IBPS RRB Officer Scale-I Preliminary Grand Test –IRP-180715
HINTS & SOLUTIONS

ANSWER KEY

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

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.
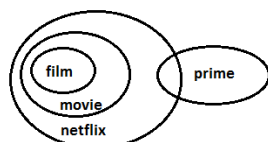
2. (4)
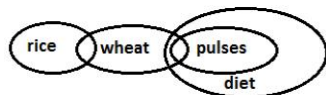
For I – Since, there is no direct relation between element rice and diet therefore possibility case will hold true. Hence, Conclusion I can be concluded.
For II – Since, there is no direct relation between element rice and pulses. Hence, Conclusion II cannot be concluded.

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
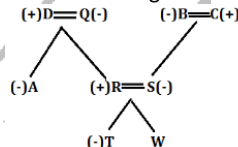
5. (4)

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.

6-8. Refer to the diagram below:

6. (2)

7. (4) Since, the gender of W is not defined, it can't be determined.

8. (5)

9. (2) The given number --- **4375268**
After applied operation-- **2486046**

10. (3) R > P > Q > T > S

11-15. P is parking his car third to the right of the one who has Honda car. Mercedes car is parked second to the right of P. J and N are parking their car adjacent to each other. Neither J nor N has either Honda or Mercedes car. Neither J nor N park their car adjacent to P. Only one person parks his car between N and K. N does not have Ford car. The one who has Ford car parks his car at the extreme end of the line.
So, there are two possible cases----
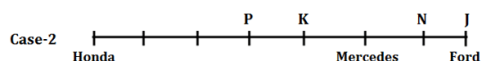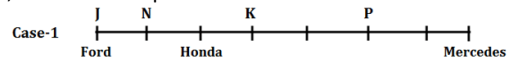
Q parks his car third to the right of the one who has Tata car. Neither J nor N has Tata car. Q does not have Mercedes car. This will eliminate Case-2 As no place is left for Q.

Now, Only two persons park their car between N and the one who has Audi car. Maruti car is parked on the immediate left of the M. L parks his car second to left of one who has Audi car. Final arrangement will be---

J	N	L	K	O	P	Q	M
Ford	Renault	Honda	Tata	Audi	Toyota	Maruti	Mercedes
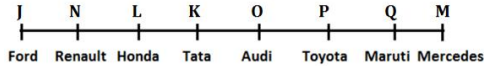
11. (1)   12. (1)
13. (4)   14. (4)   15. (1)
16. (4)   By using condition (ii) the code for 'G8NEI4' will be <>©=?<
17. (4)   By using condition (iv) the code for '1PK9W8' will be >&$#@%
18. (3)   By using condition (iii) the code for '39K4RB' will be ~$#µ+~
19. (2)   The code for '1UG8B9' will be %*<>~$
20. (1)   By using condition (i) the code for 'U4RN91' will be %µ+©$%
21-25.   Five persons sit between R and M, but none of them live on either lowermost or topmost floor. Therefore, one of them lives on 8th floor and other on 2nd floor. J lives on 5th floor. Three persons live between J and P who does not lives either immediately below or above M's floor. Four persons live between P and Q. There are two possible cases----

Case-1			Case-2	
Floors	Persons		Floors	Persons
9	P		9	
8	R		8	M
7			7	
6			6	Q
5	J		5	J
4	Q		4	
3			3	
2	M		2	R
1			1	P

K lives either immediately above or below R's floor. N lives on an even numbered floor. Therefore, in Case-1 K and N should be placed on 7th and 6th floor respectively and in Case-2 K and N should be placed on 3rd and 4th floor respectively-----

Case-1			Case-2	
Floors	Persons		Floors	Persons
9	P		9	
8	R		8	M
7	K		7	
6	N		6	Q
5	J		5	J
4	Q		4	N
3			3	K
2	M		2	R
1			1	P

Floors	Persons
9	P
8	R
7	K
6	N
5	J
4	Q
3	O
2	M
1	L

Now O lives above L, who lives below N. Therefore Case 2 will be eliminated and we got the final arrangement as-

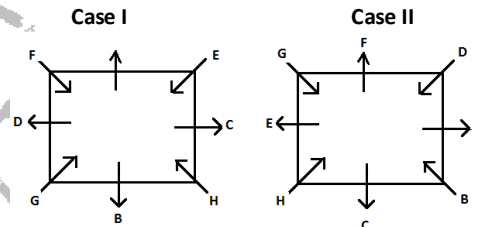21. (2)   22. (3)
23. (1)   24. (4)   25. (5)

26. (1)   I. K < H (True) II.K = H (False)
27. (2)   I. G > N (False) II.S < F (True)
28. (4)   I. R < M (False) II. K < D (False)
29. (5)   I. B < D (True) II.J < F (True)
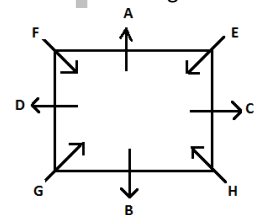30. (3)   I. N < T (False) II.N = R (False) (since R=T)
31-35.   E sits third to the left of B. Two persons sit between F and B. D sits to the immediate right of F. We got two possibilities
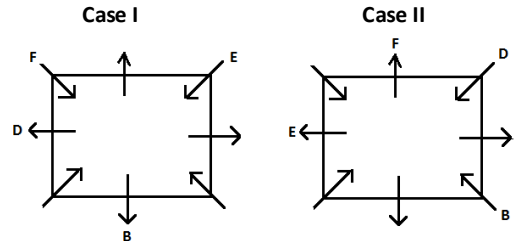
Case I   **Case II**

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

31. (2)   32. (4)
33. (4)   34. (3)   35. (4)

36. (3)	389	859	247	851	725
37.(1)	938	985	724	185	572
38. (5)	893	598	472	518	257
39. (2)	936	983	722	183	570
40. (4)	389	589	247	158	257

41. (1) $(13)^2 + (21)^2 - 30 \times 7 \simeq ? - 520 + 150$
$169 + 441 - 210 = ? - 370$
$? = 770$

42. (3) $\frac{18}{100} \times 1900 + \frac{?}{100} \times 1150 = 684 - 112$
$\frac{?}{10} \times 115 = 572 - 342$
$? = 20$

43. (4) $\frac{440}{?} = 512 - 8 - 484$
$? = \frac{440}{20}$
$? = 22$

44. (1) $(?)^2 - 432 = 1240 + 482 - 1313$
$(?)^2 = 409 + 432$
$(?)^2 = 841$
$? = 29$

45. (2)
$30 \times \sqrt{?} + \sqrt{961} = \frac{11}{100} \times 1300 - 22$

$30 \times \sqrt{?} + 31 = 143 - 22$

$30 \times \sqrt{?} = 90$

$? = 9$

46. (2)　I.　$2x^2 - 7x + 6 = 0$

$\Rightarrow 2x^2 - 4x - 3x + 6 = 0$

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

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

$\Rightarrow x = \frac{3}{2} \text{ or } x = 2$

II.　$2y^2 - 5y + 3 = 0$

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

$\Rightarrow y(2y - 3) - 1(2y - 3) = 0$

$\Rightarrow (y - 1)(2y - 3) = 0$

$\Rightarrow y = 1 \text{ or } y = \frac{3}{2}$

$x \geq y$

47. (3)　I.

$\sqrt{36}x - \sqrt{144} = 0$

$\Rightarrow \sqrt{36}x = \sqrt{144}$

$6x = 12$

$x = 2$

II.　$\sqrt{16}\, y - \sqrt{256} = 0$

$\Rightarrow 4y = 16$

$y = 4$

$y > x$

48. (5)　I.　$2x^2 - 3x - 20 = 0$

$\Rightarrow 2x^2 - 8x + 5x - 20 = 0$

$\Rightarrow 2x(x - 4) + 5(x - 4) = 0$

$\Rightarrow (2x + 5)(x - 4) = 0$

$\Rightarrow x = \frac{-5}{2} \text{ or } x = 4$

II.　$2y^2 + 7y + 5 = 0$

$\Rightarrow 2y^2 + 5y + 2y + 5 = 0$

$\Rightarrow y(2y + 5) + 1(2y + 5) = 0$

$\Rightarrow (y + 1)(2y + 5) = 0$

$\Rightarrow y = -1 \text{ or } y = \frac{-5}{2}$

No relation can be established between x and y

49. (1)　I.　$8x^2 - 22x + 15 = 0$

$\Rightarrow 8x^2 - 12x - 10x + 15 = 0$

$\Rightarrow 4x(2x - 3) - 5(2x - 3) = 0$

$\Rightarrow (4x - 5)(2x - 3) = 0$

$\Rightarrow x = \frac{5}{4} \text{ or } x = \frac{3}{2}$

II.　$35y^2 - 37y + 6 = 0$

$\Rightarrow 35y^2 - 30y - 7y + 6 = 0$

$\Rightarrow 5y(7y - 6) - 1(7y - 6) = 0$

$\Rightarrow (5y - 1)(7y - 6) = 0$

$\Rightarrow y = \frac{1}{5} \text{ or } y = \frac{6}{7}$

$x > y$

50. (5)　I. $4x^2 - 4x - 99 = 0$

$4x^2 - 22x + 18x - 99 = 0$

$2x(2x - 11) + 9(2x - 11) = 0$

$(2x + 9)(2x - 11) = 0$

$x = \frac{-9}{2}, \frac{11}{2}$

II. $3y^2 + 5y - 112 = 0$

$3y^2 + 21y - 16y - 112 = 0$

$3y(y + 7) - 16(y + 7) = 0$

$(3y - 16)(y + 7) = 0$

$y = -7, \frac{16}{3}$

No relation can be established between x and y

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

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

$= 18$ h

And,

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

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

52. (3)　Rita's father's age $= 31 \times 2 - 28$

$= 34$ yrs

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

$= 12$ yr

$\therefore$ Rita's present age $= 10$ yr

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

$= 8$ yr

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

$= \frac{214.5}{5}$

$= 42.9$

54. (2)　Percentage of people in other activities

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

$= 25\%$

$\because 25\% \rightarrow 450$

$\therefore 100\% \rightarrow \frac{450}{25} \times 100$

$\rightarrow 1800$

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

$= 300$

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

$= (13{,}200 \times 4 + 14400 \times 8) : (14400 \times 4 + 12000 \times 8) : (18000 \times 12)$

$= 35 : 32 : 45$

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

$=$ Rs 28000

56. (2)　Total valid votes received by party
Y in village D $= 3200 \times \frac{70}{100} \times \frac{3}{8}$

$= 840$

Total valid votes received by party
X in village A $= 4500 \times \frac{8}{9} \times \frac{3}{8}$

$= 1500$

Required percentage $= \frac{840}{1500} \times 100 = 56\%$

57. (1)　Total valid votes received by party X in
village E $= 5000 \times \frac{84}{100} \times \frac{2}{4} = 2100$

Total valid votes received by party Z in
village A $= 4500 \times \frac{8}{9} \times \frac{3}{8}$

$= 1500$

Required ratio $= \frac{2100}{1500} = 7 : 5$

58. (3)　Total registered voters in village D

$= \frac{3200}{80} \times 100 = 4000$

Total votes received by winner party

$= 3200 \times \frac{70}{100} \times \frac{4}{8} = 1120$

Required percentage $= \frac{1120}{4000} \times 100$

$= 28\%$

59. (5)　Total valid votes received by party X in
village E & F together

$= 5000 \times \frac{84}{100} \times \frac{2}{4} + 5500 \times \frac{80}{100} \times \frac{6}{11}$

$= 2100 + 2400 = 4500$

Total registered votes in village C

$= \frac{3500}{70} \times 100 = 5000$

Required difference $= 5000 - 4500 = 500$

60. (2)　Required average

$= \frac{1}{2} \left[4400 \times \frac{75}{100} \times \frac{5}{11} + 3200 \times \frac{70}{100} \times \frac{4}{8} \right]$

$= \frac{1}{2} [1500 + 1120] = \frac{2620}{2} = 1310$

61. (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

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

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

$= 3200$

63. (1) Remaining senior citizens

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

$= 4000$

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

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

$= 50\%$

64. (3) Non–pensioner males

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

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

$= 2240$

65. (4) Required difference

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

$= 1500 + 2400 - 900 - 800$

$= 2200$

Distance covered by man in 3 min

$= 4 \times \frac{5}{18} \times 3 \times 60 = 200m$

Total distance travelled by train = 200 + 800 + 200

= 1200 meter

Speed of train

$= \frac{1.2}{\frac{3}{60}} = 1.2 \times 20$

66. (1) = 24 km/hr

Let the container A & B contains x kg of wheat & rice respectively.

Atq,

$(x - 10) + \frac{2}{5}(x + 10) = 2\left[\frac{3(x+10)}{5}\right]$

$\frac{5x - 50 + 2x + 20}{5} = \frac{6(x+10)}{5}$

7x – 30 = 6x + 60

x = 90 kg

Final mixture in container B

$= \frac{3}{5}[90 + 10] = 60 \, kg$

67. (3) There are 2 'S' and 4 vowels

Required no. of ways

$= \frac{\lfloor 5 \times \lfloor 4}{\lfloor 2}$

68. (1) = 1440

Let the cost price of article be Rs 100x

Mark up prie of article $= 100x \times \frac{140}{100} = Rs \, 140x$

Selling price of article $= 140x \times \frac{75}{100} = Rs \, 105x$

Atq,

$\therefore (105x - 100x) = 420$

x= 84

$\therefore$ cost price = Rs 8400

69. (4) Mark up price = 84 × 140 = Rs 11760

$\therefore$ selling price after 20% discount

$= 11760 \times \frac{80}{100} = 9408$

$\therefore$ Profit after 20% discount = 9408 – 8400

= Rs 1008

Rohit pays interest to Rahul from total

profit $= \frac{4000}{4} \times \frac{10}{100} = Rs100$

Rahul receives for managing business

= 120 × 12 = Rs 1440

Let remaining profit be Rs 2x

Total profit which Rahul receives

= (100 +1440 + x)

Rs (1540+ x)

Total profit which rohit receives after deduction= Rs x

Atq,

1540 + x = 3x

$x = \frac{1540}{2} = Rs \, 770$

$\therefore$ Total profit = 1540 + 2x

= 1540 + 2 × 770

70. (3) = Rs 3080

Pattern is

126 + 8 × 1 = 126 + 8 = 134

134 + 8 × 3 = 134 + 24 = 158

158 + 8 × 5 = 158 + 40 = 198

198 + 8 × 7 = 198 +56 = 254

71. (1) 254 + 8 × 9 = 254 + 72 = 326

Series is

2 × 2 +1 = 5

5 × 3 + 2 = 17

17 × 4 + 3 = 71

71 × 5 + 4 = 359

72. (3) 359 × 6 + 5 = 2159

73. (2)

27   148   317   542   831   1192

+121   +169   +225   +289   +361

Pattern is

$16^2 - 1 = 255$

$18^2 - 1 = 323$

$20^2 - 1 = 399$

$22^2 - 1 = 483$

$24^2 - 1 = 575$

74. (4) $26^2 - 1 = 675$

Series is

4 × 0.5 = 2

2 × 1 = 2

2 × 1.5 = 3

3 × 2 = 6

6 × 2.5 = 15

75. (4) 15 × 3 = 45

$\sqrt{7921} - \sqrt{2025} \times \frac{1}{3} = ?$

$\Rightarrow ? = 89 - 45 \times \frac{1}{3}$

? = 89 – 15

76. (2) ? = 74

$\frac{69}{100} \times 700 + \frac{?}{100} \times 400 = 635$

$\Rightarrow 483 + 4 \times ? = 635$

$\Rightarrow 4 \times ? = 152$

77. (5) $\Rightarrow ? = 38$

$621 \div 27 \times 2 - 37 = \sqrt{?}$

$\Rightarrow 23 \times 2 - 37 = \sqrt{?}$

78. (1) $\Rightarrow ? = 81$

14 × 17 × 21 – 2939 = ?

79. (3) $\Rightarrow ? = 2059$

$\sqrt{1369} + 1060 \div 20 \times \frac{32}{100} \times 250 = ?$

$\Rightarrow 37 + 53 \times 80 = ?$

80. (5) $\Rightarrow ? = 4277$