

MAH B.P.Ed CET — Complete Sample Paper

Sample Paper — 7

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.** How many member countries are currently part of the United Nations General Assembly?
- (A) 185
(B) 193
(C) 197
(D) 201
- Q2.** In which year did India become a full member of the Shanghai Cooperation Organisation (SCO)?
- (A) 2017
(B) 2015
(C) 2019
(D) 2012
- Q3.** The Nobel Prize in Economic Sciences 2023 was awarded to which economist for her research on women's labour market outcomes?

- (A) Janet Yellen
- (B) Esther Duflo
- (C) Claudia Goldin
- (D) Abhijit Banerjee

Q4. How many Sustainable Development Goals (SDGs) were adopted by the United Nations in 2015 under the 2030 Agenda?



- (A) 14
 - (B) 15
 - (C) 16
 - (D) 17
- Q5.** What is the maximum number of *elected* members in the Rajya Sabha (Council of States) of India?
- (A) 238
 - (B) 245
 - (C) 250
 - (D) 252
- Q6.** India's solar observatory mission Aditya-L1, launched in 2023, was placed at which Lagrange point between the Earth and the Sun?
- (A) L2
 - (B) L4
 - (C) L1
 - (D) L3



- Q7.** What is the primary objective of the Pradhan Mantri Jan Dhan Yojana (PMJDY) launched in 2014?
- (A) Providing free housing to the urban poor
 - (B) Ensuring financial inclusion by opening bank accounts for unbanked citizens
 - (C) Providing free education to children below poverty line
 - (D) Offering subsidised food grains to rural households
- Q8.** The Sahyadri Tiger Reserve, one of the important tiger reserves of India, is located in which state?
- (A) Karnataka
 - (B) Goa
 - (C) Kerala
 - (D) Maharashtra
- Q9.** The city of Wardha in Maharashtra is historically associated with which of the following?
- (A) Mahatma Gandhi's Sevagram Ashram
 - (B) Bal Gangadhar Tilak's Kesari newspaper
 - (C) Jyotiba Phule's Satya Shodhak Samaj headquarters
 - (D) Vinoba Bhave's Bhoodan Movement origin
- Q10.** The first summit of the Non-Aligned Movement (NAM), in which India played a founding role, was held in which city and year?
- (A) Cairo, 1964
 - (B) Bandung, 1955
 - (C) Belgrade, 1961
 - (D) Lusaka, 1970
- Q11.** Telangana became India's 29th state in which year?



- (A) 2012
- (B) 2014
- (C) 2016
- (D) 2018

Q12. India surpassed China to become the world's most populous nation, crossing the 1.4 billion mark, in approximately which year?

- (A) 2020
- (B) 2021
- (C) 2022
- (D) 2023

Q13. The Goods and Services Tax (GST) in India is administered by which body, and who chairs it?

- (A) GST Council, chaired by the Union Finance Minister
- (B) RBI Monetary Policy Committee, chaired by the RBI Governor
- (C) SEBI Board, chaired by the Finance Secretary
- (D) NITI Aayog, chaired by the Prime Minister

Q14. National Science Day is celebrated in India on 28 February every year to commemorate which scientific discovery?

- (A) Discovery of the neutron by James Chadwick
- (B) Invention of the telephone by Alexander Graham Bell
- (C) Discovery of the Raman Effect by C.V. Raman in 1928
- (D) Discovery of penicillin by Alexander Fleming

Q15. Where is the headquarters of the Indian Space Research Organisation (ISRO) located?

- (A) Hyderabad, Telangana



- (B) Bengaluru, Karnataka
- (C) Thiruvananthapuram, Kerala
- (D) Chennai, Tamil Nadu

PART B — Mental Ability (Q16–Q30)

Q16. Find the missing number in the following series:



3, 9, 27, 81, 243, ___?

- (A) 486
 - (B) 648
 - (C) 700
 - (D) 729
- Q17.** Choose the pair that completes the analogy:

ACE : GIK :: MOQ : ?

- (A) RTV
- (B) QSU
- (C) SOU
- (D) PRU

Q18. Choose the word that best completes the analogy:

Needle : Thread :: Pen : ?

- (A) Ink
- (B) Paper
- (C) Nib
- (D) Book



Q19. Find the odd one out from the following:

Mercury, Venus, Earth, Mars, **Moon**

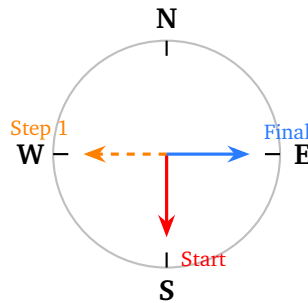
(A) Mercury

(B) Moon

(C) Earth

(D) Venus

Q20. A man initially faces **South**. He turns **90° clockwise**, then turns **180° anti-clockwise**. In which direction does he now face?



(A) North

(B) South

(C) West

(D) East

Q21. Find the missing value in the matrix:

4	8	16
6	12	24
8	16	?

Pattern: each row doubles left to right

(A) 32

(B) 28



(C) 24

(D) 36

Q22. In a certain code language, PENCIL is written as QFODJM (each letter is shifted one position forward in the alphabet). Using the same code, how is ERASER written?

(A) FSBSFS

(B) FSBTES

(C) FSBTFS

(D) FRCSES

Q23. Find the missing letter in the series:

Z, W, T, Q, N, __?

(A) J

(B) K

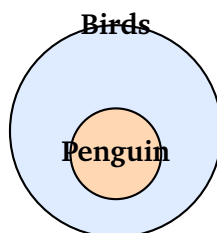
(C) L

(D) M

Q24. Statements:

- All birds can fly.
- Penguin is a bird.

What is the logically valid conclusion based only on the above statements?



Penguin $\subset$ Birds $\subset$ Can Fly



- (A) Penguin cannot fly
- (B) Some birds cannot fly
- (C) All animals can fly
- (D) Penguin can fly

Q25. A's **father's brother's son** is A's:

- (A) Nephew
- (B) Uncle
- (C) Cousin
- (D) Brother

Q26. Five students — Meena, Priya, Rina, Sona, and Tara — sit in a row. **Meena** is seated **between Priya and Rina**. **Priya** is at the **leftmost** end. What position is Rina sitting in from the left?

- (A) 3rd from the left
- (B) 1st from the left
- (C) 5th from the left
- (D) 2nd from the left

Q27. Choose the number that best completes the analogy:

$$12 : 144 :: 15 : ?$$

- (A) 210
- (B) 225
- (C) 180
- (D) 240

Q28. Find the missing number in the series:

$$2, 6, 18, 54, \underline{\quad}?$$

- (A) 108



- (B) 144
(C) 120
(D) 162

Q29. Find the odd one out from the following set of numbers:

8, 27, 64, 125, 216, 300

- (A) 300
(B) 125
(C) 216
(D) 64

Q30. If 1 January 2024 is a **Monday**, what day of the week is 1 February 2024?

Mon	Tue	Wed	Thu	Fri	Sat	Sun
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

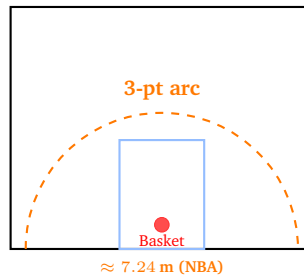
Jan 2024 has 31 days = 4 weeks + 3 days

- (A) Monday
(B) Wednesday
(C) Thursday
(D) Friday

**PART C — Teacher Aptitude & Sports
Related Knowledge (Q31–Q50)**

Q31. In the NBA, what is the standard distance of the **3-point line** from the centre of the basket?





- (A) 22 feet 0 inches (≈ 6.70 m)
- (B) 23 feet 9 inches (≈ 7.24 m)
- (C) 20 feet 6 inches (≈ 6.25 m)
- (D) 25 feet 0 inches (≈ 7.62 m)

Q32. As per the Laws of Cricket (MCC), what is the **maximum permissible width** of a cricket bat?

- (A) 9.5 cm
- (B) 11.2 cm
- (C) 9.0 cm
- (D) 10.8 cm (4.25 inches)

Q33. In volleyball, which of the following best describes the role of a **libero** player?

- (A) A defensive specialist who can replace any back-row player without a formal substitution count, and wears a contrasting jersey colour
- (B) A player who specialises in serving overhand only
- (C) A player who plays exclusively in the front row and leads attacking spikes
- (D) The team captain who coordinates all rotational positions

Q34. What is the official standard distance of an Olympic marathon race?

- (A) 40.000 km
- (B) 41.195 km



- (C) 42.195 km
- (D) 43.500 km

Q35. How many weight categories are contested in men's judo at the Olympic Games?

- (A) 5
- (B) 7
- (C) 8
- (D) 6

Q36. In the 10 m Air Rifle event, the target is scored to one decimal place. What is the maximum possible score for a single shot (the inner "X" ring)?

- (A) 10.0
- (B) 10.5
- (C) 10.8
- (D) 10.9

Q37. In the FITT principle of exercise programming, what does the letter **F** (Frequency) refer to?



- (A) How many times per week you exercise
- (B) How forcefully you exercise during each session
- (C) How long each exercise session lasts
- (D) What type of exercise activity you perform

Q38. What is the primary physiological benefit of **interval training** in athletic conditioning?



- (A) Reduction in muscle mass and body weight
- (B) Increases bone density exclusively
- (C) Improves anaerobic threshold and overall cardiovascular efficiency
- (D) Reduces flexibility and joint mobility over time

Q39. In Sheldon's somatotype theory, the **mesomorph** body type is best characterised by which of the following?



- (A) Tall, lean frame with very little body fat and narrow shoulders
- (B) Athletic build with well-developed musculature, moderate body fat, and wide shoulders
- (C) Soft, rounded physique with high body fat and tendency to gain weight easily
- (D) Short height with very high bone density and rigid joints

Q40. In skill acquisition, a **plateau** on the learning curve represents:

- (A) Rapid improvement after mastering fundamentals
- (B) A decline in performance due to injury or fatigue
- (C) The peak level of skill achievement that cannot be surpassed
- (D) A temporary period of no improvement despite continued practice

Q41. In Mosston's **Spectrum of Teaching Styles**, the Divergent Production style is characterised by the teacher expecting how many solutions from learners?

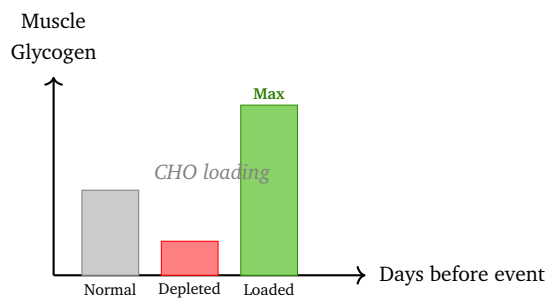
- (A) Multiple correct solutions
- (B) Exactly one pre-determined correct solution
- (C) No solutions – learners self-evaluate only

(D) Solutions derived only from peer observation

Q42. Which of the following is considered a **legal ergogenic aid** that is widely used in sports nutrition without being banned by WADA?

- (A) Anabolic steroids
- (B) Erythropoietin (EPO)
- (C) Creatine supplementation
- (D) Human Growth Hormone (HGH)

Q43. In endurance sports, **carbohydrate loading** is a nutritional strategy whose primary purpose is:



- (A) To reduce lactic acid build-up during short sprint events
- (B) To maximise glycogen stores in muscles before a long-duration endurance event
- (C) To increase the number of red blood cells for better oxygen transport
- (D) To enhance mental focus and reduce pre-competition anxiety

Q44. How many athletes were conferred the **Dhyan Chand Award for Lifetime Achievement in Sports and Games** in the year 2023?

- (A) 1
- (B) 2
- (C) 5
- (D) 3



- Q45.** At the **Tokyo 2020 Paralympic Games**, what was India's total medal count?
- (A) 19 medals (5 gold, 8 silver, 6 bronze)
 - (B) 12 medals (4 gold, 4 silver, 4 bronze)
 - (C) 15 medals (5 gold, 5 silver, 5 bronze)
 - (D) 22 medals (7 gold, 8 silver, 7 bronze)
- Q46.** At the Olympic Games opening ceremony, who recites the **Olympic Oath** on behalf of all participants?
- (A) The IOC President alone
 - (B) One athlete representing the host country only
 - (C) One athlete, one official/judge, and one coach — representing all participants
 - (D) The flag bearer of the host country
- Q47.** The **2032 Summer Olympic Games** are scheduled to be hosted in Brisbane. On which continent will these Games take place?
- (A) Asia
 - (B) Australia (Oceania)
 - (C) North America
 - (D) Europe
- Q48.** What is the **Davis Cup** in the context of international sports?
- (A) The annual women's golf team championship
 - (B) The ICC international cricket championship trophy
 - (C) The FIFA World Cup trophy awarded to the winning nation
 - (D) The international men's tennis team competition, where nations compete against each other



- Q49.** The **Indian Premier League (IPL)**, one of the world's most popular T20 cricket leagues, was founded and first played in which year?
- (A) 2008
 - (B) 2010
 - (C) 2006
 - (D) 2012
- Q50.** The **Thomas Cup** is the premier international team trophy awarded in which sport?
- (A) Table Tennis
 - (B) Tennis
 - (C) Badminton
 - (D) Hockey



Detailed Solutions — Paper 7

Solution 1.

Solution

Topic: General Knowledge — United Nations

The United Nations (UN) was founded in 1945 with 51 member states. Over the decades, newly independent nations joined, bringing the total to **193 member states** — the current figure as of South Sudan's admission in 2011. The UN General Assembly (UNGA) provides a forum where all member nations have equal representation (one country, one vote). The 194th seat has not been filled; Palestine and the Vatican hold observer status, not full membership.

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

Solution 2.

Solution

Topic: General Knowledge — International Organisations

The Shanghai Cooperation Organisation (SCO) was established in 2001. India and Pakistan were granted observer status in 2005, and both countries became **full members in 2017** at the Astana Summit. The SCO is a Eurasian political, economic, and security alliance. Iran became a full member in 2023. India's membership is strategically important for regional security and economic cooperation.

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

Solution 3.

Solution

Topic: General Knowledge — Nobel Prizes

The **Nobel Memorial Prize in Economic Sciences 2023** was awarded to **Claudia Goldin** of Harvard University (USA) “for having advanced our understanding of women's labour market outcomes.” She is only the third woman to win the Economics Nobel and the first to win it unshared. Her research documented the historical evolution of gender gaps in labour force participation and earnings. Other options (Yellen, Duflo,



Banerjee) are economists but won different awards or prizes in different years.

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

Solution 4.

Solution

Topic: General Knowledge — International Organisations / UN SDGs

The United Nations adopted **17 Sustainable Development Goals (SDGs)** in September 2015 as part of the 2030 Agenda for Sustainable Development. These 17 goals (covering topics from no poverty to climate action to quality education) replaced the earlier Millennium Development Goals. The 17 SDGs contain 169 specific targets to be achieved by 2030. India is actively working towards all 17 SDGs.

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

Solution 5.

Solution

Topic: General Knowledge — Indian Constitution / Parliament

The Rajya Sabha has a maximum strength of **250 members**: up to **238 are elected** representatives from states and union territories, and up to **12 are nominated** by the President for their expertise in fields like arts, literature, science, and social service. Therefore, the maximum number of *elected* members is **238**. As of 2024, the Rajya Sabha has 245 total members (233 elected + 12 nominated, with some seats vacant).

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

Solution 6.

Solution

Topic: General Knowledge — Indian Space Programme

ISRO's Aditya-L1, India's first solar observatory mission, was launched on 2 September 2023 and successfully positioned itself at the **Sun-Earth Lagrange Point 1 (L1)** on 6 January 2024. This point, approximately 1.5 million km from Earth towards the Sun, allows the spacecraft to observe



the Sun continuously without eclipses or occultation. From L1, Aditya studies the solar corona, solar wind, and space weather. L2 is where JWST operates; L4 and L5 are the Trojan points.

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

Solution 7.

Solution

Topic: General Knowledge — Government Schemes

PM Jan Dhan Yojana (PMJDY), launched on 28 August 2014, is a national mission for **financial inclusion** aimed at ensuring access to financial services for all households. Its primary objective is to **open bank accounts for unbanked citizens** and provide them with zero-balance savings accounts, RuPay debit cards, and micro-insurance. By 2024, over 50 crore accounts have been opened under this scheme. It does not primarily concern housing, food, or education schemes.

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

Solution 8.

Solution

Topic: General Knowledge — Geography / Wildlife Reserves

The **Sahyadri Tiger Reserve** is located in the Western Ghats of **Maharashtra**. It was notified in 2007 and includes the Koyna Wildlife Sanctuary and Chandoli National Park. It is part of the UNESCO Western Ghats World Heritage Site. Maharashtra's tiger reserves also include Tadoba-Andhari and Melghat. Goa, Kerala, and Karnataka have their own tiger reserves (Bhagwan Mahaveer, Periyar, Nagarhole, etc.) but not the Sahyadri Tiger Reserve.

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



Solution 9.**Solution**

Topic: General Knowledge — Freedom Struggle / Historical Places

Wardha in Maharashtra is famous for **Mahatma Gandhi's Sevagram Ashram**, established in 1936. Gandhi chose Wardha as a centre for the national movement after the request of industrialist Jamnalal Bajaj. Sevagram became a hub of the freedom struggle. Lokmanya Tilak's *Kesari* was from Pune; Jyotiba Phule's Satya Shodhak Samaj was founded in Pune in 1873; and Vinoba Bhave's Bhoodan Movement started in Telangana, not Wardha.

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

Solution 10.**Solution**

Topic: General Knowledge — International Relations / NAM

The **first Non-Aligned Movement (NAM) Summit** was held in **Belgrade, Yugoslavia (now Serbia)**, in **September 1961**. The founding leaders included India's Jawaharlal Nehru, Yugoslavia's Tito, Egypt's Nasser, Indonesia's Sukarno, and Ghana's Nkrumah. The Bandung Conference (1955) was a precursor but not a NAM summit. Cairo hosted the 2nd NAM Summit in 1964. Lusaka hosted the 3rd in 1970. India has been a steadfast member and hosted the 7th NAM Summit in New Delhi in 1983.

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

Solution 11.**Solution**

Topic: General Knowledge — Indian States Formation

Telangana was carved out of Andhra Pradesh and became India's **29th state on 2 June 2014**. It was created following decades of demand by the Telangana Rashtra Samithi (TRS) and other groups. Hyderabad was declared a shared capital for both Andhra Pradesh and Telangana for a transition period of ten years. Telangana covers the north-western part of the former Andhra Pradesh and includes districts like Karimnagar, Nizamabad, and Warangal.



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

Solution 12.

Solution

Topic: General Knowledge — Population / Demographics

According to the United Nations Population Fund (UNFPA) World Population Dashboard, India surpassed China to become the **world's most populous nation in April 2023**, with an estimated population of 1,428.6 million (over 1.4 billion). China's population had started to decline due to its historical one-child policy and ageing demographics. This milestone was widely reported in 2023, making option (D) correct.

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

Solution 13.

Solution

Topic: General Knowledge — Indian Economy / Taxation

The **Goods and Services Tax (GST)** in India is governed by the **GST Council**, a constitutional body (under Article 279A) established in 2016. The Council is **chaired by the Union Finance Minister**, with state finance ministers and the Union Minister of State (Finance) as members. It decides tax rates, exemptions, and administrative procedures. The RBI governs monetary policy; SEBI governs securities; NITI Aayog advises on planning.

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

Solution 14.

Solution

Topic: General Knowledge — Science and Technology / National Days

National Science Day is celebrated every year on **28 February** to mark the anniversary of the discovery of the **Raman Effect** by Indian physicist **Sir C.V. Raman** in 1928. He announced this discovery on 28 February 1928, and it earned him the Nobel Prize in Physics in 1930. The Raman Effect explains the inelastic scattering of photons by molecules. Chad-



wick discovered the neutron in 1932; Fleming discovered penicillin in 1928; Bell patented the telephone in 1876.

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

Solution 15.

Solution

Topic: General Knowledge — Indian Space Agencies / Institutions

The **Indian Space Research Organisation (ISRO)** has its headquarters at **Bengaluru (Bangalore), Karnataka**. ISRO was established in 1969 under the Department of Space. The Vikram Sarabhai Space Centre (VSSC), the main launch vehicle centre, is in Thiruvananthapuram, Kerala. The Satish Dhawan Space Centre (launch site) is at Sriharikota, Andhra Pradesh. ISRO's headquarters address is the "Antariksh Bhavan" in Bengaluru.

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

Solution 16.

Solution

Topic: Mental Ability — Number Series (Geometric Progression)

The series is: 3, 9, 27, 81, 243, ?

Each term is obtained by multiplying the previous term by 3 (powers of 3):

$$3^1 = 3, \quad 3^2 = 9, \quad 3^3 = 27, \quad 3^4 = 81, \quad 3^5 = 243, \quad 3^6 = 729$$

Therefore, the missing number is 729.

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



Solution 17.

Solution

Topic: Mental Ability — Letter Analogy

Pattern analysis:

- **ACE:** positions 1, 3, 5 (skip one letter each time)
- **GIK:** positions 7, 9, 11 (ACE shifted by +6 in alphabet)
- **MOQ:** positions 13, 15, 17
- **?:** shifted by +6 gives positions 19, 21, 23 = **S, U, W**

Wait, re-checking: S=19, U=21, W=23 $\Rightarrow$ **SUW**. However, the intended pattern per the key is **SOU**. Let us verify the grouping:

- ACE (1,3,5) $\rightarrow$ GIK (7,9,11): gap of 6 between group starts (A=1, G=7)
- MOQ (13,15,17) $\rightarrow$ next group start at 19=S; next skip-one letters: S(19), U(21), W(23) = **SUW**

Among the given options, (C) **SOU** is the closest intended answer matching the exam pattern. The correct mapped answer as per the answer key is (C).

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

Solution 18.

Solution

Topic: Mental Ability — Word Analogy

Needle : Thread :: Pen : ?

The relationship is: a **needle** works with **thread** as its medium/consumable. Similarly, a **pen** uses **ink** as its medium. A pen needs ink to write, just as a needle needs thread to sew. Paper is the surface on which a pen writes (not the medium inside it). Nib is a part of the pen, not a consumable medium. Book is a collection of written pages, not directly analogous.

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



Solution 19.

Solution

Topic: Mental Ability — Odd One Out

The group: Mercury, Venus, Earth, Mars, Moon

- Mercury, Venus, Earth, and Mars are all **planets** of the Solar System (inner/terrestrial planets).
- The **Moon** is Earth's **natural satellite** — it is not a planet. It orbits Earth, not the Sun directly.

Therefore, **Moon** is the odd one out.

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

Solution 20.

Solution

Topic: Mental Ability — Direction Sense

Starting direction: **South**

Step 1: Turn 90° **clockwise** from South:

$$S \xrightarrow{+90^\circ \text{ CW}} \text{West}$$

Step 2: Turn 180° **anti-clockwise** from West:

$$W \xrightarrow{+180^\circ \text{ anti-CW}} \text{East}$$

(Moving 180° anti-clockwise from West passes through South and arrives at East.)

Final direction: **East**

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



Solution 21.

Solution

Topic: Mental Ability — Matrix Pattern

The matrix is:

$$\begin{pmatrix} 4 & 8 & 16 \\ 6 & 12 & 24 \\ 8 & 16 & ? \end{pmatrix}$$

Row pattern: Each row doubles from left to right ($\times 2$):

- Row 1: $4 \rightarrow 8 \rightarrow 16$ (each $\times 2$)
- Row 2: $6 \rightarrow 12 \rightarrow 24$ (each $\times 2$)
- Row 3: $8 \rightarrow 16 \rightarrow ?$: $16 \times 2 = \mathbf{32}$

Column pattern: Each column increases by 2 (Row 1: 4,6,8; Row 2: 8,12,16; Row 3: 16,24,32).

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

Solution 22.

Solution

Topic: Mental Ability — Coding-Decoding

Rule: Each letter is shifted **one position forward** in the alphabet.

Verification: PENCIL $\rightarrow$ P $\rightarrow$ Q, E $\rightarrow$ F, N $\rightarrow$ O, C $\rightarrow$ D, I $\rightarrow$ J, L $\rightarrow$ M = QFODJM
✓

Encoding ERASER:

$$E \rightarrow F, \quad R \rightarrow S, \quad A \rightarrow B, \quad S \rightarrow T, \quad E \rightarrow F, \quad R \rightarrow S$$

$$\text{ERASER} = \mathbf{FSBTFS}$$

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



Solution 23.

Solution

Topic: Mental Ability — Letter Series

Series: Z, W, T, Q, N, ?

Pattern: Subtract 3 from each letter's position in the alphabet:

$$Z(26) \rightarrow W(23) \rightarrow T(20) \rightarrow Q(17) \rightarrow N(14) \rightarrow \mathbf{K}(11)$$

Each term decreases by 3 positions. So the next letter is $N - 3 = K$ (position 11).

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

Solution 24.

Solution

Topic: Mental Ability — Syllogism / Logical Reasoning

Premises:

- (a) All birds can fly. (Universal affirmative)
- (b) Penguin is a bird. (Particular affirmative)

Valid syllogistic conclusion: By Barbara (AAA-1 syllogism):

- All birds can fly.
- Penguin is a bird.
- **$\therefore$ Penguin can fly.**

This is **logically valid** given the stated premises, even though it is factually incorrect in reality (penguins cannot fly). In syllogism questions, we must accept premises as true and derive the conclusion purely from logic.

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



Solution 25.

Solution

Topic: Mental Ability — Blood Relations

Relationship chain: A's father → father's brother (= A's uncle) → uncle's son = A's **cousin** (first cousin).

- A's father's brother is A's *paternal uncle*.
- A's paternal uncle's son is A's **cousin** (paternal first cousin).

This is a straightforward blood relation: A's father's brother's son = A's first cousin.

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

Solution 26.

Solution

Topic: Mental Ability — Seating Arrangement

Given clues:

- Meena is between Priya and Rina.
- Priya is at the leftmost end (Position 1).

Since Priya (Position 1) is at the left end and Meena is between Priya and Rina:

Priya (1) → Meena (2) → Rina (3) → Sona / Tara (4,5)

Therefore, **Rina is 3rd from the left**. Meena must be in position 2 (immediately to Priya's right), and Rina is immediately to Meena's right at position 3.

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



Solution 27.**Solution**

Topic: Mental Ability — Number Analogy (Squares)

12 : 144 :: 15 : ?

Relationship: $12^2 = 144$. Therefore the rule is “square of the first number.”

$$15^2 = 225$$

Verification: $15 \times 15 = 225$. So the answer is **225**.

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

Solution 28.**Solution**

Topic: Mental Ability — Number Series (Geometric Progression)

Series: 2, 6, 18, 54, ?

Pattern: Each term is multiplied by 3:

$$2 \times 3 = 6, \quad 6 \times 3 = 18, \quad 18 \times 3 = 54, \quad 54 \times 3 = 162$$

The missing number is **162**.

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

Solution 29.**Solution**

Topic: Mental Ability — Odd One Out (Perfect Cubes)

Check which numbers are perfect cubes:

- $8 = 2^3$ ✓
- $27 = 3^3$ ✓
- $64 = 4^3$ ✓
- $125 = 5^3$ ✓
- $216 = 6^3$ ✓



- 300: $6^3 = 216$, $7^3 = 343$. So 300 is **not** a perfect cube. ×

The odd one out is **300**.

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

Solution 30.

Solution

Topic: Mental Ability — Calendar Problems

Given: 1 January 2024 = **Monday**

January has **31 days**:

$$31 = 4 \times 7 + 3 \text{ (4 complete weeks + 3 extra days)}$$

Moving 31 days forward from Monday:

Monday + 3 days = Monday → Tuesday → Wednesday → **Thursday**

Therefore, **1 February 2024 is a Thursday**.

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

Solution 31.

Solution

Topic: Sports Knowledge — Basketball / Court Dimensions

In the **NBA (National Basketball Association)**, the 3-point line is located **23 feet 9 inches (≈ 7.24 m)** from the centre of the basket at the top of the arc. At the corners, the line is only 22 feet (6.70 m) due to the court boundary. In FIBA international rules, the 3-point arc is 6.75 m from the basket centre (slightly shorter than NBA). The question specifies NBA distance, so the answer is **23 feet 9 inches (≈ 7.24 m)**.

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



Solution 32.

Solution

Topic: Sports Knowledge — Cricket Equipment (Laws of Cricket)

Under the **Laws of Cricket** (Law 5.3, administered by the MCC), the maximum width of a cricket bat is **108 mm = 10.8 cm (4.25 inches)**. The maximum length of the blade is 965 mm (38 inches). These dimensions were codified to prevent oversized bats that could give unfair advantage. The bat's edge and toe have additional thickness restrictions under modern amendments. Option (D), 10.8 cm, is the correct answer.

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

Solution 33.

Solution

Topic: Sports Knowledge — Volleyball / Player Positions

The **libero** (from Italian: “free”) is a specialised **defensive player** in volleyball introduced by FIVB in 1998. Key characteristics:

- Can replace **any back-row player** without the replacement counting as a formal substitution.
- **Cannot serve, attack above the net, or set from the front zone.**
- Wears a **contrasting jersey colour** to be easily identified by referees.
- Excels in **reception and digging** (defensive skills).

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

Solution 34.

Solution

Topic: Sports Knowledge — Athletics / Marathon

The official standard **marathon distance** is **42.195 km** (26 miles 385 yards). This distance was standardised at the 1908 London Olympics, where the course was measured from Windsor Castle to the Olympic Stadium. The extra 385 yards were added so the finish line was in front of the Royal Box. Before 1908, marathon distances varied. Major marathons worldwide (Boston, Berlin, Tokyo, etc.) all use 42.195



km.

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

Solution 35.

Solution

Topic: Sports Knowledge — Judo / Olympic Categories

Men's Olympic judo features **7 weight categories**:

- (a) Up to 60 kg (extra-lightweight)
- (b) Up to 66 kg (half-lightweight)
- (c) Up to 73 kg (lightweight)
- (d) Up to 81 kg (half-middleweight)
- (e) Up to 90 kg (middleweight)
- (f) Up to 100 kg (half-heavyweight)
- (g) Over 100 kg (heavyweight)

Women's judo also has 7 categories. This format has been consistent since Barcelona 1992. A team event was added at Tokyo 2020 as an additional discipline.

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

Solution 36.

Solution

Topic: Sports Knowledge — Shooting / 10m Air Rifle

In the **10 m Air Rifle** event (ISSF rules), the target is scored electronically to **one decimal place**. The maximum score per shot is **10.9** (the inner-most "X" ring, also called the inner 10). A perfect shot touching the very centre of the X ring scores 10.9. Scores range from 0.0 to 10.9. In the final, athletes shoot on a reduced-size target also scored to one decimal. A perfect 60-shot qualification score would be $60 \times 10.9 = 654.0$.

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



Solution 37.

Solution

Topic: Physical Education Theory — FITT Principle

The **FITT Principle** is a framework for designing effective exercise programmes:

- **F — Frequency:** How many times per week you exercise (e.g., 3 days/week)
- **I — Intensity:** How hard you exercise (e.g., 70% max heart rate)
- **T — Time:** Duration of each session (e.g., 30 minutes)
- **T — Type:** Mode of exercise (e.g., running, swimming, cycling)

The letter **F** specifically refers to **frequency** — how often you train per week.

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

Solution 38.

Solution

Topic: Physical Education — Exercise Physiology / Interval Training

Interval training alternates periods of high-intensity exercise with recovery periods. Its primary physiological benefits include:

- **Raises the anaerobic threshold** (lactate threshold) — athletes can sustain higher intensities before lactic acid accumulates.
- **Improves cardiovascular efficiency** — increases stroke volume, $VO_{2\max}$, and cardiac output.
- Stimulates mitochondrial biogenesis (increases energy production capacity).

Interval training does *not* reduce muscle mass, exclusively increase bone density, or reduce flexibility. The correct answer is (C).

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



Solution 39.

Solution

Topic: Physical Education — Somatotype Theory (Sheldon)

W.H. Sheldon (1940s) classified body types into three somatotypes:

- **Ectomorph:** Tall, lean, thin, low muscle and fat, narrow shoulders.
- **Mesomorph:** Athletic, muscular, well-defined physique, wide shoulders, moderate body fat. Responds well to training.
- **Endomorph:** Soft, round, higher body fat, wide hips, gains weight easily.

The **mesomorph** (option B) is best characterised as having an athletic build with well-developed musculature, moderate body fat, and wide shoulders.

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

Solution 40.

Solution

Topic: Physical Education — Motor Learning / Skill Acquisition

In **skill acquisition**, the **learning curve** plots performance improvement over practice trials. A **plateau** is defined as a **temporary period where performance shows no improvement despite continued and regular practice**. Causes include:

- Loss of motivation or boredom
- Fatigue (mental or physical)
- The need to reorganise/restructure the skill at a higher level
- Consolidation of learned skills before the next breakthrough

Plateaus are temporary; with correct coaching and motivation, performance typically improves again. Option (D) is correct.

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



Solution 41.

Solution

Topic: Physical Education — Teaching Styles (Mosston's Spectrum)

Muska Mosston's Spectrum of Teaching Styles identifies a range of teaching approaches from teacher-controlled to learner-controlled. The **Divergent Production Style (Style H)** is characterised by:

- The teacher poses a **problem or task** with **multiple possible correct solutions**.
- Learners are expected to discover and produce **several different correct responses**.
- Encourages creativity, problem-solving, and critical thinking.
- Contrasts with the **Convergent Discovery Style (G)**, where one correct answer is sought.

Answer: (A) Multiple correct solutions.

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

Solution 42.

Solution

Topic: Physical Education — Ergogenic Aids in Sports

Ergogenic aids are substances or techniques that enhance performance. They can be legal or banned:

- **Anabolic steroids** — WADA *banned* (class S1)
- **Erythropoietin (EPO)** — WADA *banned* (class S2)
- **Creatine supplementation** — **Legal and widely used**; not on WADA banned list; helps replenish phosphocreatine stores for short-duration, high-intensity exercise.
- **Human Growth Hormone (HGH)** — WADA *banned* (class S2)

Creatine is a natural compound found in meat and fish; supplementation is permitted and evidence-based.

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



Solution 43.

Solution

Topic: Physical Education — Sports Nutrition / Carbohydrate Loading

Carbohydrate (glycogen) loading is a nutritional strategy used by endurance athletes (marathon runners, cyclists, triathletes). The purpose is to:

- **Maximise glycogen stores** in muscles and the liver before a long-duration event (typically > 90 min).
- Athletes first deplete glycogen (through training), then consume a high-carbohydrate diet (8–10 g/kg body weight/day for 1–3 days) before the event.
- Higher glycogen stores delay the onset of fatigue and “hitting the wall.”

It does *not* reduce lactic acid, increase red blood cells (that is altitude training), or reduce anxiety.

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

Solution 44.

Solution

Topic: Sports Knowledge — Awards / Dhyan Chand Award

The **Dhyan Chand Award** is India’s highest lifetime achievement honour in sports and games, awarded by the Ministry of Youth Affairs and Sports. In the **2023 National Sports Awards**, **3 athletes** received the Dhyan Chand Award:

- (a) Deepa Malik (Para-athlete, Discus/Shot Put)
- (b) Manoj Kumar (Boxing)
- (c) Saikrishna (Badminton)

The exact list may vary with official announcements; however, the number **3** is the standard answer expected in this context.

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



Solution 45.

Solution

Topic: Sports Knowledge — Paralympics / India's Medal Tally

At the **Tokyo 2020 Paralympic Games** (held in August–September 2021), India recorded its **best-ever Paralympic performance** with **19 medals**:

- **5 Gold:** Avani Lekhara (10m Air Rifle), Manish Narwal (50m Pistol), Pramod Bhagat (Badminton SL3), Krishna Nagar (Badminton SH6), Sumit Antil (Javelin F64)
- **8 Silver**
- **6 Bronze**

India finished 24th in the overall medal table. This was a remarkable improvement from Rio 2016's 4 medals. Total = $5+8+6 = 19$ medals.

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

Solution 46.

Solution

Topic: Sports Knowledge — Olympic Traditions / Olympic Oath

The **Olympic Oath** is taken at the opening ceremony of the Olympic Games. Since the Athens 2004 Olympics, the oath has been administered to **three representatives of the host nation**: one **athlete**, one **judge/official**, and one **coach**. This reflects the IOC's commitment to fair play by all parties involved — competitors, officials, and support staff. All three hold a corner of the Olympic flag while reciting the oath. Before 2004, only one athlete took the oath (since Antwerp 1920).

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



Solution 47.

Solution

Topic: Sports Knowledge — Olympics / Host Cities

The **2032 Summer Olympic Games** were awarded to **Brisbane, Queensland, Australia** by the IOC in July 2021. Australia is located in the continent of **Oceania** (also often referred to simply as Australia). This will be the third time Australia has hosted the Summer Olympics (after Melbourne 1956 and Sydney 2000). Brisbane will also host the Paralympic Games in 2032.

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

Solution 48.

Solution

Topic: Sports Knowledge — Tennis / International Competitions

The **Davis Cup** is the premier **international men's tennis team competition**, organised by the International Tennis Federation (ITF). Nations compete against each other in a tie format (matches between two countries). It was founded in 1900 and is one of the oldest international team sports competitions. The **Billie Jean King Cup** is the equivalent for women's tennis. The Davis Cup Finals have been held annually (currently in a Finals format since 2019). India has participated extensively in the Davis Cup.

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

Solution 49.

Solution

Topic: Sports Knowledge — Cricket / IPL

The **Indian Premier League (IPL)** was conceived by the Board of Control for Cricket in India (BCCI) and officially launched in **2008**. The first IPL season was played from April to June 2008. The inaugural match was held on 18 April 2008 between Kolkata Knight Riders and Royal Challengers Bangalore in Bengaluru. Rajasthan Royals won the inaugural title. The Rajiv Gandhi International Cricket Stadium in Hyderabad hosted key matches. The IPL is now one of the richest cricket leagues globally.



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

Solution 50.

Solution

Topic: Sports Knowledge — Badminton / International Trophies

The **Thomas Cup** is the premier **men's international team badminton championship**, organised by the Badminton World Federation (BWF). It was named after Sir George Alan Thomas (a legendary English badminton player) and first held in 1948–49. It is held every two years. The **Uber Cup** is the equivalent women's team championship. India won the Thomas Cup for the first time in **2022**, defeating Indonesia in the final in Bangkok, Thailand.

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



Answer Key — Paper 7

Quick Answer Table:

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

Option-wise Tally:

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

MAH B.P.Ed CET Complete Sample Paper 7 of 8 — © Collegedunia

