## Adda 247

## All India Mock for RBI Assistant Prelims 2023 (11-12 November)

## Directions (1-8): Read the following passage and answer the following questions.

The wet-bulb temperature is that which would be recorded by a thermometer wrapped in a moist towel. Water evaporating from around the bulb has a cooling effect. The wetter the surrounding air, the less moisture is able to escape and the higher the wet-bulb reading will be. It will always be lower than the actual temperature, until the air is completely saturated with moisture vapour.
Warm-blooded animals need to keep their internal temperatures reasonably constant. If it is too hot, most use some form of evaporative cooling to do this-functioning, in essence, as living wet-bulbs. Dogs pant, pigs wallow in mud and humans sweat.
A wet-bulb temperature of $35^{\circ} \mathrm{C}$ is $\qquad$ as the theoretical limit of what humans can endure. It would be reached at an actual temperature of $45^{\circ} \mathrm{C}$ if relative humidity were $50 \%$, or at about $39^{\circ} \mathrm{C}$ if humidity were $75 \%$. Beyond this point it becomes impossible for sweat to cool the body down, causing people to overheat and in effect cook. Cells swell, proteins are deformed and organ systems fail, resulting in death.
Average global temperatures are currently $1.1-1.3^{\circ} \mathrm{C}$ warmer than pre-industrial levels. The same team of American and British researchers found that extreme levels of humidity and heat now occur twice as often than they did in 1979. Even if countries stick to their promises to curb emissions and scrub carbon from the atmosphere, the world is on track for temperatures to rise by the same amount again by the end of the century.


Q1. How is the determination of the wet-bulb temperature important?
(a) It helps to find out how much heat is stored in mammals at a certain temperature.
(b) It is used for pinpointing the effects of heat on the human body.
(c) It helps in determining the present course of climate change.
(d) It paves the way for proper action on harmful industrial activities.
(e) It plays a crucial role in estimating heat patterns around the world.

Q2. Which of the following is/are natural cooling actions of mammals?
(a) Rapid respiration
(b) Rolling about in mud
(c) Perspiration
(d) both (a) and (c)
(e) All of these

Q3. Which of the following is/are bound to happen with an increase in wet-bulb temperatures?
(a) Temperature of the human body increases
(b) Cells in the body get destroyed due to deformation of proteins
(c) Organ systems in the body cease to function
(d) both (a) and (b)
(e) All of the above

Q4. Which of the following is/are TRUE with respect to the facts in the passage?
(a) Shade and water can nullify the effect of increased wetbulb temperature on the human body.
(b) The wet-bulb temperature is always lower than the actual temperature.
(c) Bodies of mammals act on the concept that wet-bulb temperatures follow.
(d) Both (a) and (b)
(e) All of these

Q5. Which of the following is NOT TRUE with respect to the facts in the passage?
(a) The heat felt at any place is increased by an increase in vapour in the air.
(b) The wet bulb temperature has increased since the advent of industry.
(c) Since 1979, observed instances of high heat and humidity have doubled in number.
(d) The observed increase in wet-bulb temperature will not be affected by reducing carbon emissions.
(e) Wet-bulb temperature is bound to increase significantly in the coming time even if preventive measures are taken.

Q6. Choose from the following a suitable substitution for the blank in the passage.
(a) rumoured
(b) considered
(c) regarded
(d) neglected
(e) desecrated

Q7. Choose the synonym for the highlighted word "extreme" as given in the passage.
(a) acute
(b) sufficient
(c) opposite
(d) Torpidity
(e) gleaming

Q8. Choose the antonym for the highlighted word "curb" as given in the passage.
(a) eliminate
(b) repudiate
(c) unleash
(d) enlighten
(e) invalidate

Directions (9-14): In the following questions, a sentence has been given with four words highlighted and marked. Four options follow the sentence, which give different orders of rearrangement for the words. If the sentence with the preexisting order of words does not make sense grammatically or contextually, choose an option of rearrangement that achieves the same.

Q9. As an aquatic dancer, one should be making (A) to dance (B) their balance in the water while able (C) graceful maintain
(D) movements.
(a) BACD
(b) DCBA
(c) ABDC
(d) CDAB
(e) No rearrangement required

Q10. Because the school does not language (A) indecorous suspended (B), the student has been profanity (C) for using tolerate (D).
(a) ACDB
(b) DABC
(c) BADC
(d) CBAD
(e) No rearrangement required

Q11. Each carton was replaced (A) for wholeness (B) and any broken eggs were sent (C) before the products were inspected (D) to stores.
(a) BADC
(b) DBAC
(c) ABDC
(d) DBCA
(e) No rearrangement required

Q12. If we want to politics (A) alienation in world avoid (B), our country must establish healthy (C) relationships with other nations (D).
(a) BACD
(b) DCBA
(c) BADC
(d) CADB
(e) No rearrangement required

Q13. Completing (A) the chore list in a grudging (B) manner, the resentful (C) teenager made it clear that she felt the tasks were unfair (D).
(a) ACDB
(b) ABDC
(c) BDAC
(d) CABD
(e) No rearrangement required

Q14. Since the information (A) in the textbook did not read (B) to the questions on the tests, it would be pointless (C) to pertain (D) the textbook.
(a) BACD
(b) BADC
(c) ADCB
(d) CADB
(e) No rearrangement required

Directions (15-19): In the following questions, two parts of a sentence are given. From the following options, choose the option which connects the two sentences to make them grammatically correct and contextually complete.

Q15. (i) A story can only be considered factual if everything within it is the absolute truth,
(ii) no lies or exaggerations in it.
(a) along
(b) with
(c) because
(d) while
(e) as

Q16. (i) The unclear message between my wife and I resulted in a miscommunication
(ii) where we would meet for dinner.
(a) there
(b) indeed
(c) under
(d) about
(e) due to

Q17. (i) The scientist always approached his work with a sense of realism
(ii) refused to let emotions lead him.
(a) that
(b) then
(c) and
(d) but
(e) while

Q18. (i) John has hated boating ever since the fiasco
(ii) left him stranded in the middle of the ocean for a week.
(a) that
(b) over
(c) unlike
(d) due to
(e) therefore

Q19. (i) Children can become desensitized to aggression
(ii) they play violent videogames.
(a) like
(b) and
(c) before
(d) but
(e) when

Directions (20-24): In the following questions, a sentence is given with a blank, and each question is followed by pairs of words. Choose the option where both the words of the pair can be used to make the sentence grammatically correct and contextually complete.

Q20. When the legislature $\qquad$ the immigration statute, protestors rioted in the streets.
(a) demanded, increased
(b) passed, rejected
(c) accepted, taken
(d) validate, expected
(e) cancelled, recite

Q21. Prisoners who skipped their daily assigned duties are
$\qquad$ placed in isolation.
(a) taken, frequently
(b) commonly, routine
(c) usually, rarely
(d) rectify, sporadically
(e) vehement, inherently

Q22. As the proprietor of a bed and breakfast, I make a point of greeting each of my guests as they $\qquad$ _.
(a) arrive, leave
(b) remit, release
(c) deportation, retire
(d) report, abandon
(e) enter, object

Q23. Her speech was considered $\qquad$ by the standards of the kindergarten authorities.
(a) inspiring, injecting
(b) juvenile, satisfy
(c) appropriate, inappropriate
(d) intent, content
(e) valid, limitedness

Q24. The guide informed us that many roads that go up mountains are $\qquad$ roads.
(a) invite, trying
(b) redone, scatter
(c) coarse, challenge
(d) drastic, cautious
(e) winding, straight

Directions (25-30): In the following questions, parts of a complete sentence are given. If the pre-existing order renders the sentence incomprehensible or grammatically incorrect, rearrange the parts of the sentence according to the following options, and mark the option which gives the rearrangement that makes the sentence grammatically and contextually valid.

Q25. to make reparation by $(\mathrm{A})$ / painting the entire building (B) / rather than fining the graffiti (C) / artist, the judge ordered him (D)
(a) CBAD
(b) ADBC
(c) CDAB
(d) CBDA
(e) No rearrangement required

Q26. system, the county is naming (A) / to venerate Mrs. Johnson's fifty-five (B) / a school in her honour (C) / years of service in the school (D)
(a) CDAB
(b) BDAC
(c) BCAD
(d) ADBC
(e) No rearrangement required

Q27. to be kind is a paradox (A) / because cruelty is not normally (B) / the idea of being cruel (C) / associated with kindness (D)
(a) CABD
(b) BACD
(c) BCAD
(d) BDCA
(e) No rearrangement required

Q28. Herman really liked the (A) / three-million-dollar price tag (B) / aghast at the property's (C) / house, but he was (D)
(a) DCAB
(b) ADCB
(c) BCDA
(d) BCAD
(e) No rearrangement required

Q29. from the top of the hill to (A) / zoomed down the slope (B) / the children slid their sled (C) / the bottom, laughing as they (D)
(a) DBAC
(b) CDAB
(c) BADC
(d) CADB
(e) No rearrangement required

Q30. on her shoulder, Alicia took (A) / when the butterfly landed (B) / it as a propitious sign she (C) / would have a fantastic day (D)
(a) BACD
(b) ACBD
(c) DCBA
(d) ADBC
(e) No rearrangement required

Q31. The ratio between the speed of a train and a bus is 8:5 respectively. Also, a car covered a distance of 320 km in 10 hours, If the speed of car is half the speed of the train, then find the speed of bus?
(a) $40 \mathrm{~km} / \mathrm{hr}$
(b) $45 \mathrm{~km} / \mathrm{hr}$
(c) $48 \mathrm{~km} / \mathrm{hr}$
(d) $58 \mathrm{~km} / \mathrm{hr}$
(e) $50 \mathrm{~km} / \mathrm{hr}$

Q32. A bottle contains two liquids $A$ and $B$ in the ratio 4 : 5 respectively. When 20 liters of the liquid $A$ is taken out and 20 liters of liquid $B$ was poured into the bottle, then the new ratio of liquid A to liquid B becomes 3: 4. Find the quantity of liquid A in the bottle initially?
(a) 560 L
(b) 660 L
(c) 700 L
(d) 480 L
(e) 760 L

Q33. The length of train A and train B is 240 meters and 300 meters respectively. When both trains running in same direction, then cross each other in 36 sec . If the speed of train A is $54 \mathrm{~km} / \mathrm{hr}$, then find the speed of trains B (Speed of train $A$ is lesser than the speed of train $B$ ?
(a) $20 \mathrm{~m} / \mathrm{sec}$
(b) $30 \mathrm{~m} / \mathrm{sec}$
(c) $25 \mathrm{~m} / \mathrm{sec}$
(d) $35 \mathrm{~m} / \mathrm{sec}$
(e) $40 \mathrm{~m} / \mathrm{sec}$

Q34. The ratio of speed of a boat in upstream to that of in downstream is $3: 5$ and the speed of stream is $4 \mathrm{~m} / \mathrm{sec}$, Find the time taken by boat to cover the total distance of 120 meters in both upstream and downstream together?
(a) 14 sec
(b) 12 sec
(c) 15 sec
(d) 16 sec
(e) 26 sec

Q35. The length and breadth of a rectangle is 4 cm more \& 4 cm less than the side of a square respectively. If area of the square is $81 \mathrm{~cm} \cdot \mathrm{sq}$., then find the area of the rectangle?
(a) $60 \mathrm{~cm}^{2}$
(b) $75 \mathrm{~cm}^{2}$
(c) $62 \mathrm{~cm}^{2}$
(d) $65 \mathrm{~cm}^{2}$
(e) $56 \mathrm{~cm}^{2}$

Directions (36-40): In the following questions, there are two equations in $x$ and $y$. You have to solve both the equations and give answer

Q36.
I. $x^{2}-9=0$
II. $y^{2}-6 y+9=0$
(a) if $x>y$
(b) if $x<y$
(c) if $x \geq y$
(d) if $x \leq y$
(e) if $x=y$ or there is no relation between $x$ and $y$

Q37.
I. $\mathrm{x}^{2}+\mathrm{x}-2=0$
II. $y^{2}+3 y+2=0$
(a) if $x>y$
(b) if $x<y$
(c) if $x \geq y$
(d) if $x \leq y$
(e) if $x=y$ or there is no relation between $x$ and $y$

Q38.
I. $x^{2}-7 x+10=0$
II. $y^{2}+2 y-3=0$
(a) if $x>y$
(b) if $x<y$
(c) if $x \geq y$
(d) if $x \leq y$
(e) if $x=y$ or there is no relation between $x$ and $y$

Q39.
I. $x^{2}+2 x-15=0$
II. $y^{2}-10 y+24=0$
(a) if $x>y$
(b) if $x<y$
(c) if $x \geq y$
(d) if $x \leq y$
(e) if $x=y$ or there is no relation between $x$ and $y$

## Q40.

I. $x^{2}+2 x-8=0$
II. $y^{2}-7 y+12=0$
(a) if $x>y$
(b) if $x<y$
(c) if $x \geq y$
(d) if $x \leq y$
(e) if $x=y$ or there is no relation between $x$ and $y$

Q41. The ratio of the present age of Ragini to that of Ravi is $8: 11$. Twenty years hence, the ratio of age of Ragini to that of Ravi will be $4: 5$. Find the ratio of age of Ragini to that of Ravi thirty-five years hence will be?
(a) $6: 5$
(b) $6: 7$
(c) $5: 8$
(d) $5: 6$
(e) 5:7

Q42. If a certain sum become twice in three years at certain rate interest on simple interest, then find simple interest earned on Rs. 4200 after five years at same rate of interest?
(a) Rs. 7000
(b) Rs. 7500
(c) Rs. 5250
(d) Rs. 4550
(e) Rs. 3750

Q43. A invested Rs. Y and B invested Rs. 800 more than A for same period of time in a partnership. If A gets Rs. 3200 as profit share out of total profit of Rs. 6800, then find ' $Y$ '?
(a) 7800
(b) 6000
(c) 8400
(d) 7200
(e) 6400

Q44. The ratio of cost price to marked price of an article is 5 :
8. If shopkeeper gets a profit of Rs. 80 by selling the article at Rs. 480, then find the marked price of the article?
(a) 840 Rs .
(b) 620 Rs .
(c) 640 Rs .
(d) 680 Rs .
(e) 720 Rs.

Q45. Two types of sugar i.e., 24 kg of Rs. 50 per kg and 16 kg of Rs. 40 per kg. At what price of per kg mixture of sugar was sold so that gain a profit of $25 \%$ ?
(a) Rs. 52.5
(b) Rs. 44
(c) Rs. 57.5
(d) Rs. 36.8
(e) None of these

Directions (46-50): What approximate value should come in place of question mark (?) in following questions.

Q46.
$18.03 \%$ of $650.1-7.97 \%$ of $1149.91=?^{2}$
(a) 1
(b) 5
(c) 9
(d) 12
(e) 7

Q47. $\frac{?-8.03}{11.94+7.89} \times(5.997)^{2}=71.88$
(a) 48
(b) 36
(c) 54
(d) 32
(e) 40

Q48. $29.98 \%$ of $\frac{4}{7}$ th of $\frac{1}{8}$ th of $420.01=?$
(a) 6
(b) 18
(c) 15
(d) 12
(e) 9

Q49. $719.97 \div 79.91 \div 59.97 \times 120.07=$ ?
(a) 14
(b) 21
(c) 18
(d) 10
(e) 24

Q50.
$900.081 \times 24.997 \div 35.92=(?+16.99)^{2}$
(a) 2
(b) 5
(c) 18
(d) 12
(e) 8

Directions (51-56): Study the bar graph carefully and answer the following questions.
The bar graph shows the runs scored by two different teams in a series of 5 cricket matches.


Q51. Total runs scored by Bangladesh in first and third match together is what percent of total runs scored by Sri Lanka in second and fifth match together?
(a) $100 \%$
(b) $125 \%$
(c) $83 \frac{1}{3} \%$
(d) $120 \%$
(e) $75 \%$

Q52. Find the difference between maximum runs scored by Sri Lanka and minimum runs scored by Bangladesh?
(a) 120 runs
(b) 80 runs
(c) 150 runs
(d) 200 runs
(e) 180 runs

Q53. Find the ratio between total runs scored by Bangladesh to that of Sri Lanka in all matches?
(a) $25: 23$
(b) $46: 47$
(c) $43: 46$
(d) $49: 46$
(e) $23: 43$

Q54. Runs scored by Bangladesh in second match is what percent more or less than runs scored by Sri Lanka in fourth match?
(a) $25 \%$
(b) $20 \%$
(c) $35 \%$
(d) $10 \%$
(e) $50 \%$

Q55. Bangladesh won how many matches out of all the five matches?
(a) 1
(b) 4
(c) 3
(d) 5
(e) 2

Q56. What are the average runs scored by Sri Lanka in first four matches?
(a) 250
(b) 280
(c) 345
(d) 320
(e) 300

Directions (57-60): Which number is wrong in the following number series.

Q57. 1, 3, 7, 22, 89, 446, 2677
(a) 2677
(b) 22
(c) 89
(d) 1
(e) 446

Q58. 5, 8, 17, 24, 39, 48, 65
(a) 8
(b) 48
(c) 65
(d) 5
(e) 39


Q59. 32, 64, 16, 96, 12, 120, 8
(a) 64
(b) 96
(c) 8
(d) 120
(e) 32

Q60. 17, 21, 26, 33, 44, 57, 74
(a) 17
(b) 26
(c) 44
(d) 74
(e) 57

Directions (61-65): In each of the following questions two equations are given. Solve these equations and give answer:

Q61.
I. $4 x^{2}+12 x+5=0$
II. $4 y^{2}+20 y+21=0$
(a) if $x \geq y$, i.e. $x$ is greater than or equal to $y$
(b) if $x>y$, i.e. $x$ is greater than $y$
(c) if $x \leq y$, i.e. $x$ is less than or equal to $y$
(d) if $x<y$, i.e. $x$ is less than $y$
(e) $x=y$ or no relation can be established between $x$ and $y$

Q62.
I. $x^{2}-12 x+32=0$
II. $y^{2}-19 y+60=0$
(a) if $x \geq y$, i.e. $x$ is greater than or equal to $y$
(b) if $x>y$, i.e. $x$ is greater than $y$
(c) if $x \leq y$, i.e. $x$ is less than or equal to $y$
(d) if $x<y$, i.e. $x$ is less than $y$
(e) $x=y$ or no relation can be established between $x$ and $y$

Q63.
I. $12 x^{2}+7 x+1=0$
II. $9 y^{2}+9 y+2=0$
(a) if $x \geq y$, i.e. $x$ is greater than or equal to $y$
(b) if $x>y$, i.e. $x$ is greater than $y$
(c) if $x \leq y$, i.e. $x$ is less than or equal to $y$
(d) if $x<y$, i.e. $x$ is less than $y$
(e) $x=y$ or no relation can be established between $x$ and $y$

Q64.
I. $5 x+2 y=10$
II. $15 x-3 y=12$
(a) if $x \geq y$, i.e. $x$ is greater than or equal to $y$
(b) if $x>y$, i.e. $x$ is greater than $y$
(c) if $x \leq y$, i.e. $x$ is less than or equal to $y$
(d) if $x<y$, i.e. $x$ is less than $y$
(e) $x=y$ or no relation can be established between $x$ and $y$

Q65.
I. $x^{2}+2 x-15=0$
II. $2 y^{2}+3 y-90=0$
(a) if $x \geq y$, i.e. $x$ is greater than or equal to $y$
(b) if $x>y$, i.e. $x$ is greater than $y$
(c) if $x \leq y$, i.e. $x$ is less than or equal to $y$
(d) if $x<y$, i.e. $x$ is less than $y$
(e) $x=y$ or no relation can be established between $x$ and $y$

Directions (66-70): Study the given information carefully and answer the related questions:
Eight persons live in a ten -floor building such that the bottom most floor is numbered as 1 , floor just above it is numbered as 2 and so on till the top most floor is numbered as 10 . Two floors are vacant. No two adjacent floors are vacant.
M lives three floors above Q on a prime numbered floor. One person lives between $M$ and 0 who lives on an even numbered floor. Three floors gap between M and N. S lives just below N's floor. The number of persons between $Q$ and $S$ is same as between R and Q . T lives below P who lives on an odd numbered floor.

Q66. Which among the following floor(s) is/are vacant?
(a) $8^{\text {th }}$
(b) $4^{\text {th }}$
(c) $1^{\text {st }}$
(d) Both $8^{\text {th }}$ and $4^{\text {th }}$
(e) Both $8^{\text {th }}$ and $1^{\text {st }}$

Q67. Which among the following statement(s) is/are true?
I. T lives on an odd numbered floor
II. Three persons live below T
III. More than two persons live above M
(a) Only II
(b) Only I
(c) Both I and II
(d) Both II and III
(e) All I, II and III

Q68. How many persons live between 0 and $Q$ ?
(a) Three
(b) Four
(c) Two
(d) Five
(e) None

Q69. If $S$ and $Q$ interchange their floors then who among the following lives three floors above $S$ ?
(a) M
(b) R
(c) No one
(d) $P$
(e) 0

Q70. On which among the following floors does P live?
(a) 3 rd
(b) $7^{\text {th }}$
(c) $9^{\text {th }}$
(d) $5^{\text {th }}$
(e) None of these

Q71. If all letters of the word 'CELEBRATION' are arranged in alphabetical order from left to right then position of how many letters will remain unchanged?
(a) Four
(b) One
(c) None
(d) Three
(e) Two

Directions (72-75): Study the given information carefully and answer the related questions:
Seven persons A, B, C, D, E, F and G work in CISF (but not in the same order) at different designations i.e., Commandant, Deputy commandant, Assistant commandant, Inspector, sub inspector, Assistant sub inspector and Head constable. The order of designations are in decreasing order i.e. Commandant is the senior most designation and Head constable is the junior most designation.
A is senior to the one who is designated as Inspector. Two designations gap between A and F.
$E$ is designated two designations junior to $F$. $G$ is senior to $B$ but junior to C . B is designated neither as assistant sub inspector nor as head constable. At least one person is designated junior to $D$.

Q72. Who among the following is designated as Assistant sub inspector?
(a) Either E or D
(b) D
(c) F
(d) E
(e) None of these

Q73. How many persons are designated between $C$ and $F$ ?
(a) One
(b) Two
(c) Four
(d) Three
(e) None

Q74. $C$ is designated at which among the following designations?
(a) Commandant
(b) Inspector
(c) Sub inspector
(d) Deputy commandant
(e) None of these

Q75. Which among the following combination is correct?
(a) F-Head constable
(b) A- Assistant commandant
(c) B-Inspector
(d) E-Sub inspector
(e) None is correct

Directions (76-77): In these questions, relationship between different elements is shown in the statements. These statements are followed by two conclusions. Find which of the conclusion(s) is/are definitely true.

## Q76.

## Statements:

$\mathrm{M}<\mathrm{Y} \geq \mathrm{O}=\mathrm{U} ; \mathrm{V}<\mathrm{L} \leq \mathrm{M}=\mathrm{T}$

## Conclusions:

I. L<Y
II. $\mathrm{O} \leq \mathrm{T}$
(a) Both I and II are true
(b) Neither I nor II is true
(c) Either I or II is true
(d) Only II is true
(e) Only I is true

## Q77.

## Statements:

$\mathrm{A}>\mathrm{W} \geq \mathrm{D}=\mathrm{G}<\mathrm{M} \geq \mathrm{L}<\mathrm{K}$

## Conclusions:

I. $\mathrm{G} \geq \mathrm{L}$
II. $\mathrm{D}>\mathrm{L}$
(a) Both I and II are true
(b) Neither I nor II is true
(c) Either I or II is true
(d) Only II is true
(e) Only I is true

Directions (78-82): Study the given information carefully and answer the related questions:

Seven persons- P, Q, R, S, T, U and V sit around a circular table and all of them face away from the centre. Four of them like different colours i.e., Magenta, Pink, Yellow and green. All the information is not necessarily in the same order.
$S$ sits second to the left of $V$. One person sits between $V$ and the one who likes green. Two persons sit between $S$ and $T$. V doesn't sit next to T. The one who likes pink sits second to the right of T. R sits three places away from the one who likes pink. T doesn't like magenta colour. P sits immediate right of the one who likes magenta. $P$ doesn't like any colour. $U$ is an immediate neighbour of both T and Q . The one who likes yellow sits adjacent to $P$.

Q78. Who among the following person sits third to the left of the one who likes yellow colour?
(a) U
(b) Q
(c) V
(d) T
(e) None of these

Q79. How many persons sit between $T$ and $P$ when counts to the right of $P$ ?
(a) Three
(b) None
(c) One
(d) Two
(e) More than three

Q80. Four among the following five are same in a certain pattern and forms a group. Who among the following does not belong to the group?
(a) T
(b) $Q$
(c) P
(d) V
(e) S

Q81. Who among the following likes magenta colour?
(a) Q
(b) V
(c) R
(d) U
(e) S

Q82. If $P$ and $Q$ interchange their positions, then who among the following sits immediate right of Q ?
(a) V
(b) T
(c) S
(d) U
(e) None of these

Q83. Find the pair of letters in the word 'SIMILAR' each of which have as many letters between them as they have in English alphabet (both in forward and backward direction)?
(a) Four
(b) Three
(c) One
(d) None of these
(e) Two

Directions (84-87): In each of the questions below, some statements are given followed by two conclusions. You have to take the given statements to be true even if they seem to be at variance with commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

Q84. Statements:
Only a few read is write.
Some poetry is melody.
Some write is not poetry.
Conclusions:
I. No write being melody is a possibility
II. All read being write is not a possibility
(a) If only I follows
(b) If only II follows
(c) If either I or II follows
(d) If both I and II follows
(e) If neither I nor II follows

Q85. Statements:
Only snow is white.
Some fog is not snow.
All fog is black.
Conclusions:
I. Some black can be white
II. All fog can never be white
(a) If only I follows
(b) If only II follows
(c) If either I or II follows
(d) If both I and II follows
(e) If neither I nor II follows

## Q86. Statements:

Some glass is solid.
Only a few transparent is glass.
All mirror are transparent.
Conclusions:
I. Some mirror is not glass
II. No solid is transparent
(a) If only I follows
(b) If only II follows
(c) If either I or II follows
(d) If both I and II follows
(e) If neither I nor II follows

## Q87. Statements:

No pears are apple.
All orange is mango'
Only a few orange is pears.

## Conclusions:

I. All mango can be pears.
II. All orange being apple is not a possibility
(a) If only I follows
(b) If only II follows
(c) If either I or II follows
(d) If both I and II follows
(e) If neither I nor II follows

Directions (88-90): Study the given information carefully and answer the related questions:
Point T is 7 m to the north of point J which is 5 m to the east of point N. Point N is 6 m to the north of point S. Point $P$ is 10 m to the west of point T. Point R is 12 m to the north of point K which is 15 m to the east of point S .

Q88. In which direction is point k with respect to point J?
(a) North west
(b) South east
(c) South west
(d) East
(e) North

Q89. What is the total distance between point R and point N ?
(a) 27 m
(b) 29 m
(c) 35 m
(d) 30 m
(e) 33 m

Q90. Which among the following statement(s) is/are true?
I. Point $R$ is to the north east of point $S$
II. Shortest distance between point $J$ and point $K$ is $\sqrt{136 m}$
III. Point P is 20 m to the west of point R
(a) Only II
(b) Only I
(c) Both I and II
(d) Both II and III
(e) All I, II and III

Directions (91-94): Study the given information carefully and answer the related questions:
Nine fruits boxes are arranged in a queue in descending order according to their weight from left to right. Three boxes have weight between box A and box G. Box G's weight is just more than box I. Box D is just heavier than box $A$ and just lighter than box $F$. Two boxes have weight between box $A$ and box $H$ which is heavier than box I. Box $C$ is heavier than box $B$. No box is placed between box $B$ and box $E$. Box $C$ is lighter than box F.

Q91. Which among the following box is $4^{\text {th }}$ heaviest?
(a) Box D
(b) Box H
(c) Box A
(d) Box C
(e) None of these

Q92. How many boxes are heavier than box E?
(a) Six
(b) Five
(c) Four
(d) Seven
(e) Can't be determined

Q93. If the weight of box C is 45 Kg and the weight of box D is 56 kg then what will be the possible weight of box A ?
(a) 57 kg
(b) 44 kg
(c) 43 kg
(d) 59 kg
(e) 54 kg

Q94. How many boxes have weight between box H and box G ?
(a) Four
(b) Five
(c) Six
(d) Three
(e) None of these

Q95. If in the given word "COLLECTION", all the vowels are changed to their second succeeding letter and all the consonants are changed to their just preceding letter, then how many letters will be in the word thus formed which comes in the second half of the alphabetical series?
(a) One
(b) Two
(c) Four
(d) Three
(e) More than four

Directions (96-98): Study the following information carefully and answer the questions based on it:
In a certain code language
"Set your time goal" is coded as "te ru em ag"
"Time is set work" is coded as "kw pq te em"
"Work time must" is coded as "em kw su"
"Keep must need goal" is coded as "pk dn su ag"
Q96. What is the code for "time"?
(a) em
(b) pk
(c) dn
(d) pq
(e) te

Q97. Which among the following word is coded as " pk "?
(a) Need
(b) Your
(c) Either Your or Need
(d) Keep
(e) Either Keep or Need

Q98. Which among the following combination is correct?
(a) Goal-ru
(b) Your -ag
(c) Must-su
(d) Work-pq
(e) None is correct

Directions (99-100): Study the given information carefully and answer the related questions:
Seven members-P, K, S, J, R, T and $N$ are there in the family of three generation. K is daughter- in- law of T . R is the only son of $K$. J is parent of $S$ who of sister- in- law of $K$. T is grandfather of $N$. $P$ is left only and he is husband of $K$.

Q99. How is R related to S ?
(a) Brother
(b) Son
(c) Brother-in-law
(d) Nephew
(e) Father

Q100. What is the difference between the male and female members in the family?
(a) 2
(b) 0
(c) 1
(d) Either 2 or 1
(e) Either 0 or 1


## Solutions

## S1. Ans. (a)

Sol. The determination of the wet-bulb temperature is useful in determining how the temperature inside the body of mammals changes with change in temperature outside. In this way, we can determine when harmful levels of heat are reached in the human body, at which point organ systems start to fail.
Option (a) is thus correct. Option (b) states that the concept of wet-bulb temperature helps determine the effects of heat in the body, whereas, in reality it only helps determine the temperature inside it, and not the effects. None of the other option find a reference in the passage.

## S2. Ans.(e)

Sol. For justification, refer to the following lines in the second paragraph,
"Warm-blooded animals need to keep their internal temperatures reasonably constant. If it is too hot, most use some form of evaporative cooling to do this-functioning, in essence, as living wet-bulbs. Dogs pant, pigs wallow in mud and humans sweat."

## S3. Ans.(a)

Sol. Only the statement given by option (a) can pass as an answer as the question asks only about an increase in wet-bulb temperature and an inevitable result of it. As far as the justification for option (a) is concerned, it can be recalled how the passage states that the bodies of mammals act on the concept of the wet-bulb temperature. Thus, a certain increase in the temperature of the human body is bound to occur with increase in wet-bulb temperature, as the human body is essentially a tool to measure it. Though, all the other options could be the possible results of the increase in wet-bulb temperature, but that only happen when it goes beyond the threshold limit, i.e., $35^{\circ} \mathrm{C}$. Hence, they can't be the valid answer for the above question.

## S4. Ans. (c)

Sol. To disprove option (a), refer to the last sentence of the third paragraph, "At wet-bulb temperatures above $35^{\circ} \mathrm{C}$, it is thought that even young healthy people wearing light clothing-regardless of whether they are parked in front of a fan, in the shade or have unlimited water to drink-will die in about six hours."
To disprove option (b), we refer to the last sentence of the first paragraph, "It will always be lower than the actual temperature, until the air is completely saturated with moisture vapour."
Option (c) is the only statement that is correct, as is verifies by the starting lines of the second paragraph, "Warm-blooded animals need to keep their internal temperatures reasonably constant. If it is too hot, most use some form of evaporative cooling to do this-functioning, in essence, as living wet-bulbs."
Thus, option (c) is the correct answer to the question.

## S5. Ans.(d)

Sol. Only option (d) is incorrect, and is thus marked as the answer.
Option (a) is correct as is verified by many instances in the paragraph, and understanding the concept wet-bulb temperatures work on. For a clear reference, refer to the last sentence of the second paragraph, "Ambient humidity changes how efficient these processes are, which is why muggy Singapore would feel much hotter than dry Sydney at the same ambient temperature."
To corroborate the truth of options (b), (c), and (e), refer to the last paragraph of the passage.
For option (d), refer to the last sentence of the last paragraph, "Even if countries stick to their promises to curb emissions and scrub carbon from the atmosphere, the world is on track for temperatures to rise by the same amount again by the end of the century."
Option (d) states that reducing carbon emissions won't make a difference at all. The quoted text. however, states that just reducing carbon emissions won't reverse the trend of increasing wet-bulb temperature. Option (d) being the incorrect statement, is the answer to the question.

## S6. Ans.(c)

Sol. From the definitions given below, it can be concluded that only option (c) can properly fit the blank in the passage.
rumoured - be circulated as an unverified account
considered - having been thought about carefully
regarded - consider or think of in a specified way
neglected - suffering a lack of proper care
desecrated - treat (a sacred place or thing) with violent disrespect

## S7. Ans.(a)

Sol. The word "extreme" as used in the context means "reaching a high or the highest degree; very great".
acute - (of an unpleasant or unwelcome situation or phenomenon) present or experienced to a severe or intense degree
sufficient - enough; adequate
opposite - situated on the other or further side when seen from a specified or implicit viewpoint; facing
exuberant - characterized by a vigorously imaginative artistic style
gleaming - reflecting light, typically because very clean or polished
Torpidity - a state of motor and mental inactivity with a partial suspension of sensibility

## S8. Ans.(c)

Sol. The word "curb" as used in the context means "restrain or keep in check".
eliminate - completely remove or get rid of (something)
repudiate - refuse to accept; reject
unleash - to set free (from a state of being held in check)
enlighten - give (someone) greater knowledge and understanding about a subject or situation
invalidate - make or prove (an argument, statement, or theory) unsound or erroneous

## S9. Ans.(d)

Sol. Only option (d) gives a rearrangement that makes the sentence grammatically and contextually correct. The resulting sentence comes after the rearrangement comes out to be,
"As an aquatic dancer, one should be able to maintain their balance in the water while making graceful dance movements."
Thus, option (d) must be marked as the answer.

## S10. Ans.(b)

Sol. Only option (b) gives a rearrangement that makes the sentence grammatically and contextually correct. The resulting sentence comes after the rearrangement comes out to be,
"Because the school does not tolerate indecorous language, the student has been suspended for using profanity."
Thus, option (b) must be marked as the answer.

## S11. Ans.(b)

Sol. Only option (b) gives a rearrangement that makes the sentence grammatically and contextually correct. The resulting sentence comes after the rearrangement comes out to be,
"Each carton was inspected for wholeness and any broken eggs were replaced before the products were sent to stores." Thus, option (b) must be marked as the answer.

## S12. Ans.(a)

Sol. Only option (a) gives a rearrangement that makes the sentence grammatically and contextually correct. The resulting sentence comes after the rearrangement comes out to be,
"If we want to avoid alienation in world politics, our country must establish healthy relationships with other nations."
Thus, option (a) must be marked as the answer.

## S13. Ans.(e)

Sol. The given sentence makes perfect grammatical sense and is contextually coherent. Moreover, none of the options gives a rearrangement which would provide an alternative sentence that is grammatically and contextually sound. As no rearrangement is required and any rearrangement would render the sentence non-meaningful, option (e) must be marked as the answer.

## S14. Ans.(c)

Sol. Only option (c) gives a rearrangement that makes the sentence grammatically and contextually correct. The resulting sentence comes after the rearrangement comes out to be,
"Since the information in the textbook did not pertain to the questions on the tests, it would be pointless to read the textbook." Thus, option (c) must be marked as the answer.

## S15. Ans.(b)

Sol. Only the connector given by option (b) can join the sentences to make them grammatically and contextually coherent, and thus must be marked as the answer.
The definitions/uses of some of the mentioned connectors are given below to help understand the choice of answer. Thus, the resulted sentence will be, "A story can only be considered factual if everything within it is the absolute truth with no lies or exaggerations in it"
along - used to refer to the passage of time or the making of progress
with - accompanied by
because - for the reason that; since
while - during the time that; at the same time as; whereas (indicating a contrast)
as - used to refer to the function or character that someone or something has; during the time of being (the thing specified)
Even though judging by the definition of "while", it might seem like it's an appropriate conjunction, its grammatical usage does not fit the resultant sentence, and thus is eliminated. "While" as a conjunction requires the following verb to be in its continuous form, with all the changes in the structure of sentence included. Thus, option (b) becomes the correct answer

## S16. Ans.(d)

Sol. Only the connector given by option (d) can join the sentences to make them grammatically and contextually coherent, and thus must be marked as the answer.
The definitions/uses of some of the mentioned connectors are given below to help understand the choice of answer. Thus, the resulted sentence will be, "The unclear message between my wife and I resulted in a miscommunication between where we would meet for dinner"
indeed - used to emphasize a statement or response confirming something already suggested
about - on the subject of; concerning
due to - as a result of

## S17. Ans.(c)

Sol. Only the connector given by option (c) can join the sentences to make them grammatically and contextually coherent, and thus must be marked as the answer. Then the resulted sentence will be, "The scientist always approached his work with a sense of realism and refused to let emotions lead him."
The definitions/uses of some of the mentioned connectors are given below to help understand the choice of answer.
that - used to introduce defining relative clauses
then - used to indicate what happens or happened next
and - used to connect two words, phrases, clauses or prefixes together
but - used to introduce an added statement, usually something that is different from what you have said before while - during the time that; at the same time as; whereas (indicating a contrast)

## S18. Ans.(a)

Sol. Only the connector given by option (a) can join the sentences to make them grammatically and contextually coherent, and thus must be marked as the answer. The resulted sentence will be, "John has hated boating ever since the fiasco that left him stranded in the middle of the ocean for a week."

The definitions/uses of some of the mentioned connectors are given below to help understand the choice of answer.
that - used to introduce defining relative clauses
over - expressing passage or trajectory across an area
unlike - different from; not similar to
due to - as a result of
therefore - for that reason

## S19. Ans.(e)

Sol. Only the connector given by option (e) can join the sentences to make them grammatically and contextually coherent, and thus must be marked as the answer. Hence, the resulted sentence will be, "Children can become desensitized to aggression when they play violent videogames"
The definitions/uses of some of the mentioned connectors are given below to help understand the choice of answer.
like - having the same characteristics or qualities as; similar to
before - in advance of the time when
when - at what time

## S20. Ans.(b)

Sol. The context requires a verb in the simple past tense, and the only options where that condition is met are options (a) and (b). Out of the two of them, option (b) fits the blank contextually. Thus, option (b) contains the pair of words, which if substituted in the blank results in the sentence being grammatically and contextually correct.
The definitions of the pair of words by the two options are given below for reference.
to demand - to ask authoritatively or brusquely
to increase - to become or make greater in size, amount, or degree
to pass - to (of a legislative or other official body) approve or put into effect (a proposal or law) by voting on it to reject - refuse to agree to (a request)

## S21. Ans.(c)

Sol. The context requires the inclusion of an adverb in the blank, and only option (c) contains the pair of words both of which are adverbs. Also, the two words fit the context of the sentence Thus, option (c) is the correct answer.
Rectify: put right; correct.
Sporadically: occasionally or at irregular intervals.
Vehemently: in a forceful, passionate, or intense manner; with great feeling.
Inherently: in a permanent, essential, or characteristic way

## S22. Ans.(a)

Sol. The context requires a verb, and thus, option (c), containing a noun as the first word of the pair, is eliminated. For the other options, refer to the word meanings given below.
arrive - reach a place at the end of a journey or a stage in a journey
leave - go away from
remit - send (money) in payment or as a gift
release - allow or enable to escape from confinement; set free
report - give a spoken or written account of something that one has observed, heard, done, or investigated
abandon - cease to support or look after (someone); desert
enter - come or go into (a place)
object - say something to express one's opposition to or disagreement with something
Judging from these definitions, we see that option (a) gives the pair of words which can most properly complete the context.
Thus, option (a) is the correct answer.

## S23. Ans.(c)

Sol. The context requires an adjective, only options (c), and (d) provide pairs with both words as adjectives. Among these, only the words given by option (c) most appropriately complete the context. Thus, option (c) is the correct answer.
The definitions of some of the words are given below for reference.
Juvenile: for or relating to young people
appropriate - suitable or proper in the circumstances
inappropriate - not suitable or proper in the circumstances
intent - (of a look or expression) showing earnest and eager attention
content - in a state of peaceful happiness

## S24. Ans.(e)

Sol. The context of the sentence requires an adjective in place of the provided blank. This eliminates options (a), (b), and (c). Out of the remaining options, the pair of words given by option (e) provide the most appropriate contextual structure to the sentence, and thus, option (e) is the correct answer.
The definitions of some words are given below for reference.
drastic - likely to have a strong or far-reaching effect; radical and extreme
cautious - (of a person) careful to avoid potential problems or dangers
winding - following a twisting or spiral course
straight - extending or moving uniformly in one direction only; without a curve or bend

## S25. Ans.(c)

Sol. Rearranging the phrases in the order given by option (c) gives the following resultant sentence.
"Rather than fining the graffiti artist, the judge ordered him to make reparation by painting the entire building."
This sentence is grammatically correct and contextually coherent, and no other rearrangement achieves this. Thus, option (c) is the correct answer.
S26. Ans.(b)
Sol. Rearranging the phrases in the order given by option (b) gives the following resultant sentence.
"To venerate Mrs. Johnson's fifty-five years of service in the school system, the county is naming a school in her honour."
This sentence is grammatically correct and contextually coherent, and no other rearrangement achieves this. Thus, option (b) is the correct answer.

## S27. Ans.(a)

Sol. Rearranging the phrases in the order given by option (a) gives the following resultant sentence.
"The idea of being cruel to be kind is a paradox because cruelty is not normally associated with kindness."
This sentence is grammatically correct and contextually coherent, and no other rearrangement achieves this. Thus, option (a) is the correct answer.

## S28. Ans.(b)

Sol. Rearranging the phrases in the order given by option (b) gives the following resultant sentence.
"Herman really liked the house, but he was aghast at the property's three-million-dollar price tag."
This sentence is grammatically correct and contextually coherent, and no other rearrangement achieves this. Thus, option (b) is the correct answer.

## S29. Ans.(d)

Sol. Rearranging the phrases in the order given by option (d) gives the following resultant sentence.
"The children slid their sled from the top of the hill to the bottom, laughing as they zoomed down the slope."
This sentence is grammatically correct and contextually coherent, and no other rearrangement achieves this. Thus, option (d) is the correct answer.

## S30. Ans.(a)

Sol. Rearranging the phrases in the order given by option (a) gives the following resultant sentence.
"When the butterfly landed on her shoulder, Alicia took it as a propitious sign she would have a fantastic day."
This sentence is grammatically correct and contextually coherent, and no other rearrangement achieves this. Thus, option (a) is the correct answer.

## S31. Ans.(a)

Sol.
Speed of car $=\frac{320}{10}=32 \mathrm{~km} / \mathrm{hr}$
As ratio of the speed of a train and bus is 8:5
So, let the speed of train be 8 x and speed of bus be 5 x .
As speed of car is half of speed of train
So, speed of train $=2^{*}$ speed of car $=2^{*} 32 \mathrm{~km} / \mathrm{hr}=64 \mathrm{~km} / \mathrm{hr}$
So, speed of bus $=\frac{64}{8 x} \times 5 x=40 \mathrm{~km} / \mathrm{hr}$


S32. Ans.(a)
Sol.
Let initial quantity of liquid $A$ and $B$ in bottle be $4 x \& 5 x$ respectively
So,
$\frac{4 x-20}{5 x+20}=\frac{3}{4}$
$16 \mathrm{x}-80=15 \mathrm{x}+60$
$x=60+80=140$
Initial quantity of $A$ in a mixture $=4 x=4 \times 140=560$ liters

## S33. Ans.(b)

Sol.
Let the speed of train $B$ be ' $s$ ' $m / s e c$
Now, speed of train $A($ in m$/ \mathrm{sec})=54 \mathrm{~km} / \mathrm{hr}=54 \times \frac{5}{18}=15 \mathrm{~m} / \mathrm{sec}$
So, relative speed of both train $=(\mathrm{s}-15) \mathrm{m} / \mathrm{sec}$
So, $\frac{240+300}{s-15}=36$
$=s-15=\frac{540}{36}$
$s=15+15=30 \mathrm{~m} / \mathrm{sec}$

## S34. Ans.(d)

Sol.
Let the speed of boat be ' $x$ ' $m / s e c$ and speed of stream be $y \mathrm{~m} / \mathrm{sec}$.
And, $\mathrm{y}=4 \mathrm{~m} / \mathrm{sec}$ (given)
So, ATQ
$\frac{x+y}{x-y}=\frac{5}{3} \Rightarrow \frac{x+4}{x-4}=\frac{5}{3} \Rightarrow 3 x+12=5 x-20 \Rightarrow 2 x=32 \Rightarrow x=16 \mathrm{~m} / \mathrm{sec}$
So, Total time taken by boat to cover distance in up and down stream respectively $=\frac{120}{16+4}+$ $\frac{120}{16-4}$
$=\frac{120}{20}+\frac{120}{12}$
$=6+10=16 \mathrm{sec}$

## S35. Ans.(d)

Sol.
As, area of square $=81 \mathrm{~cm}^{2}$
Let side of square $=\mathbf{a}$
Area of square $=a^{2}$
So, $a=9 \mathrm{~cm}$
Length of rectangle $=9+4=13 \mathrm{~cm}$
And, breadth of rectangle $=9-4=5 \mathrm{~cm}$
So, area of rectangle $=$ length $\times$ breadth $=13 \times 5=65 \mathrm{~cm}^{2}$

## S36. Ans.(d)

Sol.
I. $x^{2}-9=0 \Rightarrow x^{2}=9 \Rightarrow x=3,-3$
II. $\mathrm{y}^{2}-6 \mathrm{y}+9=0 \Rightarrow y^{2}-3 y-3 y+9=0$
$\Rightarrow y(y-3)-3(y-3)=0$
$\Rightarrow(y-3)(y-3)=0 \Rightarrow y=3,3$

## S37. Ans.(e)

Sol.
I. $\mathrm{x}^{2}+\mathrm{x}-2=0 \Rightarrow x^{2}+2 x-x-2=0$
$\Rightarrow x(x+2)-1(x+2)=0$
$\Rightarrow(x-1)(x+2)=0 \Rightarrow x=1,-2$
II. $\mathrm{y}^{2}+3 \mathrm{y}+2=0 \Rightarrow y^{2}+2 y+y+2=0$
$\Rightarrow y(y+2)+1(y+2)=0$
$\Rightarrow(y+1)(y+2)=0$
$\Rightarrow y=-1,-2$

## S38. Ans.(a)

Sol.
I. $\mathrm{x}^{2}-7 \mathrm{x}+10=0 \Rightarrow x^{2}-5 x-2 x+10=0$
$\Rightarrow x(x-5)-2(x-5)=0$
$\Rightarrow(x-2)(x-5)=0 \Rightarrow x=2,5$
II. $\mathrm{y}^{2}+2 \mathrm{y}-3=0 \Rightarrow y^{2}+3 y-y-3=0$
$\Rightarrow y(y+3)-1(y+3)=0$
$\Rightarrow(y-1)(y+3)=0 \Rightarrow y=1,-3$

## S39. Ans.(b)

Sol.

$$
\begin{aligned}
& \text { I. } \mathrm{x}^{2}+2 \mathrm{x}-15=0 \Rightarrow x^{2}-3 x+5 x-15=0 \\
& \Rightarrow x(x-3)+5(x-3)=0 \\
& \Rightarrow(x+5)(x-3)=0 \Rightarrow x=-5,3 \\
& \text { II. } y^{2}-10 \mathrm{y}+24=0 \Rightarrow y^{2}-4 y-6 y+24=0 \\
& \Rightarrow y(y-4)-6(y-4)=0 \\
& (y-6)(y-4)=0 \Rightarrow y=6,4
\end{aligned}
$$

## S40. Ans.(b)

Sol.
I. $\mathrm{x}^{2}+2 \mathrm{x}-8=0 \Rightarrow x^{2}+4 x-2 x-8$
$\Rightarrow x(x+4)-2(x+4)=0$
$\Rightarrow(x-2)(x+4)=0 \Rightarrow x=2,-4$
II. $\mathrm{y}^{2}-7 \mathrm{y}+12=0 \Rightarrow y^{2}-4 y-3 y+12=0$
$\Rightarrow y(y-4)-3(y-4)=0$
$\Rightarrow(y-3)(y-4)=0 \Rightarrow y=3,4$

## S41. Ans.(d)

Sol.
Let the present ages of Ragini and Ravi be 8 x and 11 x respectively,
Then, after 20years

$$
\frac{8 x+20}{11 x+20}=\frac{4}{5} \Rightarrow 40 x+100=44 x+80 \Rightarrow 4 x=20 \Rightarrow x=5
$$

So, present age of Ragini $=8 x=40$ years and Ravi $=11 x=55$ years
After thirty five years, age of Ragini $=(40+35)=75$ yeasrs
And, age of Ravi $=(55+35)=90$ years
So, required ratio $=75: 90=5: 6$

## S42. Ans.(a)

Sol.
Let principal be Rs. P.
ATQ,
Rate of interest $=\frac{P \times 100}{P \times 3}=\frac{100}{3} \%$
Required interest $=\frac{4200 \times 100 \times 5}{100 \times 3}=R s .7000$

S43. Ans.(e)
Sol.
$B$ investment $=(Y+800)$ Rs.
ATQ -
$\frac{Y}{(Y+800)}=\frac{3200}{(6800-3200)}$
$\mathrm{Y}=6400$
S44. Ans.(c)
Sol.
Let cost price of article $=$ Rs 100 x
So, marked price of article $=100 \mathrm{x} \times \frac{8}{5} \mathrm{Rs} 160 \mathrm{x}$
ATQ -
$100 \mathrm{x}=480-80=400$
$\mathrm{x}=4$ Rs.
Marked price=Rs 640

S45. Ans.(c)
Sol.
Required selling price of mixture
$=\frac{(50 \times 24+40 \times 16)}{24+16} \times \frac{125}{100}$
$=\frac{1840}{40} \times \frac{125}{100}$
$=$ Rs. 57.5

S46. Ans.(b)
Sol.
$\frac{18}{100} \times 650-\frac{8}{100} \times 1150 \approx ?^{2}$
$117-92 \approx ?^{2}$
$?^{2} \approx 25$
? $\approx 5$

S47. Ans.(a)
Sol.
$\frac{?-8}{20} \times 36 \approx 72$
? $-8 \approx \frac{72 \times 20}{36}$
? $\approx 40+8$
$? \approx 48$

S48. Ans.(e)
Sol.
$\frac{30}{100} \times \frac{4}{7} \times \frac{1}{8} \times 420 \approx$ ?
? $\approx 9$

## S49. Ans.(c)

Sol.
$720 \times \frac{1}{80} \times \frac{1}{60} \times 120 \approx$ ?
? $\approx 18$

## S50. Ans.(e)

Sol.
$\frac{900 \times 25}{36} \approx(?+17)^{2}$
$(?+17)^{2} \approx 625$
? $+17 \approx 25$
? $\approx 8$

## S51. Ans.(d)

Sol.
required percentage $=\frac{320+280}{320+180} \times 100$

$$
=\frac{600}{500} \times 100=120 \%
$$

S52. Ans.(a)
Sol. Required difference $=360-240=120$ runs

## S53. Ans.(d)

Sol.

$$
\begin{gathered}
\text { required ratio }=\frac{320+240+280+380+250}{360+320+220+300+180}=\frac{1470}{1380} \\
=\frac{49}{46}
\end{gathered}
$$

## S54. Ans.(b)

Sol.

$$
\begin{aligned}
\text { required percentage } & =\frac{300-240}{300} \times 100 \\
& =20 \%
\end{aligned}
$$

S55. Ans. (c)
Sol. from graph, it is clearly visible that Bangladesh won 3 matches i.e. third, fourth and fifth match.
S56. Ans.(e)
Sol.
required average $=\frac{360+320+220+300}{4}=\frac{1200}{4}$

$$
=300 \text { runs }
$$

## S57. Ans.(d)

Sol.
The pattern of the series is -

$$
\begin{aligned}
& 2 \times 1+1=3 \\
& 3 \times 2+1=7 \\
& 7 \times 3+1=22 \\
& 22 \times 4+1=89 \\
& 89 \times 5+1=446 \\
& 446 \times 6+1=2677 \\
& \text { So, the wrong no. is } 1 .
\end{aligned}
$$

## S58. Ans.(e)

Sol.
The pattern of the series is -

$$
\begin{aligned}
& 2^{2}+1=5 \\
& 3^{2}-1=8 \\
& 4^{2}+1=17 \\
& 5^{2}-1=24 \\
& 6^{2}+1=37 \\
& 7^{2}-1=48 \\
& 8^{2}+1=65
\end{aligned}
$$

So, the wrong no. is 39 .

S59. Ans.(c)
Sol.
The pattern of the series is-
$32 \times 2=64$
$64 \div 4=16$
$16 \times 6=96$
$96 \div 8=12$
$12 \times 10=120$
$120 \div 12=10$
So, the wrong no. is 8 .

S60. Ans.(a)
Sol.
The pattern of the series is -

$$
18+3=21
$$

$$
21+5=26
$$

$$
26+7=33
$$

$$
33+11=44
$$

$$
44+13=57
$$

$$
57+17=74
$$

So, the wrong no. is 17 .

## S61. Ans.(e)

Sol.
I. $4 \mathrm{x}^{2}+12 \mathrm{x}+5=0$
$4 x^{2}+2 x+10 x+5=0$
$2 \mathrm{x}(2 \mathrm{x}+1)+5(2 \mathrm{x}+1)=0$
$\therefore x=-\frac{5}{2}$ or $-\frac{1}{2}$
II. $4 \mathrm{y}^{2}+20 \mathrm{y}+21=0$
$4 \mathrm{y}^{2}+6 \mathrm{y}+14 \mathrm{y}+21=0$
$2 \mathrm{y}(2 \mathrm{y}+3)+7(2 \mathrm{y}+3)=0$
$y=-\frac{3}{2},-\frac{7}{2}$
$\Rightarrow$ no relation

S62. Ans.(e)
Sol.
I. $x^{2}-12 x+32=0$
$\mathrm{x}^{2}-8 \mathrm{x}-4 \mathrm{x}+32=0$
$\mathrm{x}(\mathrm{x}-8)-4(\mathrm{x}-8)=0$
$\therefore \mathrm{x}=8$ or 4
II. $y^{2}-19 y-60=0$
$y^{2}-15 y-4 y-60=0$
$y(y-15)-4(y-15)=0$
$y=4$ or 15
$\therefore$ no relation

S63. Ans.(a)
Sol.
I. $12 x^{2}+7 x+1=0$
$12 x^{2}+3 x+4 x+1=0$
$3 x(4 \mathrm{x}+1)+1(4 \mathrm{x}+1)=0$
$\mathrm{x}=-\frac{1}{4}$ or $-\frac{1}{3}$
II. $9 \mathrm{y}^{2}+9 \mathrm{y}+2=0$
$9 y^{2}+6 y+3 y+2=0$
$3 y(3 y+2)+1(3 y+2)=0$
$\therefore \mathrm{y}=-\frac{2}{3}$ or $-\frac{1}{3}$
$\therefore x \geq y$


S64. Ans.(d)
Sol.
I. $5 \mathrm{x}+2 \mathrm{y}=10$
II. $15 \mathrm{x}-3 \mathrm{y}=12$
on solving
$\mathrm{x}=1.2, \mathrm{y}=2$
$\therefore \mathrm{y}>\mathrm{x}$

S65. Ans.(e)
Sol.
I. $x^{2}+2 x-15=0$
$x^{2}-3 x+5 x-15=0$
$\mathrm{x}(\mathrm{x}-3)+5(\mathrm{x}-3)=0$
$\therefore x=3$ or -5
II. $2 y^{2}+3 y-90=0$
$2 \mathrm{y}^{2}+15 \mathrm{y}-12 \mathrm{y}-90=0$
$y(2 y+15)-6(2 y+15)=0$
$\therefore y=6$ or $-\frac{15}{2}$
$\therefore$ No relation

S66. Ans.(e)
Sol. M lives three floors above Q on a prime numbered floor. So, here we have two possible cases.

| Floors | Persons | Persons |
| :---: | :---: | :---: |
|  | Case 1 | Case 2 |
| 10 |  |  |
| 9 |  |  |
| 8 | M |  |
| 7 |  | M |
| 6 |  |  |
| 5 |  | Q |
| 4 |  |  |
| 3 |  |  |
| 2 |  |  |
| 1 |  |  |

One person lives between M and O who lives on an even numbered floor. No two adjacent floors are vacant. Three floors gap between M and N . S lives just below N's floor. So, case 2 gets eliminated here.

| Floors | Persons | Persens |
| :---: | :---: | :---: |
|  | Case 1 | Gase 2 |
| 10 | 0 |  |
| 9 | Vacant/ | $\mathrm{N} /$ |
| 8 | Vacant | $\theta$ |
| 7 | M | Vacant $/$ |
| 6 |  | Vacant $/$ |
| 5 |  | M |
| 4 | Q |  |
| 3 | N |  |
| 2 | S | Q |
| 1 |  | $\mathrm{~N} /$ |

The number of persons between Q and S is same as between R and Q which means $1^{\text {st }}$ floor is vacant. T lives below P who lives on an odd numbered floor which means P lives on $9^{\text {th }}$ floor and $8^{\text {th }}$ floor is vacant.

| Floors | Persons |
| :---: | :---: |
|  | Case 1 |
| 10 | O |
| 9 | P |
| 8 | Vacant |
| 7 | M |
| 6 | R |
| 5 | T |
| 4 | Q |
| 3 | N |
| 2 | S |
| 1 | Vacant |

And the final arrangement is:

| Floors | Persons |
| :---: | :---: |
| 10 | O |
| 9 | P |
| 8 | Vacant |
| 7 | M |
| 6 | R |
| 5 | T |
| 4 | Q |
| 3 | N |
| 2 | S |
| 1 | Vacant |

Both $8^{\text {th }}$ and $1^{\text {st }}$ floors are vacant.

S67. Ans. (c)
Sol. M lives three floors above Q on a prime numbered floor. So, here we have two possible cases.

| Floors | Persons | Persons |
| :---: | :---: | :---: |
|  | Case 1 | Case 2 |
| 10 |  |  |
| 9 |  |  |
| 8 | M |  |
| 7 |  | M |
| 6 | Q |  |
| 5 |  | Q |
| 4 |  |  |
| 3 |  |  |
| 2 |  |  |
| 1 |  |  |

One person lives between M and O who lives on an even numbered floor. No two adjacent floors are vacant. Three floors gap between M and N . S lives just below N's floor. So, case 2 gets eliminated here.

| Floors | Persons | Persens |
| :---: | :---: | :---: |
|  | Case 1 | Gase 2 |
| 10 | 0 |  |
| 9 | Vacant/ | $\mathrm{N} /$ |
| 8 | Vacant | $\theta$ |
| 7 | M | Vacant $/$ |
| 6 |  | Vacant $/$ |
| 5 | Q | M |
| 4 | N |  |
| 3 | S |  |
| 2 |  | Q |
| 1 |  | $\mathrm{~N} /$ |

The number of persons between Q and S is same as between R and Q which means $1^{\text {st }}$ floor is vacant. T lives below P who lives on an odd numbered floor which means P lives on $9^{\text {th }}$ floor and $8^{\text {th }}$ floor is vacant.

| Floors | Persons |
| :---: | :---: |
|  | Case 1 |
| 10 | 0 |
| 9 | P |
| 8 | Vacant |
| 7 | M |
| 6 | R |
| 5 | T |
| 4 | Q |
| 3 | N |
| 2 | S |
| 1 | Vacant |

And the final arrangement is:

| Floors | Persons |
| :---: | :---: |
| 10 | 0 |
| 9 | P |
| 8 | Vacant |
| 7 | M |
| 6 | R |
| 5 | T |
| 4 | Q |
| 3 | N |
| 2 | S |
| 1 | Vacant |

Both I and II statements are true.

S68. Ans.(b)
Sol. M lives three floors above Q on a prime numbered floor. So, here we have two possible cases.

| Floors | Persons | Persons |
| :---: | :---: | :---: |
|  | Case 1 | Case 2 |
| 10 |  |  |
| 9 |  |  |
| 8 | M |  |
| 7 |  | M |
| 6 | Q |  |
| 5 |  | Q |
| 4 |  |  |
| 3 |  |  |
| 2 |  |  |
| 1 |  |  |

One person lives between $M$ and 0 who lives on an even numbered floor. No two adjacent floors are vacant. Three floors gap between M and N. S lives just below N's floor. So, case 2 gets eliminated here.

| Floors | Persons | Persens |
| :---: | :---: | :---: |
|  | Case 1 | Gase 2 |
| 10 | 0 |  |
| 9 | Vacant/ | $\mathrm{N} /$ |
| 8 | Vacant | $\theta$ |
| 7 | M | Vacant $/$ |
| 6 |  | Vacant $/$ |
| 5 | Q | M |
| 4 | N |  |
| 3 | S |  |
| 2 |  | Q |
| 1 |  | $\mathrm{~N} /$ |

The number of persons between Q and S is same as between R and Q which means $1^{\text {st }}$ floor is vacant. T lives below P who lives on an odd numbered floor which means P lives on $9^{\text {th }}$ floor and $8^{\text {th }}$ floor is vacant.

| Floors | Persons |
| :---: | :---: |
|  | Case 1 |
| 10 | 0 |
| 9 | P |
| 8 | Vacant |
| 7 | M |
| 6 | R |
| 5 | T |
| 4 | Q |
| 3 | N |
| 2 | S |
| 1 | Vacant |

And the final arrangement is:

| Floors | Persons |
| :---: | :---: |
| 10 | O |
| 9 | P |
| 8 | Vacant |
| 7 | M |
| 6 | R |
| 5 | T |
| 4 | Q |
| 3 | N |
| 2 | S |
| 1 | Vacant |

Four persons live between 0 and Q .
S69. Ans. (a)
Sol. M lives three floors above Q on a prime numbered floor. So, here we have two possible cases.

| Floors | Persons | Persons |
| :---: | :---: | :---: |
|  | Case 1 | Case 2 |
| 10 |  |  |
| 9 |  |  |
| 8 | M |  |
| 7 |  | M |
| 6 |  |  |
| 5 |  |  |
| 4 |  | Q |
| 3 |  |  |
| 2 |  |  |
| 1 |  |  |

One person lives between M and O who lives on an even numbered floor. No two adjacent floors are vacant. Three floors gap between M and N. S lives just below N's floor. So, case 2 gets eliminated here.

| Floors | Persons | Persens |
| :---: | :---: | :---: |
|  | Case 1 | Gase 2 |
| 10 | 0 |  |
| 9 | Vacant $/$ | $\mathrm{N} /$ |
| 8 | Vacant | $\theta$ |
| 7 | M | Vacant $/$ |
| 6 |  | Vacant $/$ |
| 5 | Q | M |
| 4 | N |  |
| 3 | S |  |
| 2 |  | Q |
| 1 |  | $\mathrm{~N} /$ |

The number of persons between Q and S is same as between R and Q which means $1^{\text {st }}$ floor is vacant. T lives below P who lives on an odd numbered floor which means P lives on $9^{\text {th }}$ floor and $8^{\text {th }}$ floor is vacant.

| Floors | Persons |
| :---: | :---: |
|  | Case 1 |
| 10 | 0 |
| 9 | P |
| 8 | Vacant |
| 7 | M |
| 6 | R |
| 5 | T |
| 4 | Q |
| 3 | N |
| 2 | S |
| 1 | Vacant |

And the final arrangement is:

| Floors | Persons |
| :---: | :---: |
| 10 | 0 |
| 9 | P |
| 8 | Vacant |
| 7 | M |
| 6 | R |
| 5 | T |
| 4 | Q |
| 3 | N |
| 2 | S |
| 1 | Vacant |

M lives three floors above S after the rearrangement.

## S70. Ans.(c)

Sol. M lives three floors above Q on a prime numbered floor. So, here we have two possible cases.

| Floors | Persons | Persons |
| :---: | :---: | :---: |
|  | Case 1 | Case 2 |
| 10 |  |  |
| 9 |  |  |
| 8 | M |  |
| 7 |  | M |
| 6 | Q |  |
| 5 |  | Q |
| 4 |  |  |
| 3 |  |  |
| 2 |  |  |
| 1 |  |  |

One person lives between M and O who lives on an even numbered floor. No two adjacent floors are vacant. Three floors gap between M and N. S lives just below N's floor. So, case 2 gets eliminated here.

| Floors | Persons | Persens |
| :---: | :---: | :---: |
|  | Case 1 | Gase 2 |
| 10 | 0 |  |
| 9 | Vacant/ | $\mathrm{N} /$ |
| 8 | Vacant $/$ | $\theta$ |
| 7 | M | Vacant $/$ |
| 6 |  | Vacant $/$ |
| 5 |  | M |
| 4 | Q |  |
| 3 | N |  |
| 2 | S | Q |
| 1 |  | $\mathrm{~N} /$ |

The number of persons between Q and S is same as between R and Q which means $1^{\text {st }}$ floor is vacant. T lives below P who lives on an odd numbered floor which means P lives on $9^{\text {th }}$ floor and $8^{\text {th }}$ floor is vacant.

| Floors | Persons |
| :---: | :---: |
|  | Case 1 |
| 10 | O |
| 9 | P |
| 8 | Vacant |
| 7 | M |
| 6 | R |
| 5 | T |
| 4 | Q |
| 3 | N |
| 2 | S |
| 1 | Vacant |

And the final arrangement is:

| Floors | Persons |
| :---: | :---: |
| 10 | 0 |
| 9 | P |
| 8 | Vacant |
| 7 | M |
| 6 | R |
| 5 | T |
| 4 | Q |
| 3 | N |
| 2 | S |
| 1 | Vacant |

P lives on 9th floor.

S71. Ans.(b)
Sol. Given word- CELEBRATION
After rearrangement-ABCEEILNORT
S72. Ans.(b)
Sol. A is senior to the one who is designated as Inspector. Two designations gap between A and F. So, here we have three possible cases.

| Designations | Persons | Persons | Persons |
| :---: | :---: | :---: | :---: |
|  | Case 1 | Case 2 | Case 3 |
| Commandant | A |  |  |
| Deputy Commandant |  | A |  |
| Assistant <br> Commandant |  |  | A |
| Inspector | F |  |  |
| Sub inspector |  | F |  |
| Assistant sub <br> inspector |  |  | F |
| Head constable |  |  |  |

E is designated two designations junior to $F$. So, case 3 gets eliminated here. $G$ is senior to $B$ but junior to $C$. $B$ is designated neither as assistant sub inspector nor as head constable.

| Designations | Persons | Persons | Persens |
| :---: | :---: | :---: | :---: |
|  | Case 1 | Case 2 | Gase 3 |
| Commandant | A | C |  |
| Deputy Commandant | C | A |  |
| Assistant <br> Commandant | G | G | A |
| Inspector | F | B |  |
| Sub inspector | B | F | F |
| Assistant sub <br> inspector | E |  |  |
| Head constable |  | E |  |

At least one person is designated junior to D. So, case 1 gets eliminated here.

| Designations | Persens | Persons |
| :---: | :---: | :---: |
|  | Gase 4 | Case 2 |
| Commandant | A | C |
| Deputy Commandant | G | A |
| Assistant <br> Commandant | G | G |
| Inspector | F | B |
| Sub inspector | B | F |
| Assistant sub <br> inspector | B | D |
| Head constable |  | E |

And the final arrangement is:

| Designations | Persons |
| :---: | :---: |
| Commandant | C |
| Deputy Commandant | A |
| Assistant <br> Commandant | G |
| Inspector | B |
| Sub inspector | F |
| Assistant sub <br> inspector | D |
| Head constable | E |

D is designated as Assistant sub inspector.

## S73. Ans.(d)

Sol. A is senior to the one who is designated as Inspector. Two designations gap between A and F. So, here we have three possible cases.

| Designations | Persons | Persons | Persons |
| :---: | :---: | :---: | :---: |
|  | Case 1 | Case 2 | Case 3 |
| Commandant | A |  |  |
| Deputy Commandant |  | A |  |
| Assistant <br> Commandant |  |  | A |
| Inspector | F | F |  |
| Sub inspector |  |  | F |
| Assistant sub <br> inspector |  |  |  |
| Head constable |  |  |  |

E is designated two designations junior to $F$. So, case 3 gets eliminated here. $G$ is senior to $B$ but junior to $C . B$ is designated neither as assistant sub inspector nor as head constable.

| Designations | Persons | Persons | Persens |
| :---: | :---: | :---: | :---: |
|  | Case 1 | Case 2 | Gase 3 |
| Commandant | A | C |  |
| Deputy Commandant | C | A |  |
| Assistant <br> Commandant | G | G | A |
| Inspector | F | B |  |
| Sub inspector | B | F |  |
| Assistant sub <br> inspector | E |  | F |
| Head constable |  | E |  |

At least one person is designated junior to D. So, case 1 gets eliminated here.

| Designations | Persens | Persons |
| :---: | :---: | :---: |
|  | Gase 1 | Case 2 |
| Commandant | A | C |
| Deputy Commandant | G | A |
| Assistant <br> Commandant | G | G |
| Inspector | F | B |
| Sub inspector | B | F |
| Assistant sub <br> inspector | F | D |
| Head constable |  | E |

And the final arrangement is:

| Designations | Persons |
| :---: | :---: |
| Commandant | C |
| Deputy Commandant | A |
| Assistant <br> Commandant | G |
| Inspector | B |
| Sub inspector | F |
| Assistant sub <br> inspector | D |
| Head constable | E |

Three persons are designated between C and F .

## S74. Ans.(a)

Sol. A is senior to the one who is designated as Inspector. Two designations gap between A and F. So, here we have three possible cases.

| Designations | Persons | Persons | Persons |
| :---: | :---: | :---: | :---: |
|  | Case 1 | Case 2 | Case 3 |
| Commandant | A |  |  |
| Deputy Commandant |  | A |  |
| Assistant <br> Commandant |  |  | A |
| Inspector | F |  |  |
| Sub inspector |  | F |  |
| Assistant sub <br> inspector |  |  | F |
| Head constable |  |  |  |

$E$ is designated two designations junior to $F$. So, case 3 gets eliminated here. $G$ is senior to $B$ but junior to $C$. $B$ is designated neither as assistant sub inspector nor as head constable.

| Designations | Persons | Persons | Persens |
| :---: | :---: | :---: | :---: |
|  | Case 1 | Case 2 | Case 3 |
| Commandant | A | C |  |
| Deputy Commandant | C | A |  |
| Assistant <br> Commandant | G | G | A |
| Inspector | F | B |  |
| Sub inspector | B | F |  |
| Assistant sub <br> inspector | E |  | F |
| Head constable |  | E |  |

At least one person is designated junior to D. So, case 1 gets eliminated here.

| Designations | Persens | Persons |
| :---: | :---: | :---: |
|  | Gase 1 | Case 2 |
| Commandant | A | C |
| Deputy Commandant | G | A |
| Assistant <br> Commandant | G | G |
| Inspector | F | B |
| Sub inspector | B | F |
| Assistant sub <br> inspector | B | D |
| Head constable |  | E |

And the final arrangement is:

| Designations | Persons |
| :---: | :---: |
| Commandant | C |
| Deputy Commandant | A |
| Assistant <br> Commandant | G |
| Inspector | B |
| Sub inspector | F |
| Assistant sub <br> inspector | D |
| Head constable | E |

C is designated as commandant.

## S75. Ans.(c)

Sol. A is senior to the one who is designated as Inspector. Two designations gap between A and F. So, here we have three possible cases.

| Designations | Persons | Persons | Persons |
| :---: | :---: | :---: | :---: |
|  | Case 1 | Case 2 | Case 3 |
| Commandant | A |  |  |
| Deputy Commandant |  | A |  |
| Assistant <br> Commandant |  |  | A |
| Inspector | F | F |  |
| Sub inspector |  |  | F |
| Assistant sub <br> inspector |  |  |  |
| Head constable |  |  |  |

E is designated two designations junior to F. So, case 3 gets eliminated here. G is senior to B but junior to C. B is designated neither as assistant sub inspector nor as head constable.

| Designations | Persons | Persons | Persens |
| :---: | :---: | :---: | :---: |
|  | Case 1 | Case 2 | Gase 3 |
| Commandant | A | C |  |
| Deputy Commandant | C | A | A |
| Assistant <br> Commandant | G | G | F |
| Inspector | F | B |  |
| Sub inspector | B | F |  |
| Assistant sub <br> inspector | E |  |  |
| Head constable |  | E |  |

At least one person is designated junior to D. So, case 1 gets eliminated here.

| Designations | Persens | Persons |
| :---: | :---: | :---: |
|  | Gase 1 | Case 2 |
| Commandant | A | C |
| Deputy Commandant | G | A |
| Assistant <br> Commandant | G | G |
| Inspector | F | B |
| Sub inspector | B | F |
| Assistant sub <br> inspector | F | D |
| Head constable |  | E |

And the final arrangement is:

| Designations | Persons |
| :---: | :---: |
| Commandant | C |
| Deputy Commandant | A |
| Assistant <br> Commandant | G |
| Inspector | B |
| Sub inspector | F |
| Assistant sub <br> inspector | D |
| Head constable | E |

' B - Inspector' is the correct combination.
S76. Ans.(e)
Sol.
I. $\mathrm{L}<\mathrm{Y}$ (True)
II. $\mathrm{O} \leq \mathrm{T}$ (False)

S77. Ans. (b)
Sol.
I. $\mathrm{G} \geq \mathrm{L}$ (False)
II. D>L(False)

## S78. Ans.(b)

Sol. S sits second to the left of $V$. One person sits between $V$ and the one who likes green. So, we have two possible cases here.


Two persons sit between S and T. V doesn't sit next to T. The one who likes pink sits second to the right of T. R sits three places away from the one who likes pink.


T doesn't like magenta colour. P sits immediate right of the one who likes magenta. P doesn't like any colour. So, case 1 gets eliminated here.


$U$ is an immediate neighbour of both $T$ and $Q$. The one who likes yellow sits adjacent to $P$ which means $V$ likes yellow. And the final arrangement is:


Q sits third to the left of the one who likes yellow colour.

## S79. Ans. (d)

Sol. $S$ sits second to the left of $V$. One person sits between $V$ and the one who likes green. So, we have two possible cases here.


Two persons sit between $S$ and $T$. V doesn't sit next to T . The one who likes pink sits second to the right of T . R sits three places away from the one who likes pink.


T doesn't like magenta colour. P sits immediate right of the one who likes magenta. P doesn't like any colour. So, case 1 gets eliminated here.

$U$ is an immediate neighbour of both $T$ and $Q$. The one who likes yellow sits adjacent to $P$ which means $V$ likes yellow. And the final arrangement is:


Two persons sit between T and P when counts to the right of P .

S80. Ans.(c)
Sol. S sits second to the left of V. One person sits between V and the one who likes green. So, we have two possible cases here.


Two persons sit between S and T. V doesn't sit next to T. The one who likes pink sits second to the right of T. R sits three places away from the one who likes pink.

$T$ doesn't like magenta colour. P sits immediate right of the one who likes magenta. P doesn't like any colour. So, case 1 gets eliminated here.

$U$ is an immediate neighbour of both $T$ and $Q$. The one who likes yellow sits adjacent to $P$ which means $V$ likes yellow. And the final arrangement is:


All of them likes colour except $P$.

## S81. Ans.(e)

Sol. S sits second to the left of V . One person sits between V and the one who likes green. So, we have two possible cases here.


Two persons sit between $S$ and $T$. V doesn't sit next to T. The one who likes pink sits second to the right of T. R sits three places away from the one who likes pink.



T doesn't like magenta colour. P sits immediate right of the one who likes magenta. P doesn't like any colour. So, case 1 gets eliminated here.


$U$ is an immediate neighbour of both $T$ and $Q$. The one who likes yellow sits adjacent to $P$ which means $V$ likes yellow. And the final arrangement is:


S likes magenta colour.

## S82. Ans.(a)

Sol. S sits second to the left of V . One person sits between V and the one who likes green. So, we have two possible cases here.


Two persons sit between $S$ and T. V doesn't sit next to T. The one who likes pink sits second to the right of T. R sits three places away from the one who likes pink.


T doesn't like magenta colour. P sits immediate right of the one who likes magenta. P doesn't like any colour. So, case 1 gets eliminated here.

$U$ is an immediate neighbour of both $T$ and $Q$. The one who likes yellow sits adjacent to $P$ which means $V$ likes yellow. And the final arrangement is:


V sits immediate right of Q after interchanging the position of P and Q .

## S83. Ans.(c)

Sol.
$\begin{array}{llllllll}S & I & M & I & L & A & R\end{array}$

## S84. Ans.(d)

Sol. I follows: There is no direct relation between write and melody so in case of possibility, relation between them follows. II follows: As it is given that only a few part of read is write which means some part of read is definitely not write.


## S85. Ans.(b)

Sol. I doesn't follow: White can only relate with snow and with other elements it has no relation even in case of possibility.
II follows: White can only relate with snow and with other elements it has no relation even in case of possibility.


## S86. Ans.(e)

Sol. I doesn't follow: There is no direct relation between mirror and glass so this relation doesn't exist.
II doesn't follow: There is no direct relation between mirror and glass so this relation doesn't exist.


## S87. Ans.(b)

Sol. I doesn't follow: As it is given that only a few part of orange is pears which means some part of orange is definitely not pears and all orange is mango so all mango can't be pears even in possibility.
II follow: Some part of orange which is pears is definitely not apple as there is no relation between apple and pears.


## S88. Ans.(b)

Sol.


Point K is in south east direction with respect to point J.

## S89. Ans.(e)

Sol.


Total distance between point R and point N is 33 m .

## S90. Ans.(c)

Sol.


Both I and II statements are true.

## S91. Ans.(c)

Sol. Three boxes have weight between box A and box G. So, here we have two possible cases. Box G's weight is just more than box I.
Case 1: A>_>__ _ > G>I
Case 2: G > I > _>_ $>\mathrm{A}$
Box D is just heavier than box A and just lighter than box F . Two boxes have weight between box A and box H which is heavier than box I. So, case 2 gets eliminated here. Case 1a also introduces here.
Case 1: $\mathrm{H}>\mathrm{F}>\mathrm{D}>\mathrm{A}>{ }^{\prime}>{ }^{>}>\mathrm{C}_{\mathrm{G}}>\mathrm{I}$
Case 1a: F>D $>\mathrm{A}>\__{>}>\mathrm{H}>\mathrm{G}>\mathrm{I}$
Gase 2: $\mathrm{G}>\mathrm{I} \ggg \mathrm{D}>\mathrm{A}$
Box $C$ is heavier than box B. No box is placed between box B and box E. Box $C$ is lighter than box F. So, case 1a gets eliminated here.
Case 1: $\mathrm{H}>\mathrm{F}>\mathrm{D}>\mathrm{A}>\mathrm{C}>\mathrm{B} / \mathrm{E}>\mathrm{E} / \mathrm{B}>\mathrm{G}>\mathrm{I}$
Gase 1a: $\mathrm{C}>\mathrm{F}>\mathrm{D}>\mathrm{A}>\mathrm{B} / \mathrm{E}>\mathrm{E} / \mathrm{B}>\mathrm{H}>\mathrm{G}>\mathrm{I}$
And the final arrangement is: $\mathbf{H}>\mathbf{F}>\mathbf{D}>\mathbf{A}>\mathbf{C}>\mathbf{B} / \mathrm{E}>\mathrm{E} / \mathrm{B}>\mathrm{G}>\mathrm{I}$
Box A is $4^{\text {th }}$ heaviest.

## S92. Ans.(e)

Sol. Three boxes have weight between box A and box G. So, here we have two possible cases. Box G's weight is just more than box I.
Case 1: $\mathrm{A}>\ldots>\ldots \gg \mathrm{G}>\mathrm{I}$
Case 2: G > I > _ > _ > A
Box $D$ is just heavier than box $A$ and just lighter than box $F$. Two boxes have weight between box A and box H which is heavier than box I. So, case 2 gets eliminated here. Case 1a also introduces here.
Case 1: $\mathrm{H}>\mathrm{F}>\mathrm{D}>\mathrm{A}>{ }^{\prime} \ggg>\mathrm{G}>\mathrm{I}$
Case 1a: F > D > A $>$ _ $\gg H>G>I$
Gase 2: $\mathrm{G}>\mathrm{I} \ggg D>A$
Box C is heavier than box B . No box is placed between box B and box E . Box C is lighter than box F . So, case 1a gets eliminated here.
Case 1: $\mathrm{H}>\mathrm{F}>\mathrm{D}>\mathrm{A}>\mathrm{C}>\mathrm{B} / \mathrm{E}>\mathrm{E} / \mathrm{B}>\mathrm{G}>\mathrm{I}$
Gase 1a. $\mathrm{C}>\mathrm{F}>\mathrm{D}>\mathrm{A}>\mathrm{B} / \mathrm{E}>\mathrm{E} / \mathrm{B}>\mathrm{H}>\mathrm{G}>\mathrm{I}$
And the final arrangement is: $\mathbf{H}>\mathbf{F}>\mathbf{D}>\mathbf{A}>\mathbf{C}>\mathbf{B} / \mathbf{E}>\mathrm{E} / \mathrm{B}>\mathrm{G}>\mathrm{I}$
Position of box E is not fixed so the answer is can't be determined.


## S93. Ans.(e)

Sol. Three boxes have weight between box A and box G. So, here we have two possible cases. Box G's weight is just more than box I.

Case 2: G > I > _>_ $>\mathrm{A}$
Box D is just heavier than box A and just lighter than box F . Two boxes have weight between box A and box H which is heavier than box I. So, case 2 gets eliminated here. Case 1a also introduces here.

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Case 1: \(\mathrm{H}>\mathrm{F}>\mathrm{D}>\mathrm{A}>{ }^{2}>{ }_{>}>\mathrm{C}>\mathrm{I}\)
Case 1a: F > D > A \(\ggg>\) H \(>\mathrm{G}>\mathrm{I}\)
Gase 2: \(\mathrm{G}>\mathrm{I} \ggg \mathrm{D}>\mathrm{A}\)
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Box $C$ is heavier than box B. No box is placed between box B and box E. Box $C$ is lighter than box F. So, case 1a gets eliminated here.
Case 1: $\mathrm{H}>\mathrm{F}>\mathrm{D}>\mathrm{A}>\mathrm{C}>\mathrm{B} / \mathrm{E}>\mathrm{E} / \mathrm{B}>\mathrm{G}>\mathrm{I}$
Gase 1a: $\mathrm{C}>\mathrm{F}>\mathrm{D}>\mathrm{A}>\mathrm{B} / \mathrm{E}>\mathrm{E} / \mathrm{B}>\mathrm{H}>\mathrm{G}>\mathrm{I}$
And the final arrangement is: $\mathbf{H}>\mathbf{F}>\mathbf{D}>\mathbf{A}>\mathbf{C}>\mathbf{B} / \mathbf{E}>\mathbf{E} / \mathbf{B}>\mathbf{G}>\mathbf{I}$
Possible weight of box A will be 54 kg .

## S94. Ans.(c)

Sol. Three boxes have weight between box A and box G. So, here we have two possible cases. Box G's weight is just more than box I.
Case 1: $\mathrm{A}>{ }_{\text {_ }}>{ }^{>} \quad$ _ $>\mathrm{G}>\mathrm{I}$
Case 2: G > I > _>_ $>\mathrm{A}$
Box D is just heavier than box A and just lighter than box F . Two boxes have weight between box A and box H which is heavier than box I. So, case 2 gets eliminated here. Case 1a also introduces here.
Case 1: $\mathrm{H}>\mathrm{F}>\mathrm{D}>\mathrm{A}>{ }^{\prime}>\ldots \gg \mathrm{G}>\mathrm{I}$
Case 1a: F>D $>\mathrm{A}>\__{>} \quad>\mathrm{H}>\mathrm{G}>\mathrm{I}$
Gase $2: G>I \geqslant->D>A$
Box $C$ is heavier than box B. No box is placed between box B and box E. Box $C$ is lighter than box F. So, case 1a gets eliminated here.
Case 1: $\mathrm{H}>\mathrm{F}>\mathrm{D}>\mathrm{A}>\mathrm{C}>\mathrm{B} / \mathrm{E}>\mathrm{E} / \mathrm{B}>\mathrm{G}>\mathrm{I}$
Gase 1a: $\mathrm{C}>\mathrm{F}>\mathrm{D}>\mathrm{A}>\mathrm{B} / \mathrm{E}>\mathrm{E} / \mathrm{B}>\mathrm{H}>\mathrm{G}>+\mathrm{I}$
And the final arrangement is: $\mathbf{H}>\mathbf{F}>\mathbf{D}>\mathrm{A}>\mathrm{C}>\mathrm{B} / \mathrm{E}>\mathrm{E} / \mathrm{B}>\mathrm{G}>\mathrm{I}$
Six boxes have weight between box $H$ and box G .

## S95. Ans.(d)

Sol. Given word- COLLECTIONS
After rearrangement- BQKKGBSKQM
Letters come in the second half of alphabetical series - $Q, S$ and $Q$.

## S96. Ans.(a)

Sol.

| Words | Codes |
| :---: | :---: |
| Set | Te |
| Your | Ru |
| Time | Em |
| Goal | Ag |
| Is | Pq |
| Work | Kw |
| Must | Su |
| Keep/Need | $\mathrm{Pk} / \mathrm{dn}$ |

S97. Ans.(e)
Sol.

| Words | Codes |
| :---: | :---: |
| Set | Te |
| Your | Ru |
| Time | Em |
| Goal | Ag |
| Is | Pq |
| Work | Kw |
| Must | Su |
| Keep/Need | $\mathrm{Pk} / \mathrm{dn}$ |

S98. Ans.(c)
Sol.

| Words | Codes |
| :---: | :---: |
| Set | Te |
| Your | Ru |
| Time | Em |
| Goal | Ag |
| Is | Pq |
| Work | Kw |
| Must | Su |
| Keep/Need | $\mathrm{Pk} / \mathrm{dn}$ |

S99. Ans. (d)
Sol. K is daughter- in- law of T. R is the only son of K.

$J$ is parent of $S$ who of sister- in- law of $K$. $T$ is grandfather of $N$. So, $S$ must be daughter of $T$ and $N$ must be daughter of $K$ as three generation is only there.

$P$ is left only and he is husband of K . Thus the final arrangement is:

$R$ is nephew of $S$.

S100. Ans.(c)
Sol. K is daughter- in- law of T. R is the only son of K.


J is parent of $S$ who of sister- in- law of $K$. T is grandfather of $N$. So, $S$ must be daughter of $T$ and $N$ must be daughter of $K$ as three generation is only there.

$P$ is left only and he is husband of $K$. Thus the final arrangement is:


Male members- 3
Female members-4
Difference= 4-3=1


