IBPS RRB Office Asst. Preliminary Grand Test –IRP-180717

HINTS & SOLUTIONS

ANSWER KEY

1. (5)	21. (4)	41. (3)	61. (2)
2. (4)	22. (3)	42. (2)	62. (3)
3. (1)	23. (4)	43. (3)	63. (1)
4. (2)	24. (4)	44. (3)	64. (2)
5. (4)	25. (3)	45. (2)	65. (3)
6. (4)	26. (2)	46. (1)	66. (1)
7. (3)	27. (4)	47. (3)	67. (3)
8. (3)	28. (3)	48. (5)	68. (1)
9. (1)	29. (5)	49. (4)	69. (3)
10. (3)	30. (1)	50.(5)	70. (4)
11. (3)	31. (4)	51. (5)	71. (4)
12. (4)	32. (1)	52. (3)	72. (1)
13. (4)	33. (1)	53. (2)	73. (2)
14. (2)	34. (4)	54. (4)	74. (2)
15. (4)	35. (5)	55. (3)	75. (5)
16. (2)	36. (4)	56. (4)	76. (1)
17. (4)	37. (5)	57. (3)	77. (2)
18. (5)	38. (2)	58. (2)	78. (3)
19. (2)	39. (3)	59. (2)	79. (4)
20. (4)	40. (4)	60. (1)	80. (3)

HINTS & SOLUTIONS

1. (5)

For I – Since, there is no direct relation between element flowers and grain. Hence, Conclusion I cannot be concluded.

For II – Since, there is no direct relation between element fruits and vegetables. Hence, Conclusion II cannot be concluded.

2. (4)
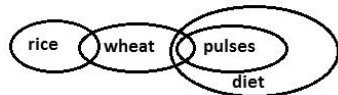
For I – Since, there is no direct relation between element rice and diet therefore possibility case will hold true. Hence, Conclusion I can be concluded.

For II – Since, there is no direct relation between element rice and pulses. Hence, Conclusion II cannot be concluded.

3. (1)

For I –Since there is no direct relation between element film and prime therefore possibility case will hold true. Hence, Conclusion I can be concluded.
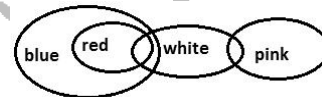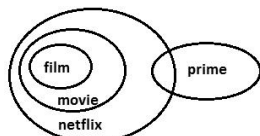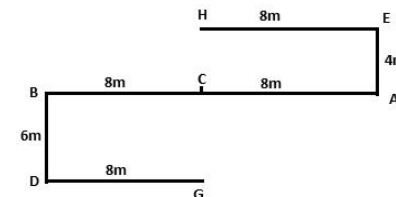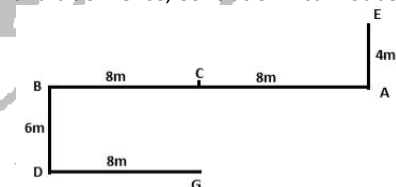
For II – Since all film is movie and all movie is netflix therefore all film is netflix will hold true. Hence, Conclusion II can be concluded.

4. (2)

For I – Since, there is no direct relation between element cup and vessel. Hence, Conclusion I cannot be concluded.

For II – Since, there is a no direct relation between element cup and vessel. Hence, Conclusion II cannot be concluded.

Since the elements are same and 'all' & 'some not' case is mentioned. Therefore, "Either –Or" case will be concluded

5. (4)

For I – Since, some red is white and all red is blue therefore some blue is white will hold true. Hence, Conclusion I can be concluded.

For II – Since, there is no direct relation between pink and blue. Hence, Conclusion II cannot be concluded.

6-7.

6. (4)   Southwest

7. (3) $\sqrt{8^2 + 6^2} = 10m$

8. (3)   6 + 4 = 10m

9-13.   P sits fifth to the right of W and both of them do not sit at any end of the row. Two persons sit between R and W. V sits second to the left of R. One person sits between U and V. T is not an immediate neighbor of R. Q sits second to the right of T. S sits to the immediate left of V. Immediate neighbors of V face opposite direction. U and Q faces south. There are two possible cases
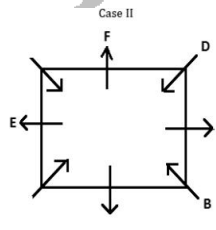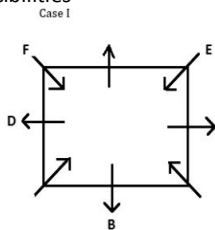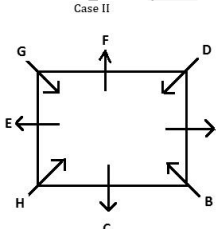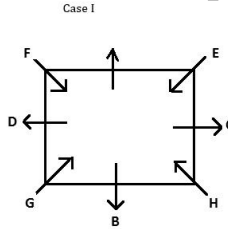
Case I

Case II

U   W   V   S   R   Q   P   T
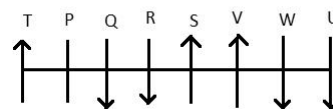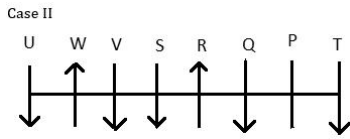
Now, Immediate neighbor of Q face opposite direction. Not more than four people face south. This will eliminate Case II. So final arrangement will be

T   P   Q   R   S   V   W   U
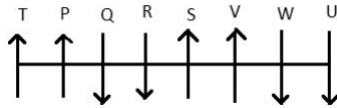
9. (1)   10. (3)
11. (3)   12. (4)   13. (4)
14. (2)   8 1, 4 8   15. (4)   8
16. (2)   5
17. (4)   Five - 5 7 2, 3 5 8, 1 3 2, 7 9 4, 5 1 8
18. (5)   Four- 4 2 5, 2 6 5, 4 8 7, 4 2 5

19-23. E sits third to the left of B. Two persons sit between F and B. D sits to the immediate right of F. We got two possibilities

Case I   Case II

Now, C faces outside. H is an immediate neighbor of C. G sits second to the left of H.

Case I   Case II
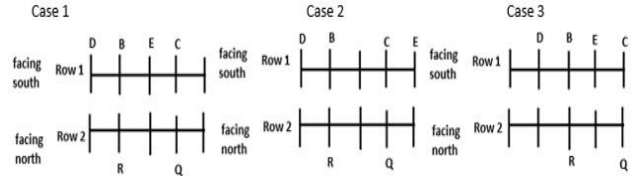

Now, A is not an immediate neighbor of D. This will eliminate Case II. The final arrangement will be

19. (2)   20. (4)   21. (4)
22. (3)   23. (4)   24. (4)
25. (3)

W I N T E R
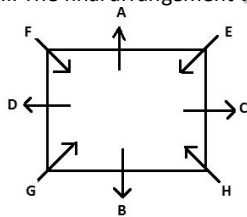
26. (2)   27. (4)
28. (3)   **I.** P = C (False)
          II. C < P (False)
29. (5)   **I.** H < W (True)
          II. G > H (True)
30. (1)   **I.** Q < D (True)
          II. C < A (False)

31. (4)   **I.** S ≥ B (False)
          II. F > E (False)
32. (1)   **I.** G < N (True)
          II. I ≥ L (False)

33-37. C sits third to the left of D. E is not an immediate neighbor of D. C faces Q. One person sits between R and Q. B sits second to the right of C. We got three possibilities –

Case 1   Case 2   Case 3

Now, P is not an immediate neighbor of Q. R is not an immediate neighbor of P. This will eliminate Case 1 and Case 2. S sits second to the right of T. So the final arrangement will be –

33. (1)   34. (4)
35. (5)   36. (4)   37. (5)
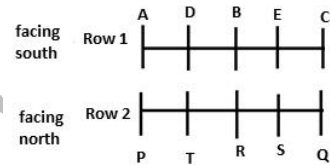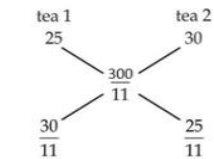
38-40.
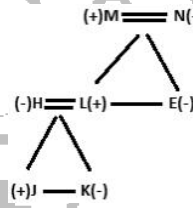
38. (2)   39. (3)   40. (4)
41. (3)   Let the number of students in two groups be x & y

$\therefore 15x + 25y = 22(x + y)$

$\Rightarrow (25 - 22)y = (22 - 15)x$

$\Rightarrow 3y = 7x$

$\Rightarrow x : y = 3 : 7$

42. (2)   ATQ,
Ram's age = 29 + 5 = 34 years
$\Rightarrow 3x + 2y = 34$ _____(1)
Also, $x - y = 3$ _____(2)
Solving (1) & (2),
$x = 8$, $y = 5$
required average age $= \frac{34+29+8+5}{4} = 19$

43. (3)   Given

$\frac{Mon + Tue + Wed + Thu}{4} = 48°$

$\therefore 42° + Tue + Wed + Thu = 192°$

$\Rightarrow Tue + Wed + Thu = 150°$ ....(i)

And, $\frac{Tue+Wed+Thu+Fri}{4} = 52°$

$\Rightarrow 150° + Fri = 208°$ [from Eq. (i)]

$\Rightarrow Fri = 58°$

44. (3)   C.P. of mixture of tea

$= 30 \times \frac{100}{110}$

$= \frac{300}{11}$ rupee/kg

According to law of allegation

$$\begin{array}{ccc}
\text{tea 1} & & \text{tea 2} \\
25 & & 30 \\
& \dfrac{300}{11} & \\
\dfrac{30}{11} & & \dfrac{25}{11}
\end{array}$$

$\therefore \dfrac{tea1}{tea2} = \dfrac{30}{25} = \dfrac{6}{5}$

$\therefore$ Quantity of tea1 $= \dfrac{6}{5} \times 30 = 36$ kg

45. (2) Let quantity of alloy of alluminium and zinc = 8 kg

And that of alluminium and copper = 13 kg

Let 1 kg of each was mixed

$\therefore$ weight of copper in this mixture of 2 kg

$= 1 \times \dfrac{5}{13} = \dfrac{5}{13}$ kg

$\therefore$ Weight of copper per kg $= \dfrac{5}{26}$ kg

46. (1) $? = \sqrt{15 \div 3 + 24 \div 6}$

$= \sqrt{5 + 4}$

$= \sqrt{9}$

$= 3$

47. (3) $450 + \dfrac{1800}{8} + \dfrac{24}{24} = (?)^2$

$(?)^2 = 450 + 225 + 1 = 676$

$? = \pm 26$

48. (5) $\dfrac{1}{7} \times 476 + 36 \div 12 = ? \times \dfrac{62}{100}$

$28 + 3 = ? \times \dfrac{62}{100}$

$? = \dfrac{3100}{62} = 50$

49. (4) $\dfrac{18}{345} \times \dfrac{23}{396} \times \dfrac{330}{100} = ?$

$? = 0.01$

50. (5) $294 + 306 - 255 = ? + 150$

$? = 195$

51. (5) I. $x^2 - x - 6 = 0$

$\Rightarrow x^2 - 3x + 2x - 6 = 0$

$\Rightarrow x(x - 3) + 2(x - 3) = 0$

$\Rightarrow (x + 2)(x - 3) = 0$

$\Rightarrow x = -2, 3$

II. $y^2 = 4$

$\Rightarrow y - 4 = 0$

$\Rightarrow (y - 2)(y + 2) = 0$

$\Rightarrow y = 2, -2$

52. (3) I. $2x^2 + 13x + 21 = 0$

$\Rightarrow 2x^2 + 7x + 6x + 21 = 0$

$\Rightarrow x(2x + 7) + 3(2x + 7) = 0$

$\Rightarrow (x + 3)(2x + 7) = 0$

$\Rightarrow x = -3, -\dfrac{7}{2}$

II. $y^2 + 6y + 9 = 0$

$\Rightarrow y^2 + 3y + 3y + 9 = 0$

$\Rightarrow y(y + 3) + 3(y + 3) = 0$

$\Rightarrow (y + 3)(y + 3) = 0$

$\Rightarrow y = -3$

$\therefore y \geq x$

53. (2) I. $2x + 3y = 4$

II. $3x + 2y = 11$

On (i) $\times 3 - (ii) \times 2$

$x = 5, y = -2$

$\therefore x > y$

54. (4) I. $x^2 - 7x + 12 = 0$

$\Rightarrow x^2 - 4x - 3x + 12 = 0$

$\Rightarrow x(x - 4) - 3(x - 4) = 0$

$\Rightarrow (x - 3)(x - 4) = 0$

$\Rightarrow x = 3, 4$

II. $y^2 - 2y - 3 = 0$

$\Rightarrow y^2 - 3y + y - 3 = 0$

$\Rightarrow y(y - 3) + 1(y - 3) = 0$

$\Rightarrow (y + 1)(y - 3) = 0$

$\Rightarrow y = -1, 3$

$\therefore x \geq y$

55. (3) I. $x^2 = 289 \Rightarrow x = \pm 17$

II. $y^3 = 4913 \Rightarrow y = 17$

$\therefore y \geq x$

56. (4) Girls in school B $= \dfrac{18000}{360} \times 40 \times \dfrac{1}{8} \times 3 = 750$

Girls in school D $= \dfrac{18000}{360} \times 72 \times \dfrac{1}{12} \times 13 = 3900$

Required % $= \dfrac{750}{3900} \times 100 = 19\dfrac{3}{13}$%

Or

Let total boys in all 6 school = $360x$

So, girls in school B $= \dfrac{\frac{40}{x}}{8} \times 3 = 15x$

Girls in school D $= \dfrac{72x}{12} \times 13 = 78x$

Required % $= \dfrac{15x}{78x} \times 100$

$= 19\dfrac{3}{13}$%

57. (3) Let total boys in all six school be $360x$

Required ratio $= \dfrac{30x + 54x}{72x + 76x} = 21 : 37$

58. (2) Girls in school A $= \dfrac{18000}{360} \times 30 \times \dfrac{1}{2} \times 3$

$= 50 \times 15 \times 3$

$= 2250$

Girls in school E $= \dfrac{18000}{360} \times 76 \times \dfrac{1}{19} \times 20$

$= 50 \times 4 \times 20$

$= 4000$

Boys in school B $= \dfrac{18000}{360} \times 40 = 2000$

Required sum = 2250 + 4000 + 2000 = 8250

59. (2) Average of boys in school A, C and D is

$= \dfrac{1}{3} \times (30 + 54 + 72) \times \dfrac{18000}{360}$
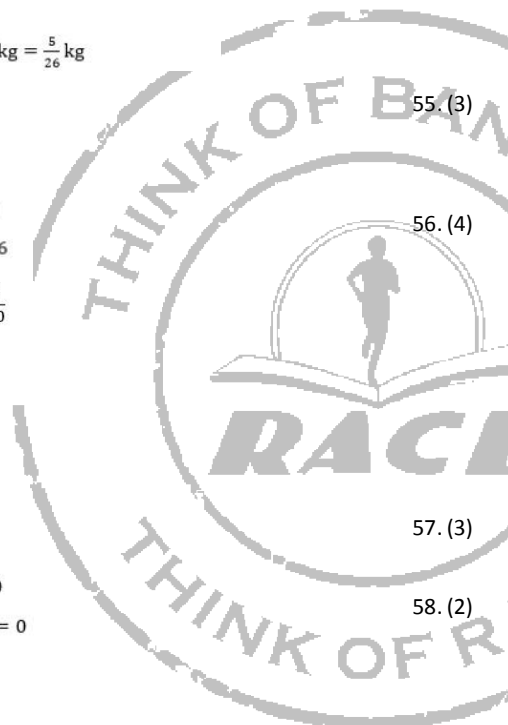
$= 52 \times 50$

$= 2600$

60. (1) Total girls in all six school

= 32000 − 18000 = 14000

Girls in school C

$= \dfrac{18000}{360} \times 54 \times \dfrac{1}{4} \times 5 = 3375$

Total girls in all school except school C

= 14000 − 3375 = 10,625

61. (2) $\dfrac{3}{4}$th work can be done by Ravi in $= \dfrac{27}{2}$ hrs

$\therefore$ whole work completed by Ravi $= \dfrac{4}{3} \times \dfrac{27}{2}$

= 18 h

And,

Whole work completed by Hira in $= \dfrac{3}{2} \times 8 = 12h$

$\therefore$ Required time $= \dfrac{18 \times 12}{18 + 12} = 7.2$ h

62. (3) Rita's father's age = 31 × 2 – 28

= 34 yrs

Rita's age after two yr = $\frac{100}{300} \times (36)$

= 12 yr

∴ Rita's present age = 10 yr

∴ Raju's present age = $(10 - 2) \times \frac{75}{100} + 2$

= 8 yr

63. (1) Correct average = $\frac{42.5 \times 5 - (44+36) + 40 + 42}{5}$

$= \frac{214.5}{5}$

= 42.9

64. (2) Percentage of people in other activities

$= 100 - \left(\frac{50}{3} + \frac{100}{3} + 25\right)$

= 25%

∵ 25 % → 450

∴ 100% → $\frac{450}{25} \times 100$

→ 1800

∴ Required answer = $\frac{50}{300} \times 1800$

= 300

65. (3) (A's profit) : (B's profit) : (C's profit)

= (13,200 × 4 + 14400 × 8) : (14400 × 4 + 12000 × 8) : (18000 × 12)

= 35 : 32 : 45

∴ total profit = $\frac{35+32+45}{45} \times 11250$

= Rs 28000

66. (1) Female Senior citizen of age group (50 – 60) yrs

$= \frac{3}{8} \times 2400 = 900$

Female senior citizen of age group (61 – 70) yrs

$= \frac{1}{4} \times 3200$

= 800

Required percentage = $\frac{900-800}{800} \times 100$

= 12.5% more

67. (3) Required average = $\frac{1}{2} \times \left(\frac{3}{4} \times 3200 + \frac{2}{3} \times 6000\right)$

$= \frac{1}{2} \times 6400$

= 3200

68. (1) Remaining senior citizens

$= \left(100 - \frac{100}{3}\right)\% \ of \ 6000$

= 4000

∴ Required percentage = $\frac{4000}{3200+4800} \times 100$

$= \frac{1}{2} \times 100$

= 50%

69. (3) Non–pensioner males

$= (100 - 20)\% \ of \ \frac{7}{12} \ of \ 4800$

$= \frac{80}{100} \times \frac{7}{12} \times 4800$

= 2240

70. (4) Required difference

$= \left(\frac{5}{8} \times 2400 + \frac{3}{4} \times 3200\right) - \left(\frac{3}{8} \times 2400 + \frac{1}{4} \times 3200\right)$

= 1500 + 2400 – 900 – 800

= 2200

71. (4) Let loan amount of Anurag = Rs 100x

ATQ,

$100x\left[\left(1 + \frac{20}{100}\right)^2 - \left(1 + \frac{10}{100}\right)^2\right] = 345$

$100x\left[\left(\frac{6}{5}\right)^2 - \left(\frac{11}{10}\right)^2\right] = 345$

$100x\left(\frac{36}{25} - \frac{121}{100}\right) = 345$

x = 15

So, 100x = Rs 1500

72. (1) Let length of train A = 7x

Length of train B = 11x

ATQ,

$\frac{7x+11x}{(99-63) \times \frac{5}{18}} = 144$

x = 80 m

So length of train A = 80 × 7 = 560 m

Length of train B = 11 × 80 = 880 m

Required difference = 800 – 560 = 320 m

73. (2) Let Sandeep joined the business x months after Satish

ATQ

$\frac{15,000 \times 12}{20,000(12-x)} = \frac{9,000}{8,000}$

x = 4

So Sandeep joined the business 4 month after Satish.

74. (2) Let A does 100n units of work in one day

So C does 120n units of work in one day

And B does 75n units of work in one day

Total work = 120n × 45 units

So, 'X' = $\frac{120n \times 45}{(75n+100n)}$ days.

$= \frac{5400}{175}$ days

$= \frac{216}{7}$ days

$= 30\frac{6}{7}$ days

75. (5) Let speed of A and B be 6x km/hr and 5x km/hr respectively

After 2 hours distance between A and B is = 2 (6x– 5x) km = 2x km

After 5 hours distance between A and B is = (2x + 3 × 6x) km = 20x km

and 20x = 100 km

x = 5

Speed of A = 6x km/hr = 30 km/hr

76. (1) $\sqrt{?} = \frac{2695}{55}$

= 49

⇒ ? = 2401

77. (2) (?) = 15363 – 9604

? = 5759

78. (3) ? = 49

79. (4) ? = 5.367

80. (3) ? = 236 + 160 = 396