

# NIPER JEE General Aptitude

## Sample Paper – 7

M.S.(Pharm) / M.Pharm Joint Entrance Examination

Duration: 24 Minutes

Maximum Marks: 20

### Instructions

- This paper contains **40 single-correct Multiple Choice Questions**, modelled on the **General Aptitude, Reasoning & General Knowledge** section of the **NIPER Joint Entrance Examination**.
- Each correct answer carries **+0.5 marks**. **0.125 mark is deducted** for every wrong answer, and an unattempted question gets **0 marks**. Maximum marks: **20**.
- The section covers English, quantitative aptitude, logical reasoning, and general knowledge (including pharma-sector awareness).
- Only **one** option is correct. Personal calculators, mobile phones, and other electronic gadgets are strictly prohibited.

### General Aptitude, Reasoning & General Knowledge

**Q1.** Choose the word most nearly **similar** in meaning to the word **ARDUOUS**.

- (A) Difficult
- (B) Easy
- (C) Pleasant
- (D) Simple

**Q2.** Choose the word most nearly **opposite** in meaning to the word **TRANSIENT**.

- (A) Brief
- (B) Permanent
- (C) Fleeting



(D) Momentary

**Q3.** Choose the **one word** for the expression: “A medicine that helps to expel phlegm from the respiratory tract”.

(A) Stimulant

(B) Diuretic

(C) Expectorant

(D) Emetic

**Q4.** What does the idiom “**to be under the weather**” mean?

(A) To be caught in a storm

(B) To be very busy

(C) To be in a cheerful mood

(D) To feel slightly unwell

**Q5.** Identify the part of the sentence that contains an **error**:

“Each of the samples (A)/ have been tested (B)/ for purity (C)/ before release. (D)”

(A) Part B

(B) Part A

(C) Part C

(D) Part D

**Q6.** Choose the option that best **improves** the underlined part:

“If I would have known the dose, I would have warned the patient.”

(A) would have known (no improvement)

(B) had known

(C) have known

(D) would know



**Q7.** Fill in the blank with the **correct preposition**:

“The technician is well versed \_\_\_\_\_ the operation of the spectrophotometer.”

- (A) on
- (B) at
- (C) in
- (D) of

**Q8.** Choose the option that best completes the analogy:

**Thermometer : Temperature :: Ammeter : ?**

- (A) Voltage
- (B) Resistance
- (C) Power
- (D) Current

**Q9.** Choose the **correctly spelt** word.

- (A) Maintenance
- (B) Maintainance
- (C) Maintenence
- (D) Maintainence

**Q10.** Read the passage and answer:

“First-pass metabolism is the breakdown of an orally taken drug by the liver before it reaches the general circulation. Drugs that undergo extensive first-pass metabolism reach the bloodstream in much smaller amounts when taken by mouth.”

Which statement is best **inferred**?

- (A) First-pass metabolism increases the oral dose reaching the blood
- (B) Extensive first-pass metabolism lowers a drug’s oral bioavailability
- (C) First-pass metabolism occurs only with injections

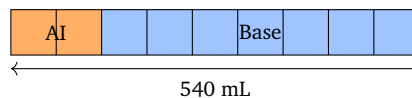


(D) The kidney is responsible for first-pass metabolism

**Q11.** A drug's price is first **increased by 20%** and then the new price is **decreased by 20%**. The net change in the original price is:

- (A) No change
- (B) 4% increase
- (C) 4% decrease
- (D) 2% decrease

**Q12.** A syrup is prepared by mixing active ingredient and base in the ratio 2 : 7 (see the divided bar of 9 equal parts). If the total volume is 540 mL, what is the volume of the **active ingredient**?



- (A) 60 mL
- (B) 90 mL
- (C) 420 mL
- (D) 120 mL

**Q13.** The average of seven consecutive odd numbers is 27. What is the **largest** of these numbers?

- (A) 33
- (B) 27
- (C) 31
- (D) 35

**Q14.** A retailer sells a thermometer for Rs. 420 at a **loss of 16%**. What was the **cost price**?

- (A) Rs. 480



- (B) Rs. 500
- (C) Rs. 520
- (D) Rs. 460

**Q15.** At what **rate** of simple interest per annum will Rs. 4000 amount to Rs. 4960 in 3 years?

- (A) 6%
- (B) 7%
- (C) 8%
- (D) 9%

**Q16.** Pipe X fills a tank in 10 hours and pipe Y empties it in 15 hours. If both are opened together, in how many hours is the tank **filled**?

- (A) 25 hours
- (B) 5 hours
- (C) 12 hours
- (D) 30 hours

**Q17.** Two trains start at the same time from stations 330 km apart and move towards each other at 50 km/h and 60 km/h. After how many **hours** will they meet?

- (A) 3 hours
- (B) 4 hours
- (C) 5 hours
- (D) 6 hours

**Q18.** The ratio of the present ages of A and B is 5 : 7. After 6 years the ratio becomes 3 : 4. What is the **present age of A**?

- (A) 25 years



- (B) 30 years
- (C) 35 years
- (D) 42 years

**Q19.** A vessel holds 40 L of pure spirit. 8 L is drawn out and replaced with water. How much **pure spirit** now remains?

- (A) 36 L
- (B) 30 L
- (C) 32 L
- (D) 28 L

**Q20.** Two fair dice are rolled together. What is the **probability** that the sum of the two numbers shown is 7?

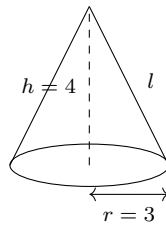
- (A)  $\frac{1}{12}$
- (B)  $\frac{1}{9}$
- (C)  $\frac{5}{36}$
- (D)  $\frac{1}{6}$

**Q21.** In how many ways can the letters of the word **TABLET** be arranged?

- (A) 360
- (B) 720
- (C) 120
- (D) 240

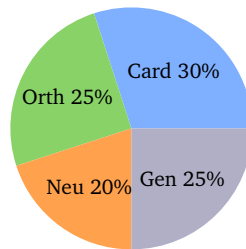
**Q22.** A right circular cone has base radius 3 cm and height 4 cm (figure). What is its **slant height**?





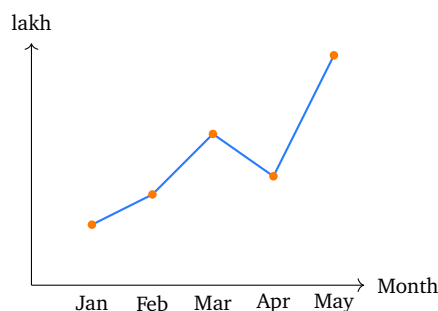
- (A) 6 cm
- (B) 5 cm
- (C) 7 cm
- (D) 12 cm

**Q23.** The pie chart shows how 7200 patients of a clinic are distributed across four departments. How many patients are in the **Cardiology** department?



- (A) 1440
- (B) 1800
- (C) 2160
- (D) 2520

**Q24.** The line graph shows monthly sales (in lakh Rs.) of a pharmacy chain. Between which **two consecutive months** was the **increase** the largest?



- (A) Jan to Feb
- (B) Mar to Apr
- (C) Feb to Mar
- (D) Apr to May

**Q25.** Find the **next number** in the series: 2, 5, 11, 23, 47, ?

- (A) 95
- (B) 94
- (C) 71
- (D) 96

**Q26.** Find the **next term** in the series: *B, D, G, K, ?*

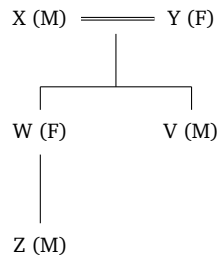
- (A) O
- (B) P
- (C) N
- (D) Q

**Q27.** In a certain code **MEDICINE** is written as **NFEJDJOF**. How is **TABLET** written in that code?

- (A) UBCMFT
- (B) SBCMFU
- (C) UBCMFU
- (D) UACMFU

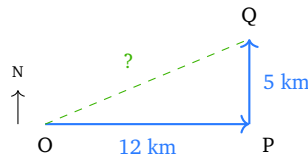
**Q28.** Study the family tree (double line = married couple, vertical line = parent–child). How is **W** related to **Z**?





- (A) Sister
- (B) Aunt
- (C) Daughter
- (D) Mother

**Q29.** A salesman starts at O, walks 12 km East to P, then 5 km North to Q (see path). What is the **straight-line distance** from O to Q?



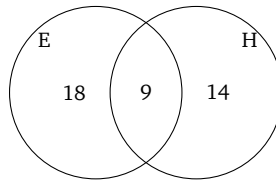
- (A) 13 km
- (B) 17 km
- (C) 15 km
- (D) 11 km

**Q30.** Statements: **All syringes are instruments. No instrument is cheap.**  
Which conclusion **follows**?

- (A) Some syringes are cheap
- (B) No syringe is cheap
- (C) All instruments are syringes
- (D) Some instruments are syringes only

**Q31.** The Venn diagram shows the count of staff who can speak English (E) and Hindi (H). How many speak **only Hindi** (Hindi but not English)?



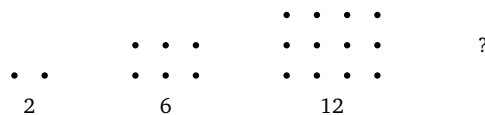


- (A) 9
- (B) 23
- (C) 14
- (D) 18

**Q32.** Choose the **odd one out**.

- (A) Kilogram
- (B) Litre
- (C) Metre
- (D) Velocity

**Q33.** In the figure series the number of dots grows by a fixed rule (rectangular arrays of  $1 \times 2$ ,  $2 \times 3$ ,  $3 \times 4$ ). How many dots should the **next figure** contain?



- (A) 20
- (B) 16
- (C) 18
- (D) 24

**Q34.** What is the **angle** between the hour hand and the minute hand of a clock at **3:30**?

- (A) 90 degrees
- (B) 75 degrees



- (C) 60 degrees
- (D) 105 degrees

**Q35.** In which sport is the term “googly” used?

- (A) Hockey
- (B) Tennis
- (C) Cricket
- (D) Badminton

**Q36.** Who is the author of the book “The God of Small Things”?

- (A) Kiran Desai
- (B) Anita Desai
- (C) Jhumpa Lahiri
- (D) Arundhati Roy

**Q37.** Who is known as the “Father of the Indian Space Programme”?

- (A) Vikram Sarabhai
- (B) Homi Bhabha
- (C) C.V. Raman
- (D) Satyendra Nath Bose

**Q38.** The **Thomas Cup** is associated with which sport?

- (A) Table tennis
- (B) Badminton
- (C) Lawn tennis
- (D) Squash

**Q39.** The autobiography “Wings of Fire” was written by A.P.J. Abdul Kalam along with which co-author?



- (A) Y.S. Rajan
- (B) Vikram Sarabhai
- (C) Arun Tiwari
- (D) Pramod Kapoor

**Q40.** **Mary Kom**, the celebrated Indian sportsperson, is associated with which sport?

- (A) Wrestling
- (B) Weightlifting
- (C) Shooting
- (D) Boxing



**Detailed Solutions**

Q1.

**Solution**

**Concept — Synonyms:** “Arduous” means demanding great effort; hard and tiring.

**Reasoning:** An arduous task is a hard one. “Difficult” shares this exact sense. **Why**

**the other options are wrong:**

- (B) Easy is the opposite of arduous.
- (C) Pleasant is unrelated and almost opposite.
- (D) Simple is the opposite in sense.

**Final Answer:** Difficult  $\Rightarrow$

**Answer: (A)** [Go Back to Q1](#)

Q2.

**Solution**

**Concept — Antonyms:** “Transient” means lasting only for a short time; temporary.

**Reasoning:** The direct opposite is “Permanent”, meaning lasting or unchanging over time. **Why the other options are wrong:**

- (A) Brief is a synonym of transient.
- (C) Fleeting also means short-lived.
- (D) Momentary means lasting a moment, a synonym.

**Final Answer:** Permanent  $\Rightarrow$

**Answer: (B)** [Go Back to Q2](#)

Q3.

**Solution**

**Concept — One-word substitution:** A medicine that helps expel phlegm is an “expectorant”.

**Reasoning:** Expectorants loosen and help bring up mucus from the airways, easing a productive cough. **Why the other options are wrong:**

- (A) A stimulant increases alertness.
- (B) A diuretic increases urine output.
- (D) An emetic induces vomiting.



**Final Answer:** Expectorant  $\Rightarrow$

**Answer:** (C) [Go Back to Q3](#)

Q4.

### Solution

**Concept — Idioms:** “To be under the weather” means to feel slightly ill or out of sorts. **Reasoning:** The phrase describes a person who is not feeling well, typically with a mild illness. **Why the other options are wrong:**

- (A) Being caught in a storm is the literal, not idiomatic, sense.
- (B) Being very busy is unrelated.
- (C) A cheerful mood is the opposite idea.

**Final Answer:** To feel slightly unwell  $\Rightarrow$

**Answer:** (D) [Go Back to Q4](#)

Q5.

### Solution

**Concept — Subject-verb agreement (each of):** “Each of...” takes a *singular* verb. **Reasoning:** The subject “Each” is singular, so it must take “has been tested”, not “have been tested”. The error lies in Part B. **Why the other options are wrong:**

- (B) “Each of the samples” is correct usage.
- (C) “for purity” is correct.
- (D) “before release” is correct.

**Final Answer:** Part B  $\Rightarrow$

**Answer:** (A) [Go Back to Q5](#)



Q6.

**Solution**

**Concept — Conditional sentences (third conditional):** The “if” clause uses the past perfect, not “would have”. **Reasoning:** The correct form is “If I had known. . . , I would have warned. . .”. The “would have” belongs only in the main clause. **Why the other options are wrong:**

- (A) “would have known” in the if-clause is wrong.
- (C) “have known” is the wrong tense here.
- (D) “would know” breaks the third-conditional pattern.

**Final Answer:** had known  $\Rightarrow$

**Answer: (B)** [Go Back to Q6](#)

Q7.

**Solution**

**Concept — Prepositions:** The fixed phrase is “well versed *in*”. **Reasoning:** We say someone is well versed in a subject or skill. “In” is the correct preposition. **Why the other options are wrong:**

- (A) “versed on” is not a standard collocation.
- (B) “versed at” is incorrect.
- (D) “versed of” is grammatically wrong.

**Final Answer:** in  $\Rightarrow$

**Answer: (C)** [Go Back to Q7](#)

Q8.

**Solution**

**Concept — Analogy (instrument : measured quantity):** A thermometer measures temperature. **Reasoning:** The relationship is instrument to the quantity it measures. An ammeter measures electric current. **Why the other options are wrong:**

- (A) Voltage is measured by a voltmeter.
- (B) Resistance is measured by an ohmmeter.
- (C) Power is measured by a wattmeter.



**Final Answer:** Current  $\Rightarrow$

**Answer: (D)** [Go Back to Q8](#)

Q9.

### Solution

**Concept — Spelling:** The correct spelling is “Maintenance”. **Reasoning:** Although the verb is “maintain”, the noun drops the “i” and is spelt M-a-i-n-t-e-n-a-n-c-e. **Why the other options are wrong:**

- (B) “Maintainance” wrongly keeps “ai”.
- (C) “Maintenance” uses “ence” instead of “ance”.
- (D) “Maintainence” mixes both errors.

**Final Answer:** Maintenance  $\Rightarrow$

**Answer: (A)** [Go Back to Q9](#)

Q10.

### Solution

**Concept — Inference from passage:** First-pass metabolism breaks down an oral drug in the liver before it reaches circulation. **Reasoning:** Since extensive first-pass metabolism lets only a small amount reach the blood, it lowers the drug’s oral bioavailability. **Why the other options are wrong:**

- (A) It reduces, not increases, the amount reaching the blood.
- (C) It applies to oral drugs, not injections.
- (D) The liver, not the kidney, carries out first-pass metabolism.

**Final Answer:** Extensive first-pass metabolism lowers a drug’s oral bioavailability  $\Rightarrow$

**Answer: (B)** [Go Back to Q10](#)



Q11.

**Solution**

**Concept — Successive percentage change:** Net factor =  $(1 + \frac{20}{100})(1 - \frac{20}{100})$ . **Reasoning:** Take price 100. After +20% = 120; after -20% =  $120 \times 0.8 = 96$ . Net change =  $96 - 100 = -4$ , a 4% decrease. **Why the other options are wrong:**

- (A) A rise and equal fall do not cancel out.
- (B) The net change is a decrease, not an increase.
- (D) 2% decrease is an arithmetic slip.

**Final Answer:** 4% decrease  $\Rightarrow$   C

**Answer: (C)** [Go Back to Q11](#)

Q12.

**Solution**

**Concept — Ratio division:** Total parts =  $2 + 7 = 9$ . **Reasoning:** Active ingredient =  $\frac{2}{9} \times 540 = 120$  mL. **Why the other options are wrong:**

- (A) 60 mL uses the wrong fraction.
- (B) 90 mL is incorrect.
- (C) 420 mL is the base portion ( $\frac{7}{9} \times 540$ ).

**Final Answer:** 120 mL  $\Rightarrow$   D

**Answer: (D)** [Go Back to Q12](#)

Q13.

**Solution**

**Concept — Average of consecutive terms:** For an odd count of equally spaced numbers, the average equals the middle term. **Reasoning:** The middle (4th) odd number is 27. The seven numbers are 21, 23, 25, 27, 29, 31, 33, so the largest is 33. **Why the other options are wrong:**

- (B) 27 is the middle term, not the largest.
- (C) 31 is the 6th term.
- (D) 35 lies outside the set.

**Final Answer:** 33  $\Rightarrow$   A



**Answer: (A)** [Go Back to Q13](#)

Q14.

### Solution

**Concept — Loss percentage:**  $SP = CP \times (1 - \frac{\text{loss}\%}{100})$ . **Reasoning:**  $420 = CP \times 0.84 \Rightarrow$

$CP = \frac{420}{0.84} = 500$ . **Why the other options are wrong:**

- (A) Rs. 480 gives a different loss%.
- (C) Rs. 520 is too high.
- (D) Rs. 460 is incorrect.

**Final Answer:** Rs. 500  $\Rightarrow$  **B**

**Answer: (B)** [Go Back to Q14](#)

Q15.

### Solution

**Concept — Simple interest:**  $SI = \frac{P \times R \times T}{100}$ . **Reasoning:**  $SI = 4960 - 4000 =$

$960$ . So  $960 = \frac{4000 \times R \times 3}{100} = 120R \Rightarrow R = 8\%$ . **Why the other options are wrong:**

- (A) 6% gives  $SI = 720$ .
- (B) 7% gives  $SI = 840$ .
- (D) 9% gives  $SI = 1080$ .

**Final Answer:** 8%  $\Rightarrow$  **C**

**Answer: (C)** [Go Back to Q15](#)

Q16.

### Solution

**Concept — Pipes and cisterns (net rate):** Subtract the emptying rate from the filling rate. **Reasoning:** Net rate  $= \frac{1}{10} - \frac{1}{15} = \frac{3-2}{30} = \frac{1}{30}$  per hour. So the tank fills in 30 hours. **Why the other options are wrong:**

- (A) 25 hours adds rates wrongly.
- (B) 5 hours ignores the outflow.



- (C) 12 hours is incorrect.

**Final Answer:** 30 hours  $\Rightarrow$

**Answer: (D)** [Go Back to Q16](#)

Q17.

### Solution

**Concept — Relative speed (towards each other):** Add the two speeds. **Reasoning:** Closing speed =  $50 + 60 = 110$  km/h. Time =  $\frac{330}{110} = 3$  hours. **Why the other options are wrong:**

- (B) 4 hours overestimates.
- (C) 5 hours is incorrect.
- (D) 6 hours is far too long.

**Final Answer:** 3 hours  $\Rightarrow$

**Answer: (A)** [Go Back to Q17](#)

Q18.

### Solution

**Concept — Ages (ratio equations):** Let  $A = 5x$ ,  $B = 7x$ . **Reasoning:**  $\frac{5x + 6}{7x + 6} = \frac{3}{4} \Rightarrow 4(5x + 6) = 3(7x + 6) \Rightarrow 20x + 24 = 21x + 18 \Rightarrow x = 6$ . So  $A = 5 \times 6 = 30$  years. **Why the other options are wrong:**

- (A) 25 years gives the wrong ratio.
- (C) 35 years is B's value, not A's.
- (D) 42 years is unrelated.

**Final Answer:** 30 years  $\Rightarrow$

**Answer: (B)** [Go Back to Q18](#)



Q19.

**Solution**

**Concept — Replacement of solution:** Removing 8 L of pure spirit leaves the rest unchanged; water adds no spirit. **Reasoning:** Spirit removed = 8 L, so remaining spirit =  $40 - 8 = 32$  L (the 8 L of water added contains no spirit). **Why the other options are wrong:**

- (A) 36 L removes too little.
- (B) 30 L is incorrect.
- (D) 28 L removes too much.

**Final Answer:** 32 L  $\Rightarrow$

**Answer: (C)** [Go Back to Q19](#)

Q20.

**Solution**

**Concept — Probability with two dice:** Total outcomes = 36. **Reasoning:** Sums of 7 come from (1, 6), (2, 5), (3, 4), (4, 3), (5, 2), (6, 1), i.e. 6 outcomes.  $P = \frac{6}{36} = \frac{1}{6}$ . **Why the other options are wrong:**

- (A)  $\frac{1}{12}$  counts only 3 outcomes.
- (B)  $\frac{1}{9}$  counts 4 outcomes.
- (C)  $\frac{5}{36}$  counts 5 outcomes.

**Final Answer:**  $\frac{1}{6} \Rightarrow$

**Answer: (D)** [Go Back to Q20](#)

Q21.

**Solution**

**Concept — Permutations with a repeated letter:** Arrangements =  $\frac{n!}{p!}$  where  $p$  is the count of the repeated letter. **Reasoning:** TABLET has 6 letters with "T" repeated twice. Arrangements =  $\frac{6!}{2!} = \frac{720}{2} = 360$ . **Why the other options are wrong:**

- (B) 720 ignores the repeated T.



- (C) 120 is 5!.
- (D) 240 is incorrect.

**Final Answer:** 360  $\Rightarrow$

**Answer: (A)** [Go Back to Q21](#)

**Q22.**

### Solution

**Concept — Slant height of a cone:**  $l = \sqrt{r^2 + h^2}$ . **Reasoning:**  $l = \sqrt{3^2 + 4^2} = \sqrt{9 + 16} = \sqrt{25} = 5$  cm. **Why the other options are wrong:**

- (A) 6 cm is incorrect.
- (C) 7 cm wrongly adds  $r + h$ .
- (D) 12 cm wrongly multiplies  $r \times h$ .

**Final Answer:** 5 cm  $\Rightarrow$

**Answer: (B)** [Go Back to Q22](#)

**Q23.**

### Solution

**Concept — Pie-chart data interpretation:** A sector's % of the total gives its count. **Reasoning:** Cardiology = 30% of 7200 =  $\frac{30}{100} \times 7200 = 2160$  patients. **Why the other options are wrong:**

- (A) 1440 is 20% (Neurology).
- (B) 1800 is 25% (Orthopaedics or General).
- (D) 2520 is 35%, which no sector represents.

**Final Answer:** 2160 patients  $\Rightarrow$

**Answer: (C)** [Go Back to Q23](#)



Q24.

**Solution**

**Concept — Line-graph data interpretation:** The largest rise is the steepest upward segment. **Reasoning:** Changes are Jan→Feb +0.5, Feb→Mar +1.0, Mar→Apr -0.7, Apr→May +2.0. The biggest increase is Apr to May. **Why the other options are wrong:**

- (A) Jan to Feb rises only 0.5.
- (B) Mar to Apr is a fall.
- (C) Feb to Mar rises only 1.0.

**Final Answer:** Apr to May ⇒

**Answer: (D)** [Go Back to Q24](#)

Q25.

**Solution**

**Concept — Number series ( $\times 2 + 1$ ):** Each term is the previous term doubled plus one. **Reasoning:**  $2 \times 2 + 1 = 5$ ,  $5 \times 2 + 1 = 11$ ,  $11 \times 2 + 1 = 23$ ,  $23 \times 2 + 1 = 47$ ,  $47 \times 2 + 1 = 95$ . **Why the other options are wrong:**

- (B) 94 forgets the +1.
- (C) 71 breaks the rule.
- (D) 96 is off by one.

**Final Answer:** 95 ⇒

**Answer: (A)** [Go Back to Q25](#)

Q26.

**Solution**

**Concept — Letter series:** Track the gaps between alphabet positions. **Reasoning:** B(2), D(4), G(7), K(11): gaps are +2, +3, +4, so the next gap is +5.  $11 + 5 = 16 =$  P. **Why the other options are wrong:**

- (A) O is position 15.
- (C) N is position 14.
- (D) Q is position 17.



**Final Answer:** P  $\Rightarrow$

**Answer: (B)** [Go Back to Q26](#)

Q27.

### Solution

**Concept — Coding by letter shift:** Each letter moves +1 in the alphabet. **Reasoning:** MEDICINE  $\rightarrow$  NFEJDJOF confirms a +1 shift. Apply +1 to TABLET: T $\rightarrow$ U, A $\rightarrow$ B, B $\rightarrow$ C, L $\rightarrow$ M, E $\rightarrow$ F, T $\rightarrow$ U, giving UBCMFU. **Why the other options are wrong:**

- (A) UBCMFT mis-shifts the final T.
- (B) SBCMFU shifts the first letter backward.
- (D) UACMFU leaves A unchanged.

**Final Answer:** UBCMFU  $\Rightarrow$

**Answer: (C)** [Go Back to Q27](#)

Q28.

### Solution

**Concept — Blood relations:** Trace the tree from parents to child to grandchild. **Reasoning:** X and Y are a married couple; W and V are their children. W is the parent of Z. Since W is female and Z is her child, W is the *mother* of Z. **Why the other options are wrong:**

- (A) W is the parent of Z, not a sibling.
- (B) Aunt would apply to V's relation, not W's.
- (C) Z is W's child, so W cannot be the daughter.

**Final Answer:** Mother  $\Rightarrow$

**Answer: (D)** [Go Back to Q28](#)



Q29.

**Solution**

**Concept — Direction sense (Pythagoras):** The displacement is the hypotenuse of a right triangle. **Reasoning:** East 12 km and North 5 km are perpendicular.

Distance =  $\sqrt{12^2 + 5^2} = \sqrt{144 + 25} = \sqrt{169} = 13$  km. **Why the other options are wrong:**

- (B) 17 km adds the legs (12 + 5).
- (C) 15 km is incorrect.
- (D) 11 km is too short.

**Final Answer:** 13 km  $\Rightarrow$

**Answer: (A)** [Go Back to Q29](#)

Q30.

**Solution**

**Concept — Syllogism (universal + negative):** “All A are B” with “No B is C” gives “No A is C”. **Reasoning:** All syringes fall inside the set of instruments, and no instrument is cheap, so no syringe can be cheap either. Hence “No syringe is cheap” follows. **Why the other options are wrong:**

- (A) “Some syringes are cheap” contradicts the chain.
- (C) “All instruments are syringes” reverses the relation.
- (D) “Some instruments are syringes only” is not a valid conclusion.

**Final Answer:** No syringe is cheap  $\Rightarrow$

**Answer: (B)** [Go Back to Q30](#)

Q31.

**Solution**

**Concept — Venn diagram (single region):** “Only Hindi” is the part of the Hindi circle outside the overlap. **Reasoning:** The Hindi-only region carries the value 14, while 9 is the overlap (both languages) and 18 is English-only. So 14 staff speak only Hindi. **Why the other options are wrong:**

- (A) 9 is the overlap (both languages).
- (B) 23 is Hindi-only plus overlap (14 + 9).



- (D) 18 is the English-only region.

**Final Answer:** 14  $\Rightarrow$

**Answer:** (C) [Go Back to Q31](#)

**Q32.**

### Solution

**Concept — Classification (odd one out):** Group items by their common category.

**Reasoning:** Kilogram, litre and metre are all units of measurement. “Velocity” is a physical quantity, not a unit, so it is the odd one out. **Why the other options are wrong:**

- (A) Kilogram is a unit (of mass).
- (B) Litre is a unit (of volume).
- (C) Metre is a unit (of length).

**Final Answer:** Velocity  $\Rightarrow$

**Answer:** (D) [Go Back to Q32](#)

**Q33.**

### Solution

**Concept — Figure series (oblong numbers):** Dots form  $n \times (n + 1)$  arrays:

$1 \times 2, 2 \times 3, 3 \times 4, \dots$  **Reasoning:** The figures show 2, 6, 12 dots, i.e.  $n(n + 1)$ . The next figure is  $4 \times 5 = 20$  dots. **Why the other options are wrong:**

- (B) 16 breaks the  $n(n + 1)$  pattern.
- (C) 18 is not of the form  $n(n + 1)$ .
- (D) 24 overshoots ( $5 \times 6$  would be 30, not 24).

**Final Answer:** 20  $\Rightarrow$

**Answer:** (A) [Go Back to Q33](#)



Q34.

**Solution**

**Concept — Clock angle:** Angle =  $|30H - 5.5M|$  degrees, where  $H$  is the hour and  $M$  the minutes. **Reasoning:** At 3:30, angle =  $|30 \times 3 - 5.5 \times 30| = |90 - 165| = 75$  degrees. **Why the other options are wrong:**

- (A) 90 degrees ignores the hour hand's movement past 3.
- (C) 60 degrees is incorrect.
- (D) 105 degrees mis-signs the terms.

**Final Answer:** 75 degrees  $\Rightarrow$

**Answer: (B)** [Go Back to Q34](#)

Q35.

**Solution**

**Concept — Sports terms:** A “googly” is a type of deceptive delivery bowled by a leg-spinner. **Reasoning:** The googly is a cricket term: it turns the opposite way to a normal leg-break, deceiving the batter. **Why the other options are wrong:**

- (A) Hockey terms include “bully” and “dribble”, not googly.
- (B) Tennis uses terms like “ace” and “deuce”.
- (D) Badminton uses “smash” and “drop shot”.

**Final Answer:** Cricket  $\Rightarrow$

**Answer: (C)** [Go Back to Q35](#)

Q36.

**Solution**

**Concept — Books and authors:** “The God of Small Things” won the 1997 Booker Prize. **Reasoning:** The novel was written by Arundhati Roy and earned her the Booker Prize in 1997. **Why the other options are wrong:**

- (A) Kiran Desai wrote “The Inheritance of Loss”.
- (B) Anita Desai wrote “Fasting, Feasting”.
- (C) Jhumpa Lahiri wrote “The Namesake”.

**Final Answer:** Arundhati Roy  $\Rightarrow$



Answer: (D) [Go Back to Q36](#)

Q37.

### Solution

**Concept — Famous personalities:** Vikram Sarabhai founded India's space research. **Reasoning:** Dr. Vikram Sarabhai is regarded as the Father of the Indian Space Programme; he was instrumental in setting up ISRO. **Why the other options are wrong:**

- (B) Homi Bhabha is the Father of India's nuclear programme.
- (C) C.V. Raman is known for the Raman Effect in physics.
- (D) S.N. Bose is known for Bose–Einstein statistics.

**Final Answer:** Vikram Sarabhai ⇒

Answer: (A) [Go Back to Q37](#)

Q38.

### Solution

**Concept — Sports trophies:** The Thomas Cup is the world men's team championship in badminton. **Reasoning:** The Thomas Cup is contested by national men's badminton teams; India won it for the first time in 2022. **Why the other options are wrong:**

- (A) Table tennis has the Swaythling and Corbillon Cups.
- (C) Lawn tennis team events include the Davis Cup.
- (D) Squash is not associated with the Thomas Cup.

**Final Answer:** Badminton ⇒

Answer: (B) [Go Back to Q38](#)

Q39.

### Solution

**Concept — Books and authors:** “Wings of Fire” is Dr. Kalam's autobiography. **Reasoning:** “Wings of Fire” (1999) was co-authored by A.P.J. Abdul Kalam and Arun Tiwari. **Why the other options are wrong:**



- (A) Y.S. Rajan co-wrote “India 2020” with Kalam, not this book.
- (B) Vikram Sarabhai was Kalam’s mentor, not a co-author here.
- (D) Pramod Kapoor is a publisher and author of other works.

**Final Answer:** Arun Tiwari ⇒

**Answer:** (C) [Go Back to Q39](#)

Q40.

### Solution

**Concept — Famous personalities (sports):** Mary Kom is a celebrated Indian athlete. **Reasoning:** M.C. Mary Kom is a multiple-time world champion boxer and an Olympic bronze medallist (London 2012). **Why the other options are wrong:**

- (A) Wrestling is associated with athletes like Sushil Kumar.
- (B) Weightlifting is associated with Mirabai Chanu.
- (C) Shooting is associated with Abhinav Bindra.

**Final Answer:** Boxing ⇒

**Answer:** (D) [Go Back to Q40](#)



## Answer Key

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

