REGIONAL RURAL BANKS (RRBs)

OFFICER SCALE-I EXAM 2017

Based on Memory

PRELIMINARY EXAMINATION (OBJECTIVE)*

Sr. No.	Name of Tests (Objective)	No. of Questions	Medium of Exam	Maximum Marks	Duration
1.	Reasoning	40	Hindi/English	40	Composite time of 45 minutes
2.	Quantitative Aptitude	40	Hindi/English	40	
	Total	80		80	

*Candidates have to qualify in both the tests by securing minimum cut-off marks. Adequate number of candidates in each category, depending upon requirements, will be shortlisted for Online Main Examination.

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.

REASONING

1. What should come in place of question mark (?) in the following series based on the above arrangement?
ZB, XD, UG, QK, ?
(1) LK (2) LO (3) LP (4) KP (5) None of these

2. How many such pair of numbers are there in the given number "46579739" (Both backward and forward) same as far as according to numeric series?
(1) One (2) Two (3) Three
(4) More than three (5) None of these

3. If it is possible to make only one meaningful word with the 1st, 2nd 4th and 7th letters of the word '**ECUADOR**' which would be the second letter of the word from the right? If more than one such word can be formed give 'Y' as the answer. If no such word can be formed, give 'Z' as your answer
(1) Y (2) E (3) I (4) Z (5) M

4. If 1 is subtracted from each odd number and 2 is added to each even in the number 9436527, then how many digits will appear twice in the new number thus formed?
(1) Only 8 (2) Only 8 and 6 (3) 8, 6 and 4
(4) 2, 4 and 6 (5) None of these

5. How many letter will be remain the same position in the word 'MONSTER' when they arranged in the ascending order from left to right?
(1) One (2) Two (3) Three
(4) More than Three (5) None

Directions (Qs.6-10): Read the following information carefully and answer the following questions.

Eight boxes A, B, C, D, E, F, G and H are placed one above the other in any particular order. Box no. 1 is at the bottom and box no.8 is at the top. Three boxes are placed between A and B. Box H is placed immediately below A. There are two boxes between H and G. There are as many boxes between C and D as between H and B. Box C is kept above D. Box E is kept immediately below box D. Three boxes are there between E and F.

6. How many boxes are there above box D?
(1) 4 (2) 3 (3) 6 (4) 2 (5) None of these

7. Which of the following boxes is kept at the top?
(1) B (2) A (3) D (4) E (5) None of these

8. Choose the odd one out?
(1) B (2) G (3) A (4) D (5) E

9. Which of the following boxes is kept between F and A?
(1) B (2) G (3) C (4) H (5) None of these

10. How many boxes are there between C and A?
(1) Less than 2 (2) 4 (3) 5
(4) 6 (5) None of these

Directions (Qs.11-15): In these questions, relationships between different elements are shown in the statements. These statements are followed by two conclusions.

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

11. **Statements**: R ≥ S ≥ T > U > X; T < V < W
Conclusions: I. R > X II. X < W

12. **Statements**: E = F < G < H; G ≥ I
Conclusions: I. H > I II. E > I

13. **Statements**: A > B > F > C; D > E > C
Conclusions: I. C < A II. B > D

14. **Statements**: K ≤ L ≤ M = N; P ≥ O ≥ N
Conclusions: I. K < P II. K = P

15. **Statements**: D < E < F < G; K > F
Conclusions: I. K ≤ G II. K > D

Directions (Qs.16-20): Read the following information carefully and answer the following questions.

Seven persons A, B, C, D, E, F and G were born on different months viz. January, February, March, April, June, August and October of the same year, but not necessarily in the same order.
Only three persons were born before E and D is not one of them. F was not born immediately after E. B was born after F. A was born immediately before the month in which G was born. Only two persons were born between G and F.

16. How many persons were born between C and E?
(1) Three (2) Two (3) Four (4) Five (5) None of these

17. Who amongst the following is the oldest?
(1) A (2) C (3) E (4) B (5) F

18. Who amongst the following was born between the months in which A and D were born?
(1) E (2) G (3) C (4) B (5) Both E and G

19. How many persons were born after D?
(1) One (2) Three (3) Four (4) Two (5) None of these

20. Who amongst the following is the person who was born in the month which has less than 30 days?
(1) F (2) B (3) G (4) C (5) A

Directions (Qs.21-25): Study the following information carefully and answer the given questions:

In a certain code language,
'card win team time' is written as 'la ta ja sa'
'flight game play card' is written as 'ja pa ra da'
'in win team fight' is written as 'da ta fa la'

21. What is the code for 'time'?
(1) sa (2) da (3) ja (4) la (5) None of these

22. 'card fight in' can be coded as?
(1) sa ja ra (2) fa ja da (3) da ra ta (4) Can't say (5) None of these

23. What is the code for 'game'?
(1) ra (2) pa (3) Either ra or pa (4) da (5) None of these

24. Which of the following is the code for 'in'?
(1) ta (2) da (3) la (4) fa (5) None of these

25. If 'game in risk' is coded as 'pa fa xa' then what will be the code for 'risk card fight'?
(1) ja sa da (2) ja da ra (3) sa da fa (4) xa ja da (5) None of these

Directions (Qs.26-30): Study the following information to answer the given questions.

Twelve people are sitting in a two parallel rows containing six people each in such a way that there is an equal distance between adjacent persons. In row 1 – A, B, P, Q, X and Y are seated (but not necessarily in the same order) and all of them are facing south. In row 2 – E, F, R, Z, S and U are seated (but not necessarily in the same order) and all of them are facing North. Therefore in the given seating arrangement each member seated in a row faces another member of the other row. Q sits fourth to the left of A. The one facing A sits third to the left of S. Only one person sits between S and E. E does not sit at any of the extreme ends of the line. The one facing U sits second to the right of B. U does not sit at any of the extreme ends of the line. Only two people sit between B and Y. The one facing B sits second to the left of Z. F is not an immediate neighbour of U. P is not on immediate neighbour of Q.

26. Which of the following groups of people represents the people sitting at extreme ends of both the rows?
(1) Q, Y, Z, R (2) F, Y, F, B (3) S, Y, Z, R (4) Q, F, Z, B (5) Q, Y, Z, S

27. Who amongst the following faces F?
(1) Q (2) P (3) A (4) X (5) B

28. Which of the following is true with respect to the given information?
(1) B faces one of the immediate neighbours of Z
(2) F sits exactly between R and E
(3) None of the given options is true
(4) A is an immediate neighbour of B
(5) A faces U

29. Which of the following is true regarding X?
(1) B sits second to the right of X
(2) F is an immediate neighbour of the person who faces X
(3) Both P and Y are immediate neighbours of X
(4) Only one person sits between X and A
(5) None of the given options is true

30. Who amongst the following sits second to the right of the person who faces P?
(1) F (2) U (3) R (4) E (5) S

Directions (Qs.31 to 35): Study the following information carefully and answer the questions given below:

Eight friends M, N, O, P, Q, R, S and T are sitting around a circular table with equal distance between them but not necessarily in the same order. Some of them are facing the centre with some face outside (i.e. opposite to centre)

O sits second to the right of R, R faces the centre. Only two people sit between O and N (either from, O's right or O's left). S sits second to the right of O. T sits to the immediate right of N. S and N face opposite direction (i.e. if N faces the centre then S faces outside and vice versa). Immediate neighbours of S face the same direction (i.e. If one neighbour faces the centre then the other also faces the centre and vice-versa). Only three people sit between P and Q. Neither P nor M is an immediate neighbour of R. Q sits second to the right of M. Both T and Q face a direction opposite to that of O (i.e. if O faces the centre then both T and Q face outside and vice-versa)

31. Who sits exactly between M and P?
(1) N (2) S (3) R (4) Q (5) None of these

32. How many people in the given arrangement face the centre?
(1) One (2) Three (3) Five (4) Four (5) None of these

33. Who sits second to the right of T?
(1) O (2) Q (3) S (4) R (5) None of these

34. Four of the following five are alike in a certain way based on the given seating arrangement and so form a group. Which is the one that does not belong to that group?
(1) P (2) O (3) T (4) M (5) Q

35. What is P's position with respect to R?
(1) Second to the left (2) Third to the right (3) Third to the left
(4) Sixth to the right (5) Second to the right

Directions (Qs.36 to 40): In each question below are given some statements followed by two conclusions numbered I and II. 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.

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

36. Statements: All bags are purses
No purse is black
All blacks are covers

Conclusions: I. All bags are covers
II. Some covers are purses

37. Statements: Some cats are rats
Some rats are fishes
All fishes are birds

Conclusions: I. Some fishes are rats
II. All cats being birds is a possibility

38. Statements: Some flowers are roses
No rose is red
All red are leaves

Conclusions: I. Some flowers are definitely not red
II. Some leaves are definitely not roses

39. Statements: All cards are sheets
All files are cards
Some sheets are papers

Conclusions: I. All files being papers is a possibility
II. All files are not sheets

40. Statements: Some flowers are roses
No rose is red
All red are leaves

Conclusions: I. Some flowers are not leaves
II. No leave is red

QUANTITATIVE APTITUTE

41. There are 3 consecutive odd numbers and 3 consecutive even numbers. The smallest even number is 9 more than largest odd number. If the square of average of all the 3 given odd number is 507 less than the square of the average of all the 3 given even number, what is the smallest odd number.
(1) 11 (2) 13 (3) 17 (4) 19 (5) 9

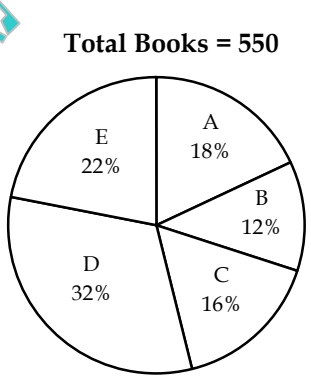
42. A can complete a task in 15 days, B is 50% more efficient than A. Both A and B started working together on the task and after few days B left the task and A finished the remaining $\frac{1}{3}rd$ of the given work. For how many days A and B worked together.
(1) 3 (2) 5 (3) 4 (4) 6 (5) 2

43. A boat can travel 9.6 km downstream in 36 min. If speed of the water current is 10% of the speed of the boat in downstream. How much time will boat take to travel 19.2 km upstream.
(1) 2 hours (2) 3 hours (3) 1.25 hours (4) 1.5 hours (5) 1 hour

44. A started a business with a initial investment of Rs.1200. 'X' month after the start of business, B joined A with an initial investment of Rs.1500. If total profit was 1950 at the end of year and B's share of profit was 750. Find 'X'
(1) 5 months (2) 6 months (3) 7 months (4) 8 months (5) 9 months

45. Ratio between curved surface area and total surface area of a circular cylinder is 3 : 5. If curved surface area is $1848 cm^3$ then what is the height of cylinder.
(1) 28 (2) 14 (3) 17 (4) 21 (5) 7

Directions (Qs.46-50): Given below is the pie chart which shows the percentage distribution of a book 'XYZ' publishes in 5 different stores.



46. If number of female who bought the books in store E are 21 more than number of males who bought books from same store then find the number of females who bought book in store E.
(1) 75 (2) 78 (3) 71 (4) 68 (5) 73

47. Find the central angle for the book D.
(1) 117.5° (2) 115.2° (3) 112.8° (4) 108.5° (5) 118.8°

48. If total books of another publisher 'MNP' is 20% more than books of 'XYZ' publisher then what will be total books sold by store A and B for publisher 'MNP'. Percentage-distribution for different stores for MNP remains same as for 'XYZ'

(1) 200 (2) 178 (3) 181 (4) 186 (5) 198

49. What is the ratio of total books sold by store A and C together to the total books sold by store D and E together

(1) 17 : 27 (2) 18 : 29 (3) 21 : 28 (4) 22 : 23 (5) 24 : 29

50. What is the difference between average of book sold by store A and E together and average books sold by store C and D together?

(1) 33 (2) 11 (3) 22 (4) 44 (5) 20

Directions (Qs.51-55): In each of these questions, two equations (I) and (II) are given. You have to solve both the equations and __

Give answer (1): if $x > y$
Give answer (2): if $x \geq y$
Give answer (3): if $x < y$
Give answer (4): if $x \leq y$
Give answer (5): if $x = y$ or no relationship can be established.

51. I. $x^2 + 9x + 20 = 0$ II. $y^2 = 16$

52. I. $x^2 - 7x + 12 = 0$ II. $3y^2 - 11y + 10 = 0$

53. I. $x^2 - 8x + 15 = 0$ II. $y^2 - 12y + 36 = 0$

54. I. $2x^2 + 9x + 7 = 0$ II. $y^2 + 4y + 4 = 0$

55. I. $2x^2 + 15x + 28 = 0$ II. $2y^2 + 13y + 21 = 0$

56. Train A completely crosses train B which is 205m long in 16 second. If they are travelling in opposite direction and sum of speed of both are 25 m/s. then find the difference (in meter) between lengths of both trains.

(1) 5 (2) 6 (3) 8 (4) 10 (5) 12

57. A trader mixes 14 kg rice of variety A which costs Rs.60/kg with 18 kg of quantity of type B rice. He sells the mixture at Rs.65/Kg and earns a profit of $\frac{100}{3}\%$, then what was the cost price of type B rice.

(1) 30 (2) 20 (3) 40 (4) 50 (5) 45

58. Present age of A is 3 years less than present age of B. Ratio of B's age 5 years ago and A's age 4 years hence is 3 : 4 then find present age (in years) of A.

(1) 20 (2) 17 (3) 23 (4) 26 (5) 29

59. A bag contains 6 Red, 5 Green and 4 Yellow coloured balls. 2 balls are drawn at random after one another without replacement then what is the probability that atleast one ball is Green.

(1) $\frac{2}{3}$ (2) $\frac{4}{5}$ (3) $\frac{3}{8}$ (4) $\frac{4}{7}$ (5) $\frac{2}{7}$

60. Cost price of B is 200 more than cost price of A. B is sold at 10% profit and A is sold at 40% loss and selling price of A and B are in the ratio 4 : 11. If A is sold at 20% loss then what will be selling price of A?

(1) 320 (2) 400 (3) 240 (4) 160 (5) 360

Directions (Qs.61-65): Read the following table carefully and answer the following questions.

No. of students and % of students passed out of those who appeared are given for two subjects from year 2001 to 2005 in a college XYZ.

Year	Statistics		Economics	
	No. of students appeared	% of students passed	No. of students Appeared	% of students Passed
2001	2200	45%	4200	40%
2002	2700	55%	3800	45%
2003	2500	35%	2600	60%
2004	3200	65%	4800	55%
2005	4800	60%	2200	50%

61. Find the average number of students who were failed in Economics in year 2002 and year 2003 together?

(1) 1435 (2) 1565 (3) 1720 (4) 1590 (5) None of these

62. Number of students failed in Statistics in the year 2003 is what % of the number of students failed in Economics in the same year?

(1) 145.75% (2) 150% (3) 156.25% (4) 158.25% (5) None of these

63. Find the ratio between the total number of students appeared in Economics from 2002 to 2004 together and the total number of students appeared in Statistics from year 2003 to 2005 together?

(1) 13 : 14 (2) 14 : 13 (3) 15 : 16 (4) 16 : 15 (5) None of these

64. Find the difference between the total number of students passed in Statistics from year 2002 and total number of students failed in Economics from year 2005.

(1) 690 (2) 385 (3) 485 (4) 550 (5) 610

65. Find the average number of students appeared in Economics from year 2001 to 2004 together?

(1) 3090 (2) 3015 (3) 3060 (4) 3075 (5) 3850

Directions (Qs.66-70): What approximate value should come in place of question mark (?) in the following questions? (Note: You are not expected to calculate the exact value)

66. ? % of (5284.89 ÷ 7.08) = 986.01 – 533.06
(1) 42 (2) 39 (3) 74 (4) 65 (5) 60

67. (1041.84 + ?) ÷ 3.02 = 1816.25 ÷ 4.01
(1) 442 (2) 337 (3) 385 (4) 268 (5) 320

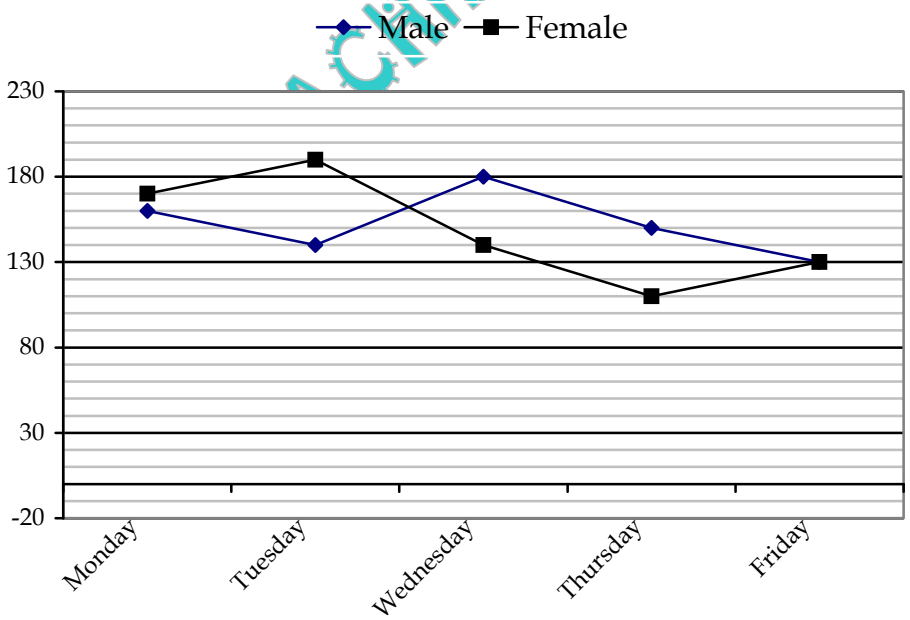
68. 69.3% of 445.12 ÷ 14.06 = 623.08 ÷ ?
(1) 28 (2) 19 (3) 21 (4) 33 (5) 37

69. $?^2 + 114.09 - 24.06 \times 5.14 = 163.19$
(1) 7 (2) 13 (3) 11 (4) 15 (5) 19

70. $768.16 \div 11.87 \times \sqrt{257} - 58.05 = ?$
(1) 1033 (2) 1175 (3) 966 (4) 880 (5) 975

Directions (Qs.71-75): Study the following line graph carefully and answer the following questions.

Number of males and number of females are given. They are visiting a place from Monday to Friday.



71. Find the ratio of the total number of males visited the place on Tuesday and Thursday together to the total number of females visited the place on Monday and Friday together?
(1) 29 : 30 (2) 30 : 29 (3) 25 : 26 (4) 26 : 25 (5) None of these

72. Total number of males and females together visited the place on Tuesday are what percent more/less than the total number of male and females together visited the place on Thursday?
(1) $26\frac{12}{13}\%$ (2) $25\frac{3}{13}\%$ (3) $26\frac{3}{13}\%$ (4) $25\frac{7}{13}\%$ (5) None of these

73. Find the difference between the total number of females visited the place from Monday to Wednesday and the total number of males visited the place from Wednesday to Friday?
(1) 30 (2) 60 (3) 40 (4) 50 (5) None of these

74. If on Saturday the number of males and number of females increased by 25% and 20% respectively as compared to that on Friday then find the total number of males and females together visited the place on Saturday?
(1) 196 (2) 306 (3) 316 (4) 206 (5) 216

75. Total number of males and females visited the place on Monday and Tuesday together is how much more than the total number of males and females visited the place on Thursday and Friday together?
(1) 175 (2) 125 (3) 150 (4) 160 (5) 130

Directions (Qs.76-80): What should come in place of the question mark (?) in the following number series problems?

76. 190, 94, 46, 22, ?, 4
(1) 12 (2) 14 (3) 10 (4) 8 (5) None of these

77. 5, 28, 47, 64, 77, ?
(1) 84 (2) 86 (3) 89 (4) 88 (5) None of these

78. 7, 4, 5, 12, 52, ?
(1) 424 (2) 428 (3) 318 (4) 440 (5) None of these

79. 6, 4, 5, 11, 39, ?
(1) 159 (2) 169 (3) 189 (4) 198 (5) None of these

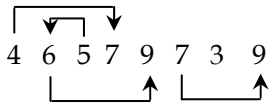
80. 89, 88, 85, 78, 63, ?
(1) 30 (2) 34 (3) 36 (4) 32 (5) None of these

ANSWERS

1. **Ans (3): LP**

$Z_{-2} \rightarrow X_{-3} \rightarrow U_{-4} \rightarrow Q_{-5} \rightarrow \mathbf{L}/B_{+2} \rightarrow D_{+3} \rightarrow G_{+4} \rightarrow K_{+5} \rightarrow \mathbf{P}$

2. **Ans (4): More than three**



3. **Ans (1): Y**

RACE, CARE

4. **Ans (3): 8, 6 and 4**

9 4 3 6 5 2 7
8 6 2 8 **4** 4 6

5. **Ans (1): One**

M O **N** S T E R
E M **N** O R S T

For (Qs.6 to 10):

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

6. **Ans (3): 6**

There are six boxes above the box D

7. **Ans (1): B**

Box B is placed at the top

8. **Ans (5): E**

Except E, all of them are kept at even number places

9. **Ans (5): None of these**

None of them sits between F and A. Box F is immediately above box A

10. **Ans (5): None of these**

Two boxes are there between Box C and A

11. **Ans (5): Both Conclusions I and II follow**

$R \geq S \geq T > U > X$; $W > V > T$

Conclusions: I. $R > X$ (✓) II. $X < W$ (✓)

12. **Ans (1): Only Conclusion I follow**
E = F < G ≥ I ; H > G
Conclusions: I. H > I (✓) II. E > I (×)

13. **Ans (1): Only Conclusion I follow**
A > B > F > C < E < D
Conclusions: I. C < A (✓) II. B > D (×)

14. **Ans (3): Either Conclusion I or Conclusion II follows**
K ≤ L ≤ M = N ≤ O ≤ P
Conclusions: I. K < P (× ✓) II. K = P (× ✓)

15. **Ans (2): Only Conclusion II follows**
D < E < F < G ; F < K
Conclusions: I. K ≤ G (×) II. K > D (✓)

For (Qs.16 to 20):

Month	Person
January	C
February	A
March	G
April	E
June	D
August	F
October	B

16. **Ans (2): Two**
A and G sit between C and E

17. **Ans (2): C**
C was born in the month of January. So, C is the oldest

18. **Ans (5): Both E and G**
Both E and G were born between A and D

19. **Ans (4): Two**
D was born in the month of June. Two persons were born after D

20. **Ans (5): A**
A was born in the month of February, which has 28 days

For (Qs.21 to 25):

Word	card	time	win/team	fight	game/play	in
Code	ja	sa	la/ta	da	pa/ra	fa

21. **Ans (1): sa**
The code for 'time' is 'sa'

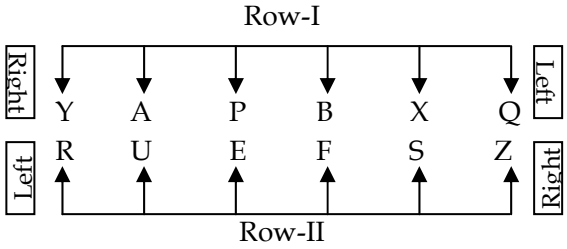
22. **Ans (2): fa ja da**
The code for 'fight' is 'da'. The code for 'card' is 'ja'. The code for 'in' is 'fa'

23. **Ans (3): Either ra or pa**
The code for 'Game' is either 'ra' or 'pa'

24. **Ans (4): fa**
The code for 'in' is 'fa'

25. **Ans (4): xa ja da**
The code for 'fight' is 'da'. The code for 'card' is 'ja'. The code for 'risk' may be 'xa'.

For (Qs.26 to 30):



26. **Ans (1): Q, Y, Z, R**
Q, Y, Z and R are extreme ends of both the rows

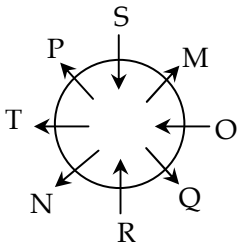
27. **Ans (5): B**
F faces B

28. **Ans (5): A faces U**
B faces one of the immediate neighbour of S. F sits exactly between E and S. A is not an immediate neighbour of B.

29. **Ans (2): F is an immediate neighbour of the person who faces X**
B is an immediate neighbour of X. Both P and Y are immediate neighbour of A. Two persons sit between X and A.

30. **Ans (5): S**
P faces E. S is second to the right of E

For (Qs.31 to 35):



31. **Ans (2): S**
S sits exactly between M and P

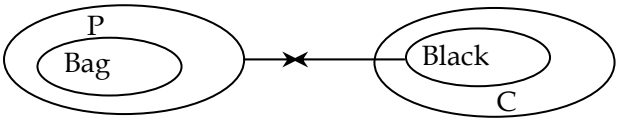
32. **Ans (2): Three**
S, O and R are facing centre

33. **Ans (3): S**
T faces outside. S is second to the right of T

34. **Ans (2): O**
Except O, all of them are facing outside

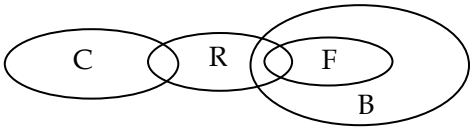
35. **Ans (3): Third to the left**
R faces centre. P is third to the left of R

36. **Ans (4): neither conclusion I nor II follows**



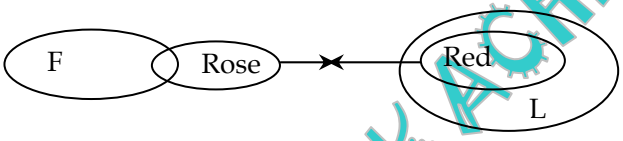
Conclusions: I. All bags are covers (×)
II. Some covers are purses (×)

37. **Ans (5): both conclusions I and II follow**



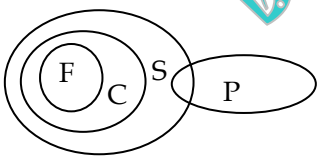
Conclusions: I. Some fishes are rats (✓)
II. All cats being birds is a possibility (✓)

38. **Ans (5): both conclusions I and II follow**



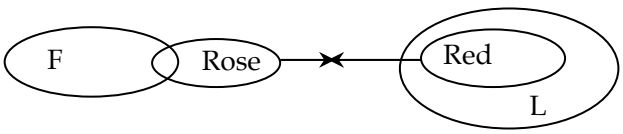
Conclusions: I. Some flowers are definitely not red (✓)
II. Some leaves are definitely not roses (✓)

39. **Ans (1): only conclusion I follows**



Conclusions: I. All files being paper is a possibility (✓)
II. All files are not sheets (×)

40. **Ans (4): neither conclusion I nor II follows**



Conclusions: I. Some flowers aren't leaves (×)
II. No leave is red (×)

41. Ans (1): 11

Let a consecutive odd numbers = $x - 2$, x and $x + 2$
and consecutive even numbers = $y - 2$, y, $y + 2$
So, $y - 2$, $= 9 + x + 2$; $y - x = 13$ … (i) *and*

$(x)^2 + 507 = (y)^2; y^2 - x^2 = 507; (x + y)(y - x) = 507$

$(x + y) = \frac{507}{13} \Rightarrow x + y = 39$.(ii)

Solving (i) and (ii) $y = 26$ and $x = 13$
so smallest odd number = x - 2 = 13 – 2 = 11

42. Ans (3): 4

A complete work in 15 days
B will complete work in 10 days

They together will complete whole work $= \frac{15 \times 10}{25} = 6$ days

A and B together worked for $= 6 \times \frac{2}{3} = 4$ days

43. Ans (4): 1.5 hours

Speed of downstream $= \frac{9.6}{36}$ km/min $= 16$km/hr

Speed of current = 1.6 km/hr
Speed of man in still water = 16 – 1.6 = 14.4 km/hr

$\therefore$ Required time in upstream $= \frac{19.2}{14.4 - 1.6} = \frac{19.2}{12.8} = 1.5$ hours

44. Ans (2): 6 months

$\frac{A}{B} \Rightarrow \frac{1200 \times 12}{1500 \times x} = \frac{1200}{750} \Rightarrow x = 6$ months

45. Ans (4): 21

$\frac{2\pi rh}{2\pi r(r + h)} = \frac{3}{5} = 5h = 3r + 3h; 2h = 3r$ and $2\pi rh = 1848$

$2\pi rh = 1848 \Rightarrow 2 \times \frac{22}{7} \times \frac{2}{3} \times h \times h = 1848 \Rightarrow h = 21$

46. Ans (3): 71

Let male who purchased book from Store E = x

Then $x + x + 21 = \frac{22}{100} \times 550 \Rightarrow 2x + 21 = 121 \Rightarrow x = 50$

Required number of females = 50 + 21 = 71

47. Ans (2): 115.2°

Central angle of Book D = $\frac{32}{100} \times 360^\circ = 115.2$

48. Ans (5): 198

Total books of store XYZ $= \frac{120}{100} \times 550 = 660$

Total books sold by store A and B =(18% + 12%) of 660 = 30% of 660 = 198

49. Ans (1): 17 : 27

∴ Required ratio = (18% + 16%) : (32% + 22%) = 34 : 54 = 17 : 27

50. Ans (3): 22

$\therefore$ Required difference $= \frac{1}{2}[(32\% + 16\%) - (18\% + 22\%)]550 = \frac{1}{2} \times 8\%$ of $550 = 4\%$ of $550 = 22$

51. Ans (4): $x \le y$

I. SR = -9, PR = 20 $\Rightarrow x$ = -4, -5

II. $y^2 = 16 \Rightarrow y = +4, -4$

52. Ans (1): $x > y$

I. SR = 7, PR = 12 $\Rightarrow x$ = 4, 3

II. SR = 11, PR = 30 $\Rightarrow y = \frac{6}{3}, \frac{5}{3} \Rightarrow y = 2, 1.67$

53. Ans (3): $x < y$

I. SR = 8, PR = 15 $\Rightarrow x$ = 3, 5

II. SR = 12, PR = 36 $\Rightarrow y$ = 6, 6

54. Ans (5): no relationship can be established

I. SR = -9, PR = 14 $\Rightarrow x = \frac{-7}{2}, \frac{-2}{2} \Rightarrow x = -3.5, -1$

II. SR = -4, PR = 4 $\Rightarrow y$ = -2, -2

55. Ans (4): $x \le y$

I. SR = -15, PR = 56 $\Rightarrow x = \frac{-7}{2}, \frac{-8}{2} \Rightarrow x = -3.5, -4$

II. SR = -13, PR = 42 $\Rightarrow y = \frac{-6}{2}, \frac{-7}{2} \Rightarrow y = -3, -3.5$

56. Ans (4): 10

In 16 second distance covered by both = 16 × 25 = 400m

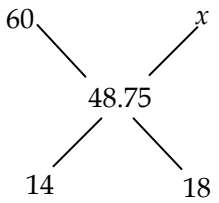
So length of A = 400 – 205 = 195

∴ Required difference = (205 – 195) = 10 m

57. Ans (3): 40

Let cost price of mixture = y; So, $\frac{4}{3}y = 65; y = 48.75$

From mixture and allegation



$\frac{7}{9} = \frac{48.75 - x}{60 - 48.75}$

78.75 = 438.75 – 9x ; 360 = 9x ; x = Rs.40 kg

58. Ans (1): 20

Let B's age = x;

So A's age = $x - 3$;

$$\frac{B}{A} = \frac{x-5}{x-3+4} = \frac{3}{4} \Rightarrow \frac{x-5}{x+1} = \frac{3}{4}$$

$x = 23$; A's age = 23 – 3 = 20 years

59. Ans (4): $\frac{4}{7}$

$$\text{Probability that no ball is green} = \frac{{}^{10}C_1}{{}^{15}C_1} \times \frac{{}^{9}C_1}{{}^{14}C_1} = \frac{10 \times 9}{15 \times 14} = \frac{3}{7}$$

$$\therefore \text{ Required probability } = 1 - \frac{3}{7} = \frac{4}{7}$$

60. Ans (1): 320

Let C.P. of A = x; So C.P. of B = $x + 200$

$$\frac{\text{S.P of B}}{\text{S.P of A}} = \frac{\frac{110}{100}(x+200)}{\frac{60}{100}x} = \frac{11}{4} \Rightarrow \frac{x+200}{6x} = \frac{1}{4} = 400$$

$$\text{If it is sold at 20\% loss then selling price} = \frac{80}{100} \times 400 = 320$$

61. Ans (2): 1565

$$\text{No. of students failed in Economics in year 2002} = \frac{(100-45)}{100} \times 3800 = 2090$$

$$\text{No. of students failed in Economics in year 2003} = \frac{(100-60)}{100} \times 2600 = 1040$$

$$\therefore \text{ Required average } = \frac{2090 + 1040}{2} = 1565$$

62. Ans (3): 156.25%

$$\text{No. of students failed in Statistics in year 2003} = \frac{100-35}{100} \times 2500 = 1625$$

$$\text{No. of students failed in Economics in year 2003} = \frac{100-60}{100} \times 2600 = 1040$$

$$\therefore \text{Required\%} = \frac{1625}{1040} \times 100 = 156.25\%$$

63. Ans (4): 16 : 15

Total no. of students appeared in Economics from 2002 to 2004 = 3800 + 2600 + 4800 = 11200

Total no. of students appeared in Statistics from 2003 to 2005 = 2500 + 3200 + 4800 = 10500

∴ Required ratio = 11,200 : 10,500 = 16 : 15

64. Ans (2): 385

$$\text{Total no. of students passed in Statistics in year 2002} = \frac{55}{100} \times 2700 = 1485$$

$$\text{Total no. of students failed in Economics in year 2005} = \frac{50}{100} \times 2200 = 1100$$

∴ Required difference = 1485 – 1100 = 385

65. **Ans (5): 3850**

Average no. of students appeared in Economics from year 2001 to 2004 together

$= \frac{4200+3800+2600+4800}{4} = \frac{15400}{4} = 3850$

66. **Ans (5): 60**

$\frac{?}{100} \times \frac{5285}{7} = 453 \Rightarrow \frac{?}{100} \times 755 = 453 \Rightarrow ? \approx 60$

67. **Ans (5): 320**

$\frac{(1042+?)}{3} = \frac{1816}{4} \Rightarrow 1042 + ? = 454 \times 3 \Rightarrow ? = 1362 - 1042 = 320$

68. **Ans (1): 28**

$\frac{69}{100} \times \frac{445}{14} = \frac{623}{?} \Rightarrow ? = \frac{623 \times 14 \times 100}{69 \times 445} \Rightarrow ? \approx 28$

69. **Ans (2): 13**

$?^2 + 114 - (24 \times 5) = 163 \Rightarrow ?^2 = 163 + 120 - 114 = 169 \Rightarrow ? = 13$

70. **Ans (3): 966**

$? = \frac{768}{12} \times 16 - 58 \Rightarrow ? = 1024 - 58 \Rightarrow ? = 966$

71. **Ans (1): 29 : 30**

Total no. of males visited on Tuesday and Thursday = 140 + 150 = 290

Total no. of females visited on Monday and Friday = 170 + 130 = 300

$\therefore$ Required ratio = 290 : 300 = 29 : 30

72. **Ans (1): $26\frac{12}{13}\%$**

Total no. of males and females together on Tuesday = 140 + 190 = 330

Total no. of males and females together on Thursday = 150 + 110 = 260

$\therefore$ Required $\% = \frac{330-260}{260} \times 100 = 26\frac{12}{13}\%$

73. **Ans (4): 50**

Total no. of females visited from Monday to Wednesday = 170 + 190 + 140 = 500

Total no. of males visited from Wednesday to Friday = 180 + 150 + 120 = 450

$\therefore$ Required difference = 500 – 450 = 50

74. **Ans (2): 306**

On Saturday: Total no. of males visited the place $= \frac{125}{100} \times 120 = 150$

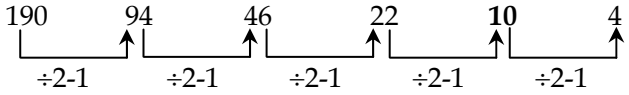
Total no. of females visited the place $= \frac{120}{100} \times 130 = 156$

$\therefore$ Required males and females = 150 + 156 = 306

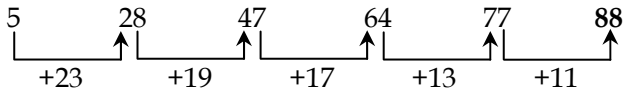
75. Ans (3): 150

Total males and females visited the place on Monday and Tuesday together
=160 + 140 + 170 + 190 = 660
Total males and females visited the place on Thursday and Friday together
= 150 + 120 + 110 + 130 = 510
∴ Required no. of persons = 660 – 510 = 150

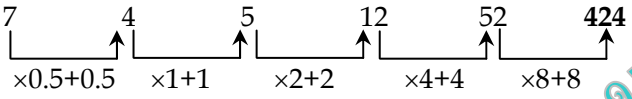
76. Ans (3): 10



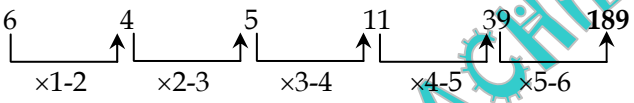
77. Ans (4): 88



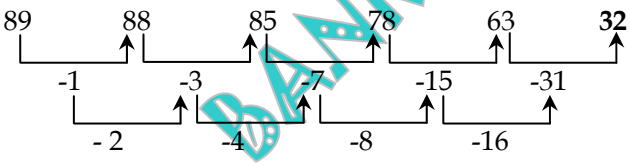
78. Ans (1): 424



79. Ans (3): 189



80. Ans (4): 32



"ALL THE BEST"

"PRACTICE MAKES PROGRESS...!