## Adda 247

## All India Mock for NIACL Assistant Prelims 2024 (24-25 February)

## Directions (1-9): Read the following passage and answer the given questions.

Water is the foundation of life, yet today, it is under threat like never before. In many parts of the world, a water crisis is unfolding, driven by climate change, population growth, and mismanagement of resources. The World Health Organization estimates that by 2025 , half of the world's population will be living in waterstressed areas. The crisis is not just about scarcity but also about water quality. Pollution from industrial, agricultural, and domestic sources has turned many rivers and lakes into toxic pools.
Addressing the water crisis requires global cooperation and innovative solutions. International organizations like the United Nations have been at the forefront of this battle, advocating for sustainable water management policies. Political leaders across the globe are now recognizing the urgency of the situation. Countries like Israel and Singapore have demonstrated that through technology and policy innovations, such as recycling wastewater and rainwater harvesting, water scarcity can be effectively managed.
However, the global response has been fragmented. While some countries have made significant progress, others lag due to political instability, lack of infrastructure, or inadequate funding. The disparity in water management practices across countries poses a significant challenge. Moreover, water is often a source of conflict; rivers and lakes that cross borders can lead to international disputes over allocation and usage rights.
The potential solutions to the water crisis are manifold. Investment in infrastructure to ensure clean and safe water supply is paramount. This includes building treatment plants, efficient irrigation systems, and robust distribution networks. There is also a pressing need for policy reforms that prioritize water conservation and equitable distribution. On a broader scale, international cooperation and agreements are vital to manage shared water resources and to address the global aspects of the crisis.
The water crisis is a complex problem, but it is solvable. It requires a multifaceted approach, combining political will, technological innovation, and international cooperation. The future of our planet and generations to come depends on how effectively we address this challenge today.

## Q1. According to the passage, what is a significant factor contributing to the water crisis apart from scarcity?

(a) Increased global temperatures leading to evaporating water bodies
(b) Mismanagement of water resources, contributing to the crisis
(c) Over-reliance on underground water sources for agriculture
(d) Rapid industrialization leading to higher water consumption
(e) Inadequate rainfall leading to lower water levels in rivers and lakes

Q2. What approach does the passage suggest is essential to solving the water crisis?
(a) Exclusive dependence on technological progress for water conservation.
(b) Enactment of rigorous global regulations for controlling water use.
(c) An integrated approach of political, technological, and cooperative efforts.
(d) Transfer of water resources management to private entities for better efficiency.
(e) Concentration solely on reforms in national water policy.

Q3. Which of the following statements is NOT supported by the passage?
(a) Water quality is as significant an issue as water scarcity.
(b) By 2025, water stress will impact the majority of the world's population.
(c) Political instability is a major barrier to water crisis management in some countries.
(d) International disputes over water are primarily due to its quality.
(e) Investment in infrastructure is crucial for ensuring a clean and safe water supply.

Q4. According to the passage, what role have international organizations played in addressing the water crisis?
(a) They have primarily focused on funding water infrastructure projects.
(b) Their involvement has been limited to technological research in water conservation.
(c) They advocate for sustainable water management policies.
(d) They enforce international laws to manage shared water resources.
(e) Their role has been insignificant in the global response to the water crisis.

Q5. Which of the following is not a proposed solution to the water crisis mentioned in the passage?
(a) Recycling wastewater and rainwater harvesting
(b) Building treatment plants and efficient irrigation systems
(c) Policy reforms prioritizing water conservation
(d) Increasing the global production of desalinated water
(e) International agreements to manage shared water resources

Q6. The passage implies that water scarcity can be effectively managed by:
(a) Strictly regulating industrial and agricultural water usage
(b) Implementing nationwide water rationing policies
(c) Increasing public awareness about the importance of water conservation
(d) Relying solely on natural sources of water like rivers and lakes
(e) Employing technological and policy innovations

Q7. Identify the correct statement based on the passage.
(a) Most countries have achieved significant progress in water management.
(b) Water pollution is mainly caused by industrial sources, excluding agriculture.
(c) Lack of infrastructure is one of the major barriers to addressing the water crisis in some regions.
(d) Water scarcity is solely a result of climate change.
(e) International cooperation on water issues has been uniformly successful.

Q8. The passage describes rivers and lakes that cross borders as potential sources of $\qquad$ .
(a) innovation
(b) conflict
(c) abundance
(d) pollution
(e) cooperation

Q9. Choose the antonym of 'paramount' as used in the passage.
(a) Crucial
(b) Insignificant
(c) Essential
(d) Fundamental
(e) Primary

Directions (10-15): Read each sentence to find out whether there is any grammatical or idiomatic error in it. The error, if any, will be in one part of the sentence. The number of that part is the answer. If there is 'No error', the answer is ( $E$ ). (Ignore errors of punctuation, if any.)

Q10. Many tourists (A)/ are not aware (B)/ that swimming in this lake (C)/ are prohibited. (D)
(a) A
(b) B
(c) C
(d) D
(e) No error

Q11. His performance in (A)/ the play was (B)/far more better than (C)/ his previous roles. (D)
(a) A
(b) B
(c) C
(d) D
(e) No error

Q12. We didn't get (A)/ to see the castle, (B)/ nor did we see (C)/ the cathedral. (D)
(a) A
(b) B
(c) C
(d) D
(e) No error

Q13. She could not hardly (A)/believe what she was hearing, (B)/ as the news was ( $C$ )/ too shocking for her. (D)
(a) A
(b) B
(c) C
(d) D
(e) No error

Q14. The number of students $(A) /$ who has applied for the scholarship (B)/ is lower than (C)/ the previous year. (D)
(a) A
(b) B
(c) C
(d) D
(e) No error


Q15. She is one of the women (A)/ who always goes (B)/ out of her way (C)/ to help others. (D)
(a) A
(b) B
(c) C
(d) D
(e) No error

Directions (16-20): In the following passage, some of the words have been left out, each of which is indicated by a number. Find the suitable word from the options given against each number and fill up the blanks with appropriate words to make the paragraph meaningfully complete.

Q16. In the depths of the ocean, a fascinating world exists, teeming with a diverse array of marine life. The ocean's ecosystem is delicately balanced and highly dependent on the $\mathbf{1 6}$ $\qquad$ interactions among different species. At the heart of this system are coral reefs, often described as the $\mathbf{1 7}$ $\qquad$ of the sea, due to their rich diversity, which provide shelter and food for a multitude of marine organisms. However, these vital ecosystems face significant threats from climate change and pollution, leading to a phenomenon known as coral 18 $\qquad$ . This process not only affects the corals but also the entire marine community that relies on them. Efforts to protect and restore coral reefs are critical, as they play a crucial role in maintaining the ocean's 19 $\qquad$ . Additionally, the ocean is a vital source of food, with over a billion people relying on it for their primary source of proteins. The future of our oceans is $\mathbf{2 0}$ $\qquad$ linked to the well-being of the entire planet.
(a) competitive
(b) predatory
(c) symbiotic
(d) parasitic
(e) solitary

Q17. In the depths of the ocean, a fascinating world exists, teeming with a diverse array of marine life. The ocean's ecosystem is delicately balanced and highly dependent on the $\mathbf{1 6}$ $\qquad$ interactions among different species. At the heart of this system are coral reefs, often described as the $\mathbf{1 7}$ $\qquad$ of the sea, due to their rich diversity, which provide shelter and food for a multitude of marine organisms. However, these vital ecosystems face significant threats from climate change and pollution, leading to a phenomenon known as coral 18 $\qquad$ . This process not only affects the corals but also the entire marine community that relies on them. Efforts to protect and restore coral reefs are critical, as they play a crucial role in maintaining the ocean's 19 $\qquad$ . Additionally, the ocean is a vital source of food, with over a billion people relying on it for their primary source of proteins. The future of our oceans is $\mathbf{2 0}$ $\qquad$ linked to the well-being of the entire planet.
(a) ecosystems
(b) deserts
(c) rainforests
(d) threats
(e) tundras

Q18. In the depths of the ocean, a fascinating world exists, teeming with a diverse array of marine life. The ocean's ecosystem is delicately balanced and highly dependent on the 16 $\qquad$ interactions among different species. At the heart of this system are coral reefs, often described as the $\mathbf{1 7}$ $\qquad$ of the sea, due to their rich diversity, which provide shelter and food for a multitude of marine organisms. However, these vital ecosystems face significant threats from climate change and pollution, leading to a phenomenon known as coral 18 $\qquad$ . This process not only affects the corals but also the entire marine community that relies on them. Efforts to protect and restore coral reefs are critical, as they play a crucial role in maintaining the ocean's 19 $\qquad$ . Additionally, the ocean is a vital source of food, with over a billion people relying on it for their primary source of proteins. The future of our oceans is $\mathbf{2 0}$ $\qquad$ linked to the well-being of the entire planet.
(a) bleaching
(b) flourishing
(c) diversifying
(d) polluting
(e) expanding

Q19. In the depths of the ocean, a fascinating world exists, teeming with a diverse array of marine life. The ocean's ecosystem is delicately balanced and highly dependent on the $\mathbf{1 6}$ $\qquad$ interactions among different species. At the heart of this system are coral reefs, often described as the $\mathbf{1 7}$ $\qquad$ of the sea, due to their rich diversity, which provide shelter and food for a multitude of marine organisms. However, these vital ecosystems face significant threats from climate change and pollution, leading to a phenomenon known as coral 18 $\qquad$ . This process not only affects the corals but also the entire marine community that relies on them. Efforts to protect and restore coral reefs are critical, as they play a crucial role in maintaining the ocean's 19 $\qquad$ . Additionally, the ocean is a vital source of food, with over a billion people relying on it for their primary source of proteins. The future of our oceans is $\mathbf{2 0}$ $\qquad$ linked to the well-being of the entire planet.
(a) biodiversity
(b) salinity
(c) acidity
(d) temperature
(e) depth

$\qquad$

Q20. In the depths of the ocean, a fascinating world exists, teeming with a diverse array of marine life. The ocean's ecosystem is delicately balanced and highly dependent on the 16 interactions among different species. At the heart of this system are coral reefs, often described as the 17 $\qquad$ of the sea, due to their rich diversity, which provide shelter and food for a multitude of marine organisms. However, these vital ecosystems face significant threats from climate change and pollution, leading to a phenomenon known as coral 18 $\qquad$ . This process not only affects the corals but also the entire marine community that relies on them. Efforts to protect and restore coral reefs are critical, as they play a crucial role in maintaining the ocean's 19 $\qquad$ . Additionally, the ocean is a vital source of food, with over a billion people relying on it for their primary source of proteins. The future of our oceans is $\mathbf{2 0}$ $\qquad$ linked to the well-being of the entire planet.
(a) loosely
(b) occasionally
(c) directly
(d) inextricably
(e) independently

Directions (21-25): Identify the incorrect word in the sentence, if any. Four words are highlighted in bold and one of them may be incorrectly spelled or contextually inappropriate. Select the option representing the incorrectly spelled word. If all words are correctly spelled, choose "All are correct" as your answer.

Q21. She received an invitation to an elaborate ceremony at the palace, which was a significant honor.
(a) invitation
(b) elaborate
(c) ceremony
(d) palace
(e) All are correct

Q22. The librarian recommended a fasinating book about ancient civilizations and their artifacts."
(a) librarian
(b) fasinating
(c) civilizations
(d) artifacts
(e) All are correct

Q23. The seperate rooms were decorated in unique themes to accommodate different preferences and styles.
(a) seperate
(b) accommodate
(c) preferences
(d) styles
(e) All are correct

Q24. His exaggerated story about the journey seemed bizzare, filled with extraordinary events."
(a) exaggerated
(b) journey
(c) bizzare
(d) extraordinary
(e) All are correct

Q25. The principle speaker's rhythmic speech created a calming atmosphere, which was ideal for the meditation session.
(a) principle
(b) rhythmic
(c) calming
(d) ideal
(e) All are correct

Directions (26-30): In each of the questions given below four words are given in bold. These words may or may not be in their correct position. Following each sentence four sequences are provided. Select the sequence of the words which will make the given sentence contextually meaningful. If the words are correct at their current position then choose "No rearrangement required" as your answer.

Q26. In the brilliance (A), the artist captured the sunset (B) of the colors (C) with remarkable painting (D).
(a) BDAC
(b) DCBA
(c) BADC
(d) CADB
(e) No rearrangement required

Q27. The salt (A) called for a dash of recipe (B) to balance the sugar (C) in the flavors (D).
(a) BACD
(b) CDBA
(c) BADC
(d) CADB
(e) No rearrangement required

Q28. Chocolate (A) is essential to maintaining a healthy diet (B), and avoiding exercise (C) can lead to a significant increase in fruits (D) and vegetables consumption.
(a) BDAC
(b) CBAD
(c) BADC
(d) CADB
(e) No rearrangement required

Q29. Online education platforms are offering (A) the way we approach learning, revolutionizing (B) a more flexible curriculum (C) and personalized technology (D) usage.
(a) BDAC
(b) CDAB
(c) BACD
(d) CDBA
(e) No interchange required

Q30. The tourists were surprised to see a mountain (A) swimming gracefully in the dolphin (B) near the ocean (C), overshadowed by a tree (D).
(a) BDAC
(b) CDAB
(c) BCAD
(d) CDBA
(e) No rearrangement required

Directions (31-35): Study the following alphanumeric-symbol carefully and answer the questions given below:
! 3 Al@4P\#QM\$G7^W89* + VB152C
Q31. If all the symbols are dropped from the series, which number will be fifth to the right of the tenth element from the left end?
(a) 1
(b) 5
(c) 7
(d) 2
(e) None of these

Q32. How many such numbers are there in the series which are immediately followed by a letter but not immediately preceded by a letter?
(a) Three
(b) Two
(c) One
(d) Four
(e) None of these

Q33. If all the letters are arranged in alphabetical order (from left to right at their own position) while keeping the other elements in their original position, which letter will be sixth from the right end?
(a) G
(b) P
(c) C
(d) M
(e) None of these

Q34. If every alternate element starting from the first is removed (i.e. second element is removed first), which element will be fourth to the left of the seventh element from the right end?
(a) $\wedge$
(b) @
(c) G
(d) $\$$
(e) None of these

Q35.How many letters in the series are immediately preceded by a number and immediately followed by a symbol?
(a) One
(b) Two
(c) Three
(d) Four
(e) None of these

Directions (36-40): Study the following information carefully and answer the questions given below:
Eight persons $(\mathrm{A}-\mathrm{H})$ are sitting in a row facing north but not necessarily in the same order.
$B$ sits $3^{\text {rd }}$ to the left of $C$ and no one sits at extreme ends. E sits $3^{\text {rd }}$ to the right of A who does not sit near B. The numbers of persons sit to the left of $F$ is same as the numbers of persons sit to the right of H . D sits $2^{\text {nd }}$ to the right of H and doesn't sit at the extreme end. H does not sit at odd position when counts from the left.

Q36. Which of the following statement is true?
I. Three persons sit between C and F
II. A does not sit at right end
III. B and D are immediate neighbour
(a) Only I
(b) Both II and III
(c) Only III
(d) Both I and II
(e) None is true

Q37. Who sits third to the right of $D$ ?
(a) B
(b) C
(c) A
(d) F
(e) E

Q38. Which of the following pairs represents the immediate neighbours of $\mathbf{H}$ ?
(a) A and B
(b) B and G
(c) C and D
(d) D and E
(e) F and G

Q39. If all of them sit in alphabetical order from left to right then how many persons remains at the same position?
(a) One
(b) Two
(c) Four
(d) Three
(e) None

Q40. Four of the following five are alike in a certain way and hence form a group. Who among the following does not belong to that group?
(a) B
(b) C
(c) D
(d) E
(e) A

Directions (41-45): In each of the question, relationships between some elements are shown in the statements. These statements are followed by conclusions numbered I and II. Read the statements and give the answer.

Q41.
Statements: $\mathrm{H}<\mathrm{K}=\mathrm{L}>\mathrm{M}, \mathrm{N} \leq \mathrm{O}>\mathrm{P}=\mathrm{L}$
Conclusions: I. H < O
II. $\mathrm{M}>\mathrm{N}$
(a) If only conclusion I is true.
(b) If only conclusion II is true.
(c) If either conclusion I or II is true.
(d) If both conclusions I and II are true.
(e) If neither conclusion I nor II is true.

Q42.
Statements: $\mathrm{F} \geq \mathrm{G}<\mathrm{H}=\mathrm{I}, \mathrm{J} \leq \mathrm{K}=\mathrm{H}>\mathrm{L}$
Conclusions: I. F > L
II. I $\leq$ J
(a) If only conclusion I is true.
(b) If only conclusion II is true.
(c) If either conclusion I or II is true.
(d) If both conclusions I and II are true.
(e) If neither conclusion I nor II is true.

Q43.
Statements: $A=B>C<D, E \geq F=C \leq G$
Conclusions: I. B > F
II. E < D
(a) If only conclusion I is true.
(b) If only conclusion II is true.
(c) If either conclusion I or II is true.
(d) If both conclusions I and II are true.
(e) If neither conclusion I nor II is true.

Q44.
Statements: $\mathrm{R} \geq \mathrm{S}=\mathrm{T}<\mathrm{U}, \mathrm{V}>\mathrm{W}=\mathrm{U} \leq \mathrm{X}$
Conclusions: I. R > W
II. $\mathrm{S} \leq \mathrm{V}$
(a) If only conclusion I is true.
(b) If only conclusion II is true.
(c) If either conclusion I or II is true.
(d) If both conclusions I and II are true.
(e) If neither conclusion I nor II is true.

Q45.
Statements: $\mathrm{Y} \leq \mathrm{Z}>\mathrm{A}=\mathrm{B}, \mathrm{C}<\mathrm{D}=\mathrm{A} \leq \mathrm{E}$
Conclusions: I. Y < D
II. C < Z
(a) If only conclusion I is true.
(b) If only conclusion II is true.
(c) If either conclusion I or II is true.
(d) If both conclusions I and II are true.
(e) If neither conclusion I nor II is true.
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Q46. In the given number ' 247859537 ', how many such pairs of the digits have the same number between them (both forward and backward direction) as in the number series?
(a) Four
(b) Two
(c) One
(d) Three
(e) More than four

Q47. In a certain code "TUBE" is coded as "FUVC" and "RIDE" is coded as "FSJE", then what will be the code for the word "FROG"?
(a) HGSP
(b) GHPS
(c) SPGH
(d) PHSG
(e) None of these

Directions (48-52): Study the following information carefully and answer the questions given below:
Seven persons M, N, O, P, Q R and S are sitting around a circular table facing the centre but not necessarily in the same order.
$P$ sits two places to the right of $\mathrm{M} . \mathrm{N}$ is an immediate neighbour of both R and S . Q sits exactly between S and M . O is not sitting $3^{\text {rd }}$ to the right of N .

Q48. Who sits exactly between $P$ and $M$ ?
(a) 0
(b) Q
(c) R
(d) N
(e) None of these

Q49. Who is sitting three places to the left of $R$ ?
(a) S
(b) Q
(c) M
(d) N
(e) 0

Q50. Which of the following is true regarding the position of N ?
(a) N is exactly between O and S
(b) $N$ is next to $Q$
(c) N sits $2^{\text {nd }}$ to the right of O
(d) N sits $2^{\text {nd }}$ to the left of Q
(e) None of these

Q51. If all the persons sit in alphabetical order in clockwise direction from $M$ then how many persons remains at same position (Excluding M)?
(a) One
(b) None
(c) Three
(d) Two
(e) None of these

Q52. Which of the following pairs includes a person who is sitting next to $P$ ?
(a) M, R
(b) Q N
(c) $\mathrm{S}, \mathrm{M}$
(d) R, 0
(e) O, M

Directions (53-55): Study the following information carefully and answer the questions given below:
Seven persons D, E, F, G, H, I and J are members of a three-generation family. There are two married couples among them.
G is the mother of H and I . D is the grandfather of J . I is the sister of H and is unmarried. F is the wife of H and the mother of J. E is the only daughter of H .

Q53. How is I related to F?
(a) Sister-in-law
(b) Mother
(c) Daughter
(d) Aunt
(e) None of these


Q54. Who among the following is the granddaughter of $\mathbf{G}$ ?
(a) F
(b) E
(c) Either F or I
(d) I
(e) Cannot be determined

Q55. How many females live in the family?
(a) Two
(b) Four
(c) Three
(d) More than four
(e) Cannot be determined

Directions (56-60): Carefully study the following alphabet series and answer the questions below: NGPACQERTIUYOLFDSGAHJEKUMV

Q56. How many such consonants are there in the above arrangement, each of which is immediately followed by another consonant but not immediately preceded by a vowel?
(a) None
(b) Two
(c) Three
(d) Four
(e) None of these

Q57. How many such vowels are there in the above arrangement, each of which is immediately preceded by a consonant and immediately followed by another consonant?
(a) Five
(b) Six
(c) Three
(d) Four
(e) None of these

Q58. Which of the following element is the sixth to the left of the fourteenth from the right end of the above arrangement?
(a) E
(b) T
(c) I
(d) U
(e) Q

Q59. How many such pairs of letters are there in the above arrangement, each of which has as many letters between them in the arrangement as in the English alphabet (Applied only for last 6 letters)?
(a) None
(b) One
(c) Two
(d) Three
(e) More than three

Q60. Which of the following is the third to the right of the ninth from the left end in the above arrangement?
(a) E
(b) R
(c) T
(d) Y
(e) None of these

Directions (61-65): In each of the questions below, two statements are given followed by two conclusions numbered I and II. You have to assume all the statements to be true even if they seem to be at variance from the commonly known facts and then decide which of the given two conclusions logically follows from the information given in the statements.

Q61. Statement:
All pens are pencils.
Some pencils are erasers.

## Conclusion

I: Some erasers are pens.
II: Some pencils are pens.
(a) Only conclusion I follows
(b) Only conclusion II follows
(c) Both conclusion I and II follow
(d) Neither conclusion I nor II follows
(e) Either conclusion I or II follows

Q62. Statement: No flowers are trees.
All trees are plants.

## Conclusion

I: Some plants are not flowers.
II: Some plants are flowers.
(a) Only conclusion I follows
(b) Only conclusion II follows
(c) Both conclusion I and II follow
(d) Neither conclusion I nor II follows
(e) Either conclusion I or II follows

Q63. Statement:
Some cats are dogs.
All dogs are animals.

## Conclusion

I: Some animals are cats.
II: All cats are animals.
(a) Only conclusion I follows
(b) Only conclusion II follows
(c) Both conclusion I and II follow
(d) Neither conclusion I nor II follows
(e) Either conclusion I or II follows

Q64. Statement:
All books are pages.
No page is a cover.

## Conclusion

I: No book is a cover.
II: Some covers are books.
(a) Only conclusion I follows
(b) Only conclusion II follows
(c) Both conclusion I and II follow
(d) Neither conclusion I nor II follows
(e) Either conclusion I or II follows

Q65. Statement:
Some apples are fruits.
All fruits are healthy.

## Conclusion

I: Some apples are healthy.
II: All fruits can be apples.
(a) Only conclusion I follows
(b) Only conclusion II follows
(c) Both conclusion I and II follow
(d) Neither conclusion I nor II follows
(e) Either conclusion I or II follows

Directions (66-70): The bar graph shows total students in two different schools (A and B) in four different years (2017, 2018, 2019 and 2020) Read the following bar graph carefully and answer the questions given below.


Q66. Find the ratio of total students in school A in 2018 and 2020 together to total students in school $B$ in 2020 and 2017 together.
(a) $29: 34$
(b) $28: 33$
(c) $27: 35$
(d) $26: 37$
(e) $24: 31$

Q67. If the ratio of boys to girls in school B in 2020 is 8:7 respectively, then the boys in school B in 2020 is how much more or less the total students in school A in 2017.
(a) 140
(b) 130
(c) 100
(d) 110
(e) 120

Q68. Total students in school B in 2018 is how much percentage more or less than the total students in school A in 2019 (approx.)?
(a) $41 \%$
(b) $37 \%$
(c) $33 \%$
(d) $49 \%$
(e) $57 \%$

Q69. If total students in school A in 2021 are 60\% more than the total students in school B in 2018 and total students in school B in 2021 are 25\% less than the total students in school $A$ in 2021, then find the total students in school B and A in 2021 together.
(a) 1500
(b) 1250
(c) 1400
(d) 1150
(e) 1000

Q70. Find the difference between the average students in schools B in 2019 \& 2020 and total students in school A in 2017.
(a) 155
(b) 190
(c) 175
(d) 160
(e) 185

Directions (71-75): What will come in the place of question (?) mark in following number series:
Q71.6, 12, 36, 144, 720, ?
(a) 1440
(b) 3600
(c) 360
(d) 4320
(e) 1800

Q72.17, 21, 12, 28, ?, 39
(a) 3
(b) 14
(c) 7
(d) 24
(e) 19.5

Q73. 8, 6, ?, 14, 30, 77
(a) 3
(b) 8
(c) 4
(d) 7
(e) 2

Q74. ?, 29, 53, 89, 137, 197
(a) 11
(b) 14.5
(c) 17
(d) 16.5
(e) 12

Q75. 111, 92, 75, ?, 51, 44
(a) 37.5
(b) 100
(c) 50
(d) 62
(e) 55

Q76. A and B started a business with an investment of Rs $X$ and Rs $X+500$, respectively. After nine months, $B$ withdrew Rs. 500. If, at the end of the year, the profit share of $A$ is Rs 320 out of the total profit of Rs 700, then find $X$.
(a) 3000
(b) 1500
(c) 2500
(d) 1000
(e) 2000

Q77. The average present age of $A$ and $B$ is 12.5 years and present age of $B$ is 9 years more than $A$. If the present age of $C$ is equal to the age of $A$ after four years, then find the age of $C$ two years ago.
(a) 10 years
(b) 7.5 years
(c) 8 years
(d) 12 years
(e) 11.5 years

Q78. A X-meter-long train with a speed of $61.2 \mathrm{~km} / \mathrm{hr}$ can cross a pole in 20 seconds. Find the time (in seconds) taken by the train to cross the $(X+255)$ meter-long bridge.
(a) 40
(b) 55
(c) 60
(d) 45
(e) 35

Q79. The ratio of the speed of a boat upstream to the speed of a current is 8:1, respectively. The boat can cover 69 km downstream in 2.3 hours. Find out how much distance the boat will cover in still water in five hours.
(a) 85 km
(b) 115 km
(c) 110 km
(d) 140 km
(e) 135 km

Q80. A man invests Rs $\mathrm{X}+1500$ in simple interest at $\mathbf{2 0 \%}$ p.a. for three years and receives interest of Rs 2700. If he invests $X$ - 500 in compound interest at $10 \%$ p.a. for two years, then find the total interest (compound + simple) he received (in Rs).
(a) 2425
(b) 2335
(c) 3225
(d) 2535
(e) 3255

Q81. A vessel contains 64 liters of a mixture of milk and water in a ratio of 3:1, respectively. If $X$ liters of mixture are taken out and 2 X liters of water are added to the vessel, then the ratio of milk to water in the final mixture becomes $9: 11$, respectively. Find the value of $3 X$.
(a) 16
(b) 6
(c) 48
(d) 32
(e) 80

Q82. The ratio of the cost price to the selling price of an article is 4:7 and the discount percentage on the article is four-fifth of the profit percentage. If the markup price of the article is Rs 810 , then find the selling price of the article (in Rs).
(a) 700
(b) 140
(c) 210
(d) 350
(e) 420

Q83. 120 men can complete a work in 40 days while 80 women can complete the work in $\mathbf{6 0}$ days. Find the time taken by 35 men and 65 women together to complete the same work.
(a) 54
(b) 48
(c) 24
(d) 36
(e) 60

Q84. The area of a circle is $1386 \mathrm{~cm}^{2}$ and the height of a right-angle triangle is three $\mathbf{c m}$ more than the radius of the circle. If the base of the right-angle triangle is 16 cm , then find the area of the rightangle triangle (in cm ${ }^{2}$ ).
(a) 177
(b) 134
(c) 158
(d) 244
(e) 192

Directions (85-92): What will come in the place of question (?) mark in following the question:
Q85. $(19 \times 25)-(13 \times 4)=?+60 \%$ of 200
(a) 305
(b) 303
(c) 301
(d) 306
(e) 304

Q86. ${ }^{120 \%} \times 150-\sqrt{2809}=?^{2}+6$
(a) 121
(b) 1331
(c) 11
(d) 1.1
(e) 1.21

Q87. $2 \frac{1}{5}+4 \frac{1}{6}=\frac{?}{3}+\frac{1}{15}$
(a) 189
(b) 1.89
(c) 18.9
(d) 0.189
(e) 1189

Q88. $4^{3} \times \sqrt{256} \div 64=2^{?} \div 8^{3}$
(a) -5
(b) 4
(c) -4
(d) 6
(e) 13

Q89. $\sqrt[3]{4913} \times 2+5=? \times 5$
(a) 7.8
(b) 39
(c) 6.4
(d) 22.4
(e) 19.8

Q90.

$$
((21 \% \text { of } 500 \div 6)+2.5) \times \frac{1}{4}=\sqrt{?}
$$

(a) 625
(b) 25
(c) 2.5
(d) 6.25
(e) 5

Q91. $\frac{13}{17}$ of $289-12.5 \%$ of $800=$ ? $-16.67 \%$ of 480
(a) 241
(b) 231
(c) 211
(d) 221
(e) 201

Q92. $126 \div 6 \times 5-42 \times 4=3 \times$ ?
(a) 24
(b) -21
(c) 21
(d) -23
(e) 25

Directions (93-95): The following questions are accompanied by two statements i.e. statement (I) and statement (II). You have to determine which statement ( $s$ ) is/are sufficient/necessary to answer the questions.

## Q93. Find the time taken by pipe A to fill a tank.

I. The ratio of efficiency of pipes $A$ to $B$ is 2:3 respectively.
II. Pipe B can fill the tank in 16 minutes.
(a) Neither statement (I) nor statement (II) by itself is sufficient to answer the question.
(b) Statement (II) alone is sufficient to answer the question but statement (I) alone is not sufficient to answer the question.
(c) Either statement (I) or statement (II) by itself is sufficient to answer the question.
(d) Both the statements taken together are necessary to answer the questions, but neither of the statements alone is sufficient to answer the question.
(e) Statement (I) alone is sufficient to answer the question but statement (II) alone is not sufficient to answer the questions.

Q94. Find the income of $B$ (in Rs).
I. The ratio of income from $A$ to $B$ is $4: 5$, and the ratio of saving from $A$ to $B$ is $2: 3$. The expenditures $A$ and B are Rs 12000 and Rs 14000, respectively.
II. The income of A $20 \%$ less than that of B.
(a) Neither statement (I) nor statement (II) by itself is sufficient to answer the question.
(b) Statement (II) alone is sufficient to answer the question but statement (I) alone is not sufficient to answer the question.
(c) Either statement (I) or statement (II) by itself is sufficient to answer the question.
(d) Both the statements taken together are necessary to answer the questions, but neither of the statements alone is sufficient to answer the question.
(e) Statement (I) alone is sufficient to answer the question but statement (II) alone is not sufficient to answer the questions.

## Q95. Find the speed of the car.

I. Truck can cover 260 km in 6.5 hours and the speed of the truck is $20 \%$ less than the speed of the car.
II. 50 meters long car can cross a red-light pole in 2 seconds.
(a) Neither statement (I) nor statement (II) by itself is sufficient to answer the question.
(b) Statement (II) alone is sufficient to answer the question but statement (I) alone is not sufficient to answer the question.
(c) Either statement (I) or statement (II) by itself is sufficient to answer the question.
(d) Both the statements taken together are necessary to answer the questions, but neither of the statements alone is sufficient to answer the question.
(e) Statement (I) alone is sufficient to answer the question but statement (II) alone is not sufficient to answer the questions.

Directions (96-100): In each of these questions, two equation (I) and (II) are given. You have to solve both the equations and give answer

Q96.
I. $x^{2}-17 x+66=0$
II. $y^{2}-30 y+209=0$
(a) If $x>y$
(b) If $x \geq y$
(c) If $x<y$
(d) If $x \leq y$
(e) If $x=y$ or no relation can be established between $x$ and $y$

Q97.
I. $2 x^{2}-13 x+21=0$
II. $3 y^{2}-23 y+44=0$
(a) If $x>y$
(b) If $x \geq y$
(c) If $x<y$
(d) If $x \leq y$
(e) If $x=y$ or no relation can be established between $x$ and $y$


Q98.
I. $5 x^{2}-17 x-78=0$
II. $6 y^{2}-31 y+38=0$
(a) If $x>y$
(b) If $x \geq y$
(c) If $x<y$
(d) If $x \leq y$
(e) If $x=y$ or no relation can be established between $x$ and $y$

Q99.
I. $x=\sqrt[3]{27}$
$2 y^{2}=\sqrt{64}$
(a) If $x>y$
(b) If $x \geq y$
(c) If $x<y$
(d) If $x \leq y$
(e) If $x=y$ or no relation can be established between $x$ and $y$

Q100.
I. $x^{2}-31 x+234=0$
II. $y^{2}-36 y+308=0$
(a) If $x>y$
(b) If $x \geq y$
(c) If $x<y$
(d) If $x \leq y$
(e) If $x=y$ or no relation can be established between $x$ and $y$

## Solutions

## S1. Ans.(b)

Sol. The passage explicitly states, "The crisis is not just about scarcity but also about water quality. Pollution from industrial, agricultural, and domestic sources has turned many rivers and lakes into toxic pools." This indicates that mismanagement of water resources is a significant factor contributing to the water crisis, alongside scarcity. The other options, while plausible factors, are not mentioned in the passage in this context. For example, increased global temperatures, over-reliance on underground water, and rapid industrialization are not directly mentioned as contributing factors to the water crisis in the given passage.

## S2. Ans. (c)

Sol. The passage suggests that solving the water crisis requires "a multifaceted approach, combining political will, technological innovation, and international cooperation." This is explicitly stated in the concluding paragraph. The other options, such as sole reliance on technology, strict international laws, privatization, or focusing only on policy reforms, are either not mentioned or not emphasized as essential approaches in the passage.

## S3. Ans.(d)

Sol. The passage does not support the statement that international disputes over water are primarily due to its quality. Instead, it mentions that "water is often a source of conflict; rivers and lakes that cross borders can lead to international disputes over allocation and usage rights." This indicates that the disputes are more about allocation and usage rather than quality. The other statements are supported by the passage: water quality is a significant issue (mentioned in the first paragraph), water stress impacting a large population by 2025 (first paragraph), political instability as a barrier (third paragraph), and the importance of infrastructure investment (fourth paragraph).

## S4. Ans.(c)

Sol. The passage mentions that "International organizations like the United Nations have been at the forefront of this battle, advocating for sustainable water management policies." This indicates that their role has been primarily in advocating policies. The other roles mentioned in the options, such as funding infrastructure projects, limiting their involvement to technological research, enforcing international laws, or being insignificant, are not mentioned or suggested in the passage.

## S5. Ans.(d)

Sol. The passage does not mention increasing the global production of desalinated water as a proposed solution. It does mention recycling wastewater and rainwater harvesting (second paragraph), building treatment plants and efficient irrigation systems, policy reforms for water conservation, and international agreements for managing shared resources (all in the fourth paragraph).

## S6. Ans.(e)

Sol. The passage states that "Countries like Israel and Singapore have demonstrated that through technology and policy innovations, such as recycling wastewater and rainwater harvesting, water scarcity can be effectively managed." This suggests that technological and policy innovations are key to managing water scarcity, as exemplified by these countries. The other options, like strictly regulating usage, nationwide rationing, increasing public awareness, or relying solely on natural sources, are not mentioned in the passage as effective standalone solutions.

## S7. Ans.(c)

Sol. Option (c) "Lack of infrastructure is a major barrier to addressing the water crisis in some regions" is a correct statement based on the passage. The passage mentions that "while some countries have made significant progress, others lag due to political instability, lack of infrastructure, or inadequate funding." This indicates that in some regions, the lack of proper infrastructure is a significant hindrance to effectively managing the water crisis.
As for the other options:
(a) Most countries have achieved significant progress in water management - This is not supported by the passage, as it indicates varying levels of progress among different countries.
(b) Water pollution is mainly caused by industrial sources, excluding agriculture - The passage mentions pollution from various sources including industrial, agricultural, and domestic, not exclusively industrial. (d) Water scarcity is solely a result of climate change - The passage suggests that the water crisis is due to multiple factors, including climate change, population growth, and mismanagement of resources, not just climate change.
(e) International cooperation on water issues has been uniformly successful - The passage indicates that the global response has been fragmented and not uniformly successful.

## S8. Ans.(b)

Sol. The passage mentions, "Moreover, water is often a source of conflict; rivers and lakes that cross borders can lead to international disputes over allocation and usage rights." This clearly identifies rivers and lakes that cross borders as potential sources of conflict, not innovation, abundance, pollution, or cooperation.

## S9. Ans.(b)

Sol. The word 'paramount' in the passage is used in the context of "Investment in infrastructure to ensure clean and safe water supply is paramount," indicating that it is of utmost importance. The antonym of 'paramount' would be 'insignificant,' which implies something that is not important.
Here are the meanings of each option:
(a) Crucial - of great importance or necessary for something to succeed or exist.
(b) Insignificant - lacking in size, importance, or worth; negligible.
(c) Essential - absolutely necessary or extremely important.
(d) Fundamental - forming a necessary base or core; of central importance.
(e) Primary - of chief importance; principal.

## S10. Ans.(d)

Sol. The error is in part (D). "Are" should be replaced with "is".
RULE: The error is related to subject-verb agreement. In this sentence, the subject is "swimming in this lake," which is a singular action, and it requires a singular verb. "Are" is a plural verb, so it does not agree with the singular subject. The correct form is "is" to match the singular subject.

## S11. Ans.(c)

Sol. The error is in part (C). The correct phrase should be "far better than".
RULE: The error involves the use of comparative adjectives. "Better" is already a comparative adjective, so there is no need to use "more" before it. Using "far more better" is redundant and incorrect. The correct phrase should be "far better."

## S12. Ans.(e)

Sol. The sentence is grammatically correct.

## S13. Ans.(a) A

Sol. The error is in part (A). "Not hardly" is a double negative and should be corrected to "hardly" or "could not believe."
RULE: The error involves the use of double negatives. In standard English, using both "could not" and "hardly" in the same sentence creates a double negative, which is grammatically incorrect. It's better to use either "could hardly" or "could not" for clarity.
The correct sentence should be "She could hardly believe what she was hearing, as the news was too shocking for her."

## S14. Ans.(b)

Sol. The error is in part (B). "Has" should be replaced with "have" because "students" is a plural noun, and the phrase "number of students" requires a plural verb.
RULE: The error is related to subject-verb agreement. "The number of students" is a singular subject, and it should take a singular verb form, which is "has" in this case. The verb "have" is plural, and it does not agree with the singular subject.
The correct sentence should be "The number of students who have applied for the scholarship is lower than the previous year."

## S15. Ans.(b)

Sol. The error is in part (B). The verb "goes" should be "go" to agree with the plural subject "women." The phrase "one of the women" indicates that there are multiple women, so the verb should be in the plural form "go."
The correct sentence should be: "She is one of the women who always go out of her way to help others."

## S16. Ans.(c)

Sol. The correct word is "symbiotic," referring to the mutually beneficial relationship between different species in the ocean. "Competitive," "predatory," "parasitic," and "solitary" do not correctly describe the cooperative nature of these interactions.
Symbiotic: involving interaction between two different organisms living in close physical association.
Competitive: relating to or characterized by competition.
Predatory: relating to or denoting an animal or animals preying naturally on others.
Parasitic: living as a parasite.
Solitary: done or existing alone.

## S17. Ans.(c)

Sol. "Rainforests" is the correct analogy, often used to describe the rich diversity of coral reefs. "Jungles," "deserts," "mountains," and "tundras" are not typically used to represent the diversity of coral reefs.
Rainforests: dense forest rich in biodiversity, found typically in tropical areas with consistently heavy rainfall.
Jungles: an area of land overgrown with dense forest and tangled vegetation, typically in the tropics. Deserts: a barren area of landscape where little precipitation occurs.
Mountains: large natural elevation of the earth's surface.
Tundras: a vast, flat, treeless Arctic region.

## S18. Ans.(a)

Sol. "Bleaching" correctly describes the phenomenon affecting coral reefs due to environmental stress factors like climate change and pollution. "Flourishing," "diversifying," "polluting," and "expanding" are not accurate in this context.
Bleaching: the loss of color in corals due to stress, often caused by changes in temperature, light, or nutrients.
Flourishing: developing rapidly and successfully; thriving.
Diversifying: make or become more diverse or varied.
Polluting: contaminate with harmful or poisonous substances.
Expanding: increase in size, number, or importance.

## S19. Ans.(a)

Sol. "Biodiversity" is the appropriate term, as it refers to the variety of life in the ocean, which coral reefs significantly contribute to. "Salinity," "acidity," "temperature," and "depth" do not specifically relate to the variety of marine life.
Biodiversity: the variety of life in the world or in a particular habitat or ecosystem.
Salinity: the concentration of salt in water.
Acidity: the level of acid in substances.
Temperature: the degree of internal heat of an object or environment.
Depth: the distance from the surface to the bottom of something.

## S20. Ans.(d)

Sol. "Inextricably" is the correct word, as it signifies that the future of our oceans and the well-being of the planet are so closely linked that they cannot be separated. The other options do not appropriately convey this strong, inherent connection.
Inextricably: in a way that is impossible to disentangle or separate.
Loosely: not tightly or firmly fixed; in a relaxed or casual manner.
Occasionally: at infrequent or irregular intervals; now and then.
Directly: in a direct line or manner; straightforwardly.
Independently: without outside help; unaided.
"Inextricably" aptly describes the interdependent relationship between the health of our oceans and the overall ecological balance of the planet.

## S21. Ans.(e)

Sol. The correct answer is (e) All are correct
Each word in this sentence is spelled correctly.
"Invitation" refers to a written or verbal request to attend an event
"elaborate" means detailed and complicated in design
"ceremony" is a formal event held on special occasions
"palace" is a large and impressive residence of a ruler or dignitary.

## S22. Ans.(b)

Sol. The incorrect word is: b) fasinating
The correct spelling is "fascinating."
"Artifact" is an object made by a human being, typically of cultural or historical interest.
"Librarian" refers to a person who works in a library
"fascinating" means extremely interesting
"civilizations" refers to the society, culture, and way of life of a particular area.

## S23. Ans.(a)

Sol. The incorrect word is: a) seperate
The correct spelling is "separate." To "separate" means to cause to move or be apart.
"Accommodate" means to provide space or room
"preferences" are a greater liking for one alternative over another
"styles" refers to a way of doing something.

## S24. Ans.(c)

Sol. The incorrect word is: c) bizzare
The correct spelling is "bizarre." "Bizarre" means very strange or unusual.
"Exaggerated" refers to representing something as more extreme or dramatic than it really is
"journey" is a long trip
"extraordinary" means very unusual or remarkable.

## S25. Ans.(a)

Sol. The incorrect word is: a) principle
The correct spelling in this context should be "principal." "Principal" as a noun refers to a person who has controlling authority or is in a leading position, often used for the head of a school or organization. In this sentence, it should be "principal speaker" meaning the main speaker.
"Rhythmic" refers to having a strong, regular repeated pattern of movement or sound
"calming" means causing to feel relaxed and less anxious
"ideal" is something that is perfect or most suitable.

S26. Ans.(b)
Sol. The correct sequence is DCBA. The correct sentence "In the painting (D), the artist captured the colors (C) of the sunset (B) with remarkable brilliance (A)."

## S27. Ans.(a)

Sol. The correct sequence is BACD. The correct sentence is "The

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 recipe (B) called for a dash of salt (A) to balance the sugar (C) in the flavors (D)."S28. Ans. (b)
Sol. The correct sequence is CBAD. The correct sentence is "Exercise
(C) is essential to maintaining a healthy diet (B), and avoiding chocolate (A) can lead to a significant increase in fruits (D) and vegetables consumption."

S29. Ans.(c)
Sol. The correct sequence is BACD. The sentence formed is "Online education platforms are revolutionizing (B) the way we approach learning, offering (A) a more flexible curriculum (C) and personalized technology (D) usage."

S30. Ans.(c)
Sol. The correct sequence is BCAD. The correct sentence is "The tourists were surprised to see a dolphin (B) swimming gracefully in the ocean (C) near the mountain (A), overshadowed by a tree (D)."

## S31. Ans.(d)

Sol. 3 A 4 P Q M G 7 W 89 V B 152 C

S32. Ans.(a)
Sol. ! 3 Al @ 4 P\# Q M \$ G 7 ^ W $89^{*}+$ VB152C


## S33. Ans.(a)

Sol. ! 3 Al @ 4 B \# CG \$ M 7 ^ P $89^{*}+$ QV 152 W

S34. Ans.(b)
Sol. ! A @ P Q \$ 7 W 9 + B 5 C
S35. Ans.(a)
Sol. ! 3 Al @ 4P \#Q M \$ G 7 ^ W $89^{*}$ + VB152C

## S36. Ans.(b)

## Sol. Final arrangement-



Clues-B sits $3^{\text {rd }}$ to the left of C and no one sits at extreme ends. E sits $3^{\text {rd }}$ to the right of A who does not sit near B.
Inference-Here we have 3 possible cases.


Clues- The numbers of persons sit to the left of $F$ is same as the numbers of persons sit to the right of H. D sits $2^{\text {nd }}$ to the right of H and doesn't sit at the extreme end. H does not sit at odd position when counts from the left.
Inference-Here case 1 and case 3 are ruled out now.


Inference-Now only G remains who sits at the left end. So, the final arrangement is-


Both II and III statements are true

## S37. Ans. (d)

## Sol. Final arrangement-



Clues- B sits $3^{\text {rd }}$ to the left of C and no one sits at extreme ends. E sits $3^{\text {rd }}$ to the right of A who does not sit near B.
Inference-Here we have 3 possible cases.


## 



Clues- The numbers of persons sit to the left of F is same as the numbers of persons sit to the right of $\mathrm{H} . \mathrm{D}$ sits $2^{\text {nd }}$ to the right of $H$ and doesn't sit at the extreme end. $H$ does not sit at odd position when counts from the left.
Inference-Here case 1 and case 3 are ruled out now.


Inference-Now only G remains who sits at the left end. So, the final arrangement is-


F sits third to the right of D

## S38. Ans.(b)

## Sol. Final arrangement-



Clues-B sits $3^{\text {rd }}$ to the left of C and no one sits at extreme ends. E sits $3^{\text {rd }}$ to the right of A who does not sit near B.
Inference-Here we have 3 possible cases.


Clues- The numbers of persons sit to the left of $F$ is same as the numbers of persons sit to the right of H. D sits $2^{\text {nd }}$ to the right of H and doesn't sit at the extreme end. H does not sit at odd position when counts from the left.
Inference-Here case 1 and case 3 are ruled out now.


Inference-Now only G remains who sits at the left end. So, the final arrangement is-


Both B and G immediate neighbours of H

## S39. Ans.(a)

## Sol. Final arrangement-



Clues- B sits $3^{\text {rd }}$ to the left of C and no one sits at extreme ends. E sits $3^{\text {rd }}$ to the right of A who does not sit near B.
Inference-Here we have 3 possible cases.


Clues- The numbers of persons sit to the left of F is same as the numbers of persons sit to the right of $\mathrm{H} . \mathrm{D}$ sits $2^{\text {nd }}$ to the right of H and doesn't sit at the extreme end. H does not sit at odd position when counts from the left.
Inference-Here case 1 and case 3 are ruled out now.



Inference-Now only $G$ remains who sits at the left end. So, the final arrangement is-


## S40. Ans.(d)

## Sol. Final arrangement-



Clues- B sits $3^{\text {rd }}$ to the left of C and no one sits at extreme ends. E sits $3^{\text {rd }}$ to the right of A who does not sit near B.
Inference-Here we have 3 possible cases.


Clues- The numbers of persons sit to the left of F is same as the numbers of persons sit to the right of H. D sits $2^{\text {nd }}$ to the right of H and doesn't sit at the extreme end. H does not sit at odd position when counts from the left.
Inference-Here case 1 and case 3 are ruled out now.


Inference-Now only G remains who sits at the left end. So, the final arrangement is-


All of them sit in the middle of the row except E

## S41. Ans.(a)

Sol.
I. $\mathrm{H}<\mathrm{O}$ (True)
II. $\mathrm{M}>\mathrm{N}$ (False)

## S42. Ans.(e)

Sol.
I. F > L (False) II. I $\leq$ J (False)

## S43. Ans.(a)

Sol.
I. B > F (True) II. E < D (False)

S44. Ans.(e)

## Sol.

I. R > W (False) II. S $\leq \mathrm{V}$ (False)

S45. Ans.(b)
Sol.
I. Y < D (False)

S46. Ans.(a)
Sol.


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S47. Ans.(a)
Sol.


S48. Ans.(a)
Sol. Final arrangement -


Clues-P sits two places to the right of $\mathrm{M} . \mathrm{Q}$ sits exactly between S and $\mathrm{M} . \mathrm{N}$ is an immediate neighbour of both R and S .
Inference-Here we have 2 possible cases.


Clues- 0 is not sitting $3^{\text {rd }}$ to the right of N .
Inference-Here case 2 is ruled out now.


Inference-So, the final arrangement is-


0 sits exactly between P and M

## S49. Ans.(c)

## Sol. Final arrangement -



Clues-P sits two places to the right of $M . Q$ sits exactly between $S$ and $M . N$ is an immediate neighbour of both R and S .
Inference-Here we have 2 possible cases.


Clues-O is not sitting $3^{\text {rd }}$ to the right of N .
Inference-Here case 2 is ruled out now.


Inference-So, the final arrangement is-

$M$ is sitting three places to the left of $R$

S50. Ans. (d)

## Sol. Final arrangement -



Clues-P sits two places to the right of $M . Q$ sits exactly between $S$ and $M . N$ is an immediate neighbour of both $R$ and $S$.
Inference-Here we have 2 possible cases.


Clues-O is not sitting $3^{\text {rd }}$ to the right of N .
Inference-Here case 2 is ruled out now.


Inference-So, the final arrangement is-

$N$ sits $2^{\text {nd }}$ to the left of $Q$ (True)

## S51. Ans.(b)

## Sol. Final arrangement -



Clues-P sits two places to the right of $M . Q$ sits exactly between $S$ and $M . N$ is an immediate neighbour of both R and S .
Inference-Here we have 2 possible cases.


Clues-O is not sitting $3^{\text {rd }}$ to the right of N .
Inference-Here case 2 is ruled out now.


Inference-So, the final arrangement is-


No one

## S52. Ans.(d)

## Sol. Final arrangement -



Clues-P sits two places to the right of $M . Q$ sits exactly between $S$ and $M . N$ is an immediate neighbour of both R and S .
Inference-Here we have 2 possible cases.


Clues-O is not sitting $3^{\text {rd }}$ to the right of N .
Inference-Here case 2 is ruled out now.


Inference-So, the final arrangement is-

$R$ and $O$ are sitting next to $P$

S53. Ans.(a)
Sol.



I is the sister-in-law of $F$
S54. Ans.(b)
Sol.


$E$ is the granddaughter of $G$

## S55. Ans.(b)

Sol.


Four females live in the family
S56. Ans.(e)
Sol. Five- NG, GP, FD, DS and SG
S57. Ans. (b)
Sol. Six- PAC, QER, YOL, GAH, JEK and KUM

## S58. Ans.(a)

Sol. E is the sixth to the left of 0 which is from the right end of the above arrangement
S59. Ans.(b)
Sol.


JEKUMV

S60. Ans.(d)
Sol. Y is the third to the right of T which is ninth from the left end of the above arrangement

## S61. Ans.(b)

Sol. I does not follow:
II follows :


## S62. Ans.(a)

Sol. I follow
II does not follows


S63. Ans.(a)
Sol. I follow
II does not follow


S64. Ans.(a)
Sol. I follow
II does not follow


S65. Ans.(c)
Sol. I follow
II follow


## S66. Ans.(b)

Sol. Required ratio $=(400+1000):(750+900)$
= 1400 :1650
$=28: 33$

## S67. Ans.(e)

Sol.
The boys in school B in $2020=\frac{8}{15} \times 900=480$
Required difference $=600-480=120$

## S68. Ans.(a)

## Sol.

Required percentage $=\frac{850-500}{850} \times 100=41.17 \% \approx 41 \%$

## S69. Ans.(c)

## Sol.

Total students in school A in $2021=\frac{160}{100} \times 500=800$
Total students in school B in $2021=\frac{3}{4} \times 800=600$
Required sum $=800+600=1400$

## S70. Ans.(c)

## Sol.

The average students in schools B in 2019 \& $2020=\frac{650+900}{2}=775$
Required difference $=775-600=175$

## S71. Ans.(d)

## Sol.

The pattern of the series:
$6 \times 2=12$
$12 \times 3=36$
$36 \times 4=144$
$144 \times 5=720$
$720 \times 6=4320$

## S72. Ans.(a)

Sol. The pattern of the series:

| 17, $21, \quad 12, \quad 28, \quad 7=3$, | 39 |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| +4 | -9 | +16 | -25 | +36 |

## S73. Ans.(b)

## Sol.

The pattern of the series:
$8 \times 0.5+2=6$
$6 \times 1+2=8$
$8 \times 1.5+2=14$
$14 \times 2+2=30$
$30 \times 2.5+2=77$
S74. Ans.(c)

## Sol.

The pattern of the series:
?=17, 29, 53,
89, 137, 197 $\begin{array}{lllll}12 & 24 & 36 & 48 & 60\end{array}$

S75. Ans. (d)

## Sol.

The pattern of the series:
$111-19=92$
$92-17=75$
$75-13=62$
$62-11=51$
$51-7=44$

## S76. Ans.(e)

## Sol.

The profit-sharing ratio of A to $\mathrm{B}=X \times 12:(X+500) \times 9+X \times 3$
$=4 X: 4 X+1500$
ATQ,
$\frac{4 X}{4 X+1500}=\frac{320}{380}$
$16 X+6000=19 X$
$6000=3 X$
$2000=X$
S77. Ans.(a)
Sol.
Le the present age of $A$ and $B$ be a years and $b$ years respectively
ATQ,
$a+b=25 \ldots(i)$
And
$b-a=9$....(ii)

From (i) \& (ii)
$b=17, a=8$
The present age of $\mathrm{C}=8+4=12$ years
Required age $=12-2=10$ years

## S78. Ans.(b)

## Sol.

The speed of the train $=61.2 \times \frac{5}{18}=17 \mathrm{~m} / \mathrm{sec}$
Length of the train $=20 \times 17=340$ meters
$\mathrm{X}=340$
Required time $=\frac{340+(340+255)}{17}=55$ seconds

## S79. Ans.(e)

Sol. Let the speed of the boat in still water be $\mathrm{x} \mathrm{km} / \mathrm{hr}$ and the speed of the current be $\mathrm{y} \mathrm{km} / \mathrm{hr}$ respectively. Given,
$\frac{y}{x-y}=\frac{1}{8}$
$8 y+y=x$
$9 y=x$
$\frac{y}{x}=\frac{1}{9}=\frac{a}{9 a}$
$\frac{69}{a+9 a}=2.3$
$a=3$
So, the speed of the boat in still water is $27 \mathrm{~km} / \mathrm{hr}$ and the speed of the current is $3 \mathrm{~km} / \mathrm{hr}$ respectively.
Required distance $=27 \times 5=135 \mathrm{~km}$

## S80. Ans.(c)

## Sol.

ATQ,
$(x+1500) \times 20 \times \frac{3}{100}=2700$

$x+1500=4500$
$X=3000$
Composite compound interest $=\left(10+10+\frac{10 \times 10}{100}\right) \%=21 \%$
Compound interest $=\frac{21}{100} \times(3000-500)=R s 525$
Required value $=525+2700=$ Rs 3225
S81. Ans.(c)

## Sol.

Quantity of milk $=64 \times \frac{3}{4}=48$ litres
Quantity of water $=64 \times \frac{1}{4}=16$ litres
ATQ,
$\frac{48-X \times \frac{3}{4}}{16-X \times \frac{1}{4}+2 X}=\frac{9}{11}$
$\frac{48-\frac{3 X}{4}}{16-\frac{X}{4}+2 X}=\frac{9}{11}$
$\frac{192-3 X}{64-X+8 X}=\frac{9}{11}$
$(192-3 X) \times 11=9 \times(64+7 X)$
$2112-33 X=576+63 X$
$1536=96 X$
$16=X$
Required value $=3 \times 16=48$

## S82. Ans.(e)

## Sol.

Let the cost price and selling price of the article be Rs 40 x and Rs 70x respectively.
Profit percentage $=\frac{70 x-40 x}{40 x} \times 100=75 \%$
Discount percentage $=75 \times \frac{4}{5}=60 \%$
Marked price $=\frac{70 x}{40} \times 100=$ Rs $175 x$
ATQ,
$175 x-40 x=810$
$135 x=810$
$x=6$
Required price $=70 \times 6=$ Rs 420

## S83. Ans.(b)

Sol.
Let efficiency of a man and a woman be $m$ units/day and $w$ units/day respectively. ATQ,
$120 \times m \times 40=80 \times w \times 60$
$\frac{m}{w}=\frac{1}{1}=\frac{a}{a}$
Total work $=120 \times a \times 40=4800 a$ units
Required time $=\frac{4800 a}{35 a+65 a}=48$ days

## S84. Ans.(e)

Sol.
Let the radius of the circle be rcm
ATQ,
$\frac{22}{7} \times r \times r=1386$
$r \times r=441$
$r=21$
The height of the right-angle triangle $=21+3=24 \mathrm{~cm}$
Required area $=\frac{1}{2} \times 16 \times 24=192 \mathrm{~cm}^{2}$

## S85. Ans.(b)

Sol. 475-52=?+120
$303=$ ?

S86. Ans.(c)
Sol.
$180-53=?^{2}+6$
$121=?^{2}$
$11=$ ?

S87. Ans.(c)
Sol.
$\frac{11}{5}+\frac{25}{6}=\frac{?}{3}+\frac{1}{15}$
$\frac{(66+125-2)}{30}=\frac{?}{3}$
$\frac{189}{30}=\frac{?}{3}$
$18.9=$ ?
S88. Ans.(e)
Sol.
$2^{6} \times 16 \div 64=2^{?} \div 8^{3}$
$2^{6} \times 2^{4} \div 2^{6} \times 2^{9}=2^{?}$
$6+4-6+9=$ ?
$13=$ ?
S89. Ans.(a)
Sol.
$17 \times 2+5=? \times 5$
$39=? \times 5$

$7.8=$ ?

## S90. Ans.(b)

Sol.
$((21 \%$ of $500 \div 6)+2.5) \times \frac{1}{4}=\sqrt{?}$
$(17.5+2.5) \times \frac{1}{4}=\sqrt{?}$
$25=$ ?
S91. Ans.(e)
Sol.
$\frac{13}{17}$ of $289-12.5 \%$ of $800=?-16.67 \%$ of 480
$221-100=?-80$
$201=?$

S92. Ans. (b)
Sol.
$\frac{126}{6} \times 5-168=3 \times$ ?
$-21=$ ?

S93. Ans.(d)

## Sol.

## From I.

The ratio of efficiency of pipes $A$ to $B$ is 2:3
The ratio of time taken by pipes $A$ to $B$ is $3: 2$
From II.
Pipe B can fill the tank in 16 minutes.
Both the statement together
Required time $=16 \times \frac{3}{2}=24$ minutes
So, both the statements taken together.

## S94. Ans.(e)

## Sol.

From I.
Let the income from A and B is Rs 4 x and Rs 5 x respectivley.
ATQ,
$\frac{4 x-12000}{5 x-14000}=\frac{2}{3}$
$12 x-36000=10 x-28000$
$2 x=8000$
$x=4000$
The income from $\mathrm{B}=5 x=$ Rs 20000
From II.
The income of A $20 \%$ less than that of B.
So, statement (I) alone is sufficient to answer.

## S95. Ans.(c)

## Sol.

From I.
The speed of the truck $=\frac{260}{6.5}=40 \mathrm{~km} / \mathrm{hr}$
The speed of the car $=\frac{40}{80} \times 100=50 \mathrm{~km} / \mathrm{hr}$
From II.
The speed of the car $=\frac{50}{2}=25 \mathrm{~m} / \mathrm{sec}$
The speed of the car in $\mathrm{km} / \mathrm{hr}=25 \times \frac{18}{5}=90 \mathrm{~km} / \mathrm{hr}$
So, either statement (I) or statement (II)

S96. Ans.(d)
Sol.
I. $x^{2}-17 x+66=0$
$x^{2}-11 x-6 x+66=0$
$x(x-11)-6(x-11)=0$
$(x-11)(x-6)=0$
$x=11,6$
II. $y^{2}-30 y+209=0$
$y^{2}-11 y-19 y+209=0$
$y(y-11)-19(y-11)=0$
$(y-11)(y-19)=0$
$y=11,19$
So, $\mathrm{x} \leq \mathrm{y}$

## S97. Ans.(c)

## Sol.

I. $2 x^{2}-13 x+21=0$
$2 x^{2}-6 x-7 x+21=0$
$2 x(x-3)-7(x-3)=0$
$(2 x-7)(x-3)=0$
$x=\frac{7}{2}, 3$
II. $3 y^{2}-23 y+44=0$
$3 y^{2}-12 y-11 y+44=0$
$3 y(y-4)-11(y-4)=0$
$(y-4)(3 y-11)=0$
$y=4, \frac{11}{3}$
So, $\mathrm{x}<\mathrm{y}$


## S98. Ans.(e)

## Sol.

$$
\begin{aligned}
& \text { I. } 5 x^{2}-17 x-78=0 \\
& 5 x^{2}-30 x+13 x-78=0 \\
& 5 x(x-6)+13(x-6)=0 \\
& (x-6)(5 x+13)=0 \\
& x=6,-\frac{13}{5} \\
& \text { II. } 6 y^{2}-31 y+38=0 \\
& 6 y^{2}-12 y-19 y+38=0 \\
& 6 y(y-2)-19(y-2)=0 \\
& (y-2)(6 y-19)=0 \\
& y=2, \frac{19}{6}
\end{aligned}
$$

So, no relation can be established between x and y .

## Sol.

I. $x=\sqrt[3]{27}$
$\mathrm{x}=3$
II. $2 y^{2}=\sqrt{64}$
$y^{2}=4$
$y=2,-2$
So, $x>y$
S100. Ans. (e)

## Sol.

$$
\begin{aligned}
& \text { I. } x^{2}-31 x+234=0 \\
& x^{2}-13 x-18 x+234=0 \\
& x(x-13)-18(x-13)=0 \\
& (x-13)(x-18)=0 \\
& x=13,18 \\
& \text { II. } y^{2}-36 y+308=0 \\
& y^{2}-14 y-22 y+308=0 \\
& y(y-14)-22(y-14)=0 \\
& (y-14)(y-22)=0 \\
& y=22,14
\end{aligned}
$$

So, no relation can be established between x and y


