

**IBPS RRB Officer Scale-I Preliminary Grand Test –IRP-180701**

**HINTS & SOLUTIONS**

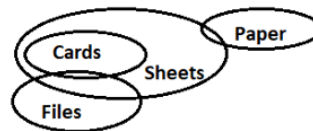
**ANSWER KEY**

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

For I- Since there is no direct relation between the elements Flowers and red, therefore we cannot conclude that Some flowers can never be red.

For II- Since there is no direct relation between the elements Flowers and leaves, therefore we cannot conclude that some leaves are flower.

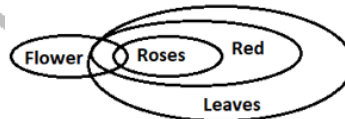
4. (5)



For I- Since there is no direct relation between the elements Cards and paper, therefore the possibility case will hold true. So, Conclusions I follows .

For II- Since there is no direct relation between the elements paper and files, therefore the possibility case will hold true. So, Conclusions II follows .

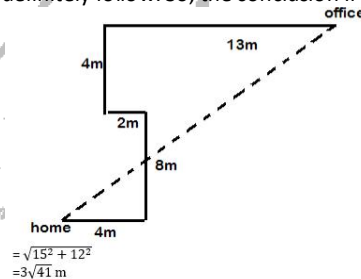
5. (5)



For I- From the venn diagram, it is clear that some flower is rose, all roses are red and all red are leaves. . So, conclusion I follows.

For II- From the venn diagram, it is clear that all roses are red and all red are leaves. Hence, some case will definitely follow. So, the conclusion II follows.

6. (3)



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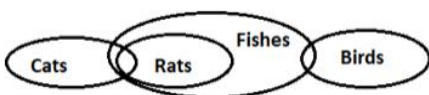
1. (2)



For I- Since there is no direct relation between the elements Cover and purse, therefore we cannot conclude that some covers are purses.

For II- From the venn diagram, it is clear that All purses are bags and some purses are Black. So, some bags are definitely black. Hence, the conclusion II follows.

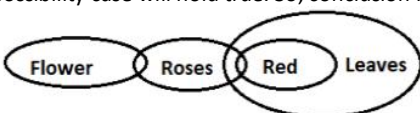
2. (2)



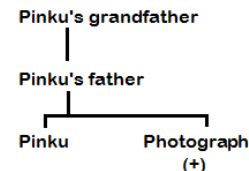
For I- From the venn diagram, it is clear that all rats are fishes. Hence, we cannot say that some fishes are not rats. So, the conclusion I does not follows.

For II- From the venn diagram, it is clear that there is no direct relation between rats and birds. Hence, the possibility case will hold true. So, conclusion II follows.

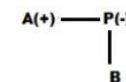
3. (4)



7. (5)



8. (4)



9. (4)

It cannot be determined, as we get two conditions:  
I.T>R  
II.S>V>Q>R

10. (4)

Here, the place value (according to the alphabetical series) of 2nd and 3rd letter is added.  
A + K= 1+11 = 12

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11-15. Four boxes are kept between F and I, which is placed just below box B. Neither box F or I is kept at the top and bottom. Two boxes are kept between B and G. No two boxes are placed adjacent to each other according to the English alphabet (i.e. A is not kept immediately above or below B, B is not kept immediately above or below A and C and so on). We get two possibilities: More than three boxes are kept below F, from this case2 gets eliminated as there are only nine boxes. Only one box is kept between A and D, both are placed above box B. E is kept above but not immediate above to C. H is not kept in bottom five.

Case 1
Box
A/D
F
A/D
H
E
B
I
C
G

Not less than five boxes are kept between boxes A and C. The final arrangement is:

Case 1
Box
A
F
D
H
E
B
I
C
G

- 11. (2)
- 13. (4)

- 12. (3)
- 14. (4)

15. (2)

16-20. L, who was born in January. Three persons born between L and N. Two persons were born between O and P, who was born in month having 30 days. Therefore, there will be three possible cases:

Months	Case-1	Case-2	Case-3
January (31)	L	L	L
March (31)			
April (30)	P		
June (30)		P	O
July (31)	N	N	N
August (31)	O		
September (30)		O	P

Since, N was not born after O. therefore case 3 will be eliminated. J is younger to M but elder to K. Also, Persons born before J are less than the persons born after J. So, case 1 gets eliminated. The final arrangement is:

Months	Person
January (31)	L
March (31)	M
April (30)	J
June (30)	P
July (31)	N
August (31)	K
September (30)	O

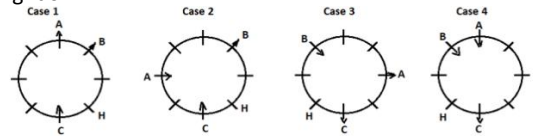
- 16. (2)
- 18. (5)

- 17. (3)
- 19. (4)

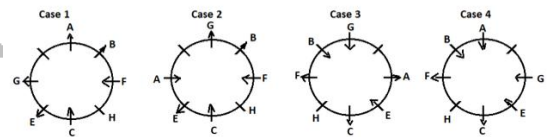
20. (2)

- 21. (1) I. T>M(True) II. K≥L (False)
- 22. (3) I. L>C (False) II. C=L(False)
- 23. (4) I. G>M (False) II. I>M (False)
- 24. (1) I. V≥S (True) II. O≥P (False)
- 25. (4) I. A>G (False) II. C≤H (False)

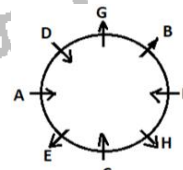
26-30. B sits third to the right of C and both faces opposite direction. H sits second to the right of B and third to the right of A.



Only two persons sits between H and G, who faces same direction as B. Both the immediate neighbours of B faces opposite direction. F is not the immediate neighbour of G and C. E sits third to the left of F and faces same direction as G is facing.



Both the immediate neighbours of C faces same direction. D does not sit on the immediate right of G. So, case 1 and case 4 will be eliminated. Now, E sits second to the right of D, who does not face outside. So, case 3 will be eliminated. The final arrangement is:

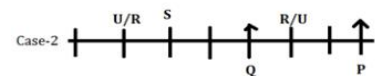
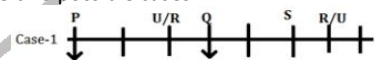


- 26. (4)
- 28. (3)
- 31-35.

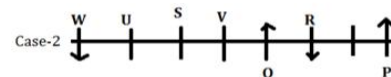
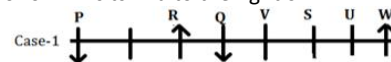
- 27. (1)
- 29. (2)

30. (4)

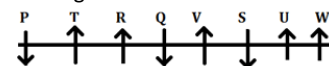
Q sits 3rd to the left of P, who sits at one of the extreme end. S sits 2nd to the left of Q. S is not an immediate neighbor of P. Three persons sit between U and R. So, there are two possible cases---



U is sitting to the immediate left of W, who is not a neighbor of P. V sits 2nd to the right of R.



S faces opposite direction of W. Immediate neighbors of R face opposite direction. T faces North. Therefore case 2 will be cancelled. V faces same direction as W. Immediate neighbors of S face same direction and we got the final arrangement.



- 16. (2)
- 18. (5)

- 17. (3)
- 19. (4)

20. (2)

- 31. (2)
- 33. (5)

- 32. (3)
- 34. (1)

35. (2)

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Word	Code
Bottle	na
Bond	kn
Power	sk
Room	nj
Watch	ga
Land	bd

36. (4)

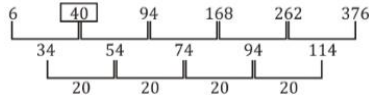
37. (3)

38. (5)

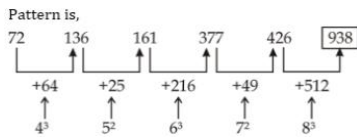
39. (1)

40. (4)

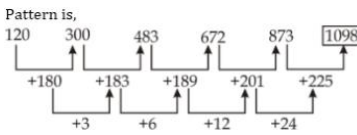
41. (2)



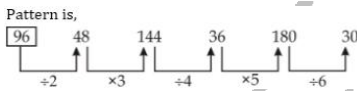
42. (1)



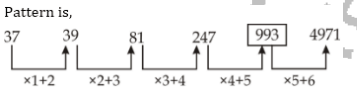
43. (4)



44. (4)



45. (5)



46. (4)

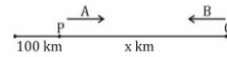
Let cost price of 5 kg of goods for shopkeeper is 5000 Rs.  
 He actually sells 4.5 kg for Rs.  $\frac{120}{100} \times 5000 = \text{Rs. } 6000$   
 Cost price of 4.5 kg = Rs. 4500  
 Overall profit% =  $\frac{6000-4500}{4500} \times 100$   
 =  $33\frac{1}{3}\%$

47. (1)

Let A and B does 4x and 5x unit of work respectively per day.  
 So, total amount will be distributed according work done by them.  
 A worked for total 6 days while B worked for total 8 days  
 Ratio of work done  
 =  $4x \times 6 : 5x \times 8$   
 =  $24 : 40$   
 =  $3 : 5$   
 Share of A =  $\frac{9600}{8} \times 3 = 3600$   
 Share of B =  $\frac{9600}{8} \times 5 = 6000$

48. (1) Remaining milk in vessel A after 12 L of mixture is removed  
 =  $\frac{5}{5+x} \times 48 - 12 \times \frac{5}{5+x}$   
 Milk in vessel A after adding mixture from vessel B  
 =  $48 \times \frac{5}{5+x} - 12 \times \frac{5}{5+x} + 23 \times \frac{8}{23}$   
 According to question  
 $\frac{\frac{5}{5+x} \times (36) + 8}{48 - 12 + 23} = \frac{23}{59}$   
 $\frac{5}{(5+x)} \times 36 + 8 = 23$   
 $\frac{5}{5+x} \times 36 = 15$   
 $\frac{36}{5+x} = 3$   
 $5 + x = 12$   
 $x = 7$

49. (2)



Let distance between P and Q = x km  
 Let speed of A and B respectively be 2x km/hr and 3x km/hr respectively.  
 So,  
 $\frac{x}{2x} = \frac{x+100}{3x}$   
 $x = 200$  km  
 and  $\frac{200}{2x+3x} = 4$   
 $2x + 3x = 50$   
 $5x = 50$   
 $x = 10$   
 speed of train A = 20 km/hr

50. (5)

Let speed of boat in still water and downstream speed of boat be 5x km/hr and 6x km/hr respectively  
 So, speed of water current =  $6x - 5x = x$  km/hr  
 and

$$\frac{120}{6x + (5x - x)} = 6$$

$$x = 2$$

speed of boat in still water =  $5 \times 2 = 10$  km/hr  
 Let the population of North, East, West and South regions be 3x, 2x, 5x and 3x respectively.

Required ratio =  $\frac{2x \times \frac{35}{100} + 5x \times \frac{20}{100}}{40x \times \frac{25}{100} + 40x \times \frac{25}{100}}$   
 =  $\frac{220x}{100} = \frac{11}{12}$

51. (3)

Let the population of North, East, West and South regions be 3x, 2x, 5x and 3x respectively.  
 ATQ,  
 $\frac{3x \times 40}{100} = 13500 \Rightarrow x = 11250$   
 Total population of south region =  $3 \times 11250 = 33,750$   
 Required difference =  $\frac{20}{100} \times 33750 = 6750$

52. (1)

Let the population of North, East, West and South region be 3x, 2x, 5x and 3x respectively.  
 Average of old people in East and South region  
 =  $\frac{2x \times \frac{35}{100} + 3x \times \frac{20}{100}}{2}$   
 =  $\frac{130x}{200}$

53. (4)

Average of young people in East and middle-aged people in North region  
 =  $\frac{2x \times \frac{30}{100} + 40 \times \frac{3x}{100}}{2}$   
 =  $\frac{180x}{200}$

Required percent =  $\frac{180x \times 130x}{200 \times 200} \times 100$   
 =  $\frac{50x}{180x} \times 100 = \frac{250}{9} \% = 27\frac{2}{9} \%$

54. (5)

Let the population of North, East and West and South region be 3x, 2x, 5x and 3x respectively  
 $\Rightarrow 3x = 1,20,000$   
 $\Rightarrow x = 40,000$   
 Total population of West region =  $5 \times 40,000 = 2,00,000$   
 Total number of old-female  
 =  $\frac{60}{100} \times \frac{35}{100} \times 1,20,000 + \frac{40}{100} \times \frac{30}{100} \times 2,00,000$   
 =  $25,200 + 24,000$   
 =  $49,200$

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55. (1) Let the population of East the South region be  $2x$  and  $3x$  respectively  
 Required % =  $\frac{\frac{85}{100} \times 2x}{\frac{40}{100} \times 3x} \times 100$   
 $= \frac{70x \times 100}{120x}$   
 $= \frac{7}{12} \times 100\% = 58\frac{1}{3}\%$
56. (2) Let total number of TV sold by store A is  $4x$  and by store B is  $5x$   
 Required percentage =  $\frac{\left(\frac{18+10}{100}\right) \times 5x}{\left(\frac{10+25}{100}\right) \times 4x} \times 100$   
 $= 140\%$
57. (1) Let total number of TV sold by store A is  $4x$  and by store B is  $5x$   
 $\frac{16}{100} \times 5x + \frac{24}{100} \times 4x = 3520$   
 $80x + 96x = 352000$   
 $x = 2000$   
 Average no. of LG & Sansui TV sold by store A  
 $= \frac{1}{2} \left[ \frac{(18+10)}{100} \times 2000 \times 4 \right]$   
 $= 1120$   
 No. of Samsung TV sold by Store B  
 $= \frac{15}{100} \times 2000 \times 5 = 1500$   
 Required difference =  $1500 - 1120 = 380$
58. (3) Let total number of TV sold by store A is  $4x$  and by store B is  $5x$   
 Required ratio =  $\frac{\left(\frac{17+18}{100}\right) \times 5x}{\left(\frac{18+20}{100}\right) \times 4x}$   
 $= \frac{35 \times 5}{25 \times 4} = 7 : 4$
59. (5) Let total no. of TV sold by store B is  $5x$   
 ATQ -  
 $5x \times \frac{18}{100} \times \frac{2}{5} \times \frac{25}{100} = 360$   
 $x = 4000$   
 Total LG TV sold by store B  
 $= 4000 \times 5 \times \frac{18}{100} = 3600$   
 Total 36 inch LG TV sold by store B  
 $= 3600 \times \frac{3}{5}$   
 $= 2160$
60. (4) Total TV sold by Store A =  $\frac{320}{16} \times 100$   
 $= 2000$   
 Total TV sold by store B =  $\frac{2000}{4} \times 5 = 2500$   
 Total Micromax TV sold by Store B  
 $= \frac{17}{100} \times 2500 = 425$   
 Total Sansui TV sold by Store A =  $\frac{10}{100} \times 2000 = 200$   
 Required percentage =  $\frac{425-200}{200} \times 100$   
 $= 112.5\%$
61. (2)  $1782 + 54 + 456 - 2346 \times 1 = ? \times 3$   
 $\Rightarrow 33 + 456 - 2346 = ? \times 3$   
 $\Rightarrow -1857 = ? \times 3$   
 $\Rightarrow ? = \frac{-1857}{3}$   
 $= -619$
62. (3)  $(575 + 7511 - 2769) \div (76 \times 1 + 675 - 342) = \sqrt{?}$   
 $= 5317 + 409 = \sqrt{?}$   
 $\Rightarrow ? = (13)^2 = 169$
63. (1)  $\left[ \sqrt{3844 \times 9} \div (27)^{\frac{1}{3}} \right] \times 23 = ?^2 + 337$   
 $\Rightarrow [(62 \times 3) \div 3] \times 23 = ?^2 + 337$   
 $\Rightarrow 1426 - 337 = ?^2$   
 $\Rightarrow ? = \sqrt{1089}$   
 $= 33$
64. (4)  $= \sqrt{(96) \times 12 + 18 + 26 - 9} = (65 - ?) \% \text{ of } 36$   
 $\Rightarrow 9 = \frac{(65 - ?)}{100} \times 36 \Rightarrow (65 - ?) = \frac{9 \times 100}{36}$   
 $\Rightarrow ? = 65 - 25 = 40$
65. (1)  $12 \times \sqrt{225} + 1212 - (1053 \div 9) = ?$   
 $\Rightarrow 1392 - (117) = ?$   
 $\Rightarrow ? = 1275$
66. (1) I.  $2x^2 - 17x + 36 = 0$   
 $2x^2 - 8x - 9x + 36 = 0$   
 $2x(x-4) - 9(x-4) = 0$   
 $(2x-9)(x-4) = 0$   
 $x = \frac{9}{2}, 4$   
 II.  $3y^2 - 19y + 30 = 0$   
 $3y^2 - 9y - 10y + 30 = 0$   
 $3y(y-3) - 10(y-3) = 0$   
 $(3y-10)(y-3) = 0$   
 $y = \frac{10}{3}, 3$   
 $x > y$
67. (3) I.  $4x^2 - 35x + 75 = 0$   
 $4x^2 - 20x - 15x + 75 = 0$   
 $4x(x-5) - 15(x-5) = 0$   
 $(4x-15)(x-5) = 0$   
 $x = \frac{15}{4}, 5$   
 II.  $6y^2 - 47y + 90 = 0$   
 $6y^2 - 27y - 20y + 90 = 0$   
 $3y(2y-9) - 10(2y-9) = 0$   
 $(3y-10)(2y-9) = 0$   
 $y = \frac{10}{3}, \frac{9}{2}$   
 No relation can be established between  $x$  &  $y$
68. (4) I.  $x^2 + 15x + 50 = 0$   
 $x^2 + 10x + 5x + 50 = 0$   
 $x(x+10) + 5(x+10) = 0$   
 $(x+5)(x+10) = 0$   
 $x = -5, -10$   
 II.  $y^2 - 5y - 50 = 0$   
 $y^2 - 10y + 5y - 50 = 0$   
 $y(y-10) + 5(y-10) = 0$   
 $(y+5)(y-10) = 0$   
 $y = -5, 10$   
 $y \geq x$
69. (2) I.  $\sqrt{(10+x)(10-x)} = 8$   
 $100 - x^2 = 64$   
 $x^2 = 36$   
 $x = \pm 6$   
 II.  $y = \sqrt{64}$   
 $y = 8$   
 $y > x$
70. (5)  $x^2 - 6x - 40 = 0$   
 $x^2 - 10x + 4x - 40 = 0$   
 $x(x-10) + 4(x-10) = 0$   
 $(x+4)(x-10) = 0$   
 $x = -4, 10$   
 II.  $y^2 + 10y + 24 = 0$   
 $y^2 + 6y + 4y + 24 = 0$   
 $y(y+6) + 4(y+6) = 0$   
 $(y+4)(y+6) = 0$   
 $y = -4, -6$   
 $x \geq y$
71. (4) Total age of Satish, Sandy & Abhi  
 $= 32 \times 3 = 96$  years  
 Total age 10 years ago =  $96 - 30 = 66$  years  
 Present age of Satish =  $\frac{66}{11} \times 2 + 10 = 22$  yrs
72. (5) Required probability  
 $= \frac{1}{3} \times \frac{4}{5} + \frac{1}{5} \times \frac{2}{3}$   
 $= \frac{4}{15} + \frac{2}{15} = \frac{6}{15} = \frac{2}{5}$

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73. (1) Ratio of investment of Arun, bhavya & Ashu

$$4 \times 3 : x \times 3 : 4 \times x$$

Ratio of profit

$$24 \times 12 : 24 \times 3x : 24 \times 4x$$

ATQ -

$$\frac{4x}{7x + 12} = \frac{1850}{3700}$$

$$8x = 7x + 12$$

$$x = 12$$

74. (4) Let efficiency of Abhi, Roly and Bitu be x, y and z respectively.

ATQ,

$$\frac{x+z}{y} = \frac{2}{1}$$

$$\frac{x+y}{z} = \frac{3}{1}$$

$$\frac{x+y}{z} = \frac{3}{1}$$

These equations will give ratio of efficiency of Abhi, Roly and Bitu as 5:4:3.

$$\therefore \text{Abhi alone can complete the work} = \frac{60 \times 12}{5} = 144 \text{ days}$$

75. (3) Let upstream speed = u

Downstream speed = d

$$\text{Now } \frac{40}{u} + \frac{60}{d} = 13 \quad \dots (i)$$

Also

$$\frac{50}{u} + \frac{72}{d} = 16 \quad \dots (ii)$$

Solving eqn. (i) and (ii)

$$d = 12$$

$$u = 5$$

$$\therefore b = \frac{u+d}{2} = \frac{12+5}{2} = 8.5 \text{ kmph}$$

76. (2) Pen, Pencil and Sharpener sold by Satish = 60 + 75 + 60 =

$$195$$

Sharpener sold by all three sellers together = 60 + 40 +

$$50 = 150$$

$$\text{Required \%} = \frac{195}{150} \times 100 = 130\%$$

77. (3) Required Ratio =  $\frac{35+45+55}{70+50+45} = \frac{135}{165} = \frac{9}{11}$

78. (5) Average number of article sold is

$$\text{Ayush} = \frac{80+70+45+50+50}{5} = \frac{295}{5} = 59$$

Average number of article sold by

$$\text{Satish} = \frac{60+75+35+60+45}{5} = \frac{275}{5} = 55$$

$$\text{Required difference} = 59 - 55 = 4$$

79. (2) Total number of rubber sold by Lalit = 55

Let type A rubber sold by Lalit = 100x

⇒ Type B rubber sold by Lalit = 120x

ATQ

$$100x + 120x = 55$$

$$\Rightarrow x = \frac{55}{220}$$

$$\Rightarrow x = 0.25$$

Type 'B' rubber sold by Lalit = 120 × 0.25

$$= 30$$

80. (4) Required amount = 60 × 4 + 75 × 6 - 40 × 4 - 60 × 6

$$= 240 + 450 - 160 - 360$$

$$= 690 - 520 = 170$$