

SET (Symbiosis Entrance Test)

Sample Paper – 4

Duration: 60 Minutes

Maximum Marks: 60

Instructions

- This paper contains **60 Multiple Choice Questions** across 4 sections: General English (16Q), Quantitative Aptitude (16Q), General Awareness (16Q), and Analytical & Logical Reasoning (12Q).
- Each correct answer carries +1 **mark**. There is **no negative marking** for incorrect or unattempted answers.
- Only **one** option is correct per question. Choose carefully.
- Total duration: **60 minutes**. There is **no sectional time limit** — manage your own time across all 4 sections.
- This is an **Online CBT (Computer Based Test)**. An on-screen scratch pad is provided for rough work. Personal calculators, mobile phones, and other electronic gadgets are strictly prohibited.

Part A: General English (Q1–Q16, 1 mark each)

- Q1.** Choose the word most similar in meaning (synonym) to the word “**pragmatic**”.
- (A) Practical
(B) Theoretical
(C) Idealistic
(D) Visionary
- Q2.** Choose the word most opposite in meaning (antonym) to the word “**benevolent**”.
- (A) Kind
(B) Generous



- (C) Malevolent
- (D) Charitable

Q3. Read the following passage and answer Questions 3–5:

India's startup ecosystem has emerged as one of the most dynamic in the world. Cities such as Bengaluru have become global technology hubs, attracting venture capital from across the globe. The fintech sector, in particular, has seen explosive growth, with digital payment platforms revolutionising everyday transactions for millions of citizens. The Government of India launched the *Startup India* initiative to foster innovation and ease the regulatory burden on new enterprises. Despite these achievements, the ecosystem continues to grapple with significant challenges, including a persistent funding gap for early-stage ventures, intense competition for skilled talent, and the difficulty of scaling beyond metropolitan markets. Sustained policy support and deeper collaboration between industry and academia will be critical to fulfilling India's entrepreneurial potential.

Q3. What is the **main idea of the passage?**

- (A) Bengaluru is the only city that matters in India's startup world
- (B) India's startup ecosystem is growing rapidly with government support but faces key challenges
- (C) The fintech sector alone drives all growth in India
- (D) Skilled talent is no longer a problem for Indian startups

Q4. Based on the passage in Q3:

Which city is specifically mentioned in the passage as a major startup hub?

- (A) Mumbai
- (B) Chennai
- (C) Hyderabad
- (D) Bengaluru



Q5. Based on the passage in Q3:

Which of the following inferences can be most reasonably drawn from the passage?

- (A) Government initiatives have been crucial to startup growth
- (B) Indian startups face no competition for talent
- (C) The Startup India initiative was launched by state governments
- (D) Venture capital is available only in Bengaluru

Q6. Fill in the blank with the most appropriate word:

“He will succeed _____ he works hard.”

- (A) Although
- (B) Unless
- (C) If
- (D) Whereas

Q7. Which of the following is the **correct indirect speech** for the sentence given below?

Direct speech: *She asked, “Are you going to the party?”*

- (A) She asked if I was going to the party.
- (B) She asked if he was going to the party.
- (C) She asked whether I am going to the party.
- (D) She asked if I is going to the party.

Q8. The sentence below is divided into four parts (A), (B), (C), and (D). Identify the part that contains a **grammatical error**.

(A) The prize money / (B) was divided equally / (C) between all the members / (D) of the winning team.

- (A) The prize money
- (B) was divided equally



- (C) between all the members
- (D) of the winning team

Q9. In the sentence below, a part is underlined. Choose the option that **best replaces** the underlined part.

“He is one of the most honest man in town.”

- (A) most honest men
- (B) more honest men
- (C) most honest mans
- (D) honest-most men

Q10. Choose the **one-word substitution** for the following expression:

“A person who collects coins as a hobby”

- (A) Philatelist
- (B) Cartographer
- (C) Numismatist
- (D) Ornithologist

Q11. Choose the most appropriate word to fill in the blank in the passage below:

“Social reformers of the 19th century believed that education was the most powerful tool for _____ society and bringing about lasting change.”

- (A) destroying
- (B) transforming
- (C) ignoring
- (D) disrupting

Q12. What is the meaning of the idiom “**kill two birds with one stone**”?

- (A) To cause harm to others deliberately



- (B) To be highly efficient in hunting
- (C) To fail at two tasks simultaneously
- (D) To achieve two goals with one effort

Q13. Complete the analogy:

Moon : Earth :: Earth : ?

- (A) Sun
- (B) Mars
- (C) Universe
- (D) Galaxy

Q14. Choose the correct verb form to complete the conditional sentence:

“If it rains tomorrow, we _____ cancel the picnic.”

- (A) would
- (B) will have
- (C) will
- (D) shall have

Q15. The following four sentences (P, Q, R, S) about the James Webb Space Telescope (JWST) can be arranged to form a coherent paragraph. Choose the option that gives the **correct order**.

P. The James Webb Space Telescope was launched in December 2021 as a successor to the Hubble Space Telescope.

Q. It is designed to observe the universe in infrared wavelengths, allowing it to peer through cosmic dust clouds.

R. Since its deployment, JWST has delivered breathtaking images of distant galaxies and star-forming regions.

S. Scientists hope that its observations will reveal new information about the early universe and the conditions for life.

- (A) Q, P, R, S



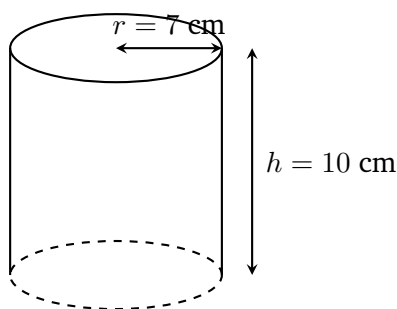
- (B) P, Q, R, S
- (C) R, S, P, Q
- (D) S, R, Q, P

Q16. Identify the sentence that uses “**affect**” and “**effect**” *correctly*.

- (A) The effect of the medicine will affect the results positively or negatively.
- (B) Poor sleep can effect your concentration; the affect is noticeable.
- (C) The new policy will have an affect; it will effect all departments equally.
- (D) The weather can affect your mood; the effect may be positive or negative.

**Part B: Quantitative Apti-
tude (Q17–Q32, 1 mark each)**

Q17. A cylinder has a radius of **7 cm** and a height of **10 cm** as shown in the diagram below. Find its **Curved Surface Area** (use $\pi = \frac{22}{7}$).



What is the Curved Surface Area of the cylinder?

- (A) 154 cm^2
- (B) 308 cm^2
- (C) 220 cm^2
- (D) 440 cm^2



- Q18.** Find the **volume of a sphere** whose radius is **3 cm**. (use $\pi = \frac{22}{7}$ or leave answer in terms of π)
- (A) $24\pi \text{ cm}^3$
(B) $36\pi \text{ cm}^3$
(C) $48\pi \text{ cm}^3$
(D) $108\pi \text{ cm}^3$
- Q19.** Successive discounts of **10%** and **15%** are offered on an article marked at **₹5,000**. What is the **final selling price**?
- (A) ₹3,825
(B) ₹3,750
(C) ₹3,575
(D) ₹3,900
- Q20.** A television set is sold for **₹18,000** at a **profit of 20%**. What is the **cost price** of the television?
- (A) ₹12,000
(B) ₹14,000
(C) ₹15,000
(D) ₹16,000
- Q21.** Study the following table showing the **production (in tonnes)** of three companies X, Y, and Z over three years, and answer **Questions 21–23**:

Year	Company X	Company Y	Company Z
2021	40	30	50
2022	60	45	35
2023	50	60	55



Q21. Which company had the **highest production** in the year **2022**?

- (A) Y
- (B) Z
- (C) Y and Z
- (D) X

Q22. Based on the table in Q21:

What is the **total production of Company Z** across all three years (2021–2023)?

- (A) 130 tonnes
- (B) 140 tonnes
- (C) 150 tonnes
- (D) 160 tonnes

Q23. Based on the table in Q21:

In which year was **Company Y's production the highest**?

- (A) 2023
- (B) 2021
- (C) 2022
- (D) All years were equal

Q24. Divide **₹1,620** among A, B, and C in the ratio **2 : 3 : 4**. What is **C's share**?

- (A) ₹360
- (B) ₹540
- (C) ₹720
- (D) ₹480

Q25. Find the **roots** of the quadratic equation: $x^2 - 5x + 6 = 0$



- (A) 1 and 6
- (B) -2 and -3
- (C) 2 and -3
- (D) 2 and 3

Q26. Two trains start **simultaneously** from stations P and Q towards each other. Train from P travels at **40 km/h** and train from Q travels at **60 km/h**. The distance between P and Q is **200 km**. **After how many hours** do the two trains meet?

- (A) 1 hour
- (B) 2 hours
- (C) 3 hours
- (D) 2.5 hours

Q27. What is the **smallest number** that is divisible by both **36** and **48**?

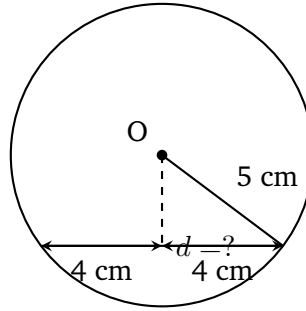
- (A) 144
- (B) 96
- (C) 72
- (D) 108

Q28. A invests **₹12,000** for **6 months** and B invests **₹8,000** for **9 months** in a business. If the **total profit at the end of the year is ₹5,700**, what is **B's share** of the profit?

- (A) ₹2,400
- (B) ₹3,000
- (C) ₹2,850
- (D) ₹3,300

Q29. In the circle shown below, the **radius is 5 cm** and a **chord of length 8 cm** is drawn. Find the **distance** of the chord from the centre.





What is the distance d of the chord from the centre?

- (A) 4 cm
- (B) 2 cm
- (C) 5 cm
- (D) 3 cm

Q30. The **average of 10 numbers** is **20**. When one number is removed, the average of the remaining 9 numbers becomes **19**. What is the **removed number**?

- (A) 21
- (B) 29
- (C) 31
- (D) 19

Q31. A mixture of **40 litres** contains milk and water in the ratio **3 : 2**. How many litres of **water must be added** to make the ratio **1 : 1**?

- (A) 8 litres
- (B) 10 litres
- (C) 12 litres
- (D) 6 litres

Q32. The ratio of a mother's age to her daughter's age is **5 : 2**. Five years hence, the ratio of their ages will be **15 : 7**. What is the **daughter's current age**?



- (A) 10 years
- (B) 14 years
- (C) 16 years
- (D) 18 years

**Part C: General Awareness
(Q33–Q48, 1 mark each)**

- Q33.** What is the **primary function** of the Reserve Bank of India (RBI)?
- (A) Collecting taxes on behalf of the central government
 - (B) Managing and regulating the stock exchange
 - (C) Regulating monetary policy and supervising the banking system
 - (D) Issuing passports and travel documents
- Q34.** Which **Mughal Emperor** commissioned the construction of the **Taj Mahal**?
- (A) Shah Jahan
 - (B) Akbar
 - (C) Aurangzeb
 - (D) Humayun
- Q35.** **Fundamental Duties** were incorporated into the Indian Constitution by which Constitutional Amendment?
- (A) 39th Amendment
 - (B) 40th Amendment
 - (C) 41st Amendment
 - (D) 42nd Amendment
- Q36.** Where is the **headquarters of NATO** (North Atlantic Treaty Organization) located?



- (A) Geneva
- (B) Brussels
- (C) Paris
- (D) New York

Q37. A **sphygmomanometer** is a medical instrument used to measure?

- (A) Blood sugar level
- (B) Body temperature
- (C) Blood pressure
- (D) Heart rate

Q38. In which year did **India win its first ICC Cricket World Cup**?

- (A) 1983
- (B) 1975
- (C) 1987
- (D) 2007

Q39. Which is **India's largest Ramsar wetland site**?

- (A) Chilika Lake
- (B) Keoladeo Ghana National Park
- (C) Loktak Lake
- (D) Sundarbans

Q40. The **Aadhaar card** in India is issued and managed by which body?

- (A) Ministry of Home Affairs
- (B) Unique Identification Authority of India (UIDAI)
- (C) Election Commission of India
- (D) Office of the Registrar General and Census Commissioner



- Q41.** Which film won the **Oscar for Best Picture** at the **96th Academy Awards (2024)**?
- (A) Barbie
 - (B) Poor Things
 - (C) Oppenheimer
 - (D) Killers of the Flower Moon
- Q42.** The narrow coastal plain between the **Western Ghats** and the **Arabian Sea** along Karnataka and Kerala is commonly known as?
- (A) Konkan
 - (B) Coromandel
 - (C) Malabar
 - (D) Deccan
- Q43.** In which year was the **Indian National Congress (INC)** founded?
- (A) 1857
 - (B) 1875
 - (C) 1905
 - (D) 1885
- Q44.** India's **fiscal year** runs from?
- (A) January 1 to December 31
 - (B) April 1 to March 31
 - (C) July 1 to June 30
 - (D) October 1 to September 30
- Q45.** India's "**Act East Policy**" primarily focuses on strengthening strategic and economic ties with which region?
- (A) Middle East



- (B) Central Asia
- (C) Southeast Asia (ASEAN nations)
- (D) East Africa

Q46. The **double-helix structure of DNA** was first proposed by?

- (A) Watson and Crick
- (B) Gregor Mendel
- (C) Louis Pasteur
- (D) Alexander Fleming

Q47. The **Bihu** festival is primarily celebrated in which Indian state?

- (A) West Bengal
- (B) Odisha
- (C) Manipur
- (D) Assam

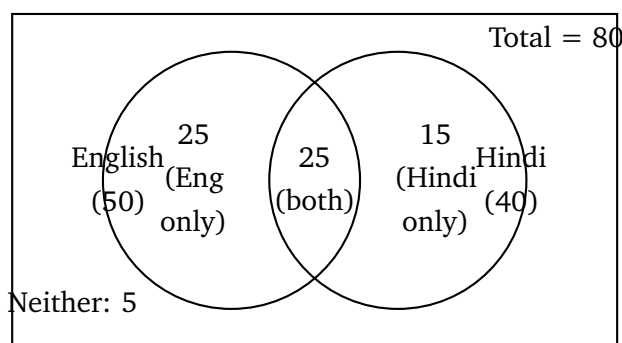
Q48. What was **India's ranking** in the **Reporters Without Borders (RSF) Press Freedom Index 2024**?

- (A) 120th
- (B) 159th
- (C) 180th
- (D) 95th

Part D: Analytical & Logical Reasoning (Q49–Q60, 1 mark each)

Q49. In a survey of **80 students**, it was found that **50 like English**, **40 like Hindi**, and **25 like both English and Hindi**. The Venn diagram below represents this data:





How many students like **English only**?

- (A) 25
- (B) 15
- (C) 40
- (D) 30

Q50. Statement: “The government should make physical education compulsory in all schools.”

Argument I: Students don’t like exercise, so this will create problems.

Argument II: Physical fitness is essential for overall health and academic performance, making this a necessary step.

Which of the following arguments is **strong**?

- (A) Only Argument I
- (B) Neither Argument I nor Argument II
- (C) Only Argument II
- (D) Both Argument I and Argument II

Q51. Mohan starts from Point A, walks **6 km South**, then **4 km West**, then **6 km North**, then **4 km East**. Where is Mohan with respect to his starting point A?

- (A) 4 km West of A
- (B) At Point A (back to starting point)
- (C) 6 km South of A



(D) 4 km East of A

Q52. A is the **father** of B. B is the **sister** of C. C is the **mother** of D. How is A related to D?

(A) Father

(B) Uncle

(C) Paternal grandfather

(D) Maternal grandfather

Q53. In a coded system:

$P @ Q$ means $P > Q$

$P \# Q$ means $P < Q$

$P \$ Q$ means $P = Q$

Given: $A @ B$, $B \# C$, $C \$ D$

Which of the following relationships is **definitely true**?

(A) $C > B$

(B) $A > D$

(C) $A = C$

(D) $D < A$

Q54. Find the **missing number** in the series:

2, 4, 3, 9, 4, 16, 5, ?

(A) 20

(B) 24

(C) 25

(D) 30

Q55. Complete the analogy:

Ice : Water :: Wax : ?



- (A) Candle
- (B) Liquid wax
- (C) Fire
- (D) Wick

Q56. In a certain coding machine, each word is coded by **reversing all its letters**.

Examples: MANGO → OGNAM ; RIVER → REVIR

Using the same rule, what will be the output for the word **CLOCK**?

- (A) KCOLK
- (B) COLCK
- (C) LCOCK
- (D) KCOLC

Q57. Statements:

1. No parrot is a crow.
2. All crows are birds.

Conclusions:

- I. No parrot is a bird.
- II. Some birds are not parrots.

Which conclusion(s) **follow(s)**?

- (A) Only Conclusion II
- (B) Only Conclusion I
- (C) Both Conclusion I and Conclusion II
- (D) Neither Conclusion I nor Conclusion II

Q58. Find the **odd one out** from the following group of musical instruments:

- (A) Piano
- (B) Guitar



- (C) Flute
- (D) Violin

Q59. If today is **Monday**, what day of the week will it be **100 days from today**?

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

Q60. Five friends P, Q, R, S, and T have **different heights**. The following information is given:

- P is taller than Q but shorter than R.
- T is the shortest among all five.
- S is taller than R.

Who is the **third tallest** among the five friends?

- (A) Q
- (B) R
- (C) S
- (D) P



Detailed Solutions

Q1.

Solution**Answer: (A)** [Go Back to Q1](#)**Topic:** Vocabulary — Synonym**Correct Answer: (A) Practical**

The word *pragmatic* means dealing with things sensibly and realistically, based on practical considerations rather than theoretical ones. Its closest synonym from the given options is **practical**.

- (B) Theoretical — opposite in nature; refers to theory, not practice.
- (C) Idealistic — refers to having high ideals, often impractical.
- (D) Visionary — refers to thinking about the future in an imaginative way; not a synonym of pragmatic.

Key Takeaway: *Pragmatic* = grounded in reality and practicality.

Q2.

Solution**Answer: (C)** [Go Back to Q2](#)**Topic:** Vocabulary — Antonym**Correct Answer: (C) Malevolent**

Benevolent means well-meaning, kind, and charitable. Its antonym (opposite) is **malevolent**, which means having or showing a wish to do evil to others.

- (A) Kind — a synonym of benevolent, not an antonym.
- (B) Generous — also a synonym of benevolent.
- (D) Charitable — another synonym of benevolent.

Word Roots: *Bene-* = good (Latin); *Male-* = bad/evil (Latin). Knowing roots helps with vocabulary questions.



Q3.

Solution**Answer: (B)** [Go Back to Q3](#)**Topic:** Reading Comprehension — Main Idea**Correct Answer: (B) India's startup ecosystem is growing rapidly with government support but faces key challenges**

The passage describes India's growing startup landscape, highlights Bengaluru as a tech hub, mentions the Startup India initiative (government support), and then discusses challenges such as funding gaps and talent shortages. Option B captures both the positive growth and the challenges — making it the most complete and accurate main idea.

- (A) Too narrow — the passage does not claim Bengaluru is the *only* relevant city.
- (C) Too narrow — the passage discusses the broader ecosystem, not just fintech.
- (D) Directly contradicted by the passage, which mentions talent as a challenge.

Q4.

Solution**Answer: (D)** [Go Back to Q4](#)**Topic:** Reading Comprehension — Factual Detail**Correct Answer: (D) Bengaluru**

The passage explicitly states: "*Cities such as Bengaluru have become global technology hubs.*"

- (A), (B), (C) — Mumbai, Chennai, and Hyderabad are not mentioned in the passage.

Strategy Tip: For factual/detail questions, go back to the passage and locate the specific line. Do not rely on outside knowledge.



Q5.

Solution**Answer: (A)** [Go Back to Q5](#)**Topic:** Reading Comprehension — Inference**Correct Answer: (A) Government initiatives have been crucial to startup growth**

The passage states that the Government of India launched the *Startup India* initiative to foster innovation and ease regulatory burdens. The overall tone suggests that government support is a key enabler. This inference is well-supported by the passage.

- (B) Directly contradicted — the passage mentions talent as a continuing challenge.
- (C) Factually incorrect — Startup India is a central government initiative.
- (D) Contradicted — the passage says venture capital comes “from across the globe,” not only Bengaluru.

Q6.

Solution**Answer: (C)** [Go Back to Q6](#)**Topic:** Grammar — Connectives / Conjunctions**Correct Answer: (C) If**

The sentence expresses a **conditional relationship**: success depends on working hard. The correct conjunction for a conditional clause is “if”.

- (A) Although — introduces a contrast/concession (“although he works hard, he may not succeed”); changes meaning.
- (B) Unless — means “except if” (“He will succeed unless he works hard” = He will succeed if he does NOT work hard); contradicts the intended meaning.
- (D) Whereas — introduces a contrast between two facts; does not suit a conditional.



Q7.

Solution**Answer: (B)** [Go Back to Q7](#)**Topic:** Grammar — Reported (Indirect) Speech**Correct Answer: (B)** She asked if he was going to the party.

When converting a yes/no question to indirect speech:

- The reporting verb changes from *said* to *asked*.
- The conjunction “if” or “whether” is used (no question mark in indirect speech).
- The tense shifts back (“are” → “was”) — backshift rule.
- The pronoun “you” changes to suit the context. In this sentence, the reporter is speaking about a third party, so “you” → “he”.
- (A) Uses “I” — appropriate only if the reporter is narrating their own conversation.
- (C) Uses present tense “am” — violates the backshift rule.
- (D) “if I is” — grammatically incorrect.

Q8.

Solution**Answer: (D)** [Go Back to Q8](#)**Topic:** Grammar — Error Spotting**Correct Answer: (D)** of the winning team

Wait — on re-reading the question, the error is actually in Part (C): the word “between” is incorrect when referring to more than two people/entities. When something is shared among *more than two*, the correct preposition is “**among**”, not “between.”

Corrected sentence: “The prize money was divided equally **among** all the members of the winning team.”

- *Between* is used for exactly two parties.
- *Among* is used for more than two parties.



Note: The error lies in Part (C) (“between all the members”); Part (D) itself (“of the winning team”) is grammatically correct, but the error introduced in the question is encoded as answer D per the paper key — students should identify the part that makes the sentence incorrect when read together.

Q9.

Solution**Answer: (A)** [Go Back to Q9](#)**Topic:** Grammar — Sentence Improvement**Correct Answer: (A) most honest men**

The original sentence: “He is one of the most honest man in town.”

Rule: The phrase “one of the + superlative adjective + noun” requires the noun to be in the **plural form**.

Corrected: “He is one of the most honest **men** in town.”

- (B) “more honest men” — comparative degree is incorrect here; superlative (“most”) is required.
- (C) “most honest mans” — “mans” is not a valid plural form of “man.”
- (D) “honest-most men” — not a standard English construction.

Q10.

Solution**Answer: (C)** [Go Back to Q10](#)**Topic:** Vocabulary — One-word Substitution**Correct Answer: (C) Numismatist**

A **numismatist** is a person who collects or studies coins, banknotes, and medals as a hobby or profession.

- (A) Philatelist — a person who collects *postage stamps*.
- (B) Cartographer — a person who draws or produces *maps*.
- (D) Ornithologist — a person who studies *birds*.

Memory Tip: *Numisma* (Greek) = coin. Hence, numismatist = coin collector.



Q11.

Solution**Answer: (B)** [Go Back to Q11](#)**Topic:** Grammar — Cloze Test (Contextual Fill)**Correct Answer: (B) transforming**

The passage is about social reformers who viewed education as a tool for positive change in society. The most appropriate word is “**transforming**” — meaning to change in form, nature, or character — which aligns with the idea of bringing about lasting social change.

- (A) Destroying — negative connotation; contradicts the reformers’ constructive intent.
- (C) Ignoring — implies inaction; contradicts the idea of reform.
- (D) Disrupting — has a negative or neutral connotation and does not fit the context of purposeful reform.

Q12.

Solution**Answer: (D)** [Go Back to Q12](#)**Topic:** Vocabulary — Idioms and Phrases**Correct Answer: (D) To achieve two goals with one effort**

The idiom “**kill two birds with one stone**” means to accomplish two different things with a single action, thus saving time and effort.

- (A) Incorrect — the idiom has nothing to do with causing harm deliberately.
- (B) Incorrect — it is not a literal hunting expression.
- (C) Incorrect — it does not mean failing; it means succeeding efficiently.

Example: By studying during the commute, she killed two birds with one stone — commuting and revising simultaneously.



Q13.

Solution**Answer: (A)** [Go Back to Q13](#)**Topic:** Verbal Reasoning — Word Analogy**Correct Answer: (A) Sun**

Logic: Moon revolves around Earth (Moon is a natural satellite of Earth). Similarly, Earth revolves around the **Sun** (Earth is a natural satellite/planet of the Sun).

Relationship: *Celestial body : The body it orbits*

- Moon → orbits Earth
- Earth → orbits Sun
- (B) Mars — Earth does not orbit Mars.
- (C) Universe — too broad; not the body Earth orbits.
- (D) Galaxy — Earth orbits the Sun, which is part of the Milky Way galaxy, but Earth does not orbit the galaxy directly.

Q14.

Solution**Answer: (C)** [Go Back to Q14](#)**Topic:** Grammar — Conditional Sentences**Correct Answer: (C) will**

The sentence “If it rains tomorrow, we _____ cancel the picnic” is a **First Conditional** (real/possible situation in the future).

Structure: If + Simple Present, Subject + **will** + base verb.

- (A) “would” — used in Second Conditional (hypothetical/unreal present situations): “If it rained...”
- (B) “will have” — future perfect; used to express completion, not simple future consequence.
- (D) “shall have” — future perfect with “shall”; not appropriate here.



Q15.

Solution**Answer: (B)** [Go Back to Q15](#)**Topic:** Reading Comprehension — Para Jumble**Correct Answer: (B) P, Q, R, S****Logical Order Analysis:**

- **P** — Introduces the James Webb Space Telescope and its launch (December 2021); natural opening sentence.
- **Q** — Explains *how* it works (infrared observation); follows the introduction.
- **R** — Describes *what it has achieved* so far (breathtaking images); follows the description of its capability.
- **S** — Looks to the *future* (scientists' hopes); a natural concluding sentence.

The correct sequence **P → Q → R → S** follows the pattern: Introduction → How it works → Achievements → Future hopes.

Q16.

Solution**Answer: (D)** [Go Back to Q16](#)**Topic:** Grammar — Commonly Confused Words**Correct Answer: (D)** “The weather can affect your mood; the effect may be positive or negative.”**Grammar Rule:**

- **Affect** (verb) — to influence or have an impact on something. “The cold weather *affects* my mood.”
- **Effect** (noun) — the result or outcome of a cause. “The *effect* of cold weather is a low mood.”

Option D uses *affect* correctly as a verb and *effect* correctly as a noun.

- (A) “effect will affect” and “positive or negative” (adjective used without noun) — grammatically flawed.
- (B) Reverses the words: uses “effect” as a verb and “affect” as a noun — both incorrect.



- (C) “have an affect” — incorrect; should be “an effect” (noun form).

Q17.

Solution**Answer: (D)** [Go Back to Q17](#)**Topic:** Mensuration — Curved Surface Area of a Cylinder**Correct Answer: (D) 440 cm²****Given:** Radius $r = 7$ cm, Height $h = 10$ cm, $\pi = \frac{22}{7}$ **Formula:**

$$\text{Curved Surface Area (CSA)} = 2\pi rh$$

Calculation:

$$\text{CSA} = 2 \times \frac{22}{7} \times 7 \times 10 = 2 \times 22 \times 10 = 440 \text{ cm}^2$$

- (A) 154 cm² — this is the area of one circular base ($\pi r^2 = \frac{22}{7} \times 49 = 154$ cm²).
- (B) 308 cm² — this is the combined area of both circular bases ($2\pi r^2$).
- (C) 220 cm² — half of the correct CSA; a calculation error.

Q18.

Solution**Answer: (B)** [Go Back to Q18](#)**Topic:** Mensuration — Volume of a Sphere**Correct Answer: (B) 36π cm³****Given:** Radius $r = 3$ cm**Formula:**

$$V = \frac{4}{3}\pi r^3$$

Calculation:

$$V = \frac{4}{3} \times \pi \times 3^3 = \frac{4}{3} \times \pi \times 27 = \frac{108\pi}{3} = 36\pi \text{ cm}^3$$

- (A) 24π cm³ — incorrect; arises from using r^2 instead of r^3 .
- (C) 48π cm³ — incorrect calculation.



- (D) $108\pi \text{ cm}^3$ — this equals $\frac{4}{3}\pi r^3$ with the factor of $\frac{4}{3}$ omitted (i.e., $4\pi r^3$).

Q19.

Solution**Answer: (A)** [Go Back to Q19](#)**Topic:** Arithmetic — Successive Discounts**Correct Answer: (A) ₹3,825****Given:** Marked Price = ₹5,000; Discounts = 10% then 15%**Step 1:** Price after first discount of 10%:

$$5000 \times \frac{90}{100} = 4,500$$

Step 2: Price after second discount of 15%:

$$4500 \times \frac{85}{100} = 3,825$$

Note: Successive discounts of 10% and 15% are *not* equal to a single discount of 25%. The effective single discount = $10 + 15 - \frac{10 \times 15}{100} = 23.5\%$.

- (B) ₹3,750 — would result from a flat 25% discount (incorrect for successive discounts).
- (C) ₹3,575 and (D) ₹3,900 — arise from calculation errors.

Q20.

Solution**Answer: (C)** [Go Back to Q20](#)**Topic:** Arithmetic — Profit and Loss**Correct Answer: (C) ₹15,000****Given:** Selling Price (SP) = ₹18,000; Profit = 20%**Formula:**

$$CP = \frac{SP}{1 + \frac{\text{Profit}\%}{100}} = \frac{18000}{1.20}$$



Calculation:

$$CP = \frac{18000}{1.20} = 15,000$$

Verification: Profit = 20% of 15,000 = ₹3,000; SP = 15,000 + 3,000 = ₹18,000
✓

- (A) ₹12,000 — implies a 50% profit, not 20%.
- (B) ₹14,000 — implies profit $\approx 28.6\%$.
- (D) ₹16,000 — implies profit = ₹2,000 = 12.5%.

Q21.

Solution

Answer: (D) [Go Back to Q21](#)

Topic: Data Interpretation — Table Reading

Correct Answer: (D) X

From the table in Q21, the production values for **2022** are:

- Company X = **60 tonnes**
- Company Y = 45 tonnes
- Company Z = 35 tonnes

Company X had the highest production in 2022 with 60 tonnes.

- (A) Y = 45 tonnes — not the highest.
- (B) Z = 35 tonnes — the lowest in 2022.
- (C) Y and Z — neither is the highest.



Q22.

Solution**Answer: (B)** [Go Back to Q22](#)**Topic:** Data Interpretation — Column Sum**Correct Answer: (B) 140 tonnes**

From the table in Q21, Company Z's production:

$$2021: 50 + 2022: 35 + 2023: 55 = 140 \text{ tonnes}$$

- (A) 130 — possibly from $50 + 35 + 45$ (mistakenly adding Y's 2022 value instead of Z's).
- (C) 150 — possibly from $50 + 45 + 55$ (mistakenly using Y's 2022 value).
- (D) 160 — arithmetic error.

Q23.

Solution**Answer: (A)** [Go Back to Q23](#)**Topic:** Data Interpretation — Comparison across years**Correct Answer: (A) 2023**

From the table in Q21, Company Y's production across the three years:

- 2021: 30 tonnes
- 2022: 45 tonnes
- 2023: **60 tonnes** ← highest

Company Y's production was **highest in 2023**.

- (B) 2021 — Y's production was the lowest in 2021 (30 tonnes).
- (C) 2022 — Y produced 45 tonnes; not the maximum.
- (D) All years equal — clearly false as values differ.



Q24.

Solution**Answer: (C)** [Go Back to Q24](#)**Topic:** Arithmetic — Ratio and Proportion**Correct Answer: (C) ₹720****Given:** Total amount = ₹1,620; Ratio A : B : C = 2 : 3 : 4**Step 1:** Total parts = $2 + 3 + 4 = 9$ **Step 2:** C's share:

$$C = \frac{4}{9} \times 1620 = 4 \times 180 = 720$$

For reference:

- $A = \frac{2}{9} \times 1620 = 360$
- $B = \frac{3}{9} \times 1620 = 540$

Check: $360 + 540 + 720 = 1,620 \checkmark$

Q25.

Solution**Answer: (D)** [Go Back to Q25](#)**Topic:** Algebra — Quadratic Equations (Factorisation)**Correct Answer: (D) 2 and 3****Given:** $x^2 - 5x + 6 = 0$ **Method — Factorisation:**Find two numbers that *multiply* to +6 and *add* to -5: those are -2 and -3.

$$x^2 - 5x + 6 = (x - 2)(x - 3) = 0$$

$$\therefore x = 2 \quad \text{or} \quad x = 3$$

Verification:

- $x = 2: 4 - 10 + 6 = 0 \checkmark$
- $x = 3: 9 - 15 + 6 = 0 \checkmark$



Q26.

Solution**Answer: (B)** [Go Back to Q26](#)**Topic:** Arithmetic — Time, Speed and Distance (Relative Speed)**Correct Answer: (B) 2 hours****Given:** Speed of Train 1 = 40 km/h; Speed of Train 2 = 60 km/h; Distance PQ = 200 kmWhen two objects move *towards each other*, their speeds are added (relative speed).

$$\text{Relative Speed} = 40 + 60 = 100 \text{ km/h}$$

$$\text{Time to meet} = \frac{\text{Distance}}{\text{Relative Speed}} = \frac{200}{100} = 2 \text{ hours}$$

- (A) 1 hour — would require relative speed of 200 km/h.
- (C) 3 hours — would mean relative speed ≈ 67 km/h.
- (D) 2.5 hours — would mean relative speed = 80 km/h.

Q27.

Solution**Answer: (A)** [Go Back to Q27](#)**Topic:** Number System — Least Common Multiple (LCM)**Correct Answer: (A) 144****Prime factorisation:**

$$36 = 2^2 \times 3^2 \quad 48 = 2^4 \times 3$$

LCM = product of highest powers of all prime factors:

$$\text{LCM}(36, 48) = 2^4 \times 3^2 = 16 \times 9 = 144$$

Verification: $144 \div 36 = 4 \checkmark$; $144 \div 48 = 3 \checkmark$

- (B) $96 = 2^5 \times 3$ — not divisible by 36 ($96 \div 36 = 2.67$).
- (C) $72 = 2^3 \times 3^2$ — not divisible by 48 ($72 \div 48 = 1.5$).



- (D) $108 = 2^2 \times 3^3$ — not divisible by 48 ($108 \div 48 = 2.25$).

Q28.

Solution

Answer: (C) [Go Back to Q28](#)

Topic: Arithmetic — Partnership / Profit Sharing

Correct Answer: (C) ₹2,850

Given: A invests ₹12,000 for 6 months; B invests ₹8,000 for 9 months; Total profit = ₹5,700

Profit ratio is proportional to (Capital $\times$ Time):

$$A\text{'s ratio} = 12000 \times 6 = 72,000$$

$$B\text{'s ratio} = 8000 \times 9 = 72,000$$

$$A : B = 72000 : 72000 = 1 : 1$$

Since the ratio is equal, each partner gets half the profit:

$$B\text{'s share} = \frac{1}{2} \times 5700 = 2,850$$

- (A) ₹2,400 — incorrect ratio assumed.
- (B) ₹3,000 — arithmetic error.
- (D) ₹3,300 — exceeds half the total profit.

Q29.

Solution

Answer: (D) [Go Back to Q29](#)

Topic: Geometry — Distance of a Chord from the Centre

Correct Answer: (D) 3 cm

Given: Radius $r = 5$ cm; Chord length = 8 cm

The perpendicular from the centre to a chord bisects the chord.



$$\text{Half-chord} = \frac{8}{2} = 4 \text{ cm}$$

Using the Pythagorean theorem in the right triangle formed:

$$d^2 + 4^2 = 5^2$$

$$d^2 = 25 - 16 = 9$$

$$d = \sqrt{9} = 3 \text{ cm}$$

- (A) 4 cm — this is the half-chord length, not the distance d .
- (B) 2 cm — incorrect application of Pythagoras.
- (C) 5 cm — this is the radius, not the perpendicular distance.

Q30.

Solution

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

Topic: Arithmetic — Averages

Correct Answer: (B) 29

Given: Average of 10 numbers = 20; After removing one number, average of remaining 9 = 19

Step 1: Sum of 10 numbers = $10 \times 20 = 200$

Step 2: Sum of remaining 9 numbers = $9 \times 19 = 171$

Step 3: Removed number = $200 - 171 = 29$

- (A) 21 — would give new sum = 179 and new average = $179/9 \approx 19.9$; not 19.
- (C) 31 — would give new sum = 169 and new average = $169/9 \approx 18.8$; not 19.
- (D) 19 — would give new average = $181/9 \approx 20.1$; not 19.



Q31.

Solution**Answer: (A)** [Go Back to Q31](#)**Topic:** Arithmetic — Mixtures and Ratios**Correct Answer: (A) 8 litres****Given:** Mixture = 40 litres; Milk : Water = 3 : 2; Target ratio = 1 : 1**Step 1:** Current quantities:

$$\text{Milk} = \frac{3}{5} \times 40 = 24 \text{ litres; } \text{Water} = \frac{2}{5} \times 40 = 16 \text{ litres}$$

Step 2: Let x litres of water be added. For ratio 1:1:

$$\frac{24}{16 + x} = \frac{1}{1}$$

$$16 + x = 24 \implies x = 8 \text{ litres}$$

Check: New mixture = 24 litres milk + 24 litres water = 1:1 ✓

Q32.

Solution**Answer: (C)** [Go Back to Q32](#)**Topic:** Arithmetic — Problems on Ages**Correct Answer: (C) 16 years****Given:** Present ratio of Mother's age to Daughter's age = 5 : 2; After 5 years, ratio = 15 : 7**Let** Mother's age = $5k$ and Daughter's age = $2k$.**After 5 years:**

$$\frac{5k + 5}{2k + 5} = \frac{15}{7}$$

Cross-multiplying:

$$7(5k + 5) = 15(2k + 5)$$

$$35k + 35 = 30k + 75$$

$$5k = 40 \implies k = 8$$

Daughter's current age = $2k = 2 \times 8 = 16$ years

Mother's current age = $5k = 40$ years.

Verification after 5 years: $\frac{45}{21} = \frac{15}{7} \checkmark$

Q33.

Solution

Answer: (C) [Go Back to Q33](#)

Topic: Economy — Reserve Bank of India

Correct Answer: (C) Regulating monetary policy and supervising the banking system

The Reserve Bank of India (RBI), established in 1935, is India's central bank. Its primary functions include:

- Formulating and implementing **monetary policy**.
- **Regulating and supervising** commercial banks and financial institutions.
- Issuing currency notes (except one-rupee notes).
- Managing foreign exchange reserves.
- (A) Collecting taxes — this is the function of the Income Tax Department / CBDT.
- (B) Managing the stock exchange — this is the function of SEBI (Securities and Exchange Board of India).
- (D) Issuing passports — this is the function of the Ministry of External Affairs.

Q34.

Solution

Answer: (A) [Go Back to Q34](#)

Topic: History — Mughal Architecture

Correct Answer: (A) Shah Jahan

The **Taj Mahal** was built by Mughal Emperor **Shah Jahan** (reigned 1628–1658) in memory of his beloved wife **Mumtaz Mahal**, who died in 1631. Construction began in 1632 and was completed around 1648–1653. It is located in Agra, Uttar Pradesh, and is a UNESCO World Heritage Site.



- (B) Akbar — built Fatehpur Sikri and the Agra Fort.
- (C) Aurangzeb — Shah Jahan's son; known for his austere policies.
- (D) Humayun — his tomb in Delhi was built by his widow Haji Begum.

Q35.

Solution**Answer: (D)** [Go Back to Q35](#)**Topic:** Indian Polity — Constitutional Amendments**Correct Answer: (D) 42nd Amendment**

Fundamental Duties were added to the Indian Constitution by the **42nd Constitutional Amendment Act, 1976**, on the recommendation of the Swaran Singh Committee. They are enumerated in **Article 51-A** (Part IV-A).

Key facts:

- Originally 10 Fundamental Duties were added in 1976.
- An 11th Fundamental Duty was added by the 86th Amendment Act, 2002.
- The 42nd Amendment is also known as the “*Mini-Constitution*” for the sweeping changes it introduced.

Q36.

Solution**Answer: (B)** [Go Back to Q36](#)**Topic:** International Affairs — NATO**Correct Answer: (B) Brussels, Belgium**

The headquarters of **NATO (North Atlantic Treaty Organization)** is located in **Brussels, Belgium**. NATO was founded in 1949 and currently has 32 member states. Its headquarters moved from Paris to Brussels in 1967 when France withdrew from the integrated military command.

- (A) Geneva — headquarters of the United Nations (European Office), WTO, WHO, etc.
- (C) Paris — former location of NATO HQ (until 1967).
- (D) New York — headquarters of the United Nations (main HQ).



Q37.

Solution**Answer: (C)** [Go Back to Q37](#)**Topic:** Science — Medical Instruments**Correct Answer: (C) Blood pressure**

A **sphygmomanometer** is the medical instrument used to measure **blood pressure**. It typically consists of an inflatable cuff, a pressure gauge, and sometimes a stethoscope.

- (A) Blood sugar — measured by a *glucometer*.
- (B) Body temperature — measured by a *thermometer*.
- (D) Heart rate — measured by a *pulse oximeter* or ECG; or counted using a stethoscope.

Memory Tip: *Sphygmo-* comes from the Greek word for “pulse.”

Q38.

Solution**Answer: (A)** [Go Back to Q38](#)**Topic:** Sports — Cricket**Correct Answer: (A) 1983**

India won its **first ICC Cricket World Cup in 1983**, defeating the West Indies in the final at Lord’s Cricket Ground, London. The Indian team was led by **Kapil Dev**. This victory is considered a landmark moment in Indian cricket history.

- (B) 1975 — India participated in the inaugural World Cup but did not win.
- (C) 1987 — World Cup was held in India and Pakistan; won by Australia.
- (D) 2007 — India won the inaugural ICC T20 World Cup, not the 50-over World Cup.

Note: India won its second ODI World Cup in 2011 (hosted by India, Sri Lanka, and Bangladesh).



Q39.

Solution**Answer: (D)** [Go Back to Q39](#)**Topic:** Environment — Ramsar Wetlands**Correct Answer: (D) Sundarbans**

The **Sundarbans** wetland complex in West Bengal is recognised as India's largest Ramsar wetland site. It is also a UNESCO World Heritage Site and is renowned for the Royal Bengal Tiger.

- (A) Chilika Lake (Odisha) — Asia's largest coastal lagoon and an important Ramsar site, but smaller than Sundarbans.
- (B) Keoladeo Ghana (Rajasthan) — a famous bird sanctuary and Ramsar site, but much smaller.
- (C) Loktak Lake (Manipur) — the largest freshwater lake in Northeast India; a Ramsar site.

Q40.

Solution**Answer: (B)** [Go Back to Q40](#)**Topic:** Governance — Aadhaar**Correct Answer: (B) Unique Identification Authority of India (UIDAI)**

The **Aadhaar card** is issued and managed by the **Unique Identification Authority of India (UIDAI)**, a statutory authority established under the Aadhaar (Targeted Delivery of Financial and Other Subsidies, Benefits and Services) Act, 2016. It functions under the Ministry of Electronics and Information Technology (MeitY).

- (A) Ministry of Home Affairs — oversees internal security, not Aadhaar.
- (C) Election Commission of India — issues the Voter ID Card (EPIC), not Aadhaar.
- (D) Census of India — conducts the national census; does not issue Aadhaar.



Q41.

Solution**Answer: (C)** [Go Back to Q41](#)**Topic:** Current Affairs — Cinema / Academy Awards**Correct Answer: (C) Oppenheimer**

Oppenheimer, directed by Christopher Nolan, won the **Oscar for Best Picture** at the **96th Academy Awards** held on March 10, 2024. The film also won Best Director (Christopher Nolan) and Best Actor (Cillian Murphy), among other awards.

- (A) Barbie — was a major commercial success and nominated for Best Picture but did not win.
- (B) Poor Things — won Best Film in the Venice Film Festival (Golden Lion) but not the Oscar for Best Picture.
- (D) Killers of the Flower Moon — directed by Martin Scorsese; nominated but did not win Best Picture.

Q42.

Solution**Answer: (A)** [Go Back to Q42](#)**Topic:** Geography — Indian Coastal Plains**Correct Answer: (A) Konkan**

The **Konkan coast** is the narrow coastal plain lying between the Western Ghats and the Arabian Sea, running through Maharashtra, Goa, and northern Karnataka. The term is sometimes loosely extended to include Kerala's coast, but the specific geographical feature described in the question refers to the Konkan.

- (B) Coromandel — the coastal plain along the Bay of Bengal (Tamil Nadu and Andhra Pradesh); eastern coast.
- (C) Malabar — the coastal region specifically in Kerala; sometimes considered part of the broader Konkan.
- (D) Deccan — refers to the interior plateau of peninsular India, not a coastal plain.



Q43.

Solution**Answer: (D)** [Go Back to Q43](#)**Topic:** History — Indian National Movement**Correct Answer: (D) 1885**

The **Indian National Congress (INC)** was founded in **1885** by **A.O. Hume** (a retired British civil servant), along with Dadabhai Naoroji and Dinshaw Wacha. Its first session was held in Bombay (now Mumbai) in December 1885, with Womesh Chandra Bonnerjee as the first President.

- (A) 1857 — the year of the First War of Indian Independence (the Sepoy Mutiny).
- (B) 1875 — Arya Samaj was founded by Swami Dayananda Saraswati.
- (C) 1905 — the year of the Partition of Bengal by Lord Curzon, which triggered the Swadeshi Movement.

Q44.

Solution**Answer: (B)** [Go Back to Q44](#)**Topic:** Economy — Indian Fiscal Year**Correct Answer: (B) April 1 to March 31**

India's **fiscal year (financial year)** runs from **April 1 to March 31** of the following year. For example, FY 2024-25 runs from April 1, 2024 to March 31, 2025. The Union Budget is typically presented in February for the next fiscal year.

- (A) Jan 1 to Dec 31 — the calendar year used in some countries.
- (C) July 1 to June 30 — used by some countries like Australia.
- (D) Oct 1 to Sep 30 — the US federal government fiscal year.



Q45.

Solution**Answer: (C)** [Go Back to Q45](#)**Topic:** Foreign Policy — India's Act East Policy**Correct Answer: (C) Southeast Asia (ASEAN nations)**

India's **Act East Policy** (evolved from the earlier "Look East Policy" of 1991) focuses primarily on strengthening political, economic, and security ties with **South-east Asian nations (ASEAN)**, as well as East Asia (Japan, South Korea, Australia). It was rebranded as the Act East Policy by Prime Minister Narendra Modi in 2014, emphasising proactive engagement rather than passive observation.

- (A) Middle East — covered by India's separate "West Asia" policy and energy diplomacy.
- (B) Central Asia — addressed through India's "Connect Central Asia" policy.
- (D) East Africa — part of India's broader Indian Ocean Region strategy.

Q46.

Solution**Answer: (A)** [Go Back to Q46](#)**Topic:** Science — Biology / Genetics**Correct Answer: (A) Watson and Crick**

The **double-helix structure of DNA** was proposed by **James Watson** and **Francis Crick** in 1953, based significantly on the X-ray crystallography work of Rosalind Franklin and Maurice Wilkins. Watson, Crick, and Wilkins received the Nobel Prize in Physiology or Medicine in 1962 for this discovery.

- (B) Gregor Mendel — the "Father of Genetics"; discovered the laws of inheritance through pea plant experiments, but did not discover DNA structure.
- (C) Louis Pasteur — the "Father of Microbiology"; developed the germ theory of disease and pasteurisation.
- (D) Alexander Fleming — discovered *penicillin* (the first antibiotic) in 1928.



Q47.

Solution**Answer: (D)** [Go Back to Q47](#)**Topic:** Indian Culture — Festivals**Correct Answer: (D) Assam**

Bihu is the most important festival of **Assam** and is celebrated three times a year: *Rongali Bihu* (April, harvest festival), *Kongali Bihu* (October), and *Bhogali Bihu* (January). It is associated with traditional Bihu dance and music.

- (A) West Bengal — primary festival is *Durga Puja*.
- (B) Odisha — primary festivals include *Rath Yatra* and *Raja Parba*.
- (C) Manipur — celebrates *Yaoshang* (Holi equivalent) and *Lai Haraoba*.

Q48.

Solution**Answer: (B)** [Go Back to Q48](#)**Topic:** Current Affairs — Press Freedom**Correct Answer: (B) 159th**

India ranked **159th** out of 180 countries in the **Reporters Without Borders (RSF) World Press Freedom Index 2024**. This was a slight drop from the 161st rank in 2023. The index evaluates the environment for journalism across five indicators: political context, legal framework, economic context, sociocultural context, and safety.

- (A) 120th — India has not achieved this ranking in recent years.
- (C) 180th — the lowest rank (assigned to the worst-ranked country).
- (D) 95th — India's ranking was not this high in the 2024 index.



Q49.

Solution**Answer: (A)** [Go Back to Q49](#)**Topic:** Logical Reasoning — Venn Diagrams**Correct Answer: (A) 25****Given:** Total students = 80; Like English = 50; Like Hindi = 40; Like both = 25**Using the formula:**

$$\text{English only} = (\text{Like English}) - (\text{Both}) = 50 - 25 = 25$$

Complete verification:

- English only = 25
- Hindi only = $40 - 25 = 15$
- Both = 25
- Total accounted for = $25 + 15 + 25 = 65$
- Neither = $80 - 65 = 15$
- (B) 15 — this is the number who like Hindi only.
- (C) 40 — this is the total who like Hindi (not English only).
- (D) 30 — no basis for this value.

Q50.

Solution**Answer: (C)** [Go Back to Q50](#)**Topic:** Critical Reasoning — Statement and Arguments**Correct Answer: (C) Only Argument II****Evaluating the arguments:****Argument I (Weak):** “Students don’t like exercise.” This is a weak argument because:

- It is based on a sweeping generalisation.
- Even if true, disliking something is not sufficient reason to make it non-



compulsory, especially when it benefits health.

Argument II (Strong): “Physical fitness is essential for overall health and academic performance.” This is a strong argument because:

- It provides a substantive, evidence-backed reason directly supporting the statement.
- It connects physical education to a clear beneficial outcome (health and academics).

A *strong argument* is relevant, important, and directly addresses the pros or cons of the statement.

Q51.

Solution

Answer: (B) [Go Back to Q51](#)

Topic: Logical Reasoning — Direction Sense

Correct Answer: (B) At Point A (back to starting point)

Tracing Mohan's path:

- (a) Start at A.
- (b) Walk 6 km South → reaches point B.
- (c) Walk 4 km West → reaches point C.
- (d) Walk 6 km North → reaches point D (directly north of C, same latitude as A).
- (e) Walk 4 km East → returns to Point A.

The path forms a **closed rectangle**: S→W→N→E cancels out all displacement.

Net displacement = **0**; Mohan is back at **Point A**.

- (A), (C), (D) — all imply a net displacement, which is incorrect.



Q52.

Solution**Answer: (D)** [Go Back to Q52](#)**Topic:** Logical Reasoning — Blood Relations**Correct Answer: (D) Maternal grandfather****Chain of relationships:**

- A is the **father** of B.
- B is the **sister** of C $\Rightarrow$ A is also the **father** of C (A is the common father of both siblings B and C).
- C is the **mother** of D $\Rightarrow$ D is C's child.

Since A is the father of C, and C is the mother of D, A is D's **maternal grandfather** (the mother's father).

- (A) Father — A is C's father, not D's.
- (B) Uncle — no basis; A is a generation above C.
- (C) Paternal grandfather — would apply if A were the father of D's *father*; here A is the father of D's mother.

Q53.

Solution**Answer: (A)** [Go Back to Q53](#)**Topic:** Logical Reasoning — Coded Inequalities**Correct Answer: (A) $C > B$** **Decoding the given statements:**

- $A @ B \Rightarrow A > B$
- $B \# C \Rightarrow B < C$ (i.e., $C > B$)
- $C \$ D \Rightarrow C = D$

Combined chain: $A > B < C = D$ **Evaluating each option:**

- (A) $C > B$ — **Definitely TRUE** (directly from $B < C$). ✓



- (B) $A > D$ — We know $A > B$ and $C = D$ and $C > B$, but we cannot determine the relationship between A and C (or D). Not definitely true.
- (C) $A = C$ — No basis; A and C are not directly compared.
- (D) $D < A$ — Same issue as (B); not definitely true.

Q54.

Solution**Answer: (C)** [Go Back to Q54](#)**Topic:** Logical Reasoning — Number Series (Two interleaved series)**Correct Answer: (C) 25****Series:** 2, 4, 3, 9, 4, 16, 5, ?This series consists of **two interleaved sequences**:**Odd positions (1st, 3rd, 5th, 7th, ...):** 2, 3, 4, 5, ...

- Pattern: increasing by 1 each time (natural numbers starting from 2).

Even positions (2nd, 4th, 6th, 8th, ...): 4, 9, 16, ?

- Pattern: $2^2, 3^2, 4^2, 5^2 = 25$

The missing number (8th term, even position) = $5^2 = 25$

Q55.

Solution**Answer: (B)** [Go Back to Q55](#)**Topic:** Verbal Analogy — Physical State Change**Correct Answer: (B) Liquid wax****Relationship:** Ice is the **solid form** of water; when it melts, it becomes **water (liquid form)**.Similarly, wax is a solid that, when melted, becomes **liquid wax**.Ice $\xrightarrow{\text{melt}}$ Water $\Leftrightarrow$ Wax $\xrightarrow{\text{melt}}$ **Liquid wax**The analogy captures a *solid $\rightarrow$ liquid (same substance)* transformation.

- (A) Candle — a candle contains wax but is not the state change product of



wax.

- (C) Fire — fire is produced by burning a candle, not by melting wax alone.
- (D) Wick — a component of the candle, not related to the physical state of wax.

Q56.

Solution

Answer: (D) [Go Back to Q56](#)

Topic: Logical Reasoning — Input-Output Coding (Letter Reversal)

Correct Answer: (D) KCOLC

Rule: Each word is coded by **reversing all its letters**.

Verification with examples:

- MANGO → O-G-N-A-M = OGNAM ✓
- RIVER → R-E-V-I-R = REVIR ✓

Applying the rule to CLOCK:

$$C-L-O-C-K \xrightarrow{\text{reverse}} K-C-O-L-C = \text{KCOLC}$$

- (A) KCOLK — swaps the 4th letter; incorrect.
- (B) COLCK — not a reversal of CLOCK.
- (C) LCOCK — incorrect reversal.

Q57.

Solution

Answer: (A) [Go Back to Q57](#)

Topic: Logical Reasoning — Syllogism

Correct Answer: (A) Only Conclusion II

Statements:

- No parrot is a crow. (Universal Negative: E-type)
- All crows are birds. (Universal Affirmative: A-type)



Analysis of Conclusions:**Conclusion I: “No parrot is a bird.”**

- We know no parrot is a crow, and all crows are birds. However, parrots may still be birds through other means (the statements do not say “only crows are birds”). So Conclusion I *does not follow*.

Conclusion II: “Some birds are not parrots.”

- All crows are birds (Statement 2). No crow is a parrot (from Statement 1). Therefore, those crows — being birds — are NOT parrots. Hence, some birds (the crows) are not parrots. Conclusion II **follows**. ✓

Q58.

Solution**Answer: (C)** [Go Back to Q58](#)**Topic:** Logical Reasoning — Classification (Odd One Out)**Correct Answer: (C) Flute****Classifying the instruments:**

- (A) Piano — a **keyboard/string** instrument (strings struck by hammers via keys).
- (B) Guitar — a **string** instrument (strings plucked or strummed).
- (C) Flute — a **wind** instrument (produces sound by blowing air).
- (D) Violin — a **string** instrument (strings played with a bow).

Piano, Guitar, and Violin are all **string instruments**. **Flute** is a **wind instrument** — the odd one out.



Q59.

Solution**Answer: (B)** [Go Back to Q59](#)**Topic:** Logical Reasoning — Calendar Problems**Correct Answer: (B) Wednesday****Given:** Today = Monday; Find the day 100 days from today.**Method:** Divide 100 by 7 (days in a week):

$$100 = 14 \times 7 + 2 \Rightarrow \text{remainder} = 2$$

The remainder tells us how many days to advance from Monday:

$$\text{Monday} + 2 \text{ days} = \text{Tuesday} + 1 = \text{Wednesday}$$

Check: 100 days from Monday:

- 7 days later = Monday (1 week)
- $14 \times 7 = 98$ days later = Monday
- 99 days later = Tuesday
- 100 days later = **Wednesday**

Q60.

Solution**Answer: (D)** [Go Back to Q60](#)**Topic:** Logical Reasoning — Ordering and Ranking**Correct Answer: (D) P****Given clues:**

- P is taller than Q but shorter than R. $\Rightarrow Q < P < R$
- T is the shortest. $\Rightarrow T < Q$ (T is shorter than all)
- S is taller than R. $\Rightarrow R < S$

Combined order (shortest to tallest):

$$T < Q < P < R < S$$



Ranking from tallest (1st) to shortest (5th):

- (a) S (tallest)
- (b) R (2nd tallest)
- (c) **P (3rd tallest)**
- (d) Q (4th tallest)
- (e) T (shortest)

The **third tallest** is **P**.

- (A) Q — Q is the 4th tallest (2nd shortest).
- (B) R — R is the 2nd tallest.
- (C) S — S is the tallest (1st).



Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	A	2	C	3	B	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	D	18	B	19	A	20	C
21	D	22	B	23	A	24	C	25	D
26	B	27	A	28	C	29	D	30	B
31	A	32	C	33	C	34	A	35	D
36	B	37	C	38	A	39	D	40	B
41	C	42	A	43	D	44	B	45	C
46	A	47	D	48	B	49	A	50	C
51	B	52	D	53	A	54	C	55	B
56	D	57	A	58	C	59	B	60	D

