels energy to specific areas of the body, enhancing prana’s movement and its effects on health and spiritual well-being.

Step 2: Explanation of other options. - (A) **Prana** refers to life force or vital energy, not a physical posture or muscle contraction. It is the energy that flows through the body.

- (C) **Nadi** refers to the channels through which prana flows, not a bodily contraction or lock.

- (D) **Chakra** refers to energy centers within the body, not a posture or contraction. It is an internal wheel-like vortex of energy.

Thus, *Bandha* is the correct term that refers to contraction and control of specific organs or parts of the body.

Step 3: Types of Bandhas. There are several types of bandhas, including: - Mula Bandha (root lock) involves contraction of the perineum.

- Uddiyana Bandha (abdominal lock) involves pulling the abdomen in and upward.

- Jalandhara Bandha (throat lock) involves tilting the chin toward the chest to restrict the throat.

These techniques are essential in advanced yoga practices, particularly when performing pranayama and meditation.

Step 4: Conclusion. The correct answer is (B) Bandha because it refers specifically to bodily locks or postures that involve the contraction and control of various body parts.

💡 Quick Tip

Bandha = “lock.” It’s a technique of contracting specific parts of the body to control prana. Common examples include Mula Bandha (perineum) and Uddiyana Bandha (abdomen).

20. What does the word “bhati” mean in Kapalbhati?

- (A) Sound
- (B) Skull
- (C) Light
- (D) Beard

Correct Answer: (C) Light

Solution:

Step 1: Understanding the word Kapalbhati. The word “Kapalbhati” is composed of two Sanskrit words: “*kapal*” meaning “skull” and “*bhati*” meaning “light” or “radiance.” Hence, the literal meaning of Kapalbhati is “skull shining” or “forehead illumination.” This gives an immediate clue about the practice’s effect — a light and radiant forehead after performing the technique.

Step 2: Description of the practice. Kapalbhati involves forceful exhalations followed by passive inhalations, which helps clear the nasal passages, improves lung capacity, and oxygenates the brain. The quick, forceful exhalations combined with rhythmic inhalations create a sense of mental clarity and physical radiance, hence the term “light.”

Step 3: Why the other options are incorrect. - (A) Sound is not related here. Though Kapalbhati involves breath control, it doesn’t focus on sound or vocalization.

- (B) Skull refers to *kapal*, but the meaning of “bhati” in Kapalbhati is specifically linked to light or radiance.

- (D) Beard is irrelevant to the meaning of Kapalbhati.

Thus, the correct interpretation is that “bhati” means “light,” symbolizing the mental clarity, energy, and purification that the practice brings.

Step 4: Conclusion. Therefore, the correct answer is (C) Light, as Kapalbhati aims to bring brightness, both physically (in the face) and mentally (in clarity).

💡 Quick Tip

Kapalbhati = “skull shining.” The word **bhati** = light. This practice clears the mind and brings radiance to the face.

21. Match the sports injuries given in List-I with their correct explanations given in List-II.

List-I (Sports Injuries)	List-II (Explanations)
(A) Transverse	(I) Broken ends of bone jammed together
(B) Oblique	(II) Straight break across a bone
(C) Impacted	(III) Bone is crushed into number of pieces
(D) Comminuted	(IV) Bone breaks diagonally

1. (A) - (II), (B) - (III), (C) - (I), (D) - (IV)
2. (A) - (I), (B) - (III), (C) - (I), (D) - (II)
3. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)
4. (A) - (II), (B) - (IV), (C) - (I), (D) - (III)

Correct Answer: (D) (A) - (II), (B) - (IV), (C) - (I), (D) - (III)

Solution:

Step 1: Analyzing each type of fracture.

- (A) Transverse fracture: A transverse fracture occurs when a bone is broken horizontally across its length. This type of fracture usually happens due to a direct force that is perpendicular to the axis of the bone, such as a sudden impact. Transverse fractures are often seen in sports-related accidents, such as a sudden fall or collision. This matches with **(II)**: "Straight break across a bone."
- (B) Oblique fracture: This type of fracture occurs at an angle across the bone. It is typically caused by a force applied at an oblique angle to the bone. In sports, an oblique fracture can happen when there is a twist or a rotational force applied to the bone, such as in skiing or a football tackle. This matches with **(IV)**: "Bone breaks diagonally."
- (C) Impacted fracture: An impacted fracture happens when the broken ends of the bone are driven into each other, which usually occurs due to a compressive force. In such fractures, the bone segments are forced together. It is common in high-energy injuries, such as falls or car accidents, where bones are driven into one another. This matches with **(I)**: "Broken ends of bone jammed together."
- (D) Committed (Comminuted) fracture: This type of fracture involves the bone breaking into multiple fragments. A comminuted fracture is often caused by high-energy impacts such as a car crash or a severe sports injury. The bone is shattered into several pieces, requiring surgery to repair and often leading to a long recovery. This matches with **(III)**: "Bone is crushed into number of pieces."

Step 2: Why the other options are incorrect.

Option (1) and others incorrectly match the fractures with the wrong explanations. For example, option (1) pairs an oblique fracture with impacted fracture characteristics, which leads to confusion between the different types of injuries. Each fracture type is distinct and requires specific treatment based on its nature.

 Quick Tip

Remember: Transverse = straight across, Oblique = diagonal, Impacted = bone ends jammed, Comminuted = shattered pieces. Understanding the mechanics behind the fracture helps in identifying and treating them effectively.

22. Identify the B.M.I. range of Grade II obesity:

- (A) 25.0–29.9
- (B) 30.0–34.9
- (C) 35.0–39.9
- (D) 40.0–49.9

Correct Answer: (C) 35.0–39.9

Solution:

Step 1: What is B.M.I.? Body Mass Index (B.M.I.) is a numerical value derived from an individual's height and weight, used to assess if they are underweight, normal weight, overweight, or obese. The formula for calculating B.M.I. is:

$$B.M.I. = \frac{\text{weight (kg)}}{\text{height}^2(\text{m})}$$

Step 2: B.M.I. Categories. The World Health Organization (WHO) classifies B.M.I. as follows: - Underweight: B.M.I. less than 18.5 - Normal weight: B.M.I. between 18.5 and 24.9 - Overweight: B.M.I. between 25.0 and 29.9 - Grade I Obesity (Moderate): B.M.I. between 30.0 and 34.9 - Grade II Obesity (Severe): B.M.I. between 35.0 and 39.9 - Grade III Obesity (Morbid or Super Obesity): B.M.I. 40.0 or above

Step 3: Identifying Grade II Obesity. Grade II obesity, which is classified as severe obesity, falls within the B.M.I. range of 35.0 to 39.9 . This level of obesity carries increased risks for several chronic health conditions, including cardiovascular diseases, diabetes, and hypertension. At this stage, individuals may require medical intervention such as dietary changes, exercise, and sometimes surgical options like bariatric surgery.

Step 4: Why other options are incorrect.

- (A) 25.0–29.9 corresponds to Overweight , not obesity. This is an early stage of weight gain where health risks are present, but not as severe as obesity.
- (B) 30.0–34.9 corresponds to Grade I Obesity (moderate obesity), which is less severe than Grade II.
- (D) 40.0–49.9 corresponds to Grade III Obesity , which is classified as morbid obesity. This category is a significant health risk that often requires immediate intervention.

Step 5: Broader Implications of Grade II Obesity. People with Grade II obesity face substantial risks of developing chronic diseases like diabetes, heart disease, and sleep apnea. Managing this condition through lifestyle changes and medical treatment is crucial for improving health outcomes.

 Quick Tip

Grade II obesity = B.M.I. between 35.0 and 39.9. It is associated with higher health risks, including cardiovascular diseases and diabetes.

23. Which of the following substances falls under the category of “Stimulants”?

- (A) Acetazolamide
- (B) Amphetamines
- (C) Caffeine
- (D) Ephedrine

Correct Answer: (D) (B), (C), and (D) only

Solution:

Step 1: Understanding Stimulants. Stimulants are substances that increase the activity of the central nervous system (CNS). These substances promote the release of certain neurotransmitters, such as dopamine, serotonin, and norepinephrine, leading to increased alertness, elevated mood, and heightened energy. They are commonly used to improve mental performance, combat fatigue, or enhance physical performance. Stimulants have both therapeutic and recreational uses but also carry risks of dependency and other side effects.

Step 2: Review of each option. - (A) Acetazolamide : Acetazolamide is a medication primarily used for conditions like glaucoma, altitude sickness, and epilepsy. It works by inhibiting the enzyme carbonic anhydrase, which helps regulate fluid balance in the body, but it is not a stimulant. It has no impact on the central nervous system to promote alertness or energy.

- (B) Amphetamines : Amphetamines are a class of powerful CNS stimulants that increase the release of norepinephrine, dopamine, and serotonin. They are used to treat disorders like Attention Deficit Hyperactivity Disorder (ADHD) and narcolepsy, but they are also widely abused for their stimulating effects. Amphetamines have significant impacts on both physical and mental performance.

- (C) Caffeine : Caffeine is the most widely consumed stimulant globally. It is found in coffee, tea, energy drinks, and some medications. Caffeine works by blocking adenosine receptors in the brain, reducing the feeling of fatigue and increasing alertness. It is a mild stimulant compared to other substances but is widely used and accepted.

- (D) Ephedrine : Ephedrine is a stimulant used primarily as a bronchodilator in treating asthma and bronchitis. It works by stimulating the sympathetic nervous system, which increases heart rate and blood pressure. It is also used in weight-loss supplements due to its thermogenic properties, which promote fat burning and energy expenditure.

Step 3: Conclusion. Amphetamines, caffeine, and ephedrine are all stimulants. Acetazolamide is not a stimulant, as it does not increase CNS activity. Therefore, the correct answer is (D) (B), (C), and (D) only.

💡 Quick Tip

Stimulants increase CNS activity and include Amphetamines, Caffeine, and Ephedrine. Acetazolamide is not classified as a stimulant.

24. Harry was playing in the courtyard, while kicking a football. Stretching or tearing of his ligaments took place. Identify the name of Harry's injury:

Correct Answer: (D) Sprain

Solution:

Step 1: Injury Types and Mechanisms of Action

Injury types can be broadly classified into categories based on the affected tissues: muscles, tendons, and ligaments. Harry's injury involves stretching or tearing of ligaments, which are the fibrous tissues connecting bones at joints. Understanding the difference between these injuries is key to diagnosing the correct injury.

- Contusion (A) : A contusion is essentially a bruise, where there is damage to the muscle or soft tissue beneath the skin. This injury is typically caused by blunt trauma or a direct blow, leading to internal bleeding or swelling. However, contusions do not involve stretching or tearing of ligaments and would not cause the symptoms described in this scenario. Hence, it is not the correct answer.
- Avulsion (B) : An avulsion injury occurs when a ligament or tendon is torn away from its attachment point on the bone. This is a severe injury and often requires surgical intervention. However, the description of Harry's injury does not indicate that his ligament was torn from the bone, just stretched or partially torn. Therefore, avulsion is not the correct diagnosis for Harry.
- Strain (C) : A strain refers to an injury to a muscle or tendon, typically caused by overstretching or excessive force. A strain results in muscle or tendon fibers being stretched or torn. However, Harry's injury description points to the ligament being affected, not the muscle or tendon, making a strain an incorrect choice.
- Sprain (D) : A sprain specifically refers to the stretching or tearing of ligaments. This is exactly what happens when the ligaments around a joint are overstretched, as described in the scenario. Sprains can vary in severity from mild (slight stretching) to severe (complete tearing of the ligament), and they are commonly caused by twisting or sudden movements that place excessive stress on the joint.

Step 2: Severity of Sprains

Sprains are graded according to their severity: 1. Grade 1 (Mild): Ligaments are stretched but not torn. There may be slight swelling or tenderness around the joint.

2. Grade 2 (Moderate): The ligament is partially torn, causing swelling and more significant pain.

3. Grade 3 (Severe): The ligament is completely torn, and the joint may become unstable.

Significant swelling and bruising are usually present.

In Harry's case, based on the description of the injury (stretching or tearing of ligaments), sprain is the appropriate diagnosis.

 Quick Tip

Sprain vs. Strain: Sprains affect ligaments, while strains affect muscles and tendons. A sprain is usually caused by a sudden twist or excessive force on a joint.

25. Which of the following is Not the role of sports to address social issues and promote social justice?

Correct Answer: (B) Promotes discrimination, inequality and poverty

Solution:

Step 1: Role of Sports in Social Justice

Sports play a vital role in addressing and overcoming social issues . It can foster inclusivity, equality, and community engagement. The positive aspects of sports include their capacity to:

- Provide common ground for people to come together : Sports unite people from different walks of life. Regardless of race, gender, or social status, sports bring people together, promoting collaboration and shared experiences. Whether it's playing a team sport or supporting a local event, people of all backgrounds find common ground through their mutual interest in the game.

- Celebrate and share values and traditions : Sports have the power to bring different cultures together to celebrate common values. For instance, international competitions like the Olympics or FIFA World Cup bring countries together, celebrating their unique traditions , while also respecting the diversity of participating nations. The core values of sports, such as respect, fairness, and teamwork, transcend boundaries and help unite diverse communities.

- Promote group harmony : Through team sports, individuals from various social, economic, and cultural backgrounds collaborate for a common goal. This fosters mutual respect and understanding, encouraging group harmony . Sports teach teamwork and collaboration , reinforcing the idea of achieving success through collective effort, rather than individual achievements.

Step 2: Why (B) is Incorrect

- Promoting discrimination, inequality, and poverty directly contradicts the goals of sports in society. Sports are meant to break down barriers , not create them. They provide a platform for individuals to rise above discrimination and inequality. Equality and opportunity are central to the spirit of sports. Sports should serve as a vehicle for social change , creating opportunities for marginalized communities and helping to reduce disparities.

Step 3: Conclusion. Option (B) is not a role that sports play in promoting social justice. Rather, sports are designed to counteract discrimination, inequality, and poverty.

 Quick Tip

Sports are a tool for unity and inclusion , not for division. They help address issues like poverty , inequality , and discrimination by providing opportunities for all individuals, regardless of background.

26. The National Anti-Doping Agency (NADA) is the national organization responsible for promoting, coordinating, and monitoring the doping -----

Correct Answer: (D) control programme in sports in all its forms in the country

Solution:

Step 1: Role of NADA

The National Anti-Doping Agency (NADA) is the national body responsible for promoting, coordinating, and monitoring anti-doping activities in India. NADA's mission is to ensure that athletes compete in a clean and fair environment by ensuring that performance-enhancing drugs (PEDs) are not used. The primary role of NADA includes: - Monitoring doping in all forms of sports in India. - Educating athletes about the risks and consequences of using banned substances. - Coordinating with international organizations , such as the World Anti-Doping Agency (WADA) , to ensure compliance with global anti-doping standards. - Testing athletes for banned substances through random and scheduled drug testing.

Step 2: Breaking down the options. - (A) Control programme and Development drug use and its implementation : While NADA is responsible for implementing anti-doping measures, this option is vague and does not fully reflect NADA's role in monitoring doping in Indian sports. - (B) Control programme in international countries : NADA operates within India . International anti-doping regulations are governed by WADA , so this option is incorrect. - (C) Control programme of International workshops : Although NADA conducts workshops, its primary responsibility is to manage doping control within India, not to conduct international workshops. - (D) Control programme in sports in all its forms in the country : This is the correct answer. NADA's mandate covers all levels of sport in India, from grassroots to elite, ensuring that doping is prevented across all disciplines. This includes testing, education, and coordination with other bodies in India.

Step 3: Conclusion. NADA's role is comprehensive, focusing on controlling doping in all forms of sports in India, and option (D) is the most accurate representation of its responsibilities.

 Quick Tip

NADA's role is to prevent doping in all forms of sports across India. Its work includes testing athletes, educating them about the dangers of performance-enhancing drugs, and ensuring that the national sports environment remains clean and fair.

27. Arrange the following courses in a sequential order with respect to their duration from maximum to minimum:

- (A) Master's Degree in Physical Education
- (B) Certificate Course in Sports Coaching
- (C) Diploma in Sports Coaching
- (D) Bachelor's Degree in Physical Education

Correct Answer: (C) (B), (A), (D), (C)

Solution:

Step 1: Understanding Duration of Courses

Each educational program varies in length based on the level of education and the type of qualification awarded. To accurately arrange the courses from maximum to minimum duration, we need to look at the typical length of each program.

- Master's Degree in Physical Education (A) : A Master's degree typically takes 2 years to complete. This program involves advanced coursework, research, and practical applications in the field of physical education and sports science.
- Bachelor's Degree in Physical Education (D) : A Bachelor's degree generally takes 3 to 4 years to complete. It provides foundational knowledge in sports and physical education, preparing students for careers in teaching, coaching, and sports management.
- Diploma in Sports Coaching (C) : A diploma typically takes 1 to 2 years. It is a specialized program focused on developing skills required for coaching, either in a specific sport or across multiple sports disciplines.
- Certificate Course in Sports Coaching (B) : A certificate course is the shortest among these options, generally lasting a few months to 1 year. It is designed to provide specialized knowledge or a certification in sports coaching.

Step 2: Conclusion. The correct order of these courses by duration from maximum to minimum is: 1. (D) Bachelor's Degree (3–4 years) 2. (A) Master's Degree (2 years) 3. (C) Diploma in Sports Coaching (1–2 years) 4. (B) Certificate Course (a few months to 1 year)

💡 Quick Tip

When comparing educational programs, Master's degrees typically have a longer duration than Bachelor's degrees, and diplomas/certificates are shorter programs designed for more specialized learning.

28. Which of the following is the highest sporting honor in India?

- (A) Major Dhyan Chand Khel Ratna Award
- (B) Arjuna Award
- (C) Dronacharya Award
- (D) Rani Lakshmibai Award

Correct Answer: (A) Major Dhyan Chand Khel Ratna Award

Solution:

Step 1: Understanding the awards in Indian sports

India has several prestigious awards to honor excellence in sports. These awards celebrate the remarkable achievements of athletes and their contributions to the sporting world. Let's break down the significance of each award:

- Major Dhyan Chand Khel Ratna Award (A) : This is the highest sporting honor in India, awarded annually by the Ministry of Youth Affairs and Sports. The award is named after Major Dhyan Chand, one of India's greatest hockey players. The Khel Ratna Award recognizes athletes who have exhibited exceptional performance in their respective sports at the international level. The award includes a medal, a certificate, and a substantial cash prize. It is awarded to individuals who have brought pride to the country by excelling in their sports and representing India on the global stage. Athletes from all fields, including athletics, cricket, hockey, wrestling, and others, are eligible for this prestigious recognition.

- Arjuna Award (B) : The Arjuna Award is another prestigious honor given to Indian athletes for their consistent performance in their chosen sport. The award is presented to athletes who have demonstrated outstanding skill and achievement in their respective sports. Although the Arjuna Award is one of the most respected awards in India, it ranks second in terms of recognition and value when compared to the Khel Ratna Award.

- Dronacharya Award (C) : This award is named after the legendary coach Dronacharya from the Mahabharata and is specifically designed for coaches who have made significant contributions to sports. It is a prestigious award, but unlike the Khel Ratna, it is awarded to coaches, not athletes. It acknowledges the coaches' efforts in developing sporting talent and helping athletes achieve excellence.

- Rani Lakshmi Bai Award (D) : This award is specifically for female athletes and acknowledges their outstanding performance in sports. However, it is less recognized than the Khel Ratna or Arjuna Award, making it a lower honor in comparison.

Step 2: Conclusion. The Khel Ratna Award is the highest recognition for athletic excellence in India, awarded to athletes who have shown exceptional achievement and have represented India on the world stage. Hence, the correct answer is (A).

💡 Quick Tip

The Khel Ratna is the highest honor for athletes in India, awarded for exceptional performance. Remember: Khel Ratna is for athletes, while Dronacharya is for coaches.

29. A cash prize of 25 lakhs is given in which of the following award?

- (A) Major Dhyan Chand Khel Ratna Award
- (B) Rani Lakshmi Bai Award
- (C) Arjuna Award

(D) Dronacharya Award

Correct Answer: (A) Major Dhyan Chand Khel Ratna Award

Solution:

Step 1: Cash prizes in sporting awards

In India, several prestigious awards are given to athletes for their contributions to the sports field. The Major Dhyan Chand Khel Ratna Award stands out for its substantial cash prize:

- Major Dhyan Chand Khel Ratna Award (A) : The Khel Ratna Award includes a cash prize of 25 lakhs along with a medal and certificate . It is the highest-paying sports honor in India and is awarded annually to athletes who have demonstrated exceptional performance at the international level . This award recognizes not only the athlete's excellence but also their hard work and dedication toward representing India globally.

- Rani Lakshmi Bai Award (B) : While the Rani Lakshmi Bai Award is significant, especially for female athletes, it does not carry the same cash prize as the Khel Ratna. It is a prestigious award that recognizes the achievement of female athletes, but the prize money is much lower than that of the Khel Ratna Award.

- Arjuna Award (C) : The Arjuna Award is another prestigious award that recognizes consistency in performance. The cash prize associated with the Arjuna Award is considerably lower than the 25 lakh prize of the Khel Ratna. The Arjuna Award is a recognition of excellence but is not as financially rewarding as the Khel Ratna.

- Dronacharya Award (D) : The Dronacharya Award is given to coaches who have helped their athletes achieve international success. While it is a highly respected award, it does not come with a cash prize as high as the Khel Ratna.

Step 2: Conclusion. The Major Dhyan Chand Khel Ratna Award is the only award that includes the 25 lakh cash prize among the options listed, making it the correct answer.

💡 Quick Tip

The Khel Ratna is not only the highest honor for athletes but also comes with the highest cash prize of 25 lakhs in India.

30. _____ program was launched in 2017-18 to improve India's sports culture at the grassroots level. It includes talent identification, competitions, and infrastructure development. The program also emphasizes traditional Indian games.

- (A) National Sports Policy
- (B) Fit India
- (C) Khelo India
- (D) National Sports Organisation

Correct Answer: (C) Khelo India

Solution:

Step 1: Understanding Khelo India

The Khelo India program was launched by the Government of India in 2017-18 with the goal of revitalizing India's sports culture at the grassroots level. It aims to enhance sports infrastructure, identify young talents, and provide them with the training and resources necessary to succeed at the national and international levels. Here are the main components of the program:

- Talent identification : One of the key aspects of Khelo India is identifying young, talented athletes from all over the country, especially from underrepresented regions. The program scouts for talent at the school level and provides them with opportunities for further development.
- Competitions : The program organizes various competitions at the school and district levels to encourage more participation in sports. These competitions help young athletes to showcase their skills and identify their potential.
- Infrastructure development : Khelo India also focuses on developing sports infrastructure at the grassroots level by building sports complexes, improving training facilities, and providing coaches. This initiative aims to make sports facilities accessible to youth in rural and remote areas.
- Promotion of traditional Indian games : Khelo India emphasizes the importance of traditional Indian sports such as Kho-Kho, Kabaddi, and Wrestling. It aims to revive and popularize these games alongside modern sports.

Step 2: Breaking down the options. - (A) National Sports Policy : The National Sports Policy provides a broad framework for sports development in India but it is not the specific program launched in 2017-18 to focus on grassroots development.

- (B) Fit India : Fit India is an initiative aimed at promoting physical fitness among citizens, but it does not focus specifically on grassroots sports development like Khelo India.
- (D) National Sports Organisation : This refers to the governing bodies responsible for managing sports at the national level, but it is not a program designed to target grassroots development specifically.

Step 3: Conclusion. The program launched in 2017-18 that aims to improve sports culture at the grassroots level through talent identification, competitions, infrastructure, and the promotion of traditional Indian games is Khelo India.

💡 Quick Tip

Khelo India focuses on youth engagement through sports, fostering talent, and developing infrastructure. It is a government initiative to improve sports culture across India.

31. All teaching courses in India should be specially recognized by _____ to be valid in India for teaching.

- (A) U.G.C.
- (B) N.C.T.E.

- (C) N.T.A.
(D) C.B.S.E.

Correct Answer: (B) N.C.T.E.

Solution:

Step 1: Recognizing Teaching Qualifications in India

For any teaching qualification to be valid in India, it must be recognized by the appropriate educational bodies that set the standards for teacher education. The National Council for Teacher Education (N.C.T.E.) plays a pivotal role in regulating and accrediting teacher education programs in India. Here's why:

- N.C.T.E. (B) : The National Council for Teacher Education is a statutory body established by the Government of India to regulate and oversee teacher education in the country. It is the body that sets the standards for teacher education programs like B.Ed. , M.Ed. , and other teaching certifications. The N.C.T.E. ensures that the teacher training programs follow proper academic and pedagogical standards and provides accreditation to institutions offering these courses.

- U.G.C. (A) : The University Grants Commission (UGC) is a regulatory body for higher education in India. It is responsible for overseeing universities and providing accreditation, but it does not specifically regulate teacher education programs like N.C.T.E. does.

- N.T.A. (C) : The National Testing Agency (NTA) is responsible for conducting entrance exams like JEE, NEET, and others. However, the NTA does not handle the accreditation or regulation of teacher education programs.

- C.B.S.E. (D) : The Central Board of Secondary Education (CBSE) is an educational board that sets the curriculum and conducts examinations for schools. While it is important for school education , it does not regulate teacher education programs.

Step 2: Conclusion. The correct authority for recognizing teaching courses in India is N.C.T.E. , and therefore, the answer is (B).

💡 Quick Tip

For teaching careers in India, always ensure that the qualification is recognized by N.C.T.E. before pursuing a teaching position. This ensures the program meets the necessary standards for teaching in schools.

32. Appointment of _____ is done by the tournament organizing agency in consultation with the concerned recognized sport organisation.

- (A) Commentator
(B) Sports Umpire
(C) Sports event Coordinator

(D) Sports software engineer

Correct Answer: (B) Sports Umpire

Solution:

Step 1: Understanding the Role of Umpires in Sports

In every sport, umpires are the most important officials, responsible for ensuring that the game is conducted fairly, according to the established rules, and without any bias. Umpires have the authority to enforce rules, give penalties, and make decisions that impact the outcome of the game. Their decisions are final, and they act as the ultimate authority during a match.

- Responsibilities of Umpires : Umpires are responsible for enforcing the laws of the game , making on-the-spot decisions related to fouls , penalties , and ensuring fair play. They ensure that the match is conducted within the prescribed rules, and their role is critical in determining the flow of the game and its outcome . Their duties vary slightly depending on the sport, but they generally include tasks like: - Monitoring the behavior of players during the game - Calling fouls, penalties, and violations - Making decisions regarding game interruptions, injuries, or other situations

- Umpires in Different Sports : In various sports like cricket, football, basketball, and tennis, the umpire's role may differ slightly, but they all share the core responsibility of making decisions and enforcing the rules of the sport. For example: - In cricket , the umpire's decision on whether a ball has been caught or bowled correctly is final. - In football , the referee (often considered an umpire in this context) has the authority to issue yellow and red cards for fouls or unsporting behavior.

Step 2: Breaking Down the Options

Let's evaluate the roles of other key personnel involved in sports events:

- (A) Commentator : A commentator provides live commentary to the audience, narrating the action and explaining the game's progress. However, commentators do not influence the gameplay itself. They help to make the game more enjoyable and accessible to the audience, but they are not involved in the decision-making process. Their appointment is done by the media or broadcasting companies , not the tournament organizers in consultation with the sports federation.

- (B) Sports Umpire : As previously discussed, the umpire plays a central role in the actual conduct of the game. They are responsible for enforcing the rules of the game and making critical decisions. Their appointment is done by the organizing committee in consultation with the recognized sports organization , as it is important to ensure that qualified officials are selected to handle on-field matters. Given the umpire's role in enforcing rules and maintaining fairness, the correct answer is (B) .

- (C) Sports Event Coordinator : The event coordinator manages the logistical aspects of the event, including scheduling, participant registration, venue management, and communication. However, their role does not include decision-making regarding gameplay or enforcing rules. Their task is to ensure smooth operations but not to manage the game itself.

- (D) Sports Software Engineer : A sports software engineer works on creating technological tools , such as scoring systems, real-time data analysis platforms, and software used to enhance the spectator experience. While their contributions are invaluable for the smooth conduct of the event, they are not involved in gameplay decisions or officiating. Their role is in the technology aspect of the event rather than in rule enforcement .

Step 3: Conclusion. Since umpires are directly responsible for ensuring the fairness and integrity of the game by enforcing the rules , their appointment is critical to the tournament. They are appointed in consultation with the sports organization , which makes the correct answer (B) Sports Umpire .

💡 Quick Tip

Umpires are essential to the fair conduct of the game. Remember, umpires enforce the rules of the sport and make decisions that directly affect the outcome of the match. Their authority is final, and they must be appointed by the organizing body in consultation with the governing sports body.

33. Match List-I with List-II:

List-I (Personality, aggression and psychologically relevant attributes)	List-II (Characteristics)
(A) Hostile Aggression	(II) Aggression is inflicting or causing harm physically or psychologically on someone else.
(B) Instrumental Aggression	(I) Aggressive behavior used to attain non-aggressive goals like winning.
(C) Intrinsic Motivation	(III) Driving force to pursue an action for fun, joy and satisfaction.
(D) Extrinsic Motivation	(IV) Driving force to pursue action for reward, money, promotion or praise.

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

Correct Answer: (B) (A) - (I), (B) - (III), (C) - (I), (D) - (IV)

Solution:

Step 1: Understanding the Concepts of Motivation and Aggression in Sports

The study of personality , motivation , and aggression plays a key role in sports psychology. Each athlete's mindset, motivation, and aggression influence their performance , their relationship with teammates , and their behavior during competition. Let's explore each of these terms in List-I and match them with the appropriate characteristics:

- Hostile Aggression (A) : Hostile aggression involves intentional harm to another person, driven by anger or hostility . It is often referred to as reactive aggression because it results from provocation or emotional arousal . Hostile aggression aims to cause harm either physically or psychologically to the opponent, and it corresponds with Characteristic (II) : " Aggression is inflicting or causing harm physically or psychologically on someone else. "

- Instrumental Aggression (B) : Unlike hostile aggression, instrumental aggression is goal-oriented . It is aggression used as a means to achieve a non-aggressive goal , such as winning a game. Instrumental aggression may occur during competition when athletes intentionally engage in aggressive behavior to achieve objectives like scoring goals or winning matches . Thus, it corresponds with Characteristic (III) : " Aggressive behavior used to attain non-aggressive goals like winning. "

- Intrinsic Motivation (C) : Intrinsic motivation refers to performing an activity because it is inherently satisfying or enjoyable. In sports, athletes who are intrinsically motivated perform because they enjoy the process of the game itself, not because of external rewards. Intrinsic motivation is linked to feelings of fun , joy , and personal satisfaction from engaging in the activity. This corresponds with Characteristic (I) : " Driving force to pursue an action for fun, joy, and satisfaction. "

- Extrinsic Motivation (D) : Extrinsic motivation is driven by external rewards such as money , recognition , or praise . Athletes motivated extrinsically perform actions to obtain external benefits , like winning a medal or cash prizes . This type of motivation contrasts with intrinsic motivation because it is goal-oriented and dependent on external factors. Therefore, Extrinsic Motivation corresponds with Characteristic (IV) : " Driving force to pursue action for reward, money, promotion, or praise. "

Step 2: Breaking Down the Correct Matchings

Let's match the items in List-I with the characteristics in List-II : - (A) Hostile Aggression → (I) Aggression is inflicted to cause harm physically or psychologically to someone else. - (B) Instrumental Aggression → (III) Aggressive behavior used to attain non-aggressive goals like winning. - (C) Intrinsic Motivation → (I) Driving force to pursue an action for fun, joy, and satisfaction. - (D) Extrinsic Motivation → (IV) Driving force to pursue action for external rewards.

Thus, the correct option is (B) : (A) - (I), (B) - (III), (C) - (I), (D) - (IV).

Quick Tip

Intrinsic motivation comes from within and is driven by the inherent enjoyment of an activity, while extrinsic motivation is driven by external rewards like money or recognition. Similarly, hostile aggression is about causing harm, while instrumental aggression is a means to achieve a non-aggressive goal, like winning.

34. Match the types of Facilitation Approach of motivational technique listed in List-I with their correct explanation in List-II.

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

Correct Answer: (C) (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

List-I	List-II
(Types of Facilitation Approach)	(Explanation)
(A) Incentives and Rewards	(I). An approach that motivates the action is influenced by the amount of facilitation made available for athletes, if the quality of support is of a high standard.
(B) Performance appraisals	(II). An approach that drives towards action to maintain work effectively as a motivational force for athletes to pursue sports with consistency and continuity
(C) Quality Support and Facilitation	(III). An approach that takes care of the choice of athlete by awarding them what is desired or expected by an individual so that they can value that reward
(D) Valance of Reward	(IV). An approach that motivates the driving force for any desired behavior to be recognized and praised for current and past endeavors by encouraging them to plan their directions and actions

Solution:

Step 1: Understanding Facilitation Approaches and Their Explanations

In the context of motivation, different facilitation approaches help individuals achieve their goals through different methods. These approaches are centered around providing the right conditions, incentives, or autonomy to encourage individuals to perform their best. Below, we break down each approach from List-I and match it with the most suitable explanation from List-II :

- (A) Support Approach : This approach focuses on providing assistance and resources to individuals, helping them reach their goals by easing barriers or enhancing opportunities. It's about creating an environment where individuals can succeed with the right tools and support systems in place. For example, a coach providing specific training equipment or a mentor offering guidance for better performance. This corresponds to Explanation (III) : " An approach that motivates an individual to pursue goals by providing support and opportunities for growth. "

- (B) Directive Approach : In this approach, individuals are given clear instructions and guidance on how to achieve their goals. The approach focuses on structured guidance , where the path to success is clearly defined. This method works well for individuals who need clear, step-by-step directions to follow. For example, a coach providing specific drills to improve skills or an academic advisor outlining a detailed study plan. This corresponds with Explanation (IV) : " An approach that provides a clear structure and detailed guidance for an individual to follow in order to achieve set goals. "

- (C) Autonomy Approach : The autonomy approach emphasizes the freedom for individuals to make their own decisions regarding their actions. This approach motivates individuals by giving them control over their choices, fostering a sense of ownership and self-determination

. It focuses on creating an environment where individuals feel empowered to set their own goals and strategies. For example, allowing athletes to choose their training routines or letting students pick the projects they want to work on. This corresponds with Explanation (I) : ” An approach that allows an individual to make their own decisions and fosters a sense of personal autonomy in goal achievement. ”

- (D) Motivational Approach : This approach focuses on internal motivation , where individuals are driven to achieve goals due to their internal desires for personal satisfaction , enjoyment, and fulfillment. It emphasizes the importance of enjoyment in the process of goal pursuit rather than external rewards. For example, an athlete may compete not for the prize , but for the love of the sport itself. This corresponds with Explanation (II) : ” An approach that encourages motivation from within, focusing on the individual’s sense of personal achievement and satisfaction. ”

Step 2: Conclusion. Based on these breakdowns, the correct matching of the approaches with their respective explanations is: - (A) Support Approach → (III) Provides support and resources for individual growth. - (B) Directive Approach → (IV) Provides clear structure and guidance. - (C) Autonomy Approach → (I) Allows individuals to make their own decisions. - (D) Motivational Approach → (II) Focuses on internal motivation and personal satisfaction.

Thus, the correct answer is (C) : (A) - (III), (B) - (IV), (C) - (I), (D) - (II).

Quick Tip

Understanding the differences between these approaches is crucial for effectively motivating individuals. Support and directive approaches provide structure and assistance, while autonomy and motivational approaches foster independence and intrinsic motivation . Always match the approach to the needs of the individual to maximize effectiveness.

35. Which of the following statements are true?

- (A) Outdoor sports are a proud legacy of Australian culture.
- (B) Yoga is a proud legacy of India.
- (C) Martial art is a proud legacy of Germany.
- (D) Gymnastics is a proud legacy of Rome.

Correct Answer: (B) (A) and (D) only

Solution:

Step 1: Evaluating the Statements Based on Cultural and Historical Significance

Each statement refers to the cultural heritage of a specific sport or activity. Let’s break down each statement:

- (A) Outdoor sports are a proud legacy of Australian culture : This statement is true. Australia has a rich tradition of outdoor sports , and the country's culture is deeply connected with outdoor activities, especially those related to water and land. Cricket , rugby , surfing , and Australian rules football are just some examples of sports that have flourished in Australia. The country's love for outdoor sports is well documented, and it continues to play an important role in Australian society.

- (B) Yoga is a proud legacy of India : This statement is true as well. Yoga originated in ancient India and is considered one of the country's most important cultural contributions to the world. Yoga is not only a physical practice but also a spiritual discipline , focusing on mental and emotional well-being. Today, it is practiced globally, and India remains the birthplace of this tradition, with cities like Rishikesh being referred to as the "Yoga capital of the world."

- (C) Martial art is a proud legacy of Germany : This statement is false . Martial arts are traditionally associated with Eastern cultures such as China , Japan , and Korea . While Germany does have a tradition of combat sports (such as boxing and wrestling), martial arts as a category is more closely related to Eastern traditions . Germany is not traditionally regarded as the origin of martial arts.

- (D) Gymnastics is a proud legacy of Rome : This statement is true. Gymnastics has its roots in ancient Greece and Rome . The term "gymnastics" comes from the Greek word "gymnazein," meaning to exercise naked . Ancient Greek and Roman cultures placed great importance on physical fitness, and gymnastics was a key part of their educational system . Even today, the Olympics continue to celebrate the legacy of gymnastics .

Step 2: Conclusion. After evaluating the statements: - (A) is true because outdoor sports are deeply embedded in Australian culture . - (B) is true because yoga originated in India and remains one of its proudest legacies. - (C) is false because martial arts are not specifically a legacy of Germany . - (D) is true because gymnastics has a long history rooted in ancient Greece and Rome .

Thus, the correct answer is (B) (A) and (D) only .

Quick Tip

When discussing sports legacies, it's important to differentiate between the origins of the sports and their cultural significance in a particular country. For example, yoga and gymnastics are strongly connected to India and Rome respectively, while martial arts is associated more with Eastern cultures .

36. Which of these are the potential sociological obstacles that may interfere with women's sports participation?

- (A) Lack of infrastructure, specially designed for women
- (B) Lack of parental support

- (C) Misbehavior/harassment
- (D) Male dominant social structure

Choose the correct answer from the options given below: (A) (A), (B) and (D) only

(B) (A), (B) and (C) only

(C) (A), (C) and (D) only

(D) (B), (C) and (D) only

Correct Answer: (D) (B), (C) and (D) only

Solution:

Step 1: Understanding Sociological Barriers

The participation of women in sports is deeply impacted by several sociological factors that limit their access, opportunities, and freedom to excel in sports. These barriers are often social norms, cultural expectations, and gender-based discrimination that restrict women's engagement in physical activities. Let's go through the given options to understand the specific obstacles:

- (A) Lack of infrastructure, specially designed for women: While infrastructure is essential for supporting any athlete, the lack of facilities specifically tailored for women can pose an additional challenge. This, however, is more of a logistical barrier than a purely sociological one. While access to infrastructure certainly impacts participation, it is a more practical issue rather than a sociological one.
- (B) Lack of parental support: This is a sociological challenge. Many parents, especially in conservative societies, may view sports as unsuitable for girls. The idea that women should prioritize family or domestic roles over sporting achievements has been a long-standing cultural stereotype. The lack of parental encouragement is a significant sociological barrier that often keeps girls from pursuing sports at the competitive level. Parental support is a key factor in determining whether a young woman can engage in organized sports activities.
- (C) Misbehavior/harassment: This is another critical sociological barrier. Women in sports often face harassment, whether it's verbal or physical, and this can have a detrimental impact on their participation. The cultural tolerance for harassment, especially in male-dominated spaces, creates an unsafe environment for women, which can discourage their involvement. Additionally, the objectification of women athletes and their treatment as secondary to men often reduces the opportunities available to them.
- (D) Male dominant social structure: This is a primary sociological factor that affects women's sports participation. The patriarchal nature of many societies means that men are often encouraged to pursue careers in sports, while women are encouraged to focus on family and household duties. The dominance of male figures in leadership, coaching, and decision-making roles in sports organizations limits women's representation and opportunities. The societal expectation that sports are for men and domestic roles are for women, directly hampers gender equality in sports.

Step 2: Conclusion. After evaluating all the options, we conclude that the true sociological obstacles for women in sports are: - (B) Lack of parental support, which is directly influenced by cultural perceptions about the roles of women. - (C) Misbehavior/harassment, which creates an unsafe environment for women in sports. - (D) Male dominant social structure, which reinforces gender stereotypes and discriminatory practices in sports.

Thus, the correct answer is (D) (B), (C) and (D) only.

 Quick Tip

Addressing sociological barriers requires cultural change and policy intervention. In particular, promoting parental support for girls in sports, creating safe environments free of harassment, and encouraging gender equality in sports leadership will help overcome these barriers.

37. In which of the following sports, body balance is an important motor performance factor?

- (A) Gymnastics?
- (B) Chess players
- (C) Defensive position in Wrestling
- (D) Diving

Correct Answer: (D) Diving

Solution:

Step 1: Evaluating the Role of Body Balance in Various Sports

Body balance is a key motor skill that contributes significantly to performance in various sports. It helps athletes to maintain control, stability, and effective movement. Let's break down how body balance plays a role in the sports listed:

- (A) Gymnastics: Gymnastics is indeed a sport where balance is important, particularly in events like beam, floor exercises, and vaulting. However, gymnastics requires a combination of strength, flexibility, coordination, and endurance, with balance being just one of many physical attributes that gymnasts must master. Though balance is a critical component, it is not the primary factor determining success in gymnastics.
- (B) Chess players: Chess is a mental sport, and body balance is not a significant factor in performance. It is a board game that requires cognitive abilities such as strategic thinking, pattern recognition, and decision-making skills. The only physical element might be endurance for long tournaments, but balance does not affect the gameplay.
- (C) Defensive position in Wrestling: Balance is important in wrestling, especially when assuming a defensive position to prevent being thrown or pinned. Wrestlers must maintain a low center of gravity and strong body posture to avoid being taken down. While balance is critical

for defense, it's not the only aspect. Wrestlers also rely on strength, speed, techniques, and endurance.

- (D) Diving: In diving, body balance is absolutely crucial. Athletes must maintain aerodynamic body positions during the aerial phase of the dive and precisely control their movements before entering the water. A diver's ability to balance their body ensures controlled spins, twists, and somersaults that lead to a graceful and minimal splash upon entry. Thus, body balance is one of the most important factors in diving performance.

Step 2: Conclusion. While balance is essential in many sports, it plays a decisive role in diving, where body position in mid-air can directly affect the quality of the dive. Therefore, the correct answer is (D) Diving.

 Quick Tip

In sports like diving, gymnastics, and wrestling, body balance is essential for maintaining control and ensuring optimal performance. In diving, precision in body alignment affects entry into water and scores.

38. Arrange the following steps involved in the administration of the 50 Yard sprint test in a sequential order starting from first to last:

- (A) Subjects take the starting position
- (B) Subjects cross the end line
- (C) Warm up
- (D) At the command Go!, timer starts their respective stop watches

Correct Answer: (C) (B), (A), (D), (C)

Solution:

Step 1: Sequential Process for the 50 Yard Sprint Test

The 50 Yard Sprint Test is a timed test used to measure the speed and agility of an individual over a short distance. The proper sequence of steps ensures that the test is administered accurately and fairly. The steps should proceed as follows:

- (C) Warm up: Prior to engaging in any physical activity, including a sprint test, it is crucial to perform a proper warm-up. This prepares the body by gradually increasing the heart rate and preparing the muscles, which helps in preventing injuries. This step should always occur first. A good warm-up may include light jogging, dynamic stretches, and mobility exercises.
- (A) Subjects take the starting position: After the warm-up, the subjects take their starting position at the line, ensuring they are aligned correctly and ready for the sprint. The starting position is key for fair timing and to prevent false starts.

- (D) At the command Go!, timer starts their respective stop watches: Once the subjects are in position and ready, the official timer starts their stopwatches at the command “Go!” The timing starts only once the signal is given, ensuring accuracy in measuring the time taken for the sprint.

- (B) Subjects cross the end line: As the subjects sprint, they cross the 50-yard end line, and the timer records the time. The completion of the sprint is marked when the subject crosses the end line, and the timer stops their watch at that moment.

Step 2: Conclusion. The correct sequence of steps is: 1. Warm up (C) 2. Subjects take starting position (A) 3. At the command Go!, the timer starts (D) 4. Subjects cross the end line (B)

Thus, the correct answer is (C) (B), (A), (D), (C).

 Quick Tip

Always ensure a proper warm-up before administering a sprint test. This helps prevent injuries and ensures accurate results. The sequence of steps should prioritize safety and fairness to all participants.

39. Arrange the following motivational properties according to motivational cycle:

- (A) Reduction of arousal
- (B) Achievement
- (C) Need and Drive
- (D) Arousal and goal directed behaviour

Correct Answer: (A) (C), (D), (B), (A)

Solution:

Step 1: Understanding the Motivational Cycle

The motivational cycle describes the stages that drive an individual to perform actions and work towards achieving specific goals. This cycle consists of multiple psychological stages that push individuals to initiate and persist in activities until they achieve the desired outcome. Let's break down the terms involved:

- (C) Need and Drive: The motivational cycle typically begins with a need or drive. A need arises when an individual feels a deficit or lack of something important, like success, recognition, or self-fulfillment. This creates a drive or a strong urge to fulfill that need, initiating the cycle. For example, an athlete might experience the need to win a competition, which drives them to put in more effort.

- (D) Arousal and goal-directed behaviour: As the individual feels the need, the drive results in arousal, which is the heightened state of readiness to take action. This arousal motivates the individual to take part in goal-directed behavior. Goal-directed behavior refers to actions that are intentionally focused on achieving a specific objective. For example, the athlete begins

training and practicing in order to win the competition.

- (B) Achievement: Achievement comes next in the cycle. Once the individual has worked towards their goal through sustained efforts, they experience achievement, which is the realization of the goal. Achievement can take various forms: an athlete winning a competition, a student passing an exam, or a worker completing a project. This is the stage where the cycle culminates in success and the feeling of accomplishment.

- (A) Reduction of arousal: After achieving the goal, the cycle concludes with the reduction of arousal. The tension that was created by the need and drive is now relieved. The individual no longer feels the urgency to act because the goal has been met. This reduction of arousal is often associated with feelings of satisfaction and relief.

Step 2: Conclusion. The motivational cycle flows from Need and Drive (C), to Arousal and Goal-directed behavior (D), followed by Achievement (B), and concludes with the Reduction of Arousal (A). Therefore, the correct order of motivational properties is (A) (C), (D), (B), (A).

 Quick Tip

In motivational psychology, understanding the cycle can help you optimize performance. By recognizing that achievement is the result of a well-balanced drive, you can better manage your effort and energy to reach your goals, whether in sports, academics, or personal growth.

40. Arrange the following sports injuries starting from head to toe with respect to the place of injury on the human body:

- (A) Tibial Sprain
- (B) Groin muscle pull
- (C) Humerus Dislocation
- (D) Contusion on cranium

Correct Answer: (A) (C), (B), (D), (A)

Solution:

Step 1: Identifying the Injuries and Their Anatomical Locations

To correctly arrange these injuries from head to toe, we need to understand where each injury is located in relation to the human body:

- (D) Contusion on cranium: A contusion is a bruise or injury to soft tissues caused by a direct blow. The cranium refers to the skull. Any impact to the skull, resulting in a contusion, is the first injury when moving from head to toe. It is the highest point on the body, so it comes first in the order.

- (C) Humerus Dislocation: A humerus dislocation occurs when the upper arm bone (humerus) is displaced from its shoulder joint. It's a joint injury that significantly impacts the shoulder area, located below the head but above the torso, making it the second injury in the order.
- (B) Groin muscle pull: A groin muscle pull affects the inner thigh or groin area. This injury is often due to straining or overuse of the muscles in the lower abdomen and thighs. The groin muscle pull occurs after the humerus dislocation and is located further down on the body.
- (A) Tibial Sprain: A tibial sprain refers to an injury to the shin bone (tibia), typically from sudden movements or overexertion. This injury is located on the lower leg, below the knee. The tibial sprain is the last injury when moving from head to toe.

Step 2: Conclusion. The injuries, when arranged from head to toe, are as follows: 1. Contusion on cranium (D) – injury at the head 2. Humerus dislocation (C) – injury at the upper arm 3. Groin muscle pull (B) – injury at the groin/inner thigh 4. Tibial sprain (A) – injury at the lower leg

Thus, the correct order is (A) (C), (B), (D), (A).

Quick Tip

When treating injuries from head to toe, prioritize head injuries (like contusions) and joint dislocations (like humerus dislocation), as these can be more critical and require urgent medical attention. Always follow up with rehabilitation exercises for soft tissue injuries like muscle pulls and sprains.

Read the passage carefully and answer questions strictly as per the passage below:

In a space flight emergency, maximal explosive power may be critical for survival. Antonutto and coworkers measured maximal explosive power (single maximal contractions with both legs) with a dynamometer after as long as 180 days of flight. The maximal explosive power was reduced by 30% after 1 month and by 45% after 6 months. In the Skylab program, as the duration of each mission increased from 28 to 56 to 84 days, in-flight exercise was increased from 30 to 60 to 90 min/day, respectively. Submaximal cycle exercise tests were performed before flight, every 5 to 6 days during flight and 2 days after flight. When the in-flight exercise responses were maintained, exercise responses after flight (including decreased cardiac output, stroke volume, and oxygen pulse, and elevated heart rate and ventilation) significantly decreased. The decrement after flight did not worsen with increasing flight duration, which led the investigators to conclude that the in-flight exercise was useful for shortening the recovery period after flight. The effects of in-flight dynamic exercise during shuttle missions on improving exercise responses after flight was evaluated on 30 shuttle crew members who performed various levels of in-flight exercise. The investigators evaluated exercise responses after flight by measuring the change in heart rate during a graded cycle exercise test. Even mod-

erate volumes of in-flight dynamic exercise (cycle or treadmill exercise performed three times per week for 20 minutes per session) reduced the exercise heart rate response after flight.

41. Maximal Explosive power (single maximal contractions with both legs) is measured with:

- (A) Respimeter
- (B) Spirometer
- (C) Speedometer
- (D) Dynamometer

Correct Answer: (D) Dynamometer

Solution:

In the passage, maximal explosive power is defined as single maximal contractions with both legs. This is a measure of an individual's ability to exert maximal force in a single contraction of the leg muscles. The passage states that this measurement was done using a dynamometer, which is an instrument specifically designed to measure force or power output.

Let's analyze each option in more detail:

- (D) Dynamometer: The dynamometer is an instrument designed to measure force, torque, or power. In this case, it is used to measure the explosive power generated during maximal leg contractions. The dynamometer is ideal for this purpose because it allows for precise measurements of muscle force, especially for dynamic movements like those in which maximal power is required. Therefore, dynamometer is the correct device for measuring explosive power in the context of the passage.
- (A) Respimeter: A respimeter measures respiratory volumes, such as the amount of air that is inhaled or exhaled. While it is a useful tool for assessing lung function and respiratory performance, it does not measure muscular power or force. Therefore, a respimeter is not suitable for measuring explosive power.
- (B) Spirometer: A spirometer is also used to measure lung function, specifically for assessing the lung volume and airflow. Similar to the respimeter, a spirometer does not measure muscular performance or explosive power, making it unsuitable for this measurement.
- (C) Speedometer: A speedometer measures the speed or velocity of a moving object, such as a car or a machine. While important for tracking motion, a speedometer does not measure the force or power exerted by muscles, so it is not the correct instrument for measuring explosive power in sports or physical activities.

Step 2: Conclusion. The correct device for measuring maximal explosive power (single maximal contractions with both legs) is the dynamometer, as it directly measures force and is specifically designed for such purposes. Therefore, the correct answer is (D).

 Quick Tip

A dynamometer is a highly precise tool used in sports science and physical therapy to measure muscle force and explosive power. It is essential for evaluating performance in sports that require quick, powerful muscle contractions like sprinting and weightlifting.

42. What was the percentage decrease in explosive power at the end of a month?

- (A) 30%
- (B) 18%
- (C) 15%
- (D) 32%

Correct Answer: (A) 30%

Solution:

In the passage, the maximal explosive power was measured after 1 month and 6 months of flight. The passage specifies that maximal explosive power decreased by 30% after 1 month of flight. Specifically, it states:

- Maximal explosive power was reduced by 30% after 1 month and by 45% after 6 months of flight. The exact phrasing from the passage is: "The maximal explosive power was reduced by 30% after 1 month and by 45% after 6 months of flight."

Thus, the decrease in explosive power after 1 month is explicitly mentioned as 30%. The passage clearly gives this percentage value, making it directly answered by the text.

Let's break down the solution:

1. Understanding the Passage: The passage gives specific numbers for the reduction in explosive power at different time intervals. It states that after 1 month, the power reduction is 30%, and after 6 months, it is 45%. These numbers are provided directly, meaning there is no need for additional calculations.

2. Breaking Down the Decrease: The 30% decrease is not only significant in terms of performance after a short duration but also indicates the physical impact that extended space flights can have on the body's ability to perform high-intensity activities. The passage mentions this decrease was measured after one month, indicating the rapid impact of the space environment on human performance, which would require special attention to rehabilitation and recovery.

Step 2: Conclusion. According to the passage, the percentage decrease in explosive power after 1 month of space flight is 30%. This value is directly referenced, confirming that the correct answer is (A).

 Quick Tip

In spaceflight studies, the decrease in physical power is a critical factor. The 30% reduction in explosive power in just one month highlights the impact of the space environment on human performance. Always look for direct numerical references in passages for precise answers.

43. The decrement after flight did not worsen with increasing flight ———

- (A) Scale
- (B) Duration
- (C) Height
- (D) Condition

Correct Answer: (B) Duration

Solution:

In the passage, it is specifically stated that the decrement in explosive power after flight did not worsen with increasing flight duration. This indicates that as the duration of the flight increased, the decrease in performance (in terms of explosive power) remained consistent rather than worsening. This suggests the importance of exercise interventions during the flight, which helped in maintaining a consistent level of performance despite extended flight times.

- (B) Duration: The passage emphasizes that the duration of the flight did not worsen the decrement in performance. This is a crucial point in understanding how long-duration space flights might impact physical performance and recovery. The decrement in explosive power remained stable regardless of how long the flight lasted. This could imply that the strategies used during the flight (such as in-flight exercise) helped mitigate the adverse effects that longer missions might have otherwise caused.

- (A) Scale: Scale refers to the extent or magnitude of an effect. However, the passage does not indicate that the overall scale of the decrement changed with increasing flight time. Hence, scale is not the correct answer.

- (C) Height: Height refers to the altitude or the position in space. The passage does not discuss the effect of height on the decrement of explosive power, so this is not the correct option.

- (D) Condition: While an individual's physical condition could affect recovery and performance, the passage specifically states that duration was the primary factor examined, not the overall health or condition of the astronaut. Thus, condition is not the correct answer.

Step 2: Conclusion. The passage clearly points to flight duration being the key factor that did not worsen the decrement, making (B) Duration the correct answer.

 Quick Tip

In space missions, flight duration plays an important role in performance outcomes. However, with proper in-flight exercise regimes, astronauts can maintain consistent physical performance despite prolonged missions.

44. The effects of in-flight dynamic exercise during shuttle missions on improving exercise responses after flight was evaluated on:

- (A) 30 Athletes
- (B) 30 shuttle crew members
- (C) 30 graded cyclists
- (D) 30 ungraded cyclists

Correct Answer: (B) 30 shuttle crew members

Solution:

The passage describes the group of individuals whose exercise responses after flight were evaluated. The study focused specifically on 30 shuttle crew members, who performed in-flight dynamic exercise during their missions. These crew members' performance and recovery were measured to assess the effects of in-flight exercise on recovery and performance after the flight.

- (B) 30 shuttle crew members: The study specifically involved 30 shuttle crew members, as mentioned in the passage. These crew members were selected due to their involvement in shuttle missions, and their physical responses were tracked to evaluate how in-flight exercise impacted their physical recovery post-flight. This group provided valuable data on the efficacy of dynamic exercise during long-duration space missions.
- (A) 30 Athletes: Although athletes might also experience benefits from in-flight exercise, the passage does not focus on athletes but rather on shuttle crew members. The study is concerned with real-world space mission participants.
- (C) 30 graded cyclists: Cyclists were involved in the study, but the passage does not specify them as the primary group being evaluated. They were part of a broader context that included shuttle crew members.
- (D) 30 ungraded cyclists: Similar to option (C), the passage does not highlight ungraded cyclists as the specific group under investigation. The focus is on shuttle crew members.

Step 2: Conclusion. The correct answer is (B) 30 shuttle crew members, as these individuals were directly involved in the study evaluating in-flight exercise.

 Quick Tip

For space missions, shuttle crew members are crucial participants in studies on physical performance and recovery. In-flight exercise protocols are tested on this group to assess post-flight recovery and exercise effectiveness.

45. Even moderate volumes of which exercise reduced the exercise heart rate response after flight?

- (A) In-flight dynamic exercise
- (B) Submaximal cycle exercise
- (C) In flight exercise
- (D) In flight passive exercise

Correct Answer: (A) In-flight dynamic exercise

Solution:

The passage specifically indicates that even moderate volumes of in-flight dynamic exercise were effective in reducing the exercise heart rate response after flight. This suggests that performing moderate-intensity dynamic exercises such as cycling or treadmill running during the flight was beneficial in improving cardiovascular fitness and aiding faster recovery after the flight.

- (A) In-flight dynamic exercise: This is the correct answer. The passage notes that even moderate volumes of dynamic exercises like cycling and treadmill running were sufficient to reduce the exercise heart rate after the flight. The exercise led to better cardiovascular recovery, and the term dynamic highlights the active involvement of the muscles during the activity, which helped in lowering the heart rate after the flight.
- (B) Submaximal cycle exercise: While submaximal exercises (which involve lower intensities) can aid in cardiovascular improvement, the passage specifically discusses the positive effects of dynamic exercises during the flight. Submaximal exercises are less emphasized compared to dynamic exercise, which can involve higher-intensity activities that are more effective in reducing heart rate post-flight.
- (C) In-flight exercise: This is a broad term that refers to any exercise done during the flight. However, the passage focuses on the dynamic nature of the exercise that was most effective. Dynamic exercises engage more muscle groups and improve cardiovascular recovery, making it a more targeted term in this context.
- (D) In-flight passive exercise: Passive exercise refers to activities where there is little to no voluntary muscle contraction. Since the passage emphasizes dynamic exercise, passive exercise is not the correct answer.

Step 2: Conclusion. In-flight dynamic exercise was the key factor in improving recovery post-flight, making (A) the correct answer.

 Quick Tip

Dynamic exercises like cycling and treadmill running significantly improve cardiovascular recovery after space missions. Moderate levels of these exercises, even when performed in-flight, can reduce the heart rate response post-flight.

Read the passage carefully and answer questions strictly as per the passage below:

Muscular power is one's ability to produce maximum muscular strength (force) in the shortest time. In other words, power means one's capacity of work output per unit of time.

Mathematically,

$$\text{Power} = \frac{\text{Force} \times \text{distance}}{\text{Time}} \quad \text{or} \quad \text{Power} = \frac{\text{Work done}}{\text{Time}}$$

or $\text{Power} = \text{Force} \times \text{Velocity}$, because $\text{Force} \times \text{distance} = \text{Work done}$ and $\text{Distance}/\text{Time} = \text{Velocity}$

In vertical jumping, power is given by $\text{Body weight} \times \text{Distance}/\text{Time}$.

Where distance is equal to jump performance of the subject. In general, power describes the speed of movement of force along with the direction of movement. Thus, power tells one's speed of performing work. In sports, we often come across the term 'explosive power' required in performing certain instant activities like high jump, shot-put, sprints in athletics, and calisthenics in individual sportive activities. Such instant power production is relatively unimportant in some sports activities like marathon running, long distance running, long distance swimming and pure skill-based events. Keeping in view the above description, power may be defined in many different ways. For instance - Power is defined as "work done per second" and Power may be defined as product of force and velocity.

46. What describes the speed of movement of force along with the direction of movement?

- (A) Velocity
- (B) Speed
- (C) Power
- (D) Force

Correct Answer: (C) Power

Solution:

To better understand the relationship between power and the speed of force movement, let's break it down:

- Power (C): Power, as mentioned in the passage, is the rate at which work is done. Power describes the speed of movement of force along the direction of movement. This is especially relevant in the context of sports, where athletes often produce maximum power in a short duration (explosive power). The equation for power is expressed as:

$$\text{Power} = \frac{\text{Work done}}{\text{Time}} = \text{Force} \times \text{Distance/Time}$$

This equation directly links force and velocity (since velocity = $\frac{\text{distance}}{\text{time}}$). Therefore, power is the product of force and velocity, which matches the requirement in the question of describing both the speed and direction of force.

- Velocity (A): Velocity is defined as the rate of change of displacement over time, and while it tells us the speed and direction of motion, it does not account for the force applied in that motion. Velocity is a scalar quantity and does not involve the concept of work or force application in the same way that power does.

- Speed (B): Speed measures how fast something moves over a certain distance but lacks directionality and doesn't consider the force involved in that movement. Hence, speed doesn't encompass the full meaning of power, which directly relates to force and work.

- Force (D): Force is a fundamental physical quantity that causes an object to move, but it does not describe the speed at which an object moves or the direction of that movement. Force on its own doesn't quantify how fast the energy is being used (or how quickly the work is done), which is why it doesn't match the description in the question.

Step 2: Conclusion. Considering that power combines both force and velocity, and the question asks for the "speed of movement of force along the direction of movement," power (C) is the correct answer.

Quick Tip

Power is the most comprehensive measure in physics that describes both force and movement. Remember, velocity and speed alone do not account for the force applied, while power incorporates both.

47. Instant power production is relatively less important in:

- (A) Long Distance race
- (B) 100m race
- (C) 50m swimming race

(D) Long jump

Correct Answer: (A) Long Distance race

Solution:

Understanding the role of instant power production in various sports helps clarify this question:

- Long Distance race (A): In long distance running, the emphasis is on endurance rather than instantaneous power. While muscular power is certainly important, its role diminishes compared to aerobic endurance, which sustains an athlete over the long duration of the race. The performance in long distance races depends more on stamina, cardiovascular efficiency, and the ability to maintain a steady pace over extended periods, rather than on quick bursts of power.

- 100m race (B): The 100m sprint is a short-distance, high-speed event that relies heavily on instant power production. Athletes must generate maximum force as quickly as possible, from the starting block to their peak speed, in a matter of seconds. The need for explosive power is essential here.

- 50m swimming race (C): Similarly, the 50m swimming race also requires instant power production. Swimmers need to generate powerful strokes in quick succession, and every second counts. Explosive power is needed from the start to finish, especially during quick turns and launches off the blocks.

- Long jump (D): The long jump also requires a significant burst of power at the take-off stage. An athlete must generate explosive force during the jump, combining speed and strength to cover the maximum distance.

Step 2: Conclusion. Long distance running is an endurance event that places less emphasis on instantaneous power production compared to the other events like sprints, swimming, or long jump, where explosive power is a critical factor.

 Quick Tip

In sports like long distance running, the focus is on sustained energy rather than explosive power. Events requiring short bursts of speed (like sprints, swimming races, or the long jump) demand a different focus on power.

48. One's ability to produce maximum muscular strength in the shortest time is called _____.

- (A) Muscular Force
- (B) Muscular Power
- (C) Muscular Velocity
- (D) Muscular Speed

Correct Answer: (B) Muscular Power

Solution:

To understand the correct answer, let's break down the key terms:

- Muscular Power (B): Muscular Power refers to the ability to generate maximum force in the shortest possible time. It combines both strength and speed, as it is about how much force a muscle can produce quickly. In various sports, power is essential for actions like jumping, sprinting, and lifting weights. The equation that defines power is:

$$\text{Power} = \frac{\text{Work done}}{\text{Time}}$$

This equation highlights how power is related to the time taken to do work, making it the most accurate option for this question.

- Muscular Force (A): Force refers to the amount of strength applied by the muscles, but it doesn't account for the time over which that force is exerted. It is a measure of static strength rather than how fast that force can be applied.

- Muscular Velocity (C): Velocity refers to the rate of displacement of a body or muscle over time. While velocity is an important factor in many athletic activities, it does not involve the generation of force, which is a key component of muscular power.

- Muscular Speed (D): Speed measures how fast something moves but does not take into account the amount of force applied during that movement. Power, on the other hand, measures the combination of force and speed.

Step 2: Conclusion. The correct answer is Muscular Power (B) because it is the combination of force and speed over a short period of time, which is the essence of the ability to perform tasks quickly and explosively.

💡 Quick Tip

Muscular Power combines both force and speed to perform work in the shortest time. It is critical for explosive activities like sprinting and jumping.

49. Power tells one's _____ of performing work.

- (A) Speed
- (B) Time
- (C) Weight
- (D) Capacity

Correct Answer: (A) Speed

Solution:

The question is asking what power tells us in relation to performing work:

- Speed (A): Power is all about speed in performing work. Mathematically, power is defined as the rate at which work is done, meaning the speed at which force is applied to move an object or perform an action. The formula for power:

$$\text{Power} = \frac{\text{Work done}}{\text{Time}}$$

indicates that power measures how fast work is done, which is essentially speed. Power tells you how fast you're performing work in a given amount of time.

- Time (B): While time is part of the equation, time itself is not what power measures. Power is about the rate of performing work, not just how long it takes. Time influences power, but it is not what power tells you.

- Weight (C): Weight refers to the force exerted by gravity on a body. Although weight plays a role in certain activities, power is not a measure of weight. It measures how fast work is done, not the weight of an object.

- Capacity (D): Capacity refers to the ability to hold or store something. Power does not directly measure capacity, it measures how fast a force can perform work in a given amount of time.

Step 2: Conclusion. The correct answer is Speed (A) because power is fundamentally about how fast work is done, and that relates to the speed at which a task is completed.

💡 Quick Tip

Power measures the speed at which work is done. The higher the power, the faster the task is completed.

50. Which of the following mathematical equation is correct with respect to the concept of power?

- (A) Power = Time/Work done
- (B) Power = Force x Distance
- (C) Power = Velocity x Work done
- (D) Power = Force x Velocity

Correct Answer: (D) Power = Force x Velocity

Solution:

Let's evaluate the options based on the correct formula for power:

- Power = Force x Velocity (D): This is the correct equation for power. Power is defined as the rate at which work is done. Since work is the product of force and distance, and power involves time, velocity (which is distance/time) makes this equation valid. Therefore, power is the product of force and velocity, which is the correct mathematical relationship.
- Power = Time/Work done (A): This is incorrect. The correct formula for power is the inverse of this equation, i.e., $\text{Power} = \frac{\text{Work done}}{\text{Time}}$. Power measures how much work is done over time, not the time per work done.
- Power = Force x Distance (B): This is related to work rather than power. Work is the product of force and distance, not power. Power involves the time factor, so this equation doesn't correctly represent power.
- Power = Velocity x Work done (C): This is also incorrect. While velocity and work are involved in the relationship of power, the formula should not multiply work by velocity. Power is defined as the rate of doing work, and the correct formula is $\text{Power} = \text{Force} \times \text{Velocity}$, not velocity multiplied by work.

Step 2: Conclusion. The correct equation for power is Force x Velocity, and therefore option (D) is the correct answer.

 Quick Tip

Power is the rate at which work is done, and the correct equation is Force x Velocity. It's important to remember that power measures how fast work is done, not just the amount of work or force alone.