REGIONAL RURAL BANKS (RRBs)-2020

PREVIOUS YEAR PAPER

OFFICE ASSISTANT-2020

Sr. No.	Name of Tests (Objective)	No. of Questions	Maximum Marks	Duration
1.	Reasoning Ability	40	40	**Composite time of 45 minutes**
2.	Quantitative Aptitude	40	40	
	Total	**80**	**80**	

INSTRUCTIONS

(1) Time limit to complete this test is 45 minutes no sectional timing.

(2) It is not necessary for the candidate to attempt the section in order of their arrangement in this test. You can choose to attempt any section first, as per your preference. All questions are compulsory and carry equal marks.

(3) Do not use calculators, or any electronic medium for calculations. You may take a clean sheet of paper for rough work and all calculations must be performed manually by the candidate.

(4) There will be penalty for wrong answer marked by you in the objective tests. There are five alternatives in every question of a test.

(5) For each question for which a wrong answer has been given by you, 1/4 or 0.25 of the marks assigned to that question will be deducted as penalty. If a question is left blank, i.e. no answer is given by you, there will be no penalty for that question.

(6) There will be a cut off for each section and an overall cut off as well. Hence, your aim should be to answer maximum number of attempts in all three sections.

TEST-I: REASONING ABILITY

Direction (Qs.1-5): Study the following information carefully and answer the questions given below.

Eight persons A, B, C, D, E, F, G and H lived in a building with 8 floors. The floors were numbered 1-8 from bottom to top. None of the floors was vacant and only one person lived on each floor. Three persons lived between A and C. A lived somewhere above C. D lived immediately below A. 2 persons lived between B and D. H lived immediately above E. Only 1 person lived between E and F.

1. What was the floor number of G?
(1) 6 (2) 4 (3) 1 (4) 3 (5) 7

2. How many persons lived between A and E?
(1) None (2) 1 (3) 2 (4) 3 (5) 4

3. Who lived on floor 5?
(1) H (2) F (3) A (4) B (5) D

4. How many persons lived below F?
(1) None (2) 1 (3) 2 (4) 3 (5) Can't be determined

5. How many persons lived between C and H?
(1) None (2) 1 (3) 2 (4) 3 (5) 4

Direction (Qs.6-10): Study the following information carefully and answer the questions given below.

Eight persons Sagar, Savita, Sandhya, Sanjay, Sita, Saroj, Sam and Sapna were seated around a circular table facing the centre. There was equal distance between neighbouring persons.

- Sanjay was seated 2nd to the left of Savita
- Sandhya was to the immediate right of Sita
- Sita was opposite to Sam who was neighbouring Savita
- Sagar was 3rd to the left of Saroj

6. What was the position of Sam with respect to Sapna?
(1) Immediate left (2) Immediate right (3) 2nd to the left
(4) 2nd to the right (5) 3rd to the left

7. Who among the following was seated opposite to the one who was seated to the immediate right of Sandhya?
(1) Sanjay (2) Sagar (3) Savita (4) Sapna (5) Saroj

8. In which of the following groups is the 2nd person seated neighbouring the 1st and 3rd person?
(1) Saroj, Sita, Sapna (2) Sapna, Savita, Sam (3) Savita, Sita, Sandhya
(4) Sandhya, Sanjay, Sam (5) None of the above

9. If Sagar was related to Sapna and Sam was related to Sanjay then in the same manner who will related to Saroj?
(1) Savita (2) Sandhya (3) Sita (4) Sanjay (5) Sapna

10. Who was seated to the immediate left of Sagar?
(1) Sapna (2) Sandhya (3) Sam (4) Savita (5) Can't say

Direction (Qs.11-15): Study the following series carefully and answer the questions given below:

N A @ 9 6 V 4 * I B U & 5 O 8 ≤ R X 4 G © 3 E K % 1 M

11. Four of the following five are alike in a certain way, which is the one that does not belong to the group?
(1) 3 E K (2) 9 6 V (3) B U & (4) O 8 ≤ (5) N @ 6

12. What is the position of 'B' with respect to '8'?
(1) Fifth to the right (2) Sixth to the right (3) Sixth to the left
(4) Fifth to the left (5) Seventh to the right

13. Except consonants if all other elements are dropped what is the position of 'K' with respect to 'G'?
(1) Immediate left (2) Immediate right (3) Second to the left
(4) Second to the right (5) Third to the left

14. In the given series if all the consonants are changed to its next alphabet in the English alphabetical series, then how many vowels will be repeated?
(1) 1 (2) 2 (3) 3 (4) 4 (5) 5

15. If the order of position of the last twelve elements in the above arrangement is reversed, which of the following will be tenth to the left of ninth from the right?
(1) * (2) B (3) I (4) 4 (5) X

Direction (Qs.16-20): Read both the conclusions and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

Give Answer (1): If only conclusion I follows
Give Answer (2): If only conclusion II follows
Give Answer (3): If either conclusion I or II follows
Give Answer (4): If neither conclusion I nor II follows
Give Answer (5): If both conclusions I and II follow

16. **Statements:** All red is black
Only a few blue are red
No black is a white

Conclusions: I. No red is a white
II. Some blue is not white

17. **Statements:** All bats are woods
No bat is a ball
Only a few balls are rubbers

Conclusions: I. Only a few woods are bats
II. No bat is a rubber

18. **Statements:** All good is bad
All bad is poor
Only a few poor are rich

Conclusions: I. Only a few bad are rich
II. All good is rich is a possibility

19. **Statements:** Only a few iPhone are good
Some goods are Samsung
No android is iPhone

Conclusions: I. Only a few Samsung are iPhone
II. All android can be Samsung

20. **Statements:** All glasses are frames
Few frames are metals
Some glasses are blocks

Conclusions: I. Some blocks are metals
II. Few frames are blocks

Direction (Qs.21-25): In the following question assuming the given statements to be true, find which of the conclusions among given three conclusions is/are definitely true and then give your answer accordingly.

21. **Statements:** $C \geq G > R = T > V$; $T \leq P < Q = F$
Conclusions: I. $Q > V$ II. $C > P$ III. $R < F$
(1) Only I is true (2) Only II is true (3) Only III is true
(4) Both I and II are true (5) Both I and III are true

22. **Statements:** $L \geq H = K < S \leq I$; $H < C > J = M$
Conclusions: I. $L > J$ II. $M < S$ III. $C < K$
(1) Only I is true (2) Only II is true
(3) Both I and III are true (4) All are true (5) None is true

23. **Statements:** $H > A \geq Z = K$; $Z < C \leq T < P$
Conclusions: I. $A < C$ II. $H > T$ III. $K < P$
(1) Only I is true (2) Only II is true (3) Only III is true
(4) Both I and II are true (5) Both III and II are true

24. **Statements:** $N \leq R \leq S$, $P \leq G = O$, $T = M > O$, $T \leq Q = S$
Conclusions: I. $R < T$ II. $M > P$
(1) Only I is true (2) Only II is true (3) Either I or II is true
(4) Neither I nor II is true (5) Both I and II are true

25. **Statements:** $I \geq B \geq S = T$, $M \leq K < B > L$, $G = S > P \geq Q$
Conclusions: I. $M < I$ II. $B \geq Q$
(1) Only I is true (2) Only II is true (3) Either I or II is true
(4) Neither I nor II is true (5) Both I and II are true

Direction (Qs.26-30): Consider the following data and answer the questions based on the following conditions:

Digit	4	5	9	6	3	8	2	7	1
Symbol	∇	λ	@	◊	∑	δ	&	β	→

(1) If the second digit is even and the fifth digit is odd, then both are to be coded as the second digit.
(2) If the second digit is odd and the fifth digit is even, then the codes of both the digits are to be interchanged.
(3) If the second as well as fifth digit is odd, then both are to be coded as the codes of the fifth digit.
(4) If the second as well as fifth digit is even, then both are to be coded as the coded of the higher digit

Each digit is denoted by a symbol as shown above. Further consider the given conditions and answer the questions accordingly for a given number.

26. 953278
(1) @ β ∑ & β δ (2) ∑ λ @ & λ β (3) & δ @ λ δ β (4) β ∑ & λ ∑ δ (5) β & δ ∑ & λ

27. 832491
(1) ∇ & → ∑ & @ (2) ∑ δ → ∇ δ @ (3) δ @ & ∇ @ →
(4) λ ∇ → ∑ ∇ @ (5) → λ ∑ & λ ∇

28. 382675
(1) ∑ δ & ◊ δ λ (2) ∑ λ ∇ ◊ λ β (3) β ∑ λ ∇ ∑ ◊ (4) & ∇ ∑ λ ∇ β (5) & ◊ β ∑ ◊ ∇

29. 638271
(1) λ ◊ β & ◊ → (2) λ → ∑ β → ◊ (3) & ◊ ∑ → ◊ λ (4) ◊ β λ & β → (5) & λ ◊ → λ ∑

30. 534127
(1) → β ◊ ∇ ∑ & (2) & ∇ ◊ ∑ → β (3) → ∇ & β ∑ ◊
(4) ◊ & ∇ → ∑ β (5) ∇ ◊ → & β ∑

31. How many pairs of letters are there in the word 'MOBILE' each of which has as many letters between them in the word as they have between them in the English alphabet?
(1) Five (2) Three (3) One (4) Two (5) Four

Direction (Qs.32-34): Read the following information carefully and answer the given questions below:

Point A is 12 meters to the north of pint G, which is 16 meters to the west of point D. Point A is 9 meters to the east of point C. Point F is to the south of point C and is to the west of point G. Point B is exactly between point G and point D. Point E is exactly between point C and point F. Point H is 9 meters to the east of point E.

32. What is the shortest possible distance between B and H?
(1) 7 meters (2) 14 meters (3) 10 meters (4) 9 meters (5) $6\sqrt{2}$meters

33. What is the direction of point F with respect to point A?
(1) South-west (2) North-east (3) North-west (4) South-east (5) Can't say

34. What is the shortest possible distance between A and D?
(1) 18 meters (2) 20 meters (3) 25 meters (4) 28 meters (5) None of these

Direction (Qs.35-39): Read the following information carefully and answer the questions given below.

Nine people A, B, C, D, E, F, G, H and I of different age 6, 7, 8, 12, 14, 24, 36, 42 and 72 (not necessarily in same order) are sitting in a row facing north. Ages of two immediate neighbours are neither multiples nor factors of each other.

D and F are not immediate neighbours. E sits 3rd to left of F whose age is twice of A's age. Person who is 36 years old sits immediate right of C whose age is a factor of G's age. Only 1 person sits between E and the person who is 72 years old. I who is 14 years old, sits 4th to the right of A. H's age is neither a multiple nor a factor of D's age. E's age is a factor of the oldest person.

35. Who sits 3rd to right of the person who is 42 years old?
(1) I (2) E (3) C (4) H (5) None of these

36. How many people sit between the person who is 36 years-old and I?
(1) None (2) 1 (3) 2 (4) 3 (5) Can't say

37. Who sits immediate left of the person H?
(1) C (2) E (3) D (4) No one (5) None of these

38. Which of the following statements is/are true?
(I) I sit at one of the extreme ends
(II) A is 6 years old
(III) F is 24 years old
(1) Only (I)
(2) Either (II) or (III)
(3) Only (III)
(4) Only (II)
(5) (I) and Either (II) or (III)

39. Who is 7 years old?
(1) H (2) C (3) D (4) G (5) None of these

40. Using 1st, 4th, 5th, 6th, 7th and 8th letters of the word TIMETABLE, a meaningful word can be formed. What is the fourth letters of the word from the right end? If more than one word can be formed mark P as your answer and if no meaningful word can be formed, mark J as your answer.
(1) P (2) T (3) E (4) A (5) J

Direction (Qs.41-54): What value will come in place of question mark (?) in the following questions?

41. $20 \times ? \times 8 = 63^2 - 2209$
(1) 1 (2) 8 (3) 19 (4) 21 (5) 11

42. $30 \times 43 - ? + 80 \times 40 = 52 \times 71$
(1) 789 (2) 768 (3) 822 (4) 798 (5) 786

43. 120% of 650 + ?% of 700 = 1410
(1) 135 (2) 75 (3) 90 (4) 110 (5) 140

44. $\sqrt{400} + ? = 2\frac{1}{3}\text{of}21$
(1) 16 (2) 19 (3) 29 (4) 35 (5) 43

45. $\frac{96}{609} \times \frac{87}{480} \times ? = 20$
(1) 706 (2) 698 (3) 684 (4) 710 (5) 700

46. $\sqrt[3]{8000} - \sqrt[3]{729} + \sqrt[3]{1000} = ?$
(1) 21 (2) 18 (3) 28 (4) 20 (5) 26

47. $\sqrt{2401} + \sqrt{625} - \sqrt{7921} = ?$
(1) -7 (2) -20 (3) -18 (4) -15 (5) -23

48. $(0.5)^{97} \div 0.25^{63} = (0.5)^?$
(1) -29 (2) -26 (3) -38 (4) -41 (5) -32

49. $29^2 - 2744^{\frac{1}{3}} + 4096^{\frac{1}{4}} = ?$
(1) 835 (2) 856 (3) 841 (4) 850 (5) 844

50. $(?)^2 + 8^3 = 30^2 - 27$
(1) 19 (2) 15 (3) 23 (4) 39 (5) 35

51. $(0.4)^{115} \div 0.064^{68} = (0.4)^?$
(1) -104 (2) -95 (3) -107 (4) -74 (5) -89

52. $3125^{0.18} \times 3125^{0.02} = ?$
(1) 25 (2) 1 (3) 5 (4) 125 (5) 625

53. 77.77% of 297 + 16.66% of 180 = ?
(1) 261 (2) 270 (3) 285 (4) 282 (5) 273

54. $(?)^2 + 8^3 = 31^2 - 8$
(1) 9 (2) 25 (3) 37 (4) 21 (5) 1

Direction (Qs.55-59): Find the next term in the series.

55. 11 20 31 44 59 ?
(1) 71 (2) 94 (3) 66 (4) 79 (5) 76

56. 2195 1725 1327 995 723 ?
(1) 505 (2) 515 (3) 516 (4) 510 (5) 524

57. 36 54 90 126 198 ?
(1) 234 (2) 242 (3) 228 (4) 210 (5) 216

58. 5 19 47 89 145 ?
(1) 147 (2) 184 (3) 215 (4) 186 (5) 219

59. 632 582 534 488 444 ?
(1) 415 (2) 411 (3) 413 (4) 402 (5) 405

60. In a class there are total 9 students and 1 teacher, average age of 9 students is 15 years while the age of teacher is 27 years more than the average age of class (including teacher), then what is the average age of the class?
(1) 24 years (2) 20 years (3) 18 years (4) 16 years (5) None of these

61. Amal and Vimal started a business investing Rs.30,000 and Rs.40,000 respectively. Vimal walks out of the business after 'm' months and at the end of the year both of them earn the same profit. Find out the value of 'm'?
(1) 9 (2) 8 (3) 10 (4) 6 (5) None of these

62. The average of the present age of Ravi and Ranjan is 13.5 years. 3 years ago, Ravi's age was 75% of the Ranjan's age. What is the difference between their present ages?
(1) 3 years (2) 10 years (3) 12 years (4) 6 years (5) 2 years

63. Tenaliram sold an article for Rs.7500 with $33\left(\frac{1}{3}\right)\%$ profit on the price he had paid to the manufacturer for the article. If he had received a discount of 25% on the original marked price from the manufacturer, then what was the original marked price of the article?
(1) Rs.7200 (2) Rs.7500 (3) Rs.8000 (4) Rs.7600 (5) Rs.8200

64. The ratio of the number of boys and girls in a bus A is 7 : 5 and the ratio of the number of boys and girls in bus B is 5 : 3. If Bus A contains 50% more passengers than Bus B, what is the overall ratio of the number of boys and girls in both bus combined?
(1) 5 : 4 (2) 3 : 2 (3) 8 : 7 (4) 7 : 6 (5) 6 : 5

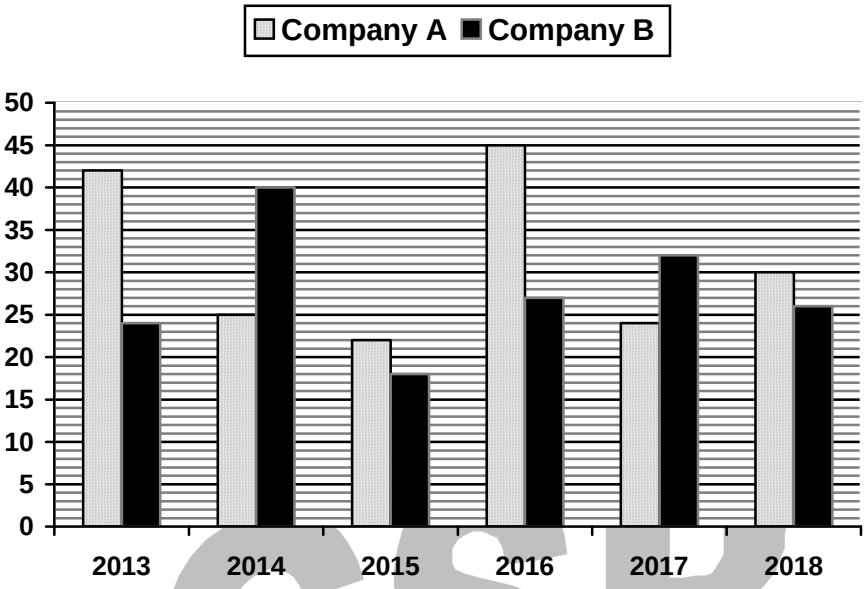
65. The difference between the compound interest and the simple interest on a certain sum at 10% per annum for 2 years is Rs.315.50 Find the principal amount.
(1) Rs.21500 (2) Rs.32250 (3) Rs.34650 (4) Rs.31550 (5) None of these

66. A train takes 12 seconds to cross a lamppost and takes 27 seconds to cross a bridge of 270 meters. What is the speed of the train?
(1) 72.4 km/hr (2) 56.5 km/hr (3) 72 km/hr (4) 50 km/hr (5) 64.8 km/hr

67. The speed of a boat in still water is 12 kmph. It can travel 45 km downstream in 3 hours. How much extra time would it require to come back upstream on the same route?
(1) 3.5 hours (2) 5 hours (3) 2 hours (4) 4 hours (5) 2.5 hours

Direction (Qs.68-72): Read the following information carefully and answer the given questions.

The bar graph given below shows the total number of cars manufactured by two different companies A and B in six different years from 2013 to 2018.



Note: All the values are in the multiple of 100

68. What is the total number of cars manufactured by company A in all the six years together?
(1) 19800 (2) 18800 (3) 17800 (4) 16800 (5) None of these

69. Total number of cars manufactured by company A in 2016 in what percent of the number of cars manufactured by company B in 2014?
(1) 125% (2) 118.5% (3) 112.5% (4) 120% (5) None of these

70. What is the ratio between the total number of cars manufactured by company B in 2015 and the number of cars manufactured by company A in 2017?
(1) 1 : 2 (2) 2 : 3 (3) 3 : 4 (4) 4 : 5 (5) None of these

71. What is the approximate average of total number of cars manufactured by company B in all the six years together?
(1) 2783 (2) 2873 (3) 2563 (4) 2653 (5) 2473

72. In which of the following two given years in the options, the number of cars sold by both the companies together are equal?
(1) 2013 and 2016 (2) 2014 and 2018 (3) 2013 and 2015
(4) 2017 and 2018 (5) None of these

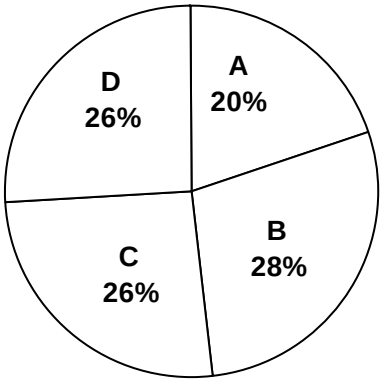
73. A can finish a work in 10 days, B can finish half of the same work in 15 days and C can finish one third of the work in 10 days. In how many days can they finish the work if they work together?
(1) 4 days (2) 5 days (3) 7.5 days (4) 8 days (5) 6 days

74. Father distributed Rs.1200 among his four sons A, B, C and D such that A got Rs.50 more than B who got Rs.250 and the ratio of amount received by C and D is 6 : 7 respectively. What is the average of share of A and D?
(1) Rs.300 (2) Rs.315 (3) Rs.320 (4) Rs.325 (5) Rs.335

75. A mixture contains 12 liters milk and 10 liters water. What quantity of milk is replaced by water to reverse the ratio of water and milk respectively?
(1) 4 liters (2) 2 liters (3) 8 liters (4) 6 liters (5) 9 liters

Direction (Qs.76-80): Study the following information carefully and answer the given questions.

The below pie chart shows percentage distribution of employees in four different companies.
Total number of employees = 2500



Company	Male : Female
A	2 : 3
B	5 : 9
C	6 : 7
D	8 : 5

76. What is the total number of females working in all the companies together?
(1) 1350 (2) 1450 (3) 1550 (4) 960 (5) None of these

77. What is the difference between the number of males working in company B and the number of females working in company D?
(1) 0 (2) 20 (3) 40 (4) 60 (5) None of these

78. Number of females working in company C is what percent more than the number of males working in company A?
(1) 25% (2) 50% (3) 75% (4) 80% (5) None of these

79. What is the difference between the total number of employees working in company C and the number of females working in company B?
(1) 100 (2) 200 (3) 150 (4) 250 (5) None of these

80. If 20% of males working in company C are married and the remaining males are unmarried, then what is the number of males working in company C who are unmarried?
(1) 120 (2) 240 (3) 280 (4) 180 (5) None of these

- - × - -

ANSWERS

For (Qs.1-5):

Floor	Person
8	B
7	G
6	A
5	D
4	H
3	E
2	C
1	F

1. **Ans (5): 7**
   G was on 7th floor.

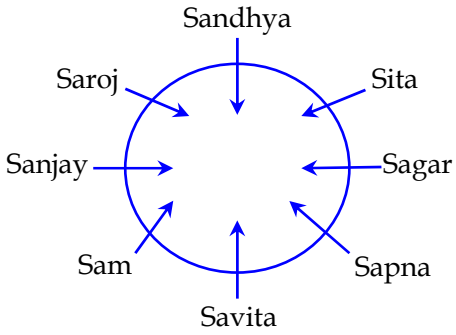
2. **Ans (3): 2**
   2 persons lived between A and E.

3. **Ans (5): D**
   D lived on floor 5.

4. **Ans (1): None**
   F lived on floor 1.

5. **Ans (2): 1**
   Only 1 person lived between C and H.

For (Qs.6-10):



6. **Ans (3): 2nd to the left**
   Sam was 2nd to the left of Sapna.

7. **Ans (4): Sapna**
   Sapna was opposite to Saroj who was to the immediate right of Sandhya.

8. **Ans (2): Sapna, Savita, Sam**
   Savita was seated neighbouring Sapna and Sam.

9. **Ans (2): Sandhya**
   Saroj is related to Sandhya.

10. **Ans (1): Sapna**
    Sapna was to the immediate left of Sagar.

11. **Ans (5): N @ 6**

3 $\xrightarrow{+1}$ E $\xrightarrow{+1}$ K

9 $\xrightarrow{+1}$ 6 $\xrightarrow{+1}$ V

B $\xrightarrow{+1}$ U $\xrightarrow{+1}$ &

O $\xrightarrow{+1}$ 8 $\xrightarrow{+1}$ ≤

N $\xrightarrow{+2}$ **@** $\xrightarrow{+2}$ **6**

12. **Ans (4): Fifth to the left**

B is fifth to the left of 8.

13. **Ans (2): Immediate right**

If all other elements are dropped, N V B R X G K M

K is to the immediate right of G.

14. **Ans (1): 1**

Consonants in the series → N V B R X G K M

When changed to next letter → **O** W C S Y H L N

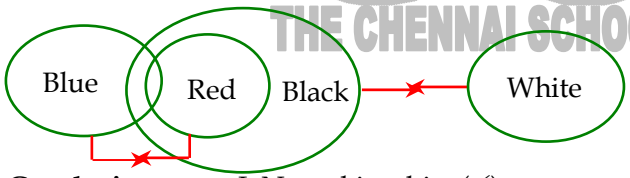
Vowels in the series → A E I O U Only O is repeated

15. **Ans (3): I**

After rearrangement: N A @ 9 6 V 4 * I B U & 5 O 8 M 1 % K E 3 © G 4 X R ≤

I is 10th to the left of 9th from right end.

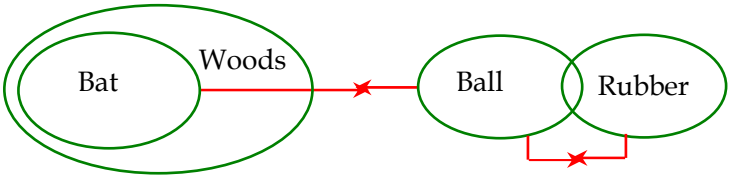
16. **Ans (5): Both conclusions I and II follow**



Conclusions: I. No red is white (✓)

II. Some blue is not white (✓)

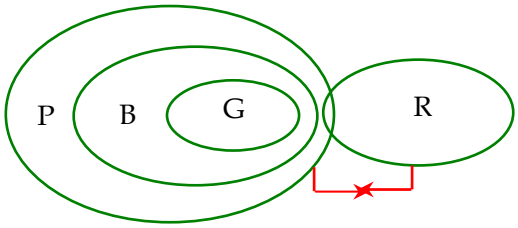
17. **Ans (1): Only conclusion I follows**



Conclusions: I. Only a few woods are bats (✓)

II. No bat is rubber (×)

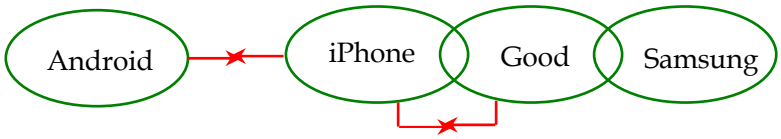
18. **Ans (2): Only conclusion II follows**



Conclusions: I. Only a few bad are rich (×)

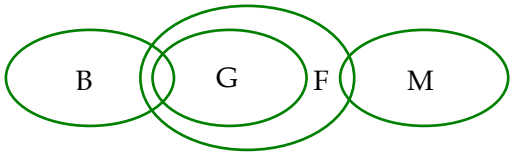
II. All good is rich is a possibility (✓)

19. **Ans (2): Only conclusion II follows**



Conclusions: I. Only a few Samsung are iPhone (×)
II. All android can be Samsung (✓)

20. **Ans (2): Only conclusion II follows**



Conclusions: I. Some blocks are metals (×)
II. Few frames are blocks (✓)

21. **Ans (5): Both I and III are true**
Statements: C ≥ G > R = T ≤ P < Q = F
↓
T > V
Conclusions: I. Q > V (✓) II. C > P (×) III. R < F (✓)

22. **Ans (5): None is true**
Statements: L ≥ H = K < S ≤ I
↓
H < C > J = M
Conclusions: I. L > J (×) II. M < S (×) III. C < K (×)

23. **Ans (3): Only III is true**
Statement: H > A ≥ K = Z < C ≤ T < P
Conclusions: I. A < C (×) II. H > T (×) III. K < P (✓)

24. **Ans (2): Only II is true**
Statement: P ≤ G = O < M = T ≤ Q = S ≥ R ≥ N
Conclusions: I. R < T (×) II. M > P (✓)

25. **Ans (1): Only I is true**
Statements: I ≥ B ≥ S = T = G > P ≥ Q
↓
L < B > K ≥ M
Conclusions: I. M < I (✓) II. B ≥ Q (×)

26. **Ans (1):** @ β ∑ & β δ
Since second and fifth digits are odd, therefore condition (3) follows.

9	5	3	2	7	8
↓	↓	↓	↓	↓	↓
@	β	∑	&	β	δ

27. **Ans (3): δ @ & ∇ @ →**

Since second and fifth digits are odd, therefore condition (3) follows.

8	3	2	4	9	1
↓	↓	↓	↓	↓	↓
δ	@	&	∇	@	→

28. **Ans (1): ∑ δ & ◊ δ λ**

Since second digit is even and fifth digit is odd, therefore condition (1) follows.

3	8	2	6	7	5
↓	↓	↓	↓	↓	↓
∑	δ	&	◊	δ	λ

29. **Ans (4): ◊ β λ & β →**

Since second and fifth digits are odd, therefore condition (3) follows

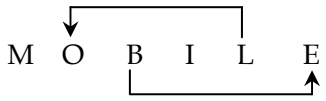
6	3	8	2	7	1
↓	↓	↓	↓	↓	↓
◊	β	λ	&	β	→

30. **Ans (4): ◊ & ∇ → ∑ β**

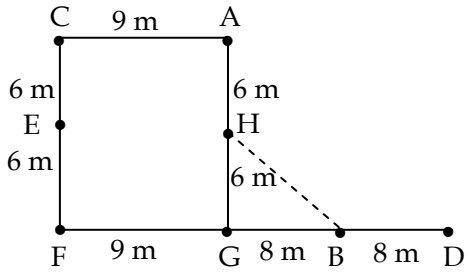
Since second digit is odd and fifth digit is even therefore condition (2) follows

5	3	4	1	2	7
↓	↓	↓	↓	↓	↓
◊	&	∇	→	∑	β

31. **Ans (4): Two**



For (Qs.32-34):



32. **Ans (3): 10 meters**

$$BH = \left(6^2 + 8^2\right)^{\frac{1}{2}} = 10\,m$$

33. **Ans (1): South-west**

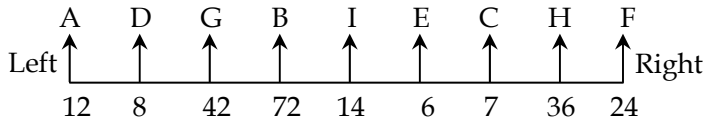
F is to the south-west of point A

34. Ans (2): 20 meters

In triangle AGD:

$AD = \sqrt{(AG)^2} + \sqrt{\left[(12)^2 + (16)^2\right]} = \sqrt{400} = 20$ meters

For (Qs.35-39):



35. Ans (2): E

E sits 3rd to the right of G who is 42 years old.

36. Ans (3): 2

Two people sit between H who is 36 years-old and I.

37. Ans (1): C

C sits immediate left of H.

38. Ans (3): Only III

Option (3) is correct. F is 24 years old.

39. Ans (2): C

C is 7 yeas old.

40. Ans (1): P

Using 1 → T, 4 → A, 5 → E, 6 → T, 7 → B and 8 → L

The meaningful words that can be formed are BATTLE and TABLET.

41. Ans (5): 11

$160 \times ? = 3969 - 2209 = 1760 \Rightarrow ? = \frac{1760}{160} = 11$

42. Ans (4): 798

? = 30 × 43 + 80 × 40 – 52 × 71 ⇒ ? = 1290 + 3200 – 3692 = 798

43. Ans (3): 90

$12 \times 65 + 7 \times ? = 1410 \Rightarrow ? = \frac{1410 - 780}{7} \Rightarrow ? = \frac{630}{7} \Rightarrow ? = 90$

44. Ans (3): 29

$? = 21 \times \left(\frac{7}{3}\right) - \sqrt{400} \Rightarrow ? = 7 \times 7 - 20 \Rightarrow ? = 49 - 20 = 29$

45. Ans (5): 700

$? = \frac{(20 \times 480 \times 609)}{(96 \times 87)} \Rightarrow ? = 20 \times \left(\frac{480}{96}\right) \times \left(\frac{609}{87}\right) = 20 \times 5 \times 7 = 700$

46. Ans (1): 21

$? = \sqrt[3]{8000} - \sqrt[3]{729} + \sqrt[3]{1000} \Rightarrow ? = 20 - 9 + 10 = 21$

47. Ans (4): -15

$? = \sqrt{2401} + \sqrt{625} - \sqrt{7921} \Rightarrow ? = 49 + 25 - 89 = -15$

48. Ans (1): -29

$(0.5^1)^{97} \div (0.5^2)^{63} = (0.5^1)^? \Rightarrow (0.5)^{(1\times 97 - 2\times 63)} = (0.5^1)^?$

$\therefore ? = \dfrac{(1\times 97 - 2\times 63)}{1} = -29$

49. Ans (1): 835

$? = 29^2 - \sqrt[3]{2744} + \sqrt[4]{4096} \Rightarrow 840 - 14 + 8 \Rightarrow ? = 835$

50. Ans (1): 19

$(?)^2 = 30^2 - 27 - 8^3 \Rightarrow (?)^2 = 900 - 27 - 512 = 361 \Rightarrow ? = 19$

51. Ans (5): -89

$(0.4^1)^{115} \div (0.4^3)^{68} = (0.4^1)^? \Rightarrow (0.4)^{(1\times 115 - 3\times 68)} = (0.4^1)^? \Rightarrow ? = \dfrac{(1\times 115 - 3\times 68)}{1} = -89$

52. Ans (3): 5

$? = 3125^{(0.18+0.02)} \Rightarrow ? = 3125^{\frac{1}{5}} \Rightarrow ? = 5$

53. Ans (1): 261

We note that $77.77\% = \dfrac{7}{9}, 16.66\% = \dfrac{1}{6}$

$\therefore ? = 297 \times \left(\dfrac{7}{9}\right) + 180 \times \left(\dfrac{1}{6}\right) \Rightarrow (9\times 33)\times\left(\dfrac{7}{9}\right) + (6\times 30)\times\left(\dfrac{1}{6}\right) = (7\times 33) + (1\times 30) = 261$

54. Ans (4): 21

$(?)^2 + 8^3 = 31^2 - 8 - 8^3 \Rightarrow 961 - 8 - 512 = 441$

$\therefore ? = \sqrt{441} = 21$

55. Ans (5): 76

11 → (+9) 20 → (+11) 31 → (+13) 44 → (+15) 59 → (+17) **76**

56. Ans (1): 505

2195 (↓ $13^3 - 2$) 1725 (↓ $12^3 - 3$) 1327 (↓ $11^3 - 4$) 995 (↓ $10^3 - 5$) 723 (↓ $9^3 - 6$) **505** (↓ $8^3 - 7$)

57. Ans (1): 234

36 (↓ 18×2) 54 (↓ 18×3) 90 (↓ 18×5) 126 (↓ 18×7) 198 (↓ 18×11) **234** (↓ 18×13)

58. Ans (3): 215

5 → (+14×1) 19 → (+14×2) 47 → (+14×3) 89 → (+14×4) 145 → (+14×5) **215**

59. Ans (4): 402

632	582	534	488	444	**402**
↓	↓	↓	↓	↓	↓
25^2+7	24^2+6	23^2+5	22^2+4	21^2+3	20^2+2

60. Ans (3): 18 years

Let the age of teacher = T years

Sum of ages of all the 9 students = 9 × 15 = 135 years

Average age of class when age of teacher is also added $= \frac{(135+\mathrm{T})}{10}$

$\therefore \left[\frac{(135+T)}{10}\right]+27=T$

135 + T = (T – 27) × 10

135 + T = 10T – 270 $\Rightarrow$ 405 = 9T $\Rightarrow$ T = 45

Average age of the class = 45 – 27 = 18 years

61. Ans (1): 9

Since both of them earns the same profit we can say that the product of the investment and the time span must be same.

30,000 × 12 = 40,000 × m or, m = 9

62. Ans (1): 3 years

Let the present ages of Ravi be 'x' years

Present age of Ranjan = 13.5 × 2 – x = 27 – x years

$(x-3)=\left(\frac{75}{100}\right)\times(27-x-3)\Rightarrow(x-3)=\left(\frac{3}{4}\right)\times(24-x)$

$4x - 12 = 72 - 3x \Rightarrow 7x = 84 \Rightarrow x = 12$

Difference between their present ages = 27 – 2x = 3 years

63. Ans (2): Rs.7500

Let the price, tenaliram had paid for the article be a

Then $\mathrm{SP}=133\left(\frac{1}{3}\right)\%$ of $\mathrm{a}=\frac{4\mathrm{a}}{3}=7500\Rightarrow \mathrm{a}=\mathrm{Rs.5625}$

He had received 25% discount on the marked price, it means, 75% of MP = 5625

MP = Rs.7500

64. Ans (2): 3 : 2

Let the number of passengers on bus B be 'x'

Number of passengers on bus A $=\left(\frac{150}{100}\right)\times x=\frac{3x}{2}$

Overall number of boys in both buses combined $=\left(\frac{7}{12}\right)\times\left(\frac{3x}{2}\right)$

Overall number of boys in both buses combined $\left(\frac{7}{12}\right)\times\left(\frac{3x}{2}\right)+\left(\frac{5}{8}\right)\times x=\frac{3x}{2}$

Overall number of girls in both buses combined $=x+\frac{3x}{2}-\frac{3x}{2}=x$

Required ratio $=\frac{3x}{2}:x=3:2$

65. Ans (4): Rs.31550

Difference between CI & SI $= \frac{PR^2}{100}$

$P = \frac{315.5 \times 100 \times 100}{10 \times 10} = \text{Rs.}31550$

66. Ans (5): 64.8 km/hr

Let speed of the train be s m/sec and length of the train be L m

L = 12s … (1)

L + 270 = 27s … (2)

Now (2) – (1) $\Rightarrow$ 15s = 270 $\Rightarrow$ s = 18 m/sec

$\therefore$ Speed of the train $= 18 \times \frac{18}{5} = 64.8\,\text{km/hr}$

67. Ans (3): 2 hours

Downstream speed $= \frac{45}{3} = 15\,\text{kmph}$

Speed of the boat in still water = 12 kmph

$\therefore$ Speed of stream = 15 – 12 = 3 kmph

$\therefore$ Upstream speed = 12 – 3 = 9 kmph

Time taken to travel upstream $= \frac{45}{9} = 5$ hours

$\therefore$ Additional time required to return upstream = 5 – 3 = 2 hours

68. Ans (2): 18800

The total cars manufactured by company A = 4200 + 2500 + 2200 + 4500 + 2400 + 3000 = 18800

69. Ans (3): 112.5%

The number of cars manufactured by company A in 2016 = 4500

The number of cars manufactured by company B in 2014 = 4000

Required percentage $= \left(\frac{4500}{4000}\right) \times 100 = 112.5\%$

70. Ans (3): 3 : 4

The number of cars manufactured by company B in 2015 = 1800

The number of cars manufactured by company A in 2017 = 2400

Required ratio = 1800 : 2400 = 3 : 4

71. Ans (1): 2783

The total number of cars manufactured by company B in all the six years together = 2400 + 4000 + 1800 + 2700 + 3200 + 2600 = 16700

Required average $= \frac{16700}{6} \approx 2783$

72. Ans (4): 2017 and 2018

The total number of cars sold by both the companies together in 2013 = 4200 + 2400 = 6600

The total number of cars sold by both the companies together in 2014 = 2500 + 4000 = 6500

The total number of cars sold by both the companies together in 2015 = 2200 + 1800 = 4000

The total number of cars sold by both the companies together in 2016 = 4500 + 2700 = 7200

The total number of cars sold by both the companies together in 2017 = 2400 + 3200 = 5600

The total number of cars sold by both the companies together in 2018 = 3000 + 2600 = 5600

Hence, in 2017 and 2018, the number of cars sold by both the companies together are equal.

73. Ans (5): 6 days

B finishes half of the work in 15 days so he will finish the work in = 15 × 2 = 30 days

Similarly, C will finish the work = 10 × 3 = 30 days

Total work done by (A + B + C) in one day $= \left(\frac{1}{10}+\frac{1}{30}+\frac{1}{30}\right)=\frac{1}{6}$

The work will be completed in 6 days

74. Ans (4): Rs.325

Total amount = Rs.1200 = A + B + C + D

B = Rs.250

A = 250 + 50 =Rs.300

$C=\frac{6D}{7} \Rightarrow 250+300+\left(\frac{6D}{7}\right)+D=1200 \Rightarrow D=Rs.350$

Therefore, average of share of A and D $=\frac{(300+350)}{2}=$ Rs.325

75. Ans (2): 2 liters

Quantity of milk = 12 liters

Quantity of water = 10 liters

Let 'a' liters milk is replaced by water. Then

(12 – a) : (10 + a) = 10 : 12 ⇒ a = 2 litres

For (Qs.76-80):

Company	Total	Male	Female
A	500	200	300
B	700	250	450
C	650	300	350
D	650	400	250

76. Ans (1): 1350

Required total = 300 + 450 + 350 + 250 = 1350

77. Ans (1): 0

Required difference = 250 – 250 = 0

78. Ans (3): 75%

Required percentage $=\frac{(350-200)}{200}\times 100=75\%$

79. Ans (2): 200

Required difference = 650 – 450 = 200

80. Ans (2): 240

Total employees in C = 650

Males working in C = 300

Married males in C $=\frac{20}{100}\times 300=60$

Unmarried males in C = 300 – 60 = 240

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