

MAH B.P.Ed CET — Complete Sample Paper

Sample Paper — 8

Duration: 60 Minutes

Maximum Marks: 50

Instructions

- This paper contains **50 Multiple Choice Questions** modelled on the MAH B.P.Ed CET written test pattern.
- **Part A:** General Knowledge (Q1–Q15) | **Part B:** Mental Ability (Q16–Q30) | **Part C:** Teacher Aptitude & Sports Related Knowledge (Q31–Q50).
- Each correct answer carries **+1 mark**. There is **no negative marking**.
- Only **one** option is correct per question.
- No sectional time limit; total time: **60 minutes**.
- Mobile phones, calculators, and electronic gadgets are strictly prohibited.

PART A — GENERAL KNOWLEDGE (Q1–Q15)

- Q1.** The Padma Awards 2024, announced on the eve of Republic Day, recognised a total of how many individuals across all three categories (Padma Vibhushan, Padma Bhushan, and Padma Shri)?
- (A) 110
(B) 98
(C) 120
(D) 132
- Q2.** According to the Global Innovation Index (GII) 2023 published by WIPO, India secured which rank out of 132 economies?
- (A) 35th
(B) 40th
(C) 45th
(D) 50th

Q3. In February 2023, India launched *Operation Dost* to provide humanitarian assistance and disaster relief after a devastating earthquake. Which country was the primary recipient of this operation?

- (A) Turkey
- (B) Afghanistan
- (C) Nepal
- (D) Morocco

Q4. At the BRICS Summit in Johannesburg (2023), five new nations were invited to join BRICS effective January 2024. Which set of countries below correctly lists the new BRICS members who formally joined in 2024?

Saudi Arabia	UAE	Iran
Ethiopia	Egypt	

Which of the above sets is COMPLETE and CORRECT?

- (A) Saudi Arabia, UAE, Iran, Ethiopia only (4 nations)
- (B) Saudi Arabia, UAE, Egypt, Argentina (Argentina accepted)
- (C) Saudi Arabia, UAE, Iran, Ethiopia, Egypt (5 nations; Argentina declined)
- (D) Saudi Arabia, Iran, Egypt, Nigeria, Turkey

Q5. “Viksit Bharat” is a government vision to transform India into a fully developed nation by which year, coinciding with the centenary of Indian independence?

- (A) 2030
- (B) 2035
- (C) 2040
- (D) 2047



- Q6.** The famous *Palkhi* procession in Maharashtra is a major pilgrimage during which devotees walk hundreds of kilometres to which temple dedicated to Lord Vitthal?
- (A) Pandharpur
 - (B) Shirdi
 - (C) Trimbakeshwar
 - (D) Tuljapur
- Q7.** The Koyna Dam, one of the largest dams in Maharashtra and a major source of hydroelectric power, is built across which river?
- (A) Godavari
 - (B) Krishna
 - (C) Koyna
 - (D) Bhima
- Q8.** Dr. B.R. Ambedkar, the principal architect of the Indian Constitution and a leading social reformer, was born in which town, now renamed in his honour?
- (A) Nagpur
 - (B) Mhow (Dr. Ambedkar Nagar), Madhya Pradesh
 - (C) Pune
 - (D) Mumbai
- Q9.** The Constituent Assembly of India held its historic first meeting on which date, marking the beginning of the process of framing the Constitution?
- (A) 26 November 1949
 - (B) 15 August 1947
 - (C) 26 January 1950
 - (D) 9 December 1946



- Q10.** India's Chandrayaan-3 mission successfully landed near the lunar south pole in August 2023. The Pragyan rover operated on the lunar surface for approximately how long before entering sleep mode?
- (A) 14 Earth days (one lunar day)
 - (B) 7 Earth days
 - (C) 30 Earth days
 - (D) 3 Earth days
- Q11.** The Unified Payments Interface (UPI), which revolutionised digital payments in India, was launched and is governed by which regulatory/statutory body?
- (A) Reserve Bank of India (RBI)
 - (B) Ministry of Finance
 - (C) National Payments Corporation of India (NPCI)
 - (D) Securities and Exchange Board of India (SEBI)
- Q12.** As per the Supreme Court (Number of Judges) Amendment Act, 2019, the Supreme Court of India can have a maximum of how many judges including the Chief Justice of India?
- (A) 31
 - (B) 34
 - (C) 26
 - (D) 28
- Q13.** The India–USA “2+2 Ministerial Dialogue” is a high-level strategic consultation involving ministers from two specific portfolios on each side. Which two ministries participate from India?
- (A) Finance and Commerce
 - (B) Home Affairs and Finance
 - (C) Science & Technology and Foreign Affairs



(D) External Affairs (Foreign Affairs) and Defence

Q14. National Science Day is celebrated in India on 28 February every year to commemorate which scientific discovery made by Sir C.V. Raman?

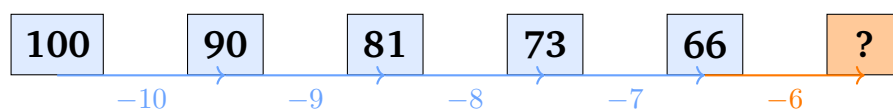
- (A) Discovery of the Raman Effect in 1928
- (B) Launch of India's first satellite Aryabhata in 1975
- (C) Discovery of the neutron by James Chadwick in 1932
- (D) First nuclear test at Pokhran in 1974

Q15. Amravati city in Maharashtra is the administrative headquarters of which revenue division of the state?

- (A) Nashik Division
- (B) Aurangabad (Chhatrapati Sambhajnagar) Division
- (C) Amravati Division
- (D) Nagpur Division

PART B — MENTAL ABILITY (Q16–Q30)

Q16. Study the following number series and find the missing term.



What is the missing number?

- (A) 58
- (B) 60
- (C) 62
- (D) 64

Q17. Find the correct analogy.

KNIFE : LOJGF :: SPOON : ?

(Hint: Each letter of KNIFE is shifted by +1 in the alphabet to get LOJGF. Apply the same rule.)



- (A) TQPPN
- (B) SQOON
- (C) RQOPN
- (D) TQPPO

Q18. Choose the correct word that completes the analogy.

Commander : Army :: Principal : ?

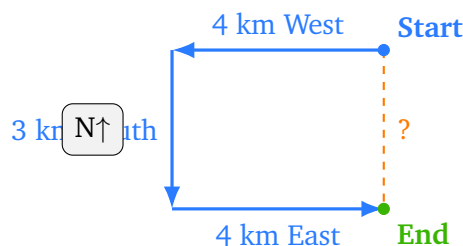
- (A) School
- (B) Hospital
- (C) Court
- (D) Parliament

Q19. Four of the following five numbers share a common property. Identify the **odd one out**.

11, 13, 15, 17, 19

- (A) 11
- (B) 13
- (C) 15
- (D) 17

Q20. Raju starts from his house and walks **4 km West**, then **3 km South**, and finally **4 km East**. How far is he now from his starting point and in which direction?



- (A) 4 km South



- (B) 3 km South
- (C) 5 km South-West
- (D) 3 km East

Q21. Study the pattern in the matrix and find the missing number.

7	14	21
8	16	24
9	18	?

Row × Column pattern

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

Q22. In a certain code, each letter is assigned its position value in the English alphabet (A=1, B=2, ..., Z=26), and the word value is the **sum** of its letters.

If **TREE** = $20 + 18 + 5 + 5 = 48$, what is the value of **VINE**?

- (A) 50
- (B) 48
- (C) 52
- (D) 46

Q23. Find the missing term in the alpha-numeric series.

A1, C3, E5, G7, ?



Letters skip 1 each step; Numbers +2

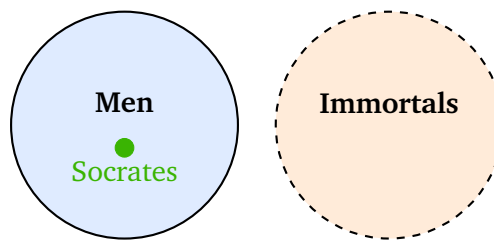


- (A) H8
- (B) J10
- (C) I9
- (D) H9

Q24. Consider the following statements and the Venn diagram below.

Statement 1: No man is immortal.

Statement 2: Socrates is a man.



Two circles do not overlap

Which conclusion follows **definitely**?

- (A) All men are immortal
 - (B) Socrates is not immortal
 - (C) Some immortals are men
 - (D) Socrates may be immortal
- Q25.** A and B are brothers. C is A's mother. D is C's father. How is D related to B?
- (A) Uncle
 - (B) Father
 - (C) Grandfather
 - (D) Maternal Grandfather
- Q26.** Six people — Anil, Bina, Chetan, Devika, Eshan, and Farah — are seated equally spaced in a **circle**. Anil sits exactly opposite Bina. How many people sit **between** Anil and Bina going **clockwise** from Anil?



- (A) 1
- (B) 2
- (C) 3
- (D) 4

Q27. Find the missing value.

$$9 : 81 :: 11 : ?$$

- (A) 111
- (B) 99
- (C) 121
- (D) 113

Q28. Four of the following are elements. Identify the **odd one out**.

Oxygen, Nitrogen, Hydrogen, Carbon Dioxide, Helium

- (A) Oxygen
- (B) Carbon Dioxide
- (C) Nitrogen
- (D) Helium

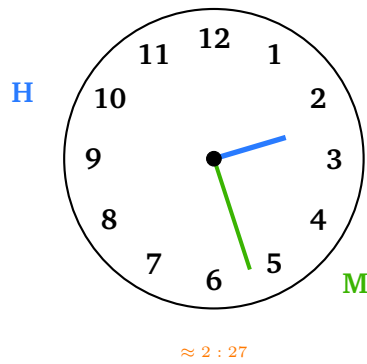
Q29. Find the missing number in the series.

1, 4, 9, 16, ?, 36

- (A) 20
- (B) 22
- (C) 24
- (D) 25

Q30. At what time between **2:00** and **3:00** do the hour and minute hands of a clock first form a **right angle** (90°)?





- (A) 2 hours $27\frac{3}{11}$ minutes
- (B) 2 hours 30 minutes
- (C) 2 hours 15 minutes
- (D) 2 hours 45 minutes

**PART C — TEACHER APTITUDE & SPORTS
RELATED KNOWLEDGE (Q31–Q50)**

- Q31.** Polo is a horse-mounted team sport. How many players does each team field on the polo ground during an official match?
- (A) 6
 - (B) 5
 - (C) 4
 - (D) 3
- Q32.** The first edition of the ICC T20 World Cup was a landmark event in cricket. In which year and which country was it held?
- (A) 2009, England
 - (B) 2007, South Africa
 - (C) 2010, West Indies
 - (D) 2005, India
- Q33.** In international field hockey (as per FIH rules), how long is each of the four quarters of play?



- (A) 10 minutes
- (B) 12 minutes
- (C) 20 minutes
- (D) 15 minutes

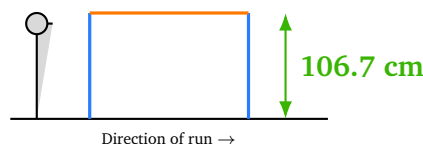
Q34. Under the rally point scoring system in volleyball, a team wins a set (other than the fifth deciding set) when it reaches how many points, provided it leads by at least 2 points?

- (A) 25 points
- (B) 21 points
- (C) 30 points
- (D) 15 points

Q35. The “three-knockdown rule” in professional boxing states that if a boxer is knocked down three times in a single round, the referee:

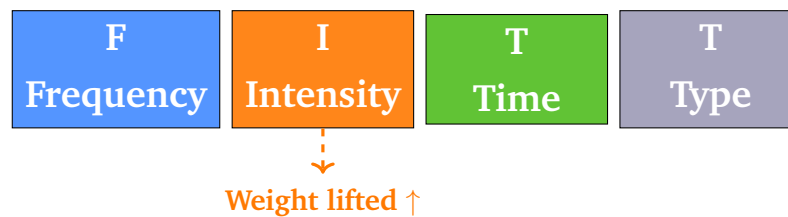
- (A) Awards a point deduction to the knocked-down boxer
- (B) Allows the boxer to continue with a mandatory standing count
- (C) Stops the fight and declares the opponent the winner (TKO)
- (D) Issues a warning and continues the round

Q36. In the men’s 110 metres hurdles (athletics), what is the official height of each hurdle as specified by World Athletics?



- (A) 91.4 cm (3 feet)
- (B) 106.7 cm (3 feet 6 inches)
- (C) 99.0 cm (3 feet 3 inches)
- (D) 84.0 cm (2 feet 9 inches)

Q37. The **FITT Principle** is a framework for designing exercise programmes. In the context of strength training, deliberately increasing the weight lifted over successive sessions represents which component of FITT?



- (A) Frequency
 - (B) Time
 - (C) Type
 - (D) Intensity
- Q38.** In the **periodization** of training, which phase is characterised by high-intensity, competition-specific training with reduced volume, aimed at peak performance?
- (A) Competitive phase (Competition period)
 - (B) General preparatory phase
 - (C) Transition phase (active rest)
 - (D) Specific preparatory phase
- Q39.** According to Albert Bandura's **Self-Efficacy Theory** in sports psychology, which of the following is considered the **strongest** source of self-efficacy beliefs?
- (A) Verbal persuasion by the coach
 - (B) Physiological and emotional states
 - (C) Mastery experiences (past performance accomplishments)
 - (D) Vicarious experiences (observing others)



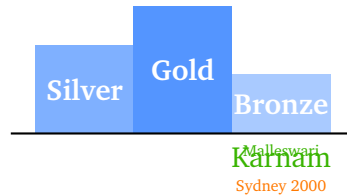
- Q40.** In sports medicine, the **PRICE** protocol is used as immediate management for acute soft-tissue injuries such as sprains. What does the acronym PRICE stand for?
- (A) Prevention, Rest, Ice, Compression, Exercise
 - (B) Protection, Rest, Ice, Compression, Elevation
 - (C) Prevention, Resistance, Ice, Cold, Elevation
 - (D) Protection, Recovery, Ice, Compression, Exercise
- Q41.** After a high-intensity exercise bout that produces significant lactic acid, which type of recovery is generally considered more effective for accelerating lactate clearance from the blood?
- (A) Complete rest (passive recovery)
 - (B) Stretching only
 - (C) Cold-water immersion
 - (D) Active recovery (low-intensity exercise)
- Q42.** In yoga, **Pranayama** refers to regulated breathing exercises. Which of the following best describes the primary physiological benefit of regular Pranayama practice?
- (A) Improves breathing efficiency and calms the autonomic nervous system
 - (B) Increases muscle mass through hypertrophy
 - (C) Primarily improves cardiovascular endurance through anaerobic metabolism
 - (D) Enhances bone density through weight-bearing stress
- Q43.** The Arjuna Awards 2024, announced by the Ministry of Youth Affairs and Sports, recognised outstanding achievement in sports. How many sportspersons were honoured with the Arjuna Award in 2024?
- (A) 25
 - (B) 28



(C) 32

(D) 20

Q44. Who became India's **first woman** to win an Olympic medal, claiming a bronze at the 2000 Sydney Olympics, and in which sport?



(A) P.T. Usha — Athletics

(B) Karnam Malleswari — Weightlifting

(C) Saina Nehwal — Badminton

(D) Mary Kom — Boxing

Q45. Rugby Sevens is an Olympic discipline and a shortened version of rugby union. How many players does each team field on the pitch at any one time during a Rugby Sevens match?

(A) 11

(B) 10

(C) 9

(D) 7

Q46. Which franchise won the **Indian Premier League (IPL) 2024** title, defeating Sunrisers Hyderabad in the final held in Chennai?

(A) Kolkata Knight Riders (KKR)

(B) Mumbai Indians

(C) Chennai Super Kings

(D) Royal Challengers Bengaluru



- Q47.** The **FIFA Women's World Cup 2023**, jointly hosted by Australia and New Zealand, was won by which national team?
- (A) England
 - (B) Australia
 - (C) Spain
 - (D) Sweden
- Q48.** Who won the **Men's Singles title at Wimbledon 2024**, becoming the first man to defend the title since Roger Federer (2003–2004)?
- (A) Novak Djokovic
 - (B) Carlos Alcaraz (Spain)
 - (C) Jannik Sinner
 - (D) Daniil Medvedev
- Q49.** Which national sports body is responsible for the administration and governance of **football (soccer)** in India and is affiliated with FIFA?
- (A) Board of Control for Cricket in India (BCCI)
 - (B) Hockey India
 - (C) Sports Authority of India (SAI)
 - (D) All India Football Federation (AIFF)
- Q50.** In the domain of Physical Education, which of the following **best defines** the concept of **motor fitness**?
- (A) The ability to perform physical movements with efficiency, integrating power, speed, agility, balance, coordination, and reaction time
 - (B) The maximum amount of force a muscle or muscle group can exert in a single effort
 - (C) The ability to sustain prolonged aerobic exercise over an extended period



- (D) The capacity of the cardiovascular and respiratory systems to supply oxygen during exercise



Detailed Solutions — Sample Paper 8

Solution 1.

Solution

Topic: Padma Awards 2024

The Padma Awards 2024, announced on the eve of Republic Day (25 January 2024), honoured a total of **132** individuals:

- 5 Padma Vibhushan (highest civilian honour after Bharat Ratna)
- 17 Padma Bhushan
- 110 Padma Shri

The list included 30 women awardees and 8 posthumous awardees among the 132.

Answer: (D) [Go Back to Q 1](#)

Solution 2.

Solution

Topic: Global Innovation Index (GII) 2023

The Global Innovation Index 2023, published by WIPO (World Intellectual Property Organization), ranked India **40th** out of 132 economies. This was a significant milestone; India has consistently improved its ranking (it was 81st in 2015). India also topped the central and southern Asian region.

Answer: (B) [Go Back to Q 2](#)

Solution 3.

Solution

Topic: Operation Dost 2023

On 6 February 2023, a catastrophic earthquake (magnitude 7.8) struck southern **Turkey** (Türkiye) and northern Syria. India launched **Operation Dost** ("Dost" means friend in Urdu/Turkish) to provide immediate humanitarian relief. The Indian Army and NDRF teams were deployed to carry out search-and-rescue operations, primarily in Turkey. The op-



eration demonstrated India's commitment to being a first responder in disaster relief to friendly nations.

Answer: (A) [Go Back to Q 3](#)

Solution 4.

Solution

Topic: BRICS Expansion 2024

At the 15th BRICS Summit in Johannesburg (August 2023), six nations were invited to join: Saudi Arabia, UAE, Iran, Ethiopia, Egypt, and Argentina. However, **Argentina** declined the invitation (due to a change of government). The five nations that formally joined BRICS on **1 January 2024** were: **Saudi Arabia, UAE, Iran, Ethiopia, and Egypt**. This expanded BRICS from 5 to 10 members.

Answer: (C) [Go Back to Q 4](#)

Solution 5.

Solution

Topic: Viksit Bharat 2047

“Viksit Bharat” (Developed India) is the Government of India's vision and mission to transform India into a fully developed nation by **2047**, which will be the **100th anniversary (centenary) of Indian Independence** (15 August 1947). The initiative focuses on economic growth, social development, environmental sustainability, and effective governance.

Answer: (D) [Go Back to Q 5](#)

Solution 6.

Solution

Topic: Palkhi Procession, Maharashtra

The *Palkhi* (palanquin) procession is one of Maharashtra's most revered spiritual traditions. Lakhs of devotees (called *Warkaris*) walk from Pune and Alandi to **Pandharpur**, home of the **Vitthal (Vithoba) temple** situated on the banks of the **Bhima River**. The procession is held twice a year — during Ashadhi Ekadashi and Kartiki Ekadashi. The Pandharpur



Wari is a symbol of Maharashtra's devotional heritage.

Answer: (A) [Go Back to Q 6](#)

Solution 7.

Solution

Topic: Koyna Dam, Maharashtra

The **Koyna Dam** (also known as Shivajisagar Dam) is built across the **Koyna River**, a tributary of the Krishna River, in the Satara district of Maharashtra. It is one of the largest dams in Maharashtra and is India's largest completed hydroelectric power station. The region also experienced a significant reservoir-induced earthquake in 1967 (magnitude 6.5), which is among the world's most significant examples of reservoir-induced seismicity.

Answer: (C) [Go Back to Q 7](#)

Solution 8.

Solution

Topic: Dr. B.R. Ambedkar — Birthplace

Dr. Bhimrao Ramji Ambedkar was born on **14 April 1891** in **Mhow**, a cantonment town in present-day Madhya Pradesh. Mhow has since been officially renamed **Dr. Ambedkar Nagar** in his honour. He is revered as the "Father of the Indian Constitution" and led the movement for the rights of Dalits (Scheduled Castes). He was awarded the Bharat Ratna posthumously in 1990.

Answer: (B) [Go Back to Q 8](#)

Solution 9.

Solution

Topic: Constituent Assembly — First Meeting

The Constituent Assembly of India held its **first meeting on 9 December 1946** in the Constitution Hall (now the Central Hall of Parliament), New Delhi. Dr. Sachidananda Sinha served as the provisional President. Dr. Rajendra Prasad was later elected as the permanent President of the



Constituent Assembly. The Constitution was adopted on 26 November 1949 and came into effect on 26 January 1950.

Answer: (D) [Go Back to Q 9](#)

Solution 10.

Solution

Topic: Chandrayaan-3 — Pragyan Rover Operations

India's Chandrayaan-3 mission successfully soft-landed near the lunar south pole on 23 August 2023 (Vikram lander). The **Pragyan rover** operated on the lunar surface for approximately **14 Earth days** (one lunar day), conducting scientific experiments including soil composition analysis using its spectrometers. On 4 September 2023, ISRO placed the rover in sleep mode as the lunar night began. The rover confirmed the presence of sulphur and other elements near the lunar south pole.

Answer: (A) [Go Back to Q 10](#)

Solution 11.

Solution

Topic: UPI — Unified Payments Interface

The **Unified Payments Interface (UPI)** was developed and is operated by the **National Payments Corporation of India (NPCI)**, a not-for-profit organisation set up by the Reserve Bank of India and Indian Banks' Association. UPI was launched in April 2016. NPCI also manages IMPS, RuPay, NACH, and other payment systems. UPI enables real-time inter-bank transactions through mobile phones. India accounts for nearly 46% of global real-time digital payments.

Answer: (C) [Go Back to Q 11](#)



Solution 12.**Solution**

Topic: Supreme Court — Maximum Strength

The **Supreme Court (Number of Judges) Amendment Act, 2019** increased the maximum strength of the Supreme Court from 31 to **34 judges** (including the Chief Justice of India). Originally, the Constitution specified only 8 judges (including the CJI), which was increased over time through amendments. The current sanctioned strength is the Chief Justice + 33 other judges = 34 total.

Answer: (B) [Go Back to Q 12](#)

Solution 13.**Solution**

Topic: India–USA 2+2 Ministerial Dialogue

The India–USA “2+2 Ministerial Dialogue” is a strategic consultation format that brings together the **External Affairs Minister** (Foreign Minister) and **Defence Minister** from each country — making it “2+2” (two ministers from each side, four in total). From India, the **Ministry of External Affairs** and the **Ministry of Defence** participate. This dialogue was established in 2018 to strengthen bilateral defence and strategic ties.

Answer: (D) [Go Back to Q 13](#)

Solution 14.**Solution**

Topic: National Science Day

National Science Day is celebrated on **28 February** every year to commemorate the announcement of the **Raman Effect** by Sir C.V. Raman on 28 February **1928**. The Raman Effect refers to the change in the wavelength of light when it is scattered by molecules (inelastic scattering). C.V. Raman was awarded the **Nobel Prize in Physics in 1930** for this discovery — making him the first Asian to receive a Nobel Prize in science.

Answer: (A) [Go Back to Q 14](#)



Solution 15.

Solution

Topic: Amravati Division, Maharashtra

Maharashtra is administratively divided into six revenue divisions. **Amravati city** is the headquarters of the **Amravati Division**, which comprises the districts of Amravati, Akola, Buldhana, Washim, and Yavatmal. Amravati Division lies in the Vidarbha region of Maharashtra. The city is also known for the Ambadevi Temple and is the birthplace of freedom fighter Bal Gangadhar Tilak is actually from Ratnagiri; Amravati is noted as the headquarters of its eponymous division.

Answer: (C) [Go Back to Q 15](#)

Solution 16.

Solution

Topic: Number Series — Decreasing Differences

The series is: 100, 90, 81, 73, 66, ?

Differences: $100 - 90 = 10$; $90 - 81 = 9$; $81 - 73 = 8$; $73 - 66 = 7$; next difference = 6.

$$66 - 6 = 60$$

The pattern is successive subtraction with decreasing differences: $-10, -9, -8, -7, -6, \dots$

Answer: (B) [Go Back to Q 16](#)

Solution 17.

Solution

Topic: Letter Analogy — Alphabetic Shift

KNIFE → **LOJGF**: Each letter is shifted by +1 in the alphabet: $K \rightarrow L$, $N \rightarrow O$, $I \rightarrow J$, $F \rightarrow G$, $E \rightarrow F$. ✓

Applying the same rule to **SPOON**: $S \rightarrow T$, $P \rightarrow Q$, $O \rightarrow P$, $O \rightarrow P$, $N \rightarrow O$.

Therefore, **SPOON** → **TQPPO**.

Answer: (D) [Go Back to Q 17](#)



Solution 18.**Solution**

Topic: Word Analogy — Leadership Roles

Commander : Army — A Commander is the head/leader of an Army (military force).

By the same analogy: **Principal : ?** — A Principal is the head of a **School** (educational institution).

The relationship is: “[Head/Leader] : [Institution/Organisation they lead].”

Answer: (A) [Go Back to Q 18](#)

Solution 19.**Solution**

Topic: Odd One Out — Prime Numbers

Check each number:

- 11 — prime (divisible only by 1 and 11)
- 13 — prime
- **15 — NOT prime** ($15 = 3 \times 5$; divisible by 3 and 5)
- 17 — prime
- 19 — prime

All others (11, 13, 17, 19) are prime numbers. **15** is the odd one out as it is a composite number.

Answer: (C) [Go Back to Q 19](#)

Solution 20.**Solution**

Topic: Direction and Distance

Raju's journey:

- (a) Walks **4 km West**: now at $(-4, 0)$ from start.
- (b) Walks **3 km South**: now at $(-4, -3)$.
- (c) Walks **4 km East**: now at $(0, -3)$.



Final position: $(0, -3)$ — directly **3 km South** of the starting point $(0, 0)$.

The East and West legs cancel each other out (both 4 km), leaving only the 3 km southward displacement.

Distance from start = $\sqrt{0^2 + 3^2} = 3$ km, direction: **South**.

Answer: (B) [Go Back to Q 20](#)

Solution 21.

Solution

Topic: Matrix Pattern

The matrix pattern: each element = Row number $\times$ Column number $\times$ 7 ... actually:

Row 1: 7, 14, 21 $\Rightarrow 7 \times 1, 7 \times 2, 7 \times 3$ (multiples of 7)

Row 2: 8, 16, 24 $\Rightarrow 8 \times 1, 8 \times 2, 8 \times 3$ (multiples of 8)

Row 3: 9, 18, ? $\Rightarrow 9 \times 1, 9 \times 2, 9 \times 3 = 27$ (multiples of 9)

Each row uses a base number equal to the row's first entry, and the columns multiply by 1, 2, 3 respectively. Missing number = $9 \times 3 = 27$.

Answer: (D) [Go Back to Q 21](#)

Solution 22.

Solution

Topic: Letter Value Coding

Using the positional value (A=1, B=2, ..., Z=26):

VINE: V=22, I=9, N=14, E=5

Sum = $22 + 9 + 14 + 5 = 50$

Verification: TREE = T(20) + R(18) + E(5) + E(5) = 48. ✓

Answer: (A) [Go Back to Q 22](#)



Solution 23.

Solution

Topic: Alpha-Numeric Series

Series: A1, C3, E5, G7, ?

Letter pattern: A, C, E, G, ... — every alternate letter (skip one each time). Next: I.

Number pattern: 1, 3, 5, 7, ... — odd numbers, increasing by 2. Next: 9.

Therefore, the missing term is I9.

Answer: (C) [Go Back to Q 23](#)

Solution 24.

Solution

Topic: Syllogism — Deductive Reasoning

Premises:

- (a) No man is immortal. (All men belong to the set of *non-immortals*.)
- (b) Socrates is a man. (Socrates belongs to the set of *men*.)

Conclusion: Since no man is immortal, and Socrates is a man, it necessarily follows that **Socrates is not immortal**.

This is a valid categorical syllogism (Celarent form). The Venn diagram shows that the “Men” circle and the “Immortals” circle do not overlap at all; Socrates is inside the “Men” circle, hence outside the “Immortals” circle.

Answer: (B) [Go Back to Q 24](#)

Solution 25.

Solution

Topic: Blood Relations

Given:

- A and B are brothers.
- C is A's mother $\Rightarrow$ C is also B's mother (since A and B are brothers).



- D is C's father $\Rightarrow$ D is the father of C, who is A and B's mother.

Therefore, D is the **maternal grandfather** of both A and B. The word "maternal" is used because D is the grandfather through the mother's side (C is the mother).

Answer: (D) [Go Back to Q 25](#)

Solution 26.

Solution

Topic: Circular Seating Arrangement

With 6 people seated equally spaced in a circle, there are 6 positions. Anil and Bina sit exactly opposite each other (3 seats apart).

Going **clockwise** from Anil to Bina, you pass through exactly **2 people** (the 2nd and 3rd seat holders going clockwise before reaching Bina at the 3rd seat from Anil). In a 6-person circle, opposite members have 2 people between them in each direction.

Answer: (B) [Go Back to Q 26](#)

Solution 27.

Solution

Topic: Number Analogy — Perfect Squares

9 : 81 — $9^2 = 81$. The relationship is "number : its square."

Applying the same rule: **11 : ?** — $11^2 = 121$.

Answer: (C) [Go Back to Q 27](#)

Solution 28.

Solution

Topic: Odd One Out — Elements vs. Compound

- Oxygen (O_2) — element
- Nitrogen (N_2) — element
- Hydrogen (H_2) — element



- **Carbon Dioxide (CO₂)** — **compound** (made of carbon + oxygen atoms)
- Helium (He) — element

All others are elements (pure substances consisting of only one type of atom). Carbon Dioxide is a chemical **compound**, making it the odd one out.

Answer: (B) [Go Back to Q 28](#)

Solution 29.

Solution

Topic: Number Series — Perfect Squares

Series: 1, 4, 9, 16, ?, 36

These are perfect squares: $1^2, 2^2, 3^2, 4^2, 5^2, 6^2$

Missing term = $5^2 = 25$.

Answer: (D) [Go Back to Q 29](#)

Solution 30.

Solution

Topic: Clock — Angle Between Hands

At 2:00, the hour hand is at 60° from the 12 o'clock position.

The minute hand gains $\frac{360}{60} - \frac{360}{12 \times 60} = 6 - 0.5 = 5.5$ degrees per minute over the hour hand.

At 2:00, angle between hands = 60° . For the first right angle (90°) between 2:00 and 3:00, the minute hand must **gain** $90 - 60 = 30^\circ$ over the hour hand.

Time required = $\frac{30}{5.5} = \frac{60}{11} = 5\frac{5}{11}$ minutes past 2:00...

Actually at 2:00 the hands are 60° apart. For the first right angle: starting gap is 60° ; minute hand needs to *gain* $(90 - 60) = 30^\circ$ more.

$t = \frac{30}{5.5} = \frac{300}{55} = \frac{60}{11} \approx 5.45$ min — this gives $2:05\frac{5}{11}$.

Wait: at $2:05\frac{5}{11}$, the angle is 90° . But also at $2:27\frac{3}{11}$, the hands are again at 90° .



The *first* time between 2:00 and 3:00 with a right angle: At 2:00, the gap is 60° (less than 90°). The minute hand is behind, so it needs to first reach 90° ahead:

$$5.5t = 60 + 90 \Rightarrow t = \frac{150}{5.5} = \frac{300}{11} = 27\frac{3}{11} \text{ min.}$$

Actually, let us reconsider: At 2:00, hour hand = 60° , minute hand = 0° . Minute hand is *behind*. First right angle when minute hand has 90° less than hour hand (minute lags): $60 - 5.5t = 90 \Rightarrow t = -\frac{30}{5.5}$ (negative, so not between 2–3). First right angle when minute hand is 90° ahead: $5.5t - 60 = 90 \Rightarrow t = \frac{150}{5.5} = 27\frac{3}{11} \text{ min.}$ So the answer is 2 h $27\frac{3}{11} \text{ min.}$

Answer: (A) [Go Back to Q 30](#)

Solution 31.

Solution

Topic: Polo — Team Composition

Polo is a team sport played on horseback. Each team consists of **4 players**, each riding a horse. The playing field (polo ground) is the largest in any ball sport ($274 \text{ m} \times 183 \text{ m}$). A standard polo match consists of 4 to 8 periods called “chukkers,” each lasting 7 minutes. Players carry a long-handled mallet to hit a white ball through the opposing team’s goal.

Answer: (C) [Go Back to Q 31](#)

Solution 32.

Solution

Topic: ICC T20 World Cup — First Edition

The inaugural ICC World Twenty20 was held in **2007** in **South Africa**. India won the first T20 World Cup, defeating Pakistan in a thrilling final at the Wanderers Stadium, Johannesburg. MS Dhoni captained the Indian team. The match included a famous bowl-out. This tournament launched the T20 format as an international cricket format, and subsequently led to the establishment of the IPL in 2008.

Answer: (B) [Go Back to Q 32](#)



Solution 33.

Solution

Topic: Field Hockey — Quarter Duration

International field hockey (as per FIH rules updated in 2014–15) is played in **four quarters of 15 minutes** each. Total playing time = $4 \times 15 = 60$ minutes. There is a 2-minute break between Q1 & Q2 and between Q3 & Q4, and a 10-minute half-time break. The quarter format replaced the old two-halves format (35 minutes each) to allow more breaks and TV-friendly stoppages.

Answer: (D) [Go Back to Q 33](#)

Solution 34.

Solution

Topic: Volleyball — Rally Point Scoring

Under the **rally point system** (used in all international volleyball since 1999), a team wins a set when it scores **25 points** with at least a **2-point lead**. If the score reaches 24–24 (deuce), play continues until one team leads by 2 points. The fifth (deciding) set is played to 15 points (with a 2-point lead). Every rally results in a point (unlike the old side-out scoring where only the serving team could score).

Answer: (A) [Go Back to Q 34](#)

Solution 35.

Solution

Topic: Boxing — Three-Knockdown Rule

The **three-knockdown rule** in professional boxing states that if a boxer is knocked down **three times in a single round**, the referee automatically stops the fight and declares the opponent the winner by **Technical Knockout (TKO)**. This rule is not universal — the WBC (World Boxing Council) has eliminated it, but it remains in many sanctioning bodies and state athletic commissions. It is designed to protect fighters from accumulated punishment.

Answer: (C) [Go Back to Q 35](#)

Solution 36.**Solution**

Topic: 110m Hurdles (Men) — Hurdle Height

In the men's 110 metres hurdles, each of the 10 hurdles is **106.7 cm** (or **3 feet 6 inches** ≈ 1.067 m) tall, as specified by World Athletics. The hurdles are spaced 9.14 m apart, with 13.72 m from the start line to the first hurdle, and 14.02 m from the last hurdle to the finish line. Compare with women's 100m hurdles where the height is 83.8 cm (2 ft 9 in).

Answer: (B) [Go Back to Q 36](#)

Solution 37.**Solution**

Topic: FITT Principle — Components

The **FITT Principle** components are:

- Frequency — how often you exercise (days per week)
- Intensity — how hard you exercise (weight, speed, heart rate)
- Time — duration of each session
- Type — mode of exercise (running, swimming, lifting)

Increasing the **weight lifted** (load) in strength training directly manipulates the **Intensity** component. Progressive overload through increasing intensity is the key stimulus for strength gains (hypertrophy and neural adaptation).

Answer: (D) [Go Back to Q 37](#)

Solution 38.**Solution**

Topic: Periodization — Training Phases

In **periodization** (systematic planning of training), the **Competitive Phase** (Competition Period) is characterised by:

- **High intensity**, competition-specific training
- Reduced volume (to allow recovery and peak performance)
- Tapering before major competitions



- Maintaining fitness gains from preparatory phases

This contrasts with the General Preparatory Phase (high volume, low intensity, building base fitness), Specific Preparatory Phase (moderate volume, increasing intensity), and Transition Phase (active rest/recovery).

Answer: (A) [Go Back to Q 38](#)

Solution 39.

Solution

Topic: Bandura's Self-Efficacy Theory — Sources

Bandura identified four sources of self-efficacy (in descending order of strength):

- (a) **Mastery experiences** (past performance accomplishments) — **strongest**
- (b) Vicarious experiences (observing others similar to yourself succeed)
- (c) Verbal persuasion (encouragement from coaches, teammates)
- (d) Physiological and emotional states (interpreting arousal positively)

Mastery experiences are the most powerful because they provide direct evidence of one's own capability — successfully completing a task builds confidence more than any other source.

Answer: (C) [Go Back to Q 39](#)

Solution 40.

Solution

Topic: Sports Injuries — PRICE Protocol

The **PRICE** protocol for acute soft-tissue injury management stands for:

- **Protection** — protect the injured area from further damage
- **Rest** — stop activity and rest the injured part
- **Ice** — apply ice/cold packs to reduce swelling and pain (15–20 min, every 2 hrs)
- **Compression** — apply a bandage to limit swelling
- **Elevation** — raise the injured limb above heart level to reduce



swelling

Newer protocols include POLICE (Protection, Optimal Loading, Ice, Compression, Elevation) or PEACE & LOVE, but PRICE remains standard in most examination contexts.

Answer: (B) [Go Back to Q 40](#)

Solution 41.

Solution

Topic: Active vs. Passive Recovery — Lactate Clearance

Active recovery (low-intensity exercise such as jogging, cycling at 30–40% VO_2max) is superior to passive (complete) rest for clearing blood lactate after high-intensity exercise. Mechanisms:

- Maintains elevated muscle blood flow, facilitating lactate transport to the liver (Cori cycle) and oxidative muscles.
- Working muscles use lactate as fuel during low-intensity activity.
- Faster restoration of intramuscular pH and glycogen.

Research shows that active recovery can clear lactate approximately **twice as fast** as passive rest.

Answer: (D) [Go Back to Q 41](#)

Solution 42.

Solution

Topic: Pranayama — Physiological Benefits

Pranayama (Sanskrit: prāṇāyāma) refers to yogic breathing exercises that regulate the breath. Key physiological benefits:

- **Improves breathing efficiency:** increases tidal volume and respiratory muscle strength.
- **Calms the autonomic nervous system:** activates the parasympathetic (“rest and digest”) system, reducing cortisol and heart rate.
- Reduces anxiety and improves mental focus.
- Improves oxygen saturation and pulmonary function.



Unlike strength or endurance training, Pranayama's primary benefit is on the neurological and respiratory systems rather than musculoskeletal hypertrophy or aerobic capacity per se.

Answer: (A) [Go Back to Q 42](#)

Solution 43.

Solution

Topic: Arjuna Award 2024 — Total Awardees

The Ministry of Youth Affairs and Sports announced the National Sports Awards 2024 (presented on National Sports Day, 29 August 2024). A total of **32 sportspersons** received the **Arjuna Award** for outstanding performance in 2024. This was one of the larger cohorts, recognising athletes across Olympic, para-sports, and indigenous sports categories. Recipients included athletes from archery, athletics, boxing, chess, cricket, shooting, wrestling, and other disciplines.

Answer: (C) [Go Back to Q 43](#)

Solution 44.

Solution

Topic: India's First Female Olympic Medallist

Karnam Malleswari became the **first Indian woman to win an Olympic medal** when she claimed the **bronze medal in Weightlifting** (69 kg category) at the **2000 Sydney Olympics**. She lifted a total of 240 kg (110 kg snatch + 130 kg clean & jerk). Before the 2000 Games, P.T. Usha had narrowly missed a medal (4th place, 1984 Los Angeles). Mary Kom won bronze in boxing at London 2012, and Saina Nehwal won bronze in badminton at London 2012.

Answer: (B) [Go Back to Q 44](#)



Solution 45.

Solution

Topic: Rugby Sevens — Team Size

Rugby Sevens (7s) is a variant of rugby union in which each team fields 7 **players** on the pitch (compared to 15 in standard rugby union). The reduced team size and shorter match duration (two halves of 7 minutes each, or 10 minutes in finals) make it a faster, more dynamic game. Rugby Sevens became an Olympic sport at the 2016 Rio Games. Fiji won the men's gold at the 2016, 2020, and 2024 Olympics.

Answer: (D) [Go Back to Q 45](#)

Solution 46.

Solution

Topic: IPL 2024 Winner

The **Indian Premier League (IPL) 2024** was won by the **Kolkata Knight Riders (KKR)**, who defeated the Sunrisers Hyderabad (SRH) by **8 wickets** in the final played at the *M.A. Chidambaram Stadium, Chennai* on 26 May 2024. This was KKR's **third IPL title** (previously 2012 and 2014). Shreyas Iyer captained the team; Mitchell Starc and Sunil Narine were among the key performers. Ayush Badoni finished as a standout finisher for the Sunrisers.

Answer: (A) [Go Back to Q 46](#)

Solution 47.

Solution

Topic: FIFA Women's World Cup 2023

The **FIFA Women's World Cup 2023**, co-hosted by Australia and New Zealand, was won by **Spain**. Spain defeated England 1–0 in the final held at Stadium Australia, Sydney on 20 August 2023. This was Spain's **first ever Women's World Cup title**. Olga Carmona scored the winning goal. The tournament also featured memorable performances from the co-hosts, particularly the Australian team ("Matildas"), who reached the semi-finals.

Answer: (C) [Go Back to Q 47](#)

Solution 48.

Solution

Topic: Wimbledon 2024 — Men's Singles

Carlos Alcaraz of Spain successfully **defended his Wimbledon Men's Singles title** in 2024, defeating Novak Djokovic in a five-set final. He became the first man to defend the Wimbledon title since Roger Federer won it consecutively (2003–2005, 2006–2007). Alcaraz won his first Wimbledon in 2023 by defeating Djokovic. This consecutive Wimbledon victory cemented his place among the tennis elite at age 21.

Answer: (B) [Go Back to Q 48](#)

Solution 49.

Solution

Topic: Football Governance in India — AIFF

The **All India Football Federation (AIFF)** is the national governing body for football (soccer) in India. It was founded in 1937 and is affiliated with **FIFA** (Fédération Internationale de Football Association) and the **AFC** (Asian Football Confederation). AIFF organises the I-League, Indian Super League (jointly with FSDL), and manages the national teams. Its headquarters are in New Delhi.

Answer: (D) [Go Back to Q 49](#)

Solution 50.

Solution

Topic: Motor Fitness — Definition

Motor fitness (also called *skill-related fitness* or *motor performance fitness*) refers to the ability to perform physical movements with efficiency and effectiveness, encompassing:

- **Speed** — rapidity of movement
- **Power** — explosive strength (force × velocity)
- **Agility** — ability to change direction quickly
- **Balance** — maintaining equilibrium
- **Coordination** — harmonious integration of muscle groups



- **Reaction time** — speed of response to a stimulus

Motor fitness is distinct from health-related fitness (which includes cardiovascular endurance, muscular strength/endurance, flexibility, and body composition).

Answer: (A) [Go Back to Q 50](#)



Answer Key — Sample Paper 8

Quick Answer Table (click question number to jump to solution):

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	D	2	B	3	A	4	C	5	D
6	A	7	C	8	B	9	D	10	A
11	C	12	B	13	D	14	A	15	C
16	B	17	D	18	A	19	C	20	B
21	D	22	A	23	C	24	B	25	D
26	B	27	C	28	B	29	D	30	A
31	C	32	B	33	D	34	A	35	C
36	B	37	D	38	A	39	C	40	B
41	D	42	A	43	C	44	B	45	D
46	A	47	C	48	B	49	D	50	A

Solution Cross-Reference Table:

Q	Ans	Q	Ans
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Option Distribution Summary:

Option	Count	Questions
A	12	Q3, Q6, Q10, Q14, Q18, Q22, Q30, Q34, Q38, Q42, Q46, Q50
B	13	Q2, Q8, Q12, Q16, Q20, Q24, Q26, Q28, Q32, Q36, Q40, Q44, Q48
C	12	Q4, Q7, Q11, Q15, Q19, Q23, Q27, Q31, Q35, Q39, Q43, Q47
D	13	Q1, Q5, Q9, Q13, Q17, Q21, Q25, Q29, Q33, Q37, Q41, Q45, Q49
Total	50	

MAH B.P.Ed CET — Complete Full-Length Sample Paper 8 of 8

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