MAT Intelligence and Critical Reasoning Sample Paper-13

Duration: 24 Minutes **Maximum Marks: 30**

Instructions

- This paper contains **30** Multiple Choice Questions from the **Intelligence and Critical Reasoning** section of MAT.
- Each correct answer carries **+1 mark**. Incorrect answer: **−0.25** marks. Only **one** correct option.
- There is **no** negative marking for unattempted questions.
- Suggested time for this section in the full MAT is **24 minutes**.
- Use of mobile phones, smartwatches, calculators, or any electronic gadgets is strictly prohibited.

Q1. Introducing a man, a woman says, "He is the only son of the person who is the paternal grandfather of my son." How is the man related to the woman?

(A) Brother

(B) Husband

(C) Brother-in-law

(D) Nephew

Q2. Statements:

I. The local municipal corporation announced a 30% hike in property tax starting next fiscal year.

II. Major infrastructure and road repair projects in the city have been stalled due to an acute shortage of funds.

(A) Statement I is the cause and statement II is its effect.

(B) Statement II is the cause and statement I is its effect.

(C) Both statements I and II are independent causes.

(D) Both statements I and II are effects of independent causes.

Q3. Statements:
All gliders are flyers.
Some flyers are birds.
Conclusions:
I. Some gliders are birds.
II. All birds are flyers.

(A) Only conclusion I follows

(B) Only conclusion II follows

(C) Both conclusions I and II follow

(D) Neither conclusion I nor II follows

Q4. Five students P, Q, R, S, and T are sitting in a row facing North. Q is sitting to the immediate right of S. P is sitting next to R but not next to T. If T is sitting on the extreme left end, who is sitting in the exact middle position?

(A) P

(B) R

(C) S

(D) Q

Q5. In a certain code language, if the word REMOTE is coded as ROETEM, how will the word PENCIL be coded in that same language?

(A) PLICNE

(B) PNICEL

(C) LICNEP

(D) PILCNE

Q6. Find the missing term in the given alphanumeric series:
2Z5, 7Y7, 14X11, 23W17, ?

(A) 34V23

(B) 32V25

(C) 34U25

(D) 32U23

Q7. Select the pair that shares the same relationship as the original pair:
Pillar : Structure

(A) Chord : Circle

(B) Filament : Lamp

(C) Foundation : House

(D) Core : Earth

Q8. Anuj starts walking from point A and goes 8 km towards the West. He then turns left and walks 6 km to reach point B. What is the shortest distance between his starting point A and destination point B?

(A) 10 km

(B) 14 km

(C) 2 km

(D) 12 km

Q9. Assertion (A): Direct sunlight is essential for the synthesis of Vitamin D in the human body.
Reason (R): Ultraviolet-B (UVB) radiation converts a cholesterol derivative in the skin into active Vitamin D.

(A) Both A and R are true, and R is the correct explanation of A.

(B) Both A and R are true, but R is not the correct explanation of A.

(C) A is true, but R is false.

(D) A is false, but R is true.

Q10. Pointing to a photograph, Rohit said, "Her mother is the only daughter of my mother-in-law." How is Rohit related to the girl in the photograph?

(A) Uncle

(B) Father

(C) Brother

(D) Cousin

Q11. Statements:

I. The air quality index (AQI) of the metro city dropped to a 'severe' category over the last 48 hours.

II. The state government directed all primary schools in the city to suspend offline classes for a week.

(A) Statement I is the cause and statement II is its effect.

(B) Statement II is the cause and statement I is its effect.

(C) Both statements I and II are independent causes.

(D) Both statements I and II are effects of independent causes.

Q12. Statements:

No square is a circle.

All circles are triangles.

Conclusions:

I. No triangle is a square.

II. Some triangles are circles.

(A) Only conclusion I follows

(B) Only conclusion II follows

(C) Both conclusions I and II follow

(D) Neither conclusion I nor II follows

Q13. Four friends A, B, C, and D live on different floors of a four-story building numbered 1 to 4 (where ground floor is 1). A lives on an odd-numbered floor. C lives immediately above A. B lives on the topmost floor. On which floor does D live?

(A) Floor 1

(B) Floor 2

(C) Floor 3

(D) Floor 4

Q14. If in a specific code language, MASTER is written as OCUVGT, what will be the code for JOURNEY?

(A) LQWTPGA

(B) LNWTPGA

(C) LQWTNGA

(D) LNWTMGA

Q15. Complete the number series by identifying the missing element:
3, 8, 18, 38, 78, ?

(A) 156

(B) 158

(C) 168

(D) 148

Q16. Find the odd one out from the given choices:

(A) Copper

(B) Zinc

(C) Brass

(D) Iron

Q17. A delivery van travels 12 km North, turns right and drives for another 5 km. It then takes a sharp right turn and drives for 12 km. In which direction is the van now with reference to its starting location?

(A) North

(B) South

(C) East

(D) West

Q18. M is the brother of N. O is the father of M. P is the sister of Q, and Q is the daughter of N. Who is the maternal uncle of P?

(A) M

(B) O

(C) N

(D) Q

Q19. Statement: A heavy downpour triggered widespread waterlogging across major intersections of the city, bringing traffic to a complete standstill during morning rush hours.

Courses of Action:

I. The traffic police department should immediately deploy personnel to divert commuters via alternative, clear routes.

II. The city municipal corporation should immediately deploy high-capacity water pumps to clear clogged drains at these intersections.

(A) Only course of action I should be followed

(B) Only course of action II should be followed

(C) Both courses of action I and II should be followed

(D) Neither course of action I nor II should be followed

Q20. Statements:

All keys are locks.

All locks are screws.

Conclusions:

I. All keys are screws.

II. Some screws are keys.

(A) Only conclusion I follows

(B) Only conclusion II follows

(C) Both conclusions I and II follow

(D) Neither conclusion I nor II follows

Q21. Six individuals U, V, W, X, Y, and Z are sitting around a circular table facing the center. U is sitting exactly opposite to V. X is sitting to the immediate left of U. Y is a neighbor of V but not a neighbor of X. Who is sitting to the immediate right of U?

(A) Z

(B) W

(C) Y

(D) V

Q22. In a certain code system, if the word BRAIN is written as $*\%\#\bigcirc\Delta$ and TIRE is written as $\$\bigcirc\%\square$, how will the word RENT be written using those symbols?

(A) $\%\square\Delta\$$

(B) $\%\square\bigcirc\$$

(C) $\%\bigcirc\Delta\$$

(D) $\%\#\Delta\$$

Q23. Identify the missing number in the sequence:
11, 13, 17, 19, 23, 29, ?

(A) 31

(B) 33

(C) 35

(D) 37

Q24. In a joint family, X is the brother of Y, and Y is the mother of Z. W is the maternal grandmother of Z. How is W related to X?

(A) Sister

(B) Mother

(C) Aunt

(D) Grandmother

Q25. Statement: An alarming rise in cyber-fraud incidents involving senior citizens has been reported across the country over the past six months.
Courses of Action:
I. The police department should conduct localized awareness workshops for senior citizens regarding safe digital banking practices.
II. The government should immediately ban all online and digital banking transactions for citizens aged above 60.

(A) Only course of action I should be followed

(B) Only course of action II should be followed

(C) Both courses of action I and II should be followed

(D) Neither course of action I nor II should be followed

Q26. Statements:
Some pens are pencils.
Some pencils are erasers.
Conclusions:
I. Some pens are erasers.
II. No pen is an eraser.

(A) Only conclusion I follows

(B) Only conclusion II follows

(C) Either conclusion I or II follows

(D) Neither conclusion I nor II follows

Q27. Eight people A, B, C, D, E, F, G, and H are sitting around a square table facing towards the center. Four sit at the corners and four sit in the middle of the sides. A sits at one of the corners. C sits third to the right of A. E sits second to the left of C. Who is sitting exactly opposite to E?

(A) A

(B) B

(C) G

(D) H

Q28. Examine the relationship between the first two elements and find the missing term:
DCEF : FEHG :: HGJI : ?

(A) JILK

(B) JIKL

(C) LKJI

(D) KJLM

Q29. A man walks 5 km towards the South-East. He then turns to his right and walks another 5 km to reach a crossroad. From the crossroad, he turns right again and travels 5 km. Which cardinal direction is he heading towards now?

(A) North-West

(B) South-West

(C) North-East

(D) South-East

Q30. In a family of three generations, A is the father-in-law of B, who is the mother of C. If D is the only son of A, how is D related to C?

(A) Father

(B) Uncle

(C) Brother

(D) Grandfather

Detailed Solutions

Q1.

Solution

Concept: Blood relations require decoding family descriptions from back to front. The paternal grandfather of a woman's son refers directly to her husband's father.

Solution:

(a) Identify the target relationship: The statement specifies "the paternal grandfather of my son." For a woman, the paternal grandfather of her son is her husband's father.

(b) Analyze the next layer: The text describes the man as "the only son of" that person. The only son of her husband's father must be her husband himself.

(c) Cross-reference options: This clear logical progression eliminates other relatives such as brother, brother-in-law, or nephew.

(d) Verify constraints: No alternative interpretations exist because the term "only son" leaves no room for brothers-in-law or siblings.

(e) Establish final identity: The person in question is conclusively identified as the woman's spouse.

Final Answer: The man is the woman's husband.

Answer: (B)

Go Back to Question 1

Q2.

Solution

Concept: Analytical reasoning requires determining whether events share a chronological, dependent cause-and-effect link or stem from independent factors.

Solution:

(a) Examine Statement I: The municipal corporation announced a significant 30% increase in property taxes for the upcoming fiscal year.

(b) Examine Statement II: Critical development, infrastructure, and road repair projects throughout the city are completely stalled due to lack of funds.

(c) Analyze the relationship: A severe shortage of municipal revenue and funds acts as a primary driving cause for a civic body.

(d) Link cause to effect: To counteract this acute financial deficit, the corporation is forced to raise taxes to generate fresh revenue.

(e) Conclude causal direction: Statement II represents the underlying financial problem, which directly triggers the remedial tax policy change seen in Statement I.

Final Answer: Statement II is the cause and statement I is its effect.

Answer: (B)

Go Back to Question 2

Q3.

Solution

Concept: Syllogisms use Venn diagrams to track relationships between sets. Statements establish definitive boundaries or intersections between classifications.

Solution:

(a) Map Statement 1: All gliders are flyers. This means the set of gliders is fully contained within the larger set of flyers.

(b) Map Statement 2: Some flyers are birds. This indicates an intersection between the flyers set and the birds set.

(c) Evaluate Conclusion I: Some gliders are birds. The intersecting region of birds and flyers does not necessarily overlap with gliders; hence, it is not definite.

(d) Evaluate Conclusion II: All birds are flyers. We only know that some flyers are birds; the reverse universal claim is invalid.

(e) Combine insights: Neither conclusion can be deduced with absolute logical certainty based on the given premises.

Final Answer: Neither conclusion I nor II follows.

Answer: (D)

Go Back to Question 3

Q4.

Solution

Concept: Linear arrangement puzzles require plotting elements step-by-step using absolute constraints to fix variable relative positions.

Solution:

(a) Fix the absolute position: Student T is sitting at the extreme left end, establishing the arrangement as [T, _, _, _, _].

(b) Place the linked pair: Q sits to the immediate right of S, meaning they must occupy adjacent positions in the order [S, Q].

(c) Apply P and R constraints: P sits next to R but cannot be next to T, preventing P from taking the second position.

(d) Solve the remaining sequence: Placing [S, Q] in positions two and three allows [R, P] to occupy positions four and five.

(e) Find the middle seat: The final valid sequence from left to right is T-S-Q-R-P, making Q the middle student.

Final Answer: Q is sitting in the exact middle position.

Answer: (D)

Go Back to Question 4

Q5.

Solution

Concept: Coding-decoding patterns often rely on index permutations or positional rearrangements rather than shifting alphabetical values.

Solution:

(a) Analyze original indices: Let the six letters of the word REMOTE be represented by positional numbers 1, 2, 3, 4, 5, and 6.

(b) Identify coded order: The code ROETEM rearranges these letters into the precise index sequence of 1, 6, 2, 5, 3, and 4.

(c) Map the systematic pattern: The logic takes characters sequentially from the outside working inward: first, last, second, second-to-last, third, fourth.

(d) Apply pattern to target: For PENCIL (1:P, 2:E, 3:N, 4:C, 5:I, 6:L), follow the established 1-6-2-5-3-4 structure.

(e) Construct final code: Selecting the letters in this exact order yields P, L, E, I, N, and finally C.

Final Answer: The word PENCIL is coded as PLICNE.

Answer: (A)

Go Back to Question 5

Q6.

Solution

Concept: Alphanumeric series require breaking the terms down into separate mathematical and alphabetical progressions running in parallel.

Solution:

(a) Evaluate the first numerical sequence: The leading numbers are 2, 7, 14, and 23. The differences are successive odd numbers: +5, +7, +9.

(b) Determine next leading number: Continuing this addition pattern, adding 11 to 23 results in a next leading value of 34.

(c) Evaluate the alphabetical sequence: The letters decrease backward through the alphabet: Z, Y, X, W. The next letter must be V.

(d) Evaluate the final numerical sequence: The trailing numbers are 5, 7, 11, and 17. The differences are successive even numbers: +2, +4, +6.

(e) Determine next trailing number: Following this progression, adding 8 to 17 gives a final trailing value of 25.

Final Answer: The missing term is 34V25.

Answer: (C)

Go Back to Question 6

Q7.

Solution

Concept: Analogies evaluate structural relationships where the first term serves as a foundational component or stabilizing element for the second.

Solution:

(a) Define the primary relationship: A pillar is a primary physical support member essential for holding up a larger overall building structure.

(b) Assess option A: A chord is a geometric line segment within a circle, but it does not serve as a load-bearing support.

(c) Assess option B: A filament is an internal glowing component of a lamp, representing a part-to-whole relationship rather than structural support.

(d) Assess option C: A foundation is the essential, baseline structural support system upon which an entire house is built and stabilized.

(e) Assess option D: The core is the innermost layer of the Earth, which describes spatial composition rather than structural support.

Final Answer: Foundation : House shares the same relationship.

Answer: (C)

Go Back to Question 7

Q8.

Solution

Concept: Direction sense problems involving right-angle turns form right triangles, where shortest distances are solved using the Pythagorean theorem.

Solution:

(a) Plot the initial movement: Anuj moves 8 kilometers due West from his initial starting location designated as point A.

(b) Plot the subsequent movement: Turning left changes his direction to South, and he walks 6 kilometers down to reach point B.

(c) Model geometric shape: The path forms a right-angled triangle with a horizontal base of 8 kilometers and vertical height of 6 kilometers.

(d) Apply mathematical formula: Use the Pythagorean theorem where the square of the hypotenuse equals the sum of squares of the sides.

(e) Calculate final distance: Squaring 8 and 6 gives 64 plus 36, totaling 100. Taking the square root yields exactly 10 kilometers.

Final Answer: The shortest distance is 10 km.

Answer: (A)

Go Back to Question 8

Q9.

Solution

Concept: Assertion-Reason tasks check the scientific accuracy of both independent statements and determine if the latter provides the physiological explanation.

Solution:

(a) Verify the Assertion: Direct sunlight exposure is indeed biologically essential for the endogenous production of Vitamin D within human bodies.

(b) Verify the Reason: Photochemical conversion occurs when UVB rays hit the skin, converting 7-dehydrocholesterol into active cholecalciferol.

(c) Analyze the connection: The reason accurately explains why sunlight is necessary by detailing the cellular mechanism driven by ultraviolet radiation.

(d) Confirm statement alignment: Both statements are factually true, and the biological process outlined in R directly underpins the assertion in A.

(e) Select correct code: This complete alignment matches the standard requirement for option A in assertion-reason testing formats.

Final Answer: Both A and R are true, and R is the correct explanation of A.

Answer: (A)

Go Back to Question 9

Q10.

Solution

Concept: Complex blood relations involving in-laws can be untangled by substituting relative phrases with direct family identities.

Solution:

(a) Deconstruct the core phrase: Find the meaning of "the only daughter of my mother-in-law" from Rohit's perspective.

(b) Simplify the identity: The only daughter of Rohit's mother-in-law must be Rohit's wife, assuming a standard singular marriage relationship.

(c) Rephrase the sentence: Substitute this back into the statement to get: "Her mother is Rohit's wife."

(d) Link to the photograph: Since the girl's mother is Rohit's wife, the girl must be Rohit's daughter.

(e) Determine Rohit's role: Looking at the inverse relation, Rohit is conclusively the father of the girl in the photograph.

Final Answer: Rohit is related to the girl as Father.

Answer: (B)

Go Back to Question 10

Q11.

Solution

Concept: Cause and effect analysis requires evaluating the logical dependency between two occurring events to see if one acts as the trigger for the other.

Solution:

(a) Evaluate Statement I: The Air Quality Index of the city dropped significantly into the dangerous severe category over a forty-eight hour window.

(b) Evaluate Statement II: The regional state government issued an official directive ordering all primary level educational institutions to suspend physical classes.

(c) Establish the timeline: The sudden, extreme spike in toxic air pollution levels happens first, creating an immediate health hazard for children.

(d) Determine the reaction: To safeguard young students from inhaling toxic smog, the administrative authorities are forced to shut down the schools.

(e) Conclude the link: The severe drop in air quality acts as the direct environmental cause that produces the safety policy reaction.

Final Answer: Statement I is the cause and statement II is its effect.

Answer: (A)

Go Back to Question 11

Q12.

Solution

Concept: Syllogism evaluation requires testing the validity of categorical arguments by mapping universal sets and intersection boundaries using formal logic.

Solution:

(a) Map premise 1: No square is a circle. This establishes that the set of squares and the set of circles are entirely disjoint.

(b) Map premise 2: All circles are triangles. This places the entire circle set completely inside the boundary of the triangle set.

(c) Analyze Conclusion I: No triangle is a square. Triangles can potentially overlap with squares in regions outside circles, making this claim invalid.

(d) Analyze Conclusion II: Some triangles are circles. Since all circles live inside triangles, the overlapping area containing circles validates this claim.

(e) Synthesize the outcome: The logical structure invalidates the first conclusion while proving that the second conclusion must hold true.

Final Answer: Only conclusion II follows.

Answer: (B)

Go Back to Question 12

Q13.

Solution

Concept: Floor puzzles require organizing elements sequentially by anchoring definitive placements first and applying relative constraints systematically.

Solution:

(a) Anchor definite data: B lives on the topmost floor, which explicitly fixes B on floor number four of the building.

(b) Evaluate odd floors: The remaining odd numbered levels are floor three and floor one, which are candidates for occupant A.

(c) Test position logic: If A is placed on floor three, C cannot live immediately above A because floor four is occupied.

(d) Assign remaining slots: Therefore, A must live on floor one, which allows C to occupy floor two immediately above him.

(e) Identify final vacancy: With floors one, two, and four filled by A, C, and B, floor three is left for D.

Final Answer: D lives on Floor 3.

Answer: (C)

Go Back to Question 13

Q14.

Solution

Concept: Alphabetical coding patterns establish fixed mathematical shifts based on the forward numerical positions of characters in the alphabet.

Solution:

(a) Analyze base shift: Compare the word MASTER with code OCUVGT. M shifts to O, A to C, and S to U.

(b) Quantify the logic: Each individual letter is consistently shifted forward by exactly two positions in standard alphabetical order.

(c) Process target word: Apply this constant addition of two to every character in the seven letter word JOURNEY.

(d) Shift initial string: J becomes L, O becomes Q, U becomes W, and R shifts forward to become T.

(e) Complete terminal string: N shifts to P, E becomes G, and Y wraps or moves forward to become A.

Final Answer: The code for JOURNEY is LQWTPGA.

Answer: (A)

Go Back to Question 14

Q15.

Solution

Concept: Number series require uncovering the operational formula that scales terms, often involving combinations of multiplication and fixed addition.

Solution:

(a) Test first transition: To move from three to eight, multiply the initial value by two and then add two.

(b) Test second transition: To move from eight to eighteen, multiply eight by two and then add two.

(c) Verify uniform logic: Multiplying eighteen by two plus two yields thirty-eight, confirming the mathematical pattern remains completely constant.

(d) Apply to terminal term: Take the last given number, seventy-eight, and double it to get one hundred and fifty-six.

(e) Compute final step: Add the fixed constant of two to that product to arrive at the final required number.

Final Answer: The missing element is 158.

Answer: (B)

Go Back to Question 15

Q16.

Solution

Concept: Classification tasks require identifying a shared elemental, physical, or chemical property among three items that excludes the outlier.

Solution:

(a) Analyze item classifications: Evaluate the material composition of the four given options, which are copper, zinc, brass, and iron.

(b) Examine copper: Copper is a pure chemical element found directly on the periodic table with specific atomic properties.

(c) Examine zinc and iron: Both zinc and iron are also native metallic elements rather than formulated compounds or mixtures.

(d) Examine brass: Brass is a metallic alloy produced by intentionally melting and blending copper together with zinc.

(e) Differentiate the outlier: Copper, zinc, and iron are elements, whereas brass is explicitly categorized as an alloy.

Final Answer: The odd one out is Brass.

Answer: (C)

Go Back to Question 16

Q17.

Solution

Concept: Vector displacement paths track positional shifts across cardinal directions to find final orientation relative to the starting origin.

Solution:

(a) Trace vector one: The vehicle travels twelve kilometers straight due North, creating a net positive vertical displacement.

(b) Trace vector two: Turning right changes the orientation to East, and driving five kilometers moves it horizontally right.

(c) Trace vector three: A subsequent right turn faces the vehicle South, and driving twelve kilometers cancels out the North displacement.

(d) Determine cancellation effect: Because the twelve kilometer South run exactly balances the initial twelve kilometer North run, vertical distance is zero.

(e) Read final direction: The vehicle sits exactly five kilometers to the right side of the origin, which is East.

Final Answer: The van is now in the East direction.

Answer: (C)

Go Back to Question 17

Q18.

Solution

Concept: Maternal relationships require connecting sibling pairs to parentage nodes across multiple generations of a family tree structure.

Solution:

(a) Analyze sibling node: The problem states that P is the sister of Q, meaning they share identical parents.

(b) Establish direct maternal link: Q is the daughter of N, which means N is the parent of both P and Q.

(c) Evaluate brother node: M is defined as the brother of N, placing M in the same generational line.

(d) Define the targeted uncle: The brother of a mother is defined by standard relation conventions as the maternal uncle.

(e) Synthesize the final connection: Since N is the mother of P and M is the brother of N, M is the uncle.

Final Answer: The maternal uncle of P is M.

Answer: (A)

Go Back to Question 18

Q19.

Solution

Concept: Course of Action scenarios demand logical administrative remedies that address the root problem immediately without causing unrealistic secondary crises.

Solution:

(a) Identify core problem: Intense rainfall caused severe waterlogging, which paralyzed transit networks and gridlocked morning peak commuting traffic.

(b) Evaluate Course I: Diverting stranded vehicles via clear alternative paths is a valid tactic to alleviate severe localized gridlock.

(c) Evaluate Course II: Pumping out trapped water from clogged drainage points directly addresses the physical root cause of waterlogging.

(d) Assess operational feasibility: Both proposed actions are practical, complementary steps that civic and traffic authorities typically run simultaneously.

(e) Determine final validity: Because both courses offer logical, constructive solutions to the immediate crisis, both must be pursued.

Final Answer: Both courses of action I and II should be followed.

Answer: (C)

Go Back to Question 19

Q20.

Solution

Concept: Universal affirmative syllogisms create nested sets where properties transitively flow from the innermost category to the outermost layer.

Solution:

(a) Diagram Statement 1: All keys are locks, meaning the entire set of keys is completely enclosed by locks.

(b) Diagram Statement 2: All locks are screws, placing the entire lock set entirely inside the massive screw set.

(c) Analyze transitivity: Since keys are inside locks and locks are inside screws, keys are fundamentally trapped inside screws.

(d) Evaluate Conclusion I: The nesting proves that every single key is a screw, making the first conclusion valid.

(e) Evaluate Conclusion II: Because keys occupy a portion of the screw set, some screws are keys is true.

Final Answer: Both conclusions I and II follow.

Answer: (C)

Go Back to Question 20

Q21.

Solution

Concept: Circular arrangements require placing items relative to an anchor point, moving systematically clockwise or counterclockwise based on left-right cues.

Solution:

(a) Anchor the first pair: Place U at the top position, which forces V to occupy the absolute opposite bottom position.

(b) Apply left constraint: X sits to the immediate left of U, which corresponds to the clockwise adjacent position from U.

(c) Evaluate neighbor constraint: Y is a neighbor of V but cannot sit next to X, meaning Y occupies the counterclockwise spot next to V.

(d) Determine final placement: The only remaining positions must accommodate W and Z based on the open adjacent positions left.

(e) Trace immediate right: Looking outward from the center at position U, the immediate right side counterclockwise is uniquely occupied by Z.

Final Answer: Z is sitting to the immediate right of U.

Answer: (A)

Go Back to Question 21

Q22.

Solution

Concept: Direct substitution coding maps specific typographical symbols to distinct letters by matching common characters across multiple sample words.

Solution:

(a) Extract character code one: Locate the letter R in BRAIN, which occupies the second slot corresponding to the percent symbol.

(b) Extract character code two: Find the letter E in TIRE, which is the final character corresponding to the square symbol.

(c) Extract character code three: Locate the letter N in BRAIN, which is the fifth character corresponding to the delta symbol.

(d) Extract character code four: Find the letter T in TIRE, which occupies the first slot corresponding to the dollar symbol.

(e) Assemble target sequence: Combine these individual symbols in the correct order for R-E-N-T to build the full phrase.

Final Answer: The word RENT is written as percent-square-delta-dollar.

Answer: (A)

Go Back to Question 22

Q23.

Solution

Concept: Number series can look like addition patterns but actually track fundamental prime number sequences sequence-wide without mathematical operations.

Solution:

(a) Analyze sequence elements: Observe the progression of numbers given in the problem, which are eleven, thirteen, seventeen, and nineteen.

(b) Identify shared property: Check the factorization of each number; none of these values possess any divisors other than one and themselves.

(c) Verify prime continuity: The numbers twenty-three and twenty-nine continue this exact chain of consecutive prime numbers without omitting any entries.

(d) Determine next prime: Identify the very next prime number that occurs in mathematical order after the number twenty-nine.

(e) Exclude composite traps: Avoid thirty-three and thirty-five since they are divisible by other factors, leaving thirty-one as the unique choice.

Final Answer: The missing number in the sequence is 31.

Answer: (A)

Go Back to Question 23

Q24.

Solution

Concept: Family tree structures track lineage across multiple generations by connecting parental nodes to maternal or paternal branches.

Solution:

(a) Trace parent node: The problem states that Y is the mother of Z, establishing the base maternal link.

(b) Trace sibling node: X is the brother of Y, which places X in the same generation as Y as a maternal uncle to Z.

(c) Define grandmother link: W is the maternal grandmother of Z, meaning W is the biological mother of Z's mother, Y.

(d) Link to sibling generation: Since W is the mother of Y, she must also be the mother of Y's biological brother, X.

(e) Conclude target relation: Looking from X to W, W is conclusively identified as the direct mother of X.

Final Answer: W is related to X as Mother.

Answer: (B)

Go Back to Question 24

Q25.

Solution

Concept: Critical reasoning courses of action must implement constructive, proportional measures rather than punitive or highly disruptive overreactions.

Solution:

(a) Identify core problem: There is a notable, dangerous increase in digital and cyber-fraud targeted specifically at vulnerable elderly citizens.

(b) Analyze Course I: Organizing targeted awareness programs teaches senior citizens defense mechanisms, directly addressing vulnerability safely and constructively.

(c) Analyze Course II: Implementing a total ban on digital transactions for seniors is an extreme, highly disruptive overreaction that restricts freedom.

(d) Balance both remedies: Course I provides a balanced solution while Course II creates an unreasonable secondary problem for daily banking.

(e) Determine final action: Only the first course represents an logically sound and effective administrative action for a civic authority.

Final Answer: Only course of action I should be followed.

Answer: (A)

Go Back to Question 25

Q26.

Solution

Concept: Syllogisms with two particular premises yield an indeterminate main relationship, creating a classic complementary either-or logical scenario.

Solution:

(a) Map Statement 1: Some pens are pencils, establishing a partial intersection between the pen set and pencil set.

(b) Map Statement 2: Some pencils are erasers, creating a partial intersection between pencils and erasers without fixing pen boundaries.

(c) Evaluate independent validity: Because pens and erasers are never directly linked, neither Conclusion I nor Conclusion II holds true independently.

(d) Check for complementarity: The two conclusions form a complementary pair because they assert the exact same variables in positive and negative forms.

(e) Choose conditional option: Since pens must either overlap with erasers or not overlap at all, an either-or scenario is created.

Final Answer: Either conclusion I or II follows.

Answer: (C)

Go Back to Question 26

Q27.

Solution

Concept: Square table seating arrangements require separating corner positions from side positions and tracking directional steps clockwise or counterclockwise.

Solution:

(a) Anchor initial position: Place A at a designated corner position on the square table matrix layout.

(b) Count rightward steps: C sits third to the right of A, which places C at a side position on the table.

(c) Count leftward steps: E sits second to the left of C, which moves counterclockwise back toward A, landing on a side position.

(d) Verify relative coordinates: Mapping this out shows E sits exactly adjacent to corner A on one of the side seats.

(e) Find opposite position: On an eight person symmetric square table layout, the seat directly across from side position E is G.

Final Answer: G is sitting exactly opposite to E.

Answer: (C)

Go Back to Question 27

Q28.

Solution

Concept: Letter analogies track shifting structural patterns where groups of characters are transposed or advanced by fixed alphabetical steps.

Solution:

(a) Deconstruct first pair: Look at DCEF turning into FEHG. The first two characters DC are reversed and shifted to create FE.

(b) Measure exact shift: D moves up two positions to F, and C moves up two positions to E, maintaining layout rules.

(c) Verify remaining letters: The trailing letters EF move up by two positions to become HG in the final string.

(d) Apply to target: Process HGJI by shifting every individual letter forward by exactly two positions in the alphabet.

(e) Finalize character order: H becomes J, G becomes I, J becomes L, and I becomes K, forming the correct code.

Final Answer: The missing term is JILK.

Answer: (A)

Go Back to Question 28

Q29.

Solution

Concept: Directional tracking involving consecutive right angles requires rotating the movement vector ninety degrees clockwise at each sequential turn point.

Solution:

(a) Map initial leg: The traveler heads South-East, moving diagonally downward and to the right on a standard map grid.

(b) Apply first right turn: Making a ninety degree right turn shifts his vector path directly toward the South-West direction.

(c) Map subsequent leg: The traveler proceeds straight along this South-West trajectory until reaching the described crossroads point.

(d) Apply second right turn: Making another ninety degree right turn shifts his vector path clockwise from South-West up to North-West.

(e) Conclude heading: Following this final angular adjustment, the traveler is now actively walking directly toward the North-West cardinal quadrant.

Final Answer: He is heading towards the North-West direction.

Answer: (A)

Go Back to Question 29

Q30.

Solution

Concept: Multi-generational family trees require connecting in-law nodes to internal sibling lines to determine direct vertical or horizontal lineage.

Solution:

(a) Map maternal anchor: B is defined as the mother of C, placing C one generation below character B.

(b) Map paternal anchor: A is the father-in-law of B, which means A is the biological father of B's spouse.

(c) Integrate specific constraints: D is defined as the only son of A, meaning there are no other male siblings in that line.

(d) Deduce marital connection: Since D is the unique son of A, D must be the husband of B to complete the structure.

(e) Identify final link: Because D is the husband of B and B is the mother of C, D is the father.

Final Answer: D is related to C as Father.

Answer: (A)

Go Back to Question 30

Answer Key

Q	Ans	Q	Ans	Q	Ans	Q	Ans	Q	Ans
1	B	2	B	3	D	4	D	5	A
6	C	7	C	8	A	9	A	10	B
11	A	12	B	13	C	14	A	15	B
16	C	17	C	18	A	19	C	20	C
21	A	22	A	23	A	24	B	25	A
26	C	27	C	28	A	29	A	30	A