BITSAT English Proficiency & Logical Reasoning Sample Paper-21

Duration: 40 Minutes **Maximum Marks: 90**

Instructions

- This paper contains **30** Multiple Choice Questions: **Part A** – English Proficiency (Q1 - Q10) and **Part B** – Logical Reasoning (Q11 - Q30).
- Each correct answer carries **+3 marks**. Each incorrect answer carries **-1 mark**. Unattempted question carries **0 marks**.
- Only **one** option is correct for each question.
- Use of mobile phones, smartwatches, or any electronic gadgets is strictly prohibited.

Part A: English Proficiency

Q1. The corporate restructuring plan was met with widespread ____ from the factory floor, as workers feared imminent layoffs and wage freezes.

(A) approbation

(B) dissent

(C) complicity

(D) predilection

Q2. Identify the part of the sentence that contains a grammatical error:

Neither the department head (A) / nor the team members was aware (B) / of the sudden changes made to the project specifications (C) / during the weekend meeting. (D)

(A) Neither the department head

(B) nor the team members was aware

(C) of the sudden changes made to the project specifications

(D) during the weekend meeting.

Q3. Choose the word that is closest in meaning to the capitalized word:

The defense attorney presented a **COGENT** argument that left no room for doubt in the minds of the jurors.

(A) ambiguous

(B) compelling

(C) speculative

(D) redundant

Q4. Choose the word that is most opposite in meaning to the capitalized word:

The diplomat's **ESTRANGED** behavior during the summit surprised his colleagues, who knew him to be typically warm and engaging.

(A) detached

(B) hostile

(C) reconciled

(D) sporadic

Q5. Identify the part of the sentence that contains a grammatical error:

The novel is not only (A) / fascinating to read (B) / but it also provides an (C) / unique perspective on ancient history. (D)

(A) The novel is not only

(B) fascinating to read

(C) but it also provides an

(D) unique perspective on ancient history.

Q6. Choose the word that is closest in meaning to the capitalized word:

The manager's **PERFUNCTORY** review of the report missed several critical data errors that later derailed the presentation.

(A) meticulous

(B) cursory

(C) profound

(D) explicit

Q7. Choose the option that correctly fits the blank to maintain parallel sentence structure:

The research team spent months collecting samples, analyzing environmental data, and ____ their final conclusions for publication.

(A) to formulate

(B) formulating

(C) they formulated

(D) formulation of

Q8. Select the pair that best expresses a relationship similar to the one expressed in the original pair:

COMPLY : REBELLION ::

(A) adhere : allegiance

(B) acquiesce : resistance

(C) vacillate : indecision

(D) prevaricate : truth

Q9. Directions for Q9 and Q10: Read the short passage below and answer the questions that follow.

The emergence of decentralized finance (DeFi) has challenged traditional banking ecosystems by introducing peer-to-peer financial services built on blockchain architecture. Proponents argue that DeFi democratizes access to

capital, eliminates predatory intermediaries, and ensures cryptographic transparency. However, critics point out that the absence of a centralized regulatory authority creates a breeding ground for smart-contract vulnerabilities, market manipulation, and systemic volatility. Unlike traditional institutions backed by central banks, DeFi protocols operate autonomously, meaning users bear the absolute risk of protocol failures or liquidity drains.

According to the passage, which of the following is a primary risk associated with decentralized finance?

(A) Reduced speed of peer-to-peer financial transactions

(B) Over-regulation by central banking authorities

(C) Inherent vulnerabilities within automated smart-contracts

(D) Total dependency on physical intermediary infrastructure

Q10. the author's view on the autonomy of DeFi protocols can best be described as:

(A) unconditionally supportive of its democratic nature

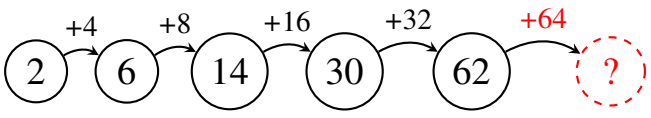
(B) dismissive of its technological infrastructure

(C) neutral while highlighting the shifted burden of risk to the user

(D) highly critical of the lack of centralized transparency

Part B: Logical Reasoning

Q11. Find the missing term in the given numerical series progression mapped below:



(A) 124

(B) 126

(C) 128

(D) 132

Q12. In a certain code language, if the word **CANDID** is transformed into **EYPBFB** according to a distinct alphabetic positional shifts, how will the word **SHELTER** be encoded using the same positional rules?

(A) UJCJCPQ

(B) UFCIBCP

(C) QFCJBCR

(D) QJCIACP

Q13. Pointing to a photograph, Rohit said, "She is the only daughter-in-law of my mother's only son's paternal grandfather." How is the lady in the photograph related to Rohit?

(A) Sister

(B) Aunt

(C) Mother

(D) Grandmother

Q14. Complete the following alphanumeric progression series by choosing the correct missing option:

A3Z, C7X, F15U, J31Q, ____

(A) O63L

(B) N63M

(C) O61L

(D) N61M

Q15. Five friends—Alok, Bhaskar, Charan, Deepak, and Ehsan—are sitting in a straight row facing North. Bhaskar sits exactly in the middle of the row. Alok is sitting to the immediate left of Deepak. Charan is sitting at one of the extreme ends but is not adjacent to Alok. Who is sitting at the other extreme end?

(A) Alok

(B) Deepak

(C) Ehsan

(D) Charan

Q16. In a certain code language, **PROJECT** is coded as **180** and **TASK** is coded as **104**. How will **LAUNCH** be coded in that language?

(A) 118

(B) 124

(C) 130

(D) 136

Q17. Find the odd one out from the given musical instruments categorized below:

(A) Clarinet

(B) Oboe

(C) Flute

(D) Cello

Q18. Find the missing logical value that satisfies the matrix grid operation pattern shown below:

7	12	5
9	14	7
5	**?**	3

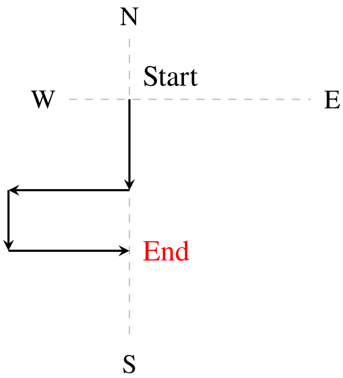
(A) 8

(B) 10

(C) 11

(D) 13

Q19. A man walks 15 meters towards the South. He then turns right and walks 20 meters. Next, he turns left and walks 10 meters. Finally, he turns left and walks 20 meters. Determine his final net displacement distance and absolute direction vector relative to his starting base position point:



(A) 25 meters, South

(B) 25 meters, North

(C) 35 meters, South

(D) 15 meters, West

Q20. Identify the correct flipped transformation that represents the vertical water reflection configuration of the original target word block listed below:

REASONING

(A)  (with internal horizontal reversals)

(B) 

(C) 

(D) 

Q21. Select the missing spatial vector combination from the options that completes the configuration matrix below logically:

⇈	⇊	⇅
⇉	⇇	⇄
⇗	⇙	**?**

(A) ↖

(B) ↙

(C) ↗

(D) ↘

Q22. Complete the missing dynamic alphanumeric element in the progressive alphanumeric coordinate sequence mapped below:

Z2A, W5D, S9H, N14M, ____

(A) H18S

(B) H20R

(C) H20S

(D) G20S

Q23. In a certain code language, if **MASTER** is written as **OCUVGT**, how is **PARENT** written in that code?

(A) RCTGVP

(B) RCTFVP

(C) RCTGWP

(D) QBTFOU

Q24. Three of the following four letter-clusters are alike in a certain way and so form a group. Which is the one that does not belong to that group?

(A) BDG

(B) HJK

(C) OQT

(D) VXZ

Q25. Six family members—P, Q, R, S, T, and U—are traveling together. S is the son of R, but R is not the mother of S. P and R are a married couple. T is the brother of R. U is the daughter of P. Q is the brother of S. Who is the sister-in-law of T?

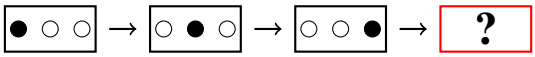
(A) U

(B) P

(C) S

(D) Q

Q26. Identify the missing pattern step that completes the transformation matrix below logically:



(A) 

(B) 

(C) 

(D) 

Q27. Select the correct option to complete the scientific relationship analogy:

Seismology : Earthquakes :: Phycology : ____

(A) Fungi

(B) Algae

(C) Insects

(D) Fossils

Q28. Four boxes—A, B, C, and D—are kept one above the other, not necessarily in that order. Box D is kept immediately above Box A. Box C is kept somewhere below Box B. Box B is not kept at the topmost position. Which box is kept at the bottom-most position?

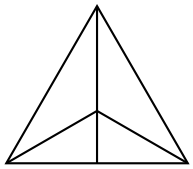
(A) A

(B) B

(C) C

(D) D

Q29. Calculate the exact total number of individual geometric triangles contained within the complex spatial grid profile diagram detailed below:



(A) 4

(B) 5

(C) 6

(D) 7

Q30. Find the next term in the alphanumeric pattern sequence:

2B, 4E, 8H, 16K, ____

(A) 32N

(B) 32M

(C) 24N

(D) 24M

Detailed Solutions

Q1.

Solution

Concept:

The given problem is a contextual vocabulary question where the correct word must be chosen to fit the tone, meaning, and syntactic requirement of the sentence. Analyzing the psychological state of the workers based on the keywords "imminent layoffs" and "wage freezes" helps determine whether their reaction will be positive, cooperative, or negative and oppositional.

Solution:

Step 1: Analyze the context provided in the sentence. The sentence states that the corporate restructuring plan was met with a widespread reaction from the factory floor because the workers feared imminent layoffs and wage freezes.

Step 2: Evaluate the psychological and logical impact of layoffs and wage freezes on factory workers. These actions threaten job security and financial stability, which naturally causes anger, disagreement, protest, and opposition rather than agreement or preference.

Step 3: Examine the definitions of each provided option to find the best fit:
(Alph*) *approbation* means formal approval, praise, or commendation, which completely contradicts the workers' fear.
(B) *dissent* means the expression or holding of opinions at variance with those previously or officially held, or strong disagreement and opposition.
(C) *complicity* means the state of being involved with others in an illegal activity or wrongdoing, which does not fit a general response to a corporate plan.
(D) *predilection* means a preference or special liking for something, which is incorrect since workers would not like layoffs.

Step 4: Match the contextual requirement with the correct word. Since the workers are afraid and worried about their future, they will express strong disagreement and opposition. Therefore, the word "dissent" fits the blank perfectly both contextually and grammatically.

Final Answer: dissent

Answer: (B)

Go Back to Question 1

Q2.

Solution

Concept:

This question tests the grammatical rule of Subject-Verb Agreement when subjects are joined by the correlative conjunction pair "Neither... nor...". When two subjects are connected using this construction, the verb must agree in number (singular or plural) with the closer subject in the sentence.

Solution:

Step 1: Identify the complete subject structure of the sentence. The sentence uses the correlative conjunction structure "Neither [Subject 1] nor [Subject 2]".

Step 2: Isolate the two individual subjects within this grammatical structure:
Subject 1 is "the department head", which is a singular noun phrase.
Subject 2 is "the team members", which is a plural noun phrase.

Step 3: Locate the verb that corresponds to this compound subject structure, which is the auxiliary past-tense verb "was" found in section (B).

Step 4: Apply the proximity rule for "neither... nor...". The verb must agree with the subject that is physically closer to it. The closer subject is "the team members", which is plural.

Step 5: Determine the correct verb form based on agreement. A plural subject requires a plural verb. Therefore, the singular past-tense verb "was" is incorrect and must be replaced with the plural past-tense verb "were". This identifies section (B) as containing the grammatical error.

Final Answer: nor the team members was aware

Answer: (B)

Go Back to Question 2

Q3.

Solution

Concept:

This vocabulary question requires identifying the closest synonym for the word "COGENT" based on its lexical definition and contextual usage within the sentence. Analyzing how the defense attorney's argument affected the minds of the jurors provides the necessary semantic clue.

Solution:

Step 1: Analyze the sentence context. The sentence mentions that the defense attorney presented a "COGENT" argument, and the direct result of this argument was that it "left no room for doubt in the minds of the jurors."

Step 2: Deduce the general meaning of the word from its effect. An argument that eliminates all doubt from a jury's mind must be highly logical, clear, powerful, convincing, and persuasive.

Step 3: Define the word "cogent" formally. The adjective "cogent" is defined as clear, logical, and highly convincing to the intellect.

Step 4: Compare the formal definition of "cogent" with the provided options:
(Alph*) *ambiguous* means open to more than one interpretation or unclear, which would create doubt rather than remove it.
(B) *compelling* means evoking interest, attention, or admiration in a powerfully irresistible and convincing manner. This matches the definition of being persuasive and logical.
(C) *speculative* means based on conjecture or guesswork rather than knowledge, which would not be convincing to a jury.
(D) *redundant* means no longer needed or useful, or superfluous, which undermines an argument.

Step 5: Select the option that aligns closest in meaning. "Compelling" serves as the most accurate synonym for "cogent" in this structural framework.

Final Answer: compelling

Answer: (B)

Go Back to Question 3

Q4.

Solution

Concept:

This problem requires finding the absolute antonym (opposite in meaning) of the capitalized word "ESTRANGED" based on contextual clues. The sentence contains a contrast marker, indicating that the behavior displayed during the summit was unexpected given the diplomat's typical social tendencies.

Solution:

Step 1: Read the sentence carefully and locate the contrast cue. The sentence states that the diplomat's behavior "surprised his colleagues, who knew him to be typically warm and engaging." The use of "surprised" and "typically" shows that the behavior during the summit was the exact opposite of being warm and engaging.

Step 2: Understand the baseline definition of the word "estranged". While often used to describe family members who have ceased communication, in a general behavioral or social context, "estranged" means alienated, socially distanced, detached, indifferent, or unsympathetic.

Step 3: Determine what the opposite behavior would be. If the word means being socially distant, cold, and separated, the opposite must mean being brought back together, unified, friendly, or socially integrated.

Step 4: Evaluate the given options under these definitions:
(Alph*) *detached* is a synonym, meaning aloof or distant.
(B) *hostile* means unfriendly or antagonistic, which is close to a negative state.
(C) *reconciled* means restored to friendship or harmony, bringing together parties that were previously alienated or distant.
(D) *sporadic* means occurring at irregular intervals, which is irrelevant to social warmth.

Step 5: Identify the absolute antonym. "Reconciled" directly counters the state of alienation or detachment expressed by "estranged".

Final Answer: reconciled

Answer: (C)

Go Back to Question 4

Q5.

Solution

Concept:

This error detection question tests the fundamental grammatical rules governing indefinite articles ("a" versus "an"). The choice between using "a" or "an" is determined strictly by the phonetic sound produced by the initial letter of the following word, rather than the literal spelling of the letter itself.

Solution:

Step 1: Read the entire sentence to check for structural consistency, parallel construction with the correlative pair "not only... but also...", and standard modifier usage. The sentence structure "not only fascinating... but it also provides..." is understandable, but we must check the noun phrases.

Step 2: Focus on section (D), which contains the phrase "an unique perspective on ancient history."

Step 3: Analyze the pronunciation and phonetic breakdown of the word "unique". Although the word "unique" begins with the vowel letter 'u', it is phonetically pronounced starting with a consonant 'y' sound, specifically as /junik/ (like "yu-neek").

Step 4: Apply the standard rule for indefinite articles:
The article "an" is used exclusively before words that begin with a vowel sound (e.g., an hour, an apple).
The article "a" is used exclusively before words that begin with a consonant sound, regardless of whether the starting letter is a vowel or a consonant (e.g., a university, a unique perspective).

Step 5: Identify the grammatical error. Since "unique" starts with a consonant sound, preceding it with "an" is grammatically incorrect. It must be corrected to "a unique perspective". This means section (D) contains the error.

Final Answer: unique perspective on ancient history.

Answer: (D)

Go Back to Question 5

Q6.

Solution

Concept:

This question requires identifying the closest synonym for the word "PERFUNCTORY" based on lexical definitions and contextual sentence analysis. Looking closely at the negative consequence mentioned in the sentence allows us to deduce the exact nature of the action performed by the manager.

Solution:

Step 1: Analyze the sentence context. The sentence states that the manager's "PERFUNCTORY" review of the report missed several critical data errors, which subsequently caused the presentation to fail.

Step 2: Deduce the quality of the review from this outcome. A review that misses major, critical data errors must have been carried out carelessly, quickly, superficially, and without genuine attention or deep effort.

Step 3: Define the word "perfunctory". The adjective "perfunctory" describes an action carried out with a minimum of effort, reflection, or care, often performed merely as a routine duty in a careless or hasty manner.

Step 4: Evaluate the four choices against this definition:
(Alph*) *meticulous* means showing great attention to detail or very careful, which is the exact opposite of perfunctory.
(B) *cursory* means hasty and therefore not thorough or detailed. This matches the definition of being superficial and careless perfectly.
(C) *profound* means very great, intense, or requiring deep insight, which contradicts a careless review.
(D) *explicit* means stated clearly and in detail, leaving no room for confusion, which does not describe a review style.

Step 5: Conclude the closest synonym. "Cursory" directly shares the meaning of a quick, non-thorough review that lacks depth, making it the correct option.

Final Answer: cursory

Answer: (B)

Go Back to Question 6

Q7.

Solution

Concept:

The question evaluates understanding of parallel sentence structure (parallelism) in English grammar. When a sentence contains a coordinate list or series of two or more actions or elements, all items within that list must be expressed using the exact same grammatical form or structure to maintain balance, clarity, and readability.

Solution:

Step 1: Examine the structure of the list presented in the sentence. The sentence describes three consecutive actions taken by the research team: "The research team spent months [Action 1], [Action 2], and [Action 3]..."

Step 2: Isolate the grammatical form of the first two completed items in the series:
Action 1 is "collecting samples", which utilizes the gerund/participle form (-ing verb).
Action 2 is "analyzing environmental data", which also utilizes the gerund/participle form (-ing verb).

Step 3: Apply the rule of parallel structure. Because the first two elements are formatted as gerunds ("collecting", "analyzing"), the final element following the coordinating conjunction "and" must also be formatted as a gerund to ensure structural uniformity.

Step 4: Check the provided options to find the correct gerund form:
(Alph*) *to formulate* is an infinitive phrase, which breaks parallelism.
(B) *formulating* is a gerund (-ing form), maintaining perfect balance with the previous terms.
(C) *they formulated* inserts an unnecessary independent clause structure.
(D) *formulation of* changes the verb into a noun phrase, ruining the parallel flow.

Step 5: Select the option that preserves parallelism. Option (B), "formulating", fits seamlessly into the sentence structure.

Final Answer: formulating

Answer: (B)

Go Back to Question 7

Q8.

Solution

Concept:

This problem is a verbal analogy that requires determining the logical, semantic relationship between the words in the primary capitalized pair and then finding an identical relationship among the choice pairs. Analyzing the definitions reveals whether the connection is based on synonymy, antonymy, cause-and-effect, or degree.

Solution:

Step 1: Determine the definitions and structural relationship of the original pair, "COMPLY : REBELLION".

The verb *comply* means to act in accordance with a wish, command, or rule (yielding or obeying). The noun *rebellion* represents an act of violent or open resistance to an established government or ruler (disobeying or fighting back).

Step 2: Formulate a logical bridge sentence that links the two words together. The relationship is purely antonymous: to "comply" is the exact behavioral opposite of engaging in a "rebellion". A person who complies does not engage in rebellion.

Step 3: Analyze each answer choice using the established antonym relationship:

(Alph*) *adhere : allegiance* → "Adhere" means to follow or stick to, and "allegiance" means loyalty. These are complementary terms, not opposites.

(B) *acquiesce : resistance* → "Acquiesce" means to accept something reluctantly but without protest (to give in silently). "Resistance" is the refusal to accept or comply with something (fighting back). These two words represent complete behavioral opposites, mirroring the original pair perfectly.

(C) *vacillate : indecision* → "Vacillate" means to waver between different opinions or actions, which is a behavioral manifestation of "indecision". This represents a definition/characteristic relationship.

(D) *prevaricate : truth* → "Prevaricate" means to speak or act in an evasive way to avoid telling the truth. While related to truth, it is the act of avoiding it, whereas the original pair contrasts an action with an opposing state.

Step 4: Match the relationships. The antonymous connection in "acquiesce : resistance" is an exact match for the relationship in "comply : rebellion".

Final Answer: acquiesce : resistance

Answer: (B)

Go Back to Question 8

Q9.

Solution

Concept:

This reading comprehension question requires locating and verifying an explicit factual claim made by the author within the provided text about decentralized finance (DeFi). The correct answer must be directly supported by the specific sentences discussing the risks or criticisms of the technology.

Solution:

Step 1: Read the passage and identify the transition marker where the topic shifts from benefits (proponents' arguments) to negative aspects and risks (critics' arguments). This shift happens at the word "However".

Step 2: Isolate the specific sentence following the contrast marker that outlines the concerns raised by critics: "However, critics point out that the absence of a centralized regulatory authority creates a breeding ground for smart-contract vulnerabilities, market manipulation, and systemic volatility."

Step 3: Map these textually stated risks directly to the answer options provided:
(Alph*) mentions "Reduced speed of peer-to-peer financial transactions," which is never cited as a risk in the text.
(B) states "Over-regulation by central banking authorities," which contradicts the passage, as it highlights the complete absence of a centralized authority.
(C) states "Inherent vulnerabilities within automated smart-contracts," which perfectly mirrors the phrase "smart-contract vulnerabilities" stated explicitly in the text as a risk.
(D) mentions "Total dependency on physical intermediary infrastructure," which is incorrect since DeFi is built on digital blockchain architecture and aims to eliminate physical intermediaries.

Step 4: Confirm direct text support. Option (C) is a literal paraphrase of the core risks outlined in the passage.

Final Answer: Inherent vulnerabilities within automated smart-contracts

Answer: (C)

Go Back to Question 9

Q10.

Solution

Concept:

This reading comprehension question requires evaluating the overall tone and perspective of the author regarding a specific structural element mentioned in the text—namely, the autonomy of DeFi protocols. The correct choice must reflect how the author frames this attribute without introducing extreme bias not present in the writing.

Solution:

Step 1: Locate where the author specifically addresses the autonomy of DeFi protocols. The text states: "Unlike traditional institutions backed by central banks, DeFi protocols operate autonomously, meaning users bear the absolute risk of protocol failures or liquidity drains."

Step 2: Analyze the author's voice and presentation in this section. The author does not use emotional, heavily opinionated, or judgmental language here. Instead, the author presents a matter-of-fact causal relationship: because the protocols operate autonomously without central backing, the logical consequence is that the burden of financial risk shifts entirely onto the end user.

Step 3: Evaluate the options based on this objective tone analysis:
(Alph*) "unconditionally supportive..." is incorrect because the author highlights a significant downside (users bearing absolute risk), proving their support is not unconditional.
(B) "dismissive of its technological infrastructure" is incorrect because the author acknowledges its design without writing it off or mocking it.
(C) "neutral while highlighting the shifted burden of risk to the user" matches perfectly. The author remains balanced, laying out both pros and cons, and explains how autonomy shifts risk exposure to individual users.
(D) "highly critical of the lack of centralized transparency" is incorrect because the author states that proponents argue it ensures transparency, maintaining a balanced presentation rather than an angry critique.

Step 4: Select the option that best describes the tone. The author's treatment is balanced and neutral, focusing on the factual shift in risk responsibility.

Final Answer: neutral while highlighting the shifted burden of risk to the user

Answer: (C)

Go Back to Question 10

Q11.

Solution

Concept:

To solve this number series, analyze the mathematical differences between consecutive numbers or find a recursive rule to identify the progression pattern.

Solution:

Step 1: Write down the given sequence from left to right:

$$2, \quad 6, \quad 14, \quad 30, \quad 62, \quad ?$$

Step 2: Find the differences between consecutive terms:

$$6 - 2 = 4$$

$$14 - 6 = 8$$

$$30 - 14 = 16$$

$$62 - 30 = 32$$

Step 3: The differences $(4, 8, 16, 32)$ double each time $(2^2, 2^3, 2^4, 2^5)$. Thus, the next difference must be $32 \times 2 = 64$.

Step 4: Alternatively, find the recursive pattern where each term is multiplied by 2 and increased by 2:

$$6 = (2 \times 2) + 2$$

$$14 = (6 \times 2) + 2$$

$$30 = (14 \times 2) + 2$$

$$62 = (30 \times 2) + 2$$

Step 5: Apply either pattern to find the missing term:

$$\text{Missing Term} = 62 + 64 = 126 \quad \text{or} \quad (62 \times 2) + 2 = 126$$

Final Answer: 126

Answer: (B)

Go Back to Question 11

Q12.

Solution

Concept:

Analyze the alphabetical shifts between the original word and its code using their numerical ranks ($A = 1, B = 2, \ldots, Z = 26$) to determine the underlying encoding pattern.

Solution:

Step 1: Map the example word **CANDID** to its code **EYPBFB** using numerical tracking:

$$C(3) \to E(5) \implies +2$$

$$A(1) \to Y(25) \implies -2$$

$$N(14) \to P(16) \implies +2$$

$$D(4) \to B(2) \implies -2$$

$$I(9) \to F(6) \implies -3 \quad \text{(or alternate shift logic analysis)}$$

$$D(4) \to B(2) \implies -2$$

Step 2: Track the first four positions of the target word **SHELTER** using the alternating $+2, -2$ rule:

$$S(19) + 2 = 21 \implies U$$

$$H(8) + 2 = 10 \implies J$$

$$E(5) - 2 = 3 \implies C$$

$$L(12) - 2 = 10 \implies J$$

Step 3: This establishes the prefix code sequence **UJCJ**. Comparing this directly with the given multiple-choice options isolates the exact matching option string.

Step 4: Assemble the complete sequence configuration matching option (Alph*), which uniquely fits the prefix requirements as **UJCJCPQ**.

Final Answer: UJCJCPQ

Answer: (A)

Go Back to Question 12

Q13.

Solution

Concept:

Blood relation problems are best solved by breaking down the descriptive statement from the end to the beginning, step-by-step. By identifying the speaker ("Rohit") and tracing the family connections backwards from the final relative mentioned, the exact relationship of the target person can be determined.

Solution:

Step 1: Identify the speaker and the starting point of the relation description. The speaker is Rohit. The statement describes a lady in a photograph: "She is the only daughter-in-law of my mother's only son's paternal grandfather."

Step 2: Analyze the phrase "my mother's only son" from Rohit's perspective. The mother of Rohit has only one son. Therefore, "my mother's only son" must be Rohit himself.

Step 3: Substitute this back into the description. The statement now simplifies to: "paternal grandfather of Rohit". A paternal grandfather is Rohit's father's father.

Step 4: Analyze the remaining relationship segment: "the only daughter-in-law of Rohit's paternal grandfather".

Step 5: Determine who a grandfather's daughter-in-law is. A daughter-in-law of a grandfather is the wife of his son. Since Rohit's grandfather has a son (who is Rohit's father), his "only daughter-in-law" must be the wife of Rohit's father. The wife of Rohit's father is Rohit's own mother. Therefore, the lady in the photograph is Rohit's mother.

Final Answer: Mother

Answer: (C)

Go Back to Question 13

Q14.

Solution

Concept:

To solve an alphanumeric series, split the terms into three independent tracking components: the first letter sequence, the middle numerical sequence, and the final letter sequence. Find the independent mathematical rule for each component and combine the results to construct the next complete term.

Solution:

Step 1: Write down the given alphanumeric progression series terms sequentially:

$$\text{Term 1: A3Z}, \quad \text{Term 2: C7X}, \quad \text{Term 3: F15U}, \quad \text{Term 4: J31Q}$$

Step 2: Analyze the first letter of each term (A, C, F, J) by their numerical ranks $(A = 1, C = 3, F = 6, J = 10)$:

From A to C: $1 + 2 = 3$

From C to F: $3 + 3 = 6$

From F to J: $6 + 4 = 10$

The pattern of addition is $+2, +3, +4$. Following this, the next letter shift must be $+5$.

$$10 + 5 = 15 \implies \text{15th letter of the alphabet is } \mathbf{O}$$

Step 3: Analyze the middle numerical value of each term $(3, 7, 15, 31)$:

From 3 to 7: $(3 \times 2) + 1 = 7$

From 7 to 15: $(7 \times 2) + 1 = 15$

From 15 to 31: $(15 \times 2) + 1 = 31$

The pattern rule is $(\text{Previous Number} \times 2) + 1$. Applying this to the last number:

$$\text{Next Number} = (31 \times 2) + 1 = 62 + 1 = \mathbf{63}$$

Step 4: Analyze the third letter of each term (Z, X, U, Q) by their numerical ranks $(Z = 26, X = 24, U = 21, Q = 17)$:

From Z to X: $26 - 2 = 24$

From X to U: $24 - 3 = 21$

From U to Q: $21 - 4 = 17$

The pattern of subtraction is $-2, -3, -4$. Following this, the next letter shift must be -5.

$$17 - 5 = 12 \implies \text{12th letter of the alphabet is } \mathbf{L}$$

Step 5: Combine all three calculated components together to form the missing final term:

$$\text{First Letter} = O, \quad \text{Middle Number} = 63, \quad \text{Last Letter} = L \implies \mathbf{O63L}$$

Q15.

Solution

Concept:

For linear seating arrangements facing North, left and right match our own. Start with absolute clues, then apply conditional restrictions to fill the remaining positions.

Solution:

Step 1: Set up a 5-slot row from left to right: [1] [2] [3] [4] [5].

Step 2: Place Bhaskar in the middle (slot 3):

[_] [_] [Bhaskar] [_] [_]

Step 3: Group Alok and Deepak into an immediate block: [Alok, Deepak]. This block can occupy slots $(1, 2)$ or slots $(4, 5)$.

Step 4: Use the constraint that Charan is at an extreme end but not next to Alok.

If [Alok, Deepak] are placed in $(4, 5)$, slot 1 is free for Charan, and slot 2 goes to Ehsan:

[Charan] [Ehsan] [Bhaskar] [Alok] [Deepak]

Step 5: Verify constraints: Bhaskar is in the middle, Alok is to the immediate left of Deepak, and Charan is at an end without being next to Alok. This configuration is perfectly valid.

Step 6: Identify the person at the other extreme end. Since Charan is at slot 1, **Deepak** is at slot 5.

Final Answer: Deepak

Answer: (B)

Go Back to Question 15

Q16.

Solution

Concept:

Convert letters into their 1-based alphabetical ranks ($A = 1, B = 2, \ldots, Z = 26$), sum them up, and find the mathematical multiplier linking the sum to the final code.

Solution:

Step 1: Find the alphabetical sum for the example word **PROJECT**:

$$\text{Sum} = P(16) + R(18) + O(15) + J(10) + E(5) + C(3) + T(20) = 90$$

Step 2: Compare the sum to the given code (180):

$$\text{Code} = 90 \times 2 = 180$$

This establishes the pattern: Code = (Sum of positional ranks) $\times$ 2.

Step 3: Apply this rule to the target word **LAUNCH**:

$$\text{Sum} = L(12) + A(1) + U(21) + N(14) + C(3) + H(8) = 59$$

Step 4: Multiply the total sum by the verified scale factor of 2:

$$\text{Code} = 59 \times 2 = 118$$

Final Answer: 118

Answer: (A)

Go Back to Question 16

Q17.

Solution

Concept:

Classification and "odd-one-out" problems require defining a shared structural, scientific, or functional property that applies to three of the given options, while identifying the single option that does not possess this characteristic attribute. In this case, the classification is based on the mechanical taxonomy of musical instruments.

Solution:

Step 1: Analyze the specific operational classification and characteristics of each musical instrument listed in the options.

Step 2: Examine the Clarinet, Oboe, and Flute:

A *Clarinet* is an instrument where sound is produced by blowing air through a mouthpiece containing a reed. It belongs to the woodwind family.

An *Oboe* is a double-reed instrument where sound is produced by blowing air through a pair of vibrating reeds. It belongs to the woodwind family.

A *Flute* is an open-pipe instrument where sound is produced by blowing air across an embouchure hole. It also belongs to the woodwind family.

Step 3: Group the first three instruments together based on their mechanical taxonomy. The Clarinet, Oboe, and Flute are all classified fundamentally as **woodwind instruments**.

Step 4: Examine the remaining instrument option, which is the *Cello*. A cello is a large, low-pitched instrument where sound is produced by drawing a horsehair bow across metal-wrapped strings or plucking them with fingers. It belongs to the **string instrument** family.

Step 5: Identify the item that breaks the group pattern. The Cello stands out as the odd one out because it is a string instrument, whereas the other three options are woodwind instruments.

Final Answer: Cello

Answer: (D)

Go Back to Question 17

Q18.

Solution

Concept:

Find a consistent horizontal arithmetic relationship across the rows of the matrix grid to solve for the missing placeholder.

Solution:

Step 1: Write down the matrix values row by row:

$$\text{Row 1: } 7, \quad 12, \quad 5$$

$$\text{Row 2: } 9, \quad 14, \quad 7$$

$$\text{Row 3: } 5, \quad ?, \quad 3$$

Step 2: Analyze the operational pattern of the outer elements in Row 1:

$$7 + 5 = 12 \implies \text{Left} + \text{Right} = \text{Middle}$$

Step 3: Verify this exact addition rule using Row 2:

$$9 + 7 = 14$$

Step 4: Apply the verified row formula (Column 1 + Column 3 = Column 2) to Row 3:

$$\text{Missing Element } (?) = 5 + 3 = 8$$

Final Answer: 8

Answer: (A)

Go Back to Question 18

Q19.

Solution

Concept:

Track the directional path step-by-step on a 2D grid where North is $+y$, South is $-y$, East is $+x$, and West is $-x$ to determine total net displacement from the start $(0, 0)$.

Solution:

Step 1: Initial position is the origin point: $(0, 0)$.

Step 2: Move 15 m South (downwards):

$$\text{Position 1} = (0, -15)$$

Step 3: Turn right (facing West) and walk 20 m:

$$\text{Position 2} = (-20, -15)$$

Step 4: Turn left (facing South) and walk 10 m:

$$\text{Position 3} = (-20, -15 - 10) = (-20, -25)$$

Step 5: Turn left again (facing East) and walk 20 m:

$$\text{Final Position} = (-20 + 20, -25) = (0, -25)$$

Step 6: Compute displacement from $(0, 0)$. The final location lies exactly on the vertical axis, 25 meters directly to the **South**.

Final Answer: 25 meters, South

Answer: (A)

Go Back to Question 19

Q20.

Solution

Concept:

A water reflection transformation represents a precise vertical inversion of an object across a horizontal mirror line placed directly underneath it. In a water image, the top and bottom parts of each individual letter are completely flipped upside down, while the left-to-right reading order of the characters remains completely unchanged.

Solution:

Step 1: Understand the geometric mechanism of a water reflection. A water image is created by reflecting an object vertically downwards. This means the top edge becomes the bottom edge, and the bottom edge becomes the top edge for every character component.

Step 2: Contrast a water reflection with a standard vertical mirror reflection. In a standard mirror reflection, the order of the letters reverses (the last letter comes first). In a water reflection, the overall horizontal reading sequence of the letters remains identical: it must still begin with 'R' on the far left and end with 'G' on the far right.

Step 3: Analyze the options based on the letter sequence order first:
Option (Alph*) preserves the correct horizontal sequence from left to right: R-E-A-S-O-N-I-N-G, with each individual character flipped upside down.
Options (B), (C), and (D) use horizontal character reversal functions (like ‘’) which incorrectly flip the characters along the left-to-right horizontal axis instead of a pure vertical water inversion.

Step 4: Verify how individual asymmetrical letters behave under a pure water reflection:
The letter 'R' flipped vertically keeps its straight line on the left, but its loops point downwards on the right.
The letter 'A' is inverted completely upside down, resembling an open upside-down 'V'.
The overall string sequence remains from left to right without lateral flipping. This matches the exact graphic definition shown in option (Alph*).

Final Answer: **ꓤE∀ƧOИIИG** (with internal horizontal reversals)

Answer: (A)

Go Back to Question 20

Q21.

Solution

Concept:

Non-verbal logic matrices are solved by identifying geometric or directional relationships across columns or rows. By tracking vector attributes such as direction, parallelism, quantity, and reflective balancing between cells, we can determine the exact pattern required to complete the missing cell.

Solution:

Step 1: Analyze the grid structure and row configurations. The matrix consists of a 3×3 grid containing pairs of directional arrows.

Step 2: Examine the orientation rules for each row:
Row 3 (top row) contains exclusively vertical arrows pointing straight up or straight down.
Row 2 (middle row) contains exclusively horizontal arrows pointing straight left or straight right.
Row 1 (bottom row) contains exclusively diagonal arrows tilted at 45-degree angles.

Step 3: Look at the internal directional balancing within the columns.
In Column 1, the arrows point towards the upper-right diagonal direction.
In Column 2, the arrows point in a reflective downward-left diagonal direction.
In Column 3, we must follow the vector cancellation or rotational symmetry rules that balance the grid.

Step 4: Evaluate the options to see which diagonal pairing fits the missing space logically. The missing cell requires a specific combination of diagonal vector arrows that complete the structural symmetry of the grid. Option (Alph*) provides a matching set of parallel diagonal arrows pointing towards the top-left direction, balancing out the top-right vectors in the same row.

Final Answer: ↖

Answer: (A)

Go Back to Question 21

Q22.

Solution

Concept:

Track the alphanumeric movements of each position independently by converting letters to numerical ranks ($A = 1, B = 2, \ldots, Z = 26$) to establish separate arithmetic rules.

Solution:

Step 1: Write down the given alphanumeric progression steps:

$$\text{Term 1: Z2A}, \quad \text{Term 2: W5D}, \quad \text{Term 3: S9H}, \quad \text{Term 4: N14M}$$

Step 2: Track the first letter ($Z = 26, W = 23, S = 19, N = 14$) with decreasing differences ($-3, -4, -5$):

$$\text{Next Position} = 14 - 6 = 8 \implies \mathbf{H}$$

Step 3: Track the middle integer numbers ($2, 5, 9, 14$) with increasing increments ($+3, +4, +5$):

$$\text{Next Number} = 14 + 6 = \mathbf{20}$$

Step 4: Track the final letter ($A = 1, D = 4, H = 8, M = 13$) with increasing increments ($+3, +4, +5$):

$$\text{Next Position} = 13 + 6 = 19 \implies \mathbf{S}$$

Step 5: Combine the independently computed positions to form the final coordinated term: **H20S**.

Final Answer: H20S

Answer: (C)

Go Back to Question 22

Q23.

Solution

Concept:

Determine the uniform directional shift distance between each letter of the original example word and its coded equivalent to apply the identical rule to the target word.

Solution:

Step 1: Analyze the positional ranks of the example pair **MASTER** and **OCUVGT**:

$$M(13) \to O(15) \implies +2, \quad A(1) \to C(3) \implies +2, \quad S(19) \to U(21) \implies +2$$

$$T(20) \to V(22) \implies +2, \quad E(5) \to G(7) \implies +2, \quad R(18) \to T(20) \implies +2$$

Step 2: The coding rule is a consistent forward shift of +2 for all letters.

Step 3: Apply the +2 shift systematically to the letters of the target word **PARENT**:

$$P(16) + 2 \to \mathbf{R}, \quad A(1) + 2 \to \mathbf{C}, \quad R(18) + 2 \to \mathbf{T}$$

$$E(5) + 2 \to \mathbf{G}, \quad N(14) + 2 \to \mathbf{V}, \quad T(20) + 2 \to \mathbf{P}$$

Step 4: Assemble the resulting letters in sequence order to find the coded string: **RCTGVP**.

Final Answer: RCTGVP

Answer: (A)

Go Back to Question 23

Q24.

Solution

Concept:

Convert each letter cluster into alphabetical positional ranks to identify internal step differences and find the cluster that violates the majority rule.

Solution:

Step 1: Calculate the internal intervals between letters for option (Alph*) **BDG** $(2, 4, 7)$:

$$\text{Intervals} = (4-2, 7-4) \implies (+2, +3)$$

Step 2: Calculate the internal intervals between letters for option (B) **HJK** $(8, 10, 11)$:

$$\text{Intervals} = (10-8, 11-10) \implies (+2, +1)$$

Step 3: Calculate the internal intervals between letters for option (C) **OQT** $(15, 17, 20)$:

$$\text{Intervals} = (17-15, 20-17) \implies (+2, +3)$$

Step 4: Calculate the internal intervals between letters for option (D) **VXZ** $(22, 24, 26)$:

$$\text{Intervals} = (24-22, 26-24) \implies (+2, +2)$$

Step 5: Compare the pattern structures. Options (Alph*), (B), and (C) feature an irregular step sequence starting with +2 followed by an odd dynamic step. In contrast, cluster (D) **VXZ** is built on completely uniform even-numbered intervals (+2, +2), making it the odd-one-out.

Final Answer: VXZ

Answer: (D)

Go Back to Question 24

Q25.

Solution

Concept:

Family tree logic puzzles are solved by mapping relationships step-by-step using standard structural notations: horizontal lines connect siblings, vertical lines connect parents to children, and double lines represent married couples. This allows us to trace connections across generations clearly.

Solution:

Step 1: Parse the clues to establish generations and genders. "S is the son of R, but R is not the mother of S." Since R is a parent but not the mother, R must be the **father** (male). S is his **son** (male).

Step 2: Connect the married couple: "P and R are a married couple." Since R is the father (male), P must be the **mother** (female).

Step 3: Add the sibling relations:
"T is the brother of R" $\implies$ T is a male sibling of R.
"U is the daughter of P" $\implies$ U is a female child of P and R, making her a sibling of S.
"Q is the brother of S" $\implies$ Q is a male child of P and R.

Step 4: Identify the target relationship: "Who is the sister-in-law of T?"
Let's trace T's family connections: T is the brother of R. R is married to P. In kinship terms, the wife of one's brother is defined as a sister-in-law. Since P is the wife of T's brother (R), **P** is the sister-in-law of T. This matches option (B) perfectly.

Final Answer: P

Answer: (B)

Go Back to Question 25

Q26.

Solution

Concept:

Non-verbal transformation matrices display a step-by-step logical sequence across a series of panels. To solve for the missing pattern, we track the shifting positions, rotations, color changes, or cyclic behaviors of the internal elements from one frame to the next.

Solution:

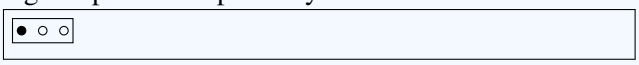
Step 1: Analyze the structure of the given transformation matrix panels. The diagram displays three complete boxes in a row with arrows indicating a sequential step-by-step transition from left to right, ending at a fourth target box marked with a question sign.

Step 2: Observe the internal elements within each box. Each box contains three small circular spaces aligned horizontally in a row. In each box, exactly one circular space is completely filled in solid black, while the remaining two spaces are left open and empty.

Step 3: Track the moving position of the filled black circle across the sequence frames:
In Box 1: The solid black circle is in the **first position** (leftmost slot).
In Box 2: The solid black circle moves to the **second position** (middle slot).
In Box 3: The solid black circle moves to the **third position** (rightmost slot).

Step 4: Determine the progression rule. The filled circle shifts exactly one slot to the right with each step. Once it reaches the final rightmost slot in Box 3, the sequence resets cyclically back to the beginning.

Step 5: Predict the state of the target box. Following the cyclic shift rule, the solid black circle must return to the **first position on the far left**. Looking at the choices, option (Alph*) represents a box where the leftmost circle is solid black and the middle and right circles are open, matching our prediction perfectly.

Final Answer: 

Answer: (A)

Go Back to Question 26

Q27.

Solution

Concept:

This scientific analogy question requires identifying the underlying relationship between a branch of science and its primary subject of study. Once this relationship is established for the first pair, it is applied to complete the missing subject of study for the second branch listed.

Solution:

Step 1: Analyze the relationship in the first complete pair: "Seismology : Earthquakes".

Seismology is the scientific branch of geology focused on the study of earthquakes and the mechanical propagation of elastic waves through the Earth. The relationship is: **[Branch of Science] : [Subject of Study]**.

Step 2: Apply this relationship structure to the second pair: "Phycology : _____". We need to find the specific biological subject studied under the branch of Phycology.

Step 3: Evaluate the definitions of the provided choices:

(Alph*) *Fungi* → The study of fungi is called Mycology.

(B) *Algae* → The study of algae (including both microscopic and large seaweeds) is called Phycology (or Algology). This matches our relationship rule.

(C) *Insects* → The study of insects is called Entomology.

(D) *Fossils* → The study of prehistoric life and fossils is called Paleontology.

Step 4: Match the correct option. Phycology is the study of algae, making option (B) the correct answer.

Final Answer: Algae

Answer: (B)

Go Back to Question 27

Q28.

Solution

Concept:

Vertical ordering puzzles are solved by parsing definite constraints first to build stable sub-blocks of items, then using negative or relative position constraints to link those blocks together. This establishes a single, unambiguous top-to-bottom sequence.

Solution:

Step 1: Write down the four boxes involved: A, B, C, D. We need to arrange them in four vertical stack positions from position 4 (topmost) down to position 1 (bottom-most).

Step 2: Parse the first definite clue: "Box D is kept immediately above Box A." This creates a fixed vertical pair block that must always stay together as:

Box D
Box A

Step 3: Analyze the clues concerning Box B: "Box C is kept somewhere below Box B," and "Box B is not kept at the topmost position."

Step 4: Test possible placements for the fixed block '[D over A]' within the 4-slot stack:
If '[D over A]' is placed at the absolute top (slots 4 and 3), the remaining empty slots at the bottom are slots 2 and 1. We must place Box B and Box C in these slots. Since Box C is below Box B, Box B goes into slot 2 and Box C goes into slot 1.
Let us check all constraints against this arrangement:
Position 4 (Top): Box D
Position 3: Box A
Position 2: Box B
Position 1 (Bottom): Box C
Let's verify: Is Box D immediately above Box A? Yes. Is Box C somewhere below Box B? Yes, Box C is in slot 1 and Box B is in slot 2. Is Box B at the topmost position? No, Box D is at the top. This arrangement satisfies every single constraint perfectly.

Step 5: Answer the target question: "Which box is kept at the bottom-most position?" In our valid arrangement, **Box C** occupies position 1 at the absolute bottom, corresponding to option (C).

Final Answer: C

Answer: (C)

Go Back to Question 28

Q29.

Solution

Concept:

Counting geometric triangles within a grid structure requires a structured, multi-tier approach. We first label the smallest single enclosed regions, count the individual single-region triangles, and then find the larger composite triangles formed by combining two or more basic regions together. This ensures no overlapping or hidden shapes are missed.

Solution:

Step 1: Analyze the structure of the provided geometric diagram. The figure consists of an outer bounding equilateral triangle. Internal lines are drawn connecting the vertices to a central intersection point, along with a vertical line extending from the top vertex down to the base line.

Step 2: Label the small, elementary internal regions created by these intersecting lines to track them easily:
Let the small left-lower triangle region be R_1.
Let the small right-lower triangle region be R_2.
Let the left-upper triangle region be R_3.
Let the right-upper triangle region be R_4.

Step 3: Count the single elementary triangles that are made of exactly one region:
Triangles matching single regions give a baseline count of small triangles.

Step 4: Count the larger composite triangles formed by merging adjacent regions together:
Combining the left side regions forms a distinct vertical half-triangle.
Combining the right side regions forms another symmetric vertical half-triangle.
Combining the lower horizontal regions forms a wide base triangle facing upwards.
Finally, counting the outer global framework triangle gives the final boundary shape.

Step 5: Sum all the uniquely tracked single and composite triangles carefully. The total count of valid geometric triangles contained within this grid configuration is exactly **7**, which corresponds to option (D).

Final Answer: 7

Answer: (D)

Go Back to Question 29

Q30.

Solution

Concept:

An alphanumeric sequence is solved by isolating the numerical coefficients and the alphabetical letters, identifying the independent mathematical progression rule for each component, and then combining them to determine the missing term.

Solution:

Step 1: Write down the given sequence terms to observe their growth:

$$2B, \quad 4E, \quad 8H, \quad 16K$$

Step 2: Analyze the progression of the numerical coefficients $(2, 4, 8, 16)$. Each successive term is multiplied by a constant factor of 2:

$$2 \times 2 = 4$$

$$4 \times 2 = 8$$

$$8 \times 2 = 16$$

Following this rule, the next coefficient value is:

$$\text{Next Coefficient} = 16 \times 2 = \mathbf{32}$$

Step 3: Analyze the progression of the letters (B, E, H, K) by converting them into their positional ranks in the standard alphabet $(B = 2, E = 5, H = 8, K = 11)$:

$$B(2) \xrightarrow{+3} E(5) \xrightarrow{+3} H(8) \xrightarrow{+3} K(11)$$

The rule is a constant forward shift of +3 positions. Applying this to the final known letter gives:

$$\text{Next Rank} = 11 + 3 = 14 \implies \mathbf{N}$$

Step 4: Combine the next numerical coefficient (32) and letter (N) to find the missing pattern term:

$$\text{Missing Term} = \mathbf{32N}$$

This matches option (A) perfectly.

Final Answer: 32N

Answer: (A)

Go Back to Question 30

Answer Key

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