IBPS RRB Officer Scale-I Preliminary Grand Test –IRP-180709

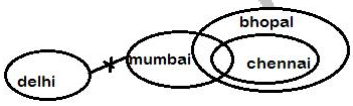
HINTS & SOLUTIONS

ANSWER KEY

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

HINTS & SOLUTIONS

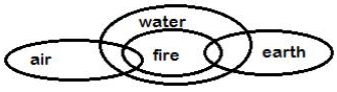
1. (1)



For I- From the venn diagram it is clear that some Bhopal is Mumbai and no Mumbai is Delhi . So, some Bhopal which is Mumbai will not be Delhi . Hence, conclusion I can be concluded.

For II- Since some part of Bhopal is definitely Mumbai ,So, possibility case will hold true. Therefore, we can conclude that All Bhopal being Mumbai is a possibility.

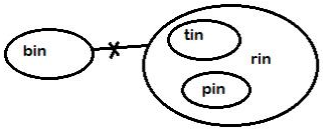
2. (3)



For I- From the venn diagram it is clear that some water is definitely air, So, possibility case will not hold true. Therefore, we cannot conclude that some water being air is a possibility.

For II- From the venn diagram some water is earth. Therefore, conclusion II can be concluded.

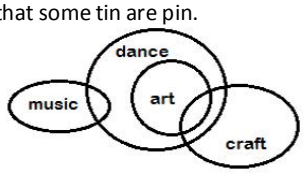
3.(4)



For I- From the venn diagram it is clear all tin is rin and no rin is bin. Therefore, we can conclude that no tin are bin.

For II- Since there is no direct relation between the elements tin and pin. Therefore, we cannot conclude that some tin are pin.

4. (2)

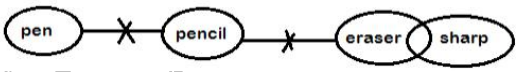


For I- Since there is no direct relation between the elements music and craft. Therefore, we cannot conclude that some music are craft.

For II- Since there is no direct relation between the elements music and craft. Therefore, we cannot conclude that some music are craft.

Since the elements are same and some and no case is mentioned. Therefore, either and or will be concluded.

5. (5)



For I- Since there is no direct relation between the elements pencil and sharp. Therefore, we cannot conclude that some pencil is sharp.

For II- Since there is no direct relation between the elements pen and sharp. Therefore, we cannot conclude that some sharp are not pen.

6-10. V was born in month having least number of days. Three persons were born between V and U.

S was born before V but not in the same month. So, there are two possible cases-----

Case-1		
	9th	16th
January	/S	/S
February	V	
March		
April	U	

Case-2		
	9th	16th
January	/S	/S
February		V
March		
April		U

Five persons born between Q and R, who was born after Q. T was born before W and both of them were born on same date. Therefore, it is clear that T was born in February and W was born in March.

Case-1		
	9th	16th
January	S	Q
February	V	T
March		W
April	U	R

Case-2		
	9th	16th
January	Q	S
February	T	V
March	W	
April	R	U

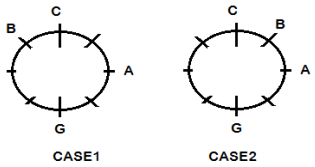
P was not born on an even numbered date. Therefore case-2 will be eliminated and we got the final arrangement----

	9th	16th
January	S	Q
February	V	T
March	P	W
April	U	R

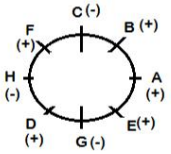
6. (4) 7. (2)

8. (4) 9. (3) 10. (5)

11-15. A sits 2nd to the left of C, who faces G. Two persons sit between G and B, who is a male.



D is 2nd right to F, none of them is neighbor of A and none of them is female. Both neighbors of A are male. H is a female facing a male, so H cannot sit next to A. There are minimum 3 females in the group. So, C and G are females. The final arrangement is:



11. (4) 12. (1)
13. (3) 14. (3) 15. (3)

16-20. Three persons go between A and F, who goes after A. E goes to temple immediately before C but none of them goes on Monday or Thursday. C goes before D but not immediate before.

Days	Case1	Case2	Case3
Sunday	A	A	
Monday			A
Tuesday	E	E	E
Wednesday	C	C	C
Thursday	F	F	
Friday	D		F
Saturday		D	D

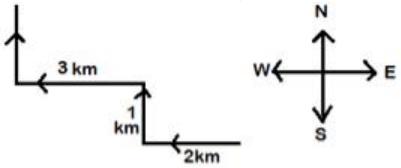
More than 2 persons go to temple between G and B. G goes before B.

Days	Case1	Case2	Case3
Sunday	A	A	G
Monday	G	G	A
Tuesday	E	E	E
Wednesday	C	C	C
Thursday	F	F	B
Friday	D	B	F
Saturday	B	D	D

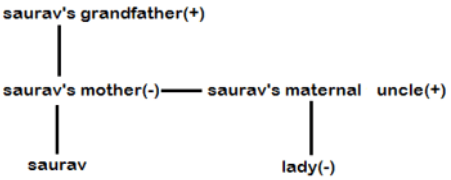
Even number of persons go to temple between E and B, So case1 and 3 gets eliminated. The final arrangement is:

Days	Person
Sunday	A
Monday	G
Tuesday	E
Wednesday	C
Thursday	F
Friday	B
Saturday	D

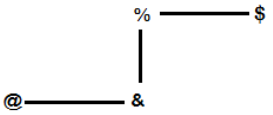
16. (4) 17. (5)
18. (3) 19. (5) 20. (4)
21. (2)



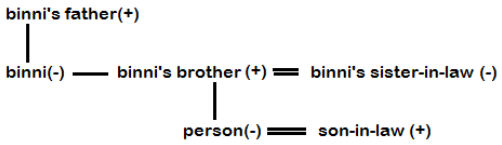
22. (4)



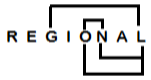
23. (5)



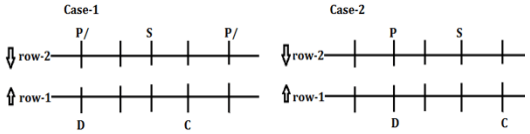
24. (1)



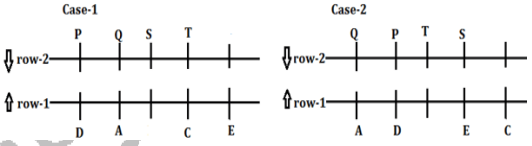
25. (1)



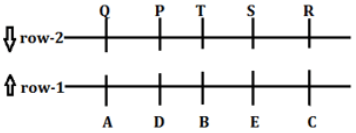
26-30. D sits third to the left of C. Either D or C sit at extreme end. The one facing D sits second to the right of S. Only one person sit between S and P. So, there will be two possible cases----



Two person sit between A and E, who is an immediate neighbor of C. P does not face E, therefore position of P is confirmed in case1 i.e. opposite to D. Q sits third to the right of the one who is sitting opposite to E, therefore Q sits opposite to A in both the the cases. T does not sit at extreme end of row---



Now it is given that S does not face B, therefore case 1 will be eliminated as there is no place left for B. The final arrangement is:



26. (2) 27. (4)
28. (4) 29. (5) 30. (2)

31-35.

Word	Code
Right/centre	vo/na
Left	yo
Below/behind	ra/la
Ahead	sa
above	ha

31. (3) 32. (4)
33. (1) 34. (4) 35. (5)
36. (4) I. M < R (false) II. R ≥ M(false)
37. (2) I. H < B (false) II. R > B (true)
38. (5) I. H > T (true) II. S ≤ U (true)

39. (3) I. H > Z (false) II. H ≤ Z (false)
All three possibilities are given therefore it is 'either and or' case.

40. (1) I. H > L (true) II. K > T (false)

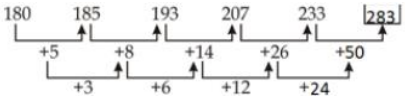
41. (1) Let cost price of first watch = x Rs.
And, cost price of second watch = (18000 – x) Rs.
ATQ—
$18000 = x \times \frac{130}{100} + (18000 - x) \times \frac{80}{100}$
x = 7200 Rs.
cost price of second watch = (18000 – 7200) = 10800 Rs.
Selling price of second watch
$= 10800 \times \frac{80}{100}$
= 8640 Rs.
For 25% profit second watch should sold at
$= 10800 \times \frac{125}{100}$
= 13500 Rs.
Required much price than previous selling price
= 13500 – 8640
= 4860 Rs.

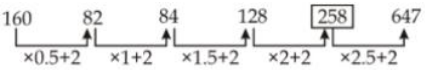
42. (1) Let length of train = L meters
ATQ—
$108 \times \frac{5}{18} = \frac{L + 240}{14}$
30 × 14 = L + 240
L = 180 meters
Let time taken by train be T sec to cross goods train
$= (144 + 108) \times \frac{5}{18} = \frac{180+320}{T}$
$252 \times \frac{5}{18} = \frac{500}{T}$
$T = \frac{500}{70}$
$T = 7\frac{1}{7}$ sec.

43. (3) Total number of fruits = 16
Probability of both fruits are mango = ${}^8C_2 = 28$
Probability of both fruits are Bananas = ${}^5C_2 = 10$
Probability of both fruits are Orange = ${}^3C_2 = 3$
Required probability = $\frac{28+10+3}{120}$
$= \frac{41}{120}$

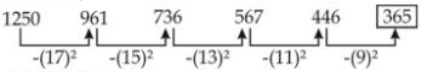
44.(4) Let total mixture in vessel P = 9x liters
and total mixture in vessel Q = 8y liters
ATQ—
$\frac{9x \times \frac{25}{100} \times \frac{5}{9} + 45}{9x \times \frac{25}{100} \times \frac{4}{9}} = \frac{7}{2}$
$\frac{1.25x + 45}{x} = \frac{7}{2}$
2.5x + 90 = 7x
4.5x = 90
$x = \frac{90}{4.5}$
x = 20 liters
initial quantity of mixture in vessel Q
= 20 × 9 – 20
= 160 liters
Quantity of milk in vessel Q
$= 160 \times \frac{5}{8}$
= 100 liters

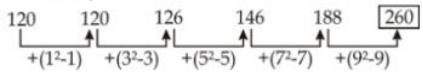
45. (4) Let age of Ankita = x years
So, Age of Ankita's father = 3x years
Age of Ankita's mother = $\frac{x+3x}{2} + 12 = (2x+12)$ years
ATQ—
$\frac{x + 3x + 2x + 12 - 12}{3} = (32)$
2x = 32
x = 16 years
Ankita's mother age = 2× 16 + 12 = 44 years
Required ratio = $\frac{(44+4)}{(16\times3+4)} = \frac{48}{52} = 12 : 13$

46. (5)


47. (4)


48. (3) Pattern is
$\frac{670}{2} - 1 = 334$
$\frac{334}{2} - 1 = 166$
$\frac{166}{2} - 1 = 82$
$\frac{82}{2} - 1 = 40$
$\frac{40}{2} - 1 = 19$
? = 670

49. (1) Pattern is,


50. (5) Pattern is,


51. (3) Total Demat accounts opened by SBI & BOB together
$= 42500 \times \frac{(100-40)}{100} \times \frac{1}{3} + 37500 \times \frac{(100-30)}{100} \times \frac{4}{15}$
= 8500 + 7000
= 15500
Total Demat accounts opened by CBI and Dena bank together
$= 27500 \times \frac{(100-10)}{100} \times \frac{1}{5} + 22500 \times \frac{(100-8)}{100} \times \frac{2}{9}$
= 4950 + 4600
= 9550
Required ratio = $\frac{15500}{9550} = 310 : 191$

52. (4) Total saving accounts opened by BOB & CBI together
$= 37500 \times \frac{70}{100} \times \frac{11}{15} + 27500 \times \frac{90}{100} \times \frac{4}{5}$
= 19250 + 19800
= 39050
Total saving accounts opened by UBI and Dena bank. together
$= 32500 \times \frac{80}{100} \times \frac{10}{13} + 22500 \times \frac{92}{100} \times \frac{7}{9}$
= 20000 + 16100
= 36100
Required difference = 39050 – 36100 = 2950

53.(1) Average number of current accounts opened by UBI & CBI
$= \frac{32500 \times \frac{20}{100} + 27500 \times \frac{10}{100}}{2}$
$= \frac{6500+2750}{2}$
= 4625
Average number of current accounts opened by Dena Bank & BOB
$= \frac{22500 \times \frac{8}{100} + 37500 \times \frac{30}{100}}{2}$
$= \frac{1800+11250}{2}$
= 6525
Required difference = 6525 – 4625 = 1900

54.(4) Total saving accounts opened by SBI
$= 42500 \times \frac{60}{100} \times \frac{2}{3}$
= 17000
Total saving account opened by UBI
$= 32500 \times \frac{80}{100} \times \frac{10}{13}$
= 20000
Required percentage = $\frac{17000}{20000} \times 1000 = 85\%$

55. (2) Total number of saving accounts opened by UBI, CBI and Dena Bank together

$= 32500 \times \frac{80}{100} \times \frac{10}{13} + 27500 \times \frac{90}{100} \times \frac{4}{5}$

$+22500 \times \frac{92}{100} \times \frac{7}{9}$

$= 20000 + 19800 + 16100$

$= 55900$

56. (4) We know

Distance(D) = Speed (S) × time (t)

Atq,

$(S + 4)(t - 4) = St$

$(S - 6)(t + 8) = st$

$-4S + 4t = 16$ ...(i)

$8S - 6t = 48$

$+4S - 3t = 24$ ..(ii)

Solving (i) & (ii)

T = 40 hours, S = 36 km/hour

Distance = 40 × 36 = 1440 km

57. (2) Let speed of Abhi in still water be x km/hr & speed of current be y km/hr

B 200 m A P

Atq,

$(x - y) \times \frac{6}{60} + \frac{200}{1000} = (x + y) \times \frac{6}{60}$

$0.2 = \frac{1}{10}[(x + y) - (x - y)]$

$2 = 2y$

y= 1 km/hr

∴ speed of current = 1 km/hr

58. (5) Let 4 consecutive even no. are x, x + 2, x + 4 & x+ 6 & 3 consecutive odd no. are y -2, y, y + 2

Atq,

$4x + 12 - 3y = 94$

$4x - 3y = 82$ ...(i)

$\frac{x + 6 + y - 2}{2} = 42$

$x + y = 84 - 4$

$x + y = 80$ ...(ii)

multiplying.(ii) by 3 & solving with ...(i)

x = 46

∴ Second lowest even no. = 48

59. (1) Let efficiency of Rahul, Ayush & veer be x, y & z resp.

And we know time is inversely proportional to efficiency

$\therefore \frac{x + y}{z} = \frac{2}{1} = \frac{8}{4}$

$\frac{y + z}{x} = \frac{3}{1} = \frac{9}{3}$

Therefore ratio of efficiency

x : y : z = 3 : 5 : 4

total work = 12 × 30

= 360 unit

Rahul alone can complete the work = $\frac{360}{3}$ = 120 days

60. (4) Time Efficiency

A ⟶ 6hr -5

30

A+B ⟶ 10hr -3

∴ Efficiency of B = 2

∴ tap B can fill the tank = $\frac{30}{2}$ = 15 hrs

Capacity of tank = 15 × 60 × 15

= 13500 litre

61. (3) Let total number of books sold in year 2016 is 4x and total number of books sold in year 2017 is 5x.

Required percentage = $\frac{4x \times \frac{108}{360}}{5x \times \frac{90}{360}} \times 100 = 96\%$

62. (1) Total books sold in year 2016

$= \frac{648}{18} \times 360 = 12{,}960$

Total books sold in year 2017

$= \frac{12{,}960}{4} \times 5 = 16{,}200$

Required difference

$= \frac{54-36}{360} \times 16200$

$= 18 \times 45 = 810$

63. (4) Let total books sold in year 2016 be 4x & total books sold in year 2017 be 5x.

Required ratio = $\left(\frac{4x \times \frac{(144+36)}{360}}{5x \times \frac{(72+18)}{360}}\right)$

= 8 : 5

64. (1) Total books sold in year 2016 = $\frac{576}{144} \times 360 = 1440$

Total books sold in year 2017 = $\frac{1440}{4} \times 5 = 1800$

Required percentage = $\frac{\frac{54}{360} \times 1800}{\frac{18}{360} \times 1440} \times 100 = 375\%$

65.(5) Total books sold in year 2017

$= \frac{360}{72} \times 360$

= 1800

Required average = $\frac{1}{2}\left[\frac{144+36}{360}\right] \times 1800 = 450$

66. (2) $\frac{28}{100} \times 450 + \frac{?}{100} \times 1200 \simeq 200 + 226$

$? \times 12 = 426 - 126$

$? = \frac{300}{12} = 25$

67. (4) $1730 + 1270 + ? \simeq 250 \times 20$

$? = 5000 - 3000$

$? = 2000$

68. (3) $1150 + \sqrt{?-15} \simeq 90 \times 13$

$1150 + \sqrt{?-15} = 1170$

$\sqrt{?-15} = 20$

$? = 415$

69. (5) $(?)^2 + (12)^2 + (6)^2 + (8)^3 \simeq 500 + 448$

$(?)^2 = 948 - 144 - 36 - 512$

$(?)^2 = 256$

$? = 16$

70. (1) $\sqrt{410 + 220 - \sqrt{25}} \simeq ? + 15$

$? = \sqrt{630 - 5} - 15$

$? = 25 - 15 = 10$

71. (5) (i) $8x^2 + 18x - 11 = 0$

$8x^2 + 22x - 4x - 11 = 0$

$2x(4x + 11) - 1(4x + 11) = 0$

$(4x + 11)(2x - 1) = 0$

$x = -\frac{11}{4}, \frac{1}{2}$

(ii) $4y^2 + 17y + 15 = 0$

$4y^2 + 12y + 5y + 15 = 0$

$4y(y + 3) + 5(y + 3) = 0$

$(y + 3)(4y + 5) = 0$

$y = -3, -\frac{5}{4}$

No relation

72. (4) (i) $3x^2 - 32x + 64 = 0$
$3x^2 - 24x - 8x + 64 = 0$
$3x(x-8) - 8(x-8) = 0$
$(x-8)(3x-8) = 0$
$x = 8, \frac{8}{3}$
(ii) $y^2 - 17y + 72 = 0$
$y^2 - 8y - 9y + 72 = 0$
$y(y-8) - 9(y-8) = 0$
$(y-8)(y-9) = 0$
$y = 8, 9$
$x \leq y$

73. (2) (i) $2x^2 + 8x - 24 = 0$
$2x^2 + 12x - 4x - 24 = 0$
$2x(x+6) - 4(x+6) = 0$
$(2x-4)(x+6) = 0$
$x = 2, -6$
(ii) $y^2 + 13y + 42 = 0$
$y^2 + 7y + 6y + 42 = 0$
$y(y+7) + 6(y+7) = 0$
$(y+7)(y+6) = 0$
$y = -6, -7$
$x \geq y$

74. (5) (i) $2x^2 - 15x + 22 = 0$
$2x^2 - 11x - 4x + 22 = 0$
$x(2x-11) - 2(2x-11) = 0$
$(x-2)(2x-11) = 0$
$x = 2, 5.5$
(ii) $3y^2 - 21y + 18 = 0$
$3y^2 - 18y - 3y + 18 = 0$
$3y(y-6) - 3(y-6) = 0$
$(3y-3)(y-6) = 0$
$y = 1, 6$
No relation

75. (4) (i) $x^2 - 30x + 144 = 0$
$x^2 - 24x - 6x + 144 = 0$
$x(x-24) - 6(x-24) = 0$
$(x-24)(x-6) = 0$
$x = 24, 6$
(ii) $y^2 - 50y + 624 = 0$
$y^2 - 24y - 26y + 624 = 0$
$y(y-24) - 26(y-24) = 0$
$(y-24)(y-26) = 0$
$y = 24, 26$
$x \leq y$

76. (1) No. of male student playing Hockey of college L
$= 450 \times \frac{8}{9} = 400$
Average no. of student playing Hockey of college M & O
$= \frac{400+500}{2}$
$= 450$
Required percentage $= \frac{400}{450} \times 100 = 88\frac{8}{9}\%$

77. (3) Student who left playing Cricket of college N
$= 350 \times \frac{1}{7} = 50$
Total student playing Football of college N
$= 450 + 50 = 500$
Required ratio $= \frac{500+300}{500+350} = 16 : 17$

78. (2) Average no. of student playing Hockey of college K, L and O
$= \frac{(250+450+500)}{3} = 400$
Average no. of student playing Football of college K, L and M
$= \frac{400+350+300}{3} = 350$
Required difference $= 400 - 350 = 50$

79. (5) Total no. of student playing Cricket of college L and M together
$= 400 + 300 = 700$
Total no. of student playing Hockey of college K and M together
$= 250 + 400 = 650$
Required percentage $= \frac{700-650}{650} \times 100 = 7\frac{9}{13}\%$

80. (4) Total student in college K in 2014 = 400 + 500 + 250 = 1150
Total student in college K in 2015
$= 1150 \times \frac{120}{100} = 1380$
Student playing Football of college K in 2015
$= 1380 \times \frac{5}{10}$
$= 690$
Required average $= \frac{400+690}{2}$
$= \frac{1090}{2}$
$= 545$