IBPS RRB Office Asst. Preliminary Grand Test –IRP-180832

HINTS & SOLUTIONS

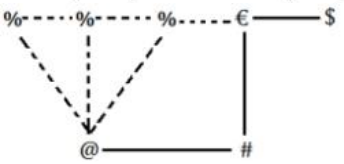
ANSWER KEY

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

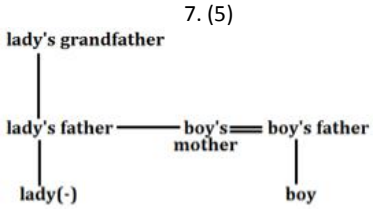
HINTS & SOLUTIONS

1. (5) I. X > N (True) II. Y ≥ M (True)
2. (1) I. B > E (True) II. A ≤ F (False)
3. (4) I. J > O (False) II. K > P (False)
4. (5) I. S > P (True) II. N < U (True)
5. (2) I. I ≥ S (False) II. M > H (True)

6-7.



6. (4) 7. (5)
8. (3)



9. (5)
10. (2) (33÷3 + 6x1)-2 = 15

11-15. In the arrangement words are arranged along with a number in each step. As for words, they are arranged in alphabetical order of the last letter of each word on the left end while the numbers are arranged in decreasing order on the right end.

Input: Work 27 Workers 18 Manager 39 Report 3 Office 9

Step I: Office Work 27 Workers 18 Manager Report 3 9 39

Step II: Work Office Workers 18 Manager Report 3 9 39 27

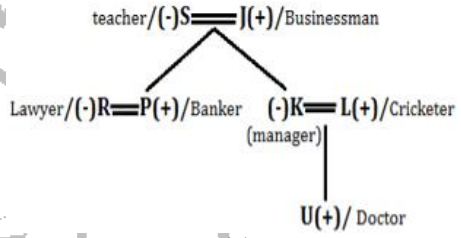
Step III: Manager Work Office Workers Report 3 9 39 27 18

Step IV: Workers Manager Work Office Report 3 39 27 18 9

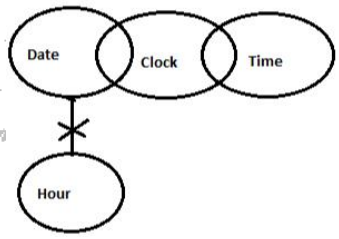
Step V: Report Workers Manager Work Office 39 27 18 9 3

11. (2) 12. (1)
13. (3) 14. (1) 15. (2)

16-20.



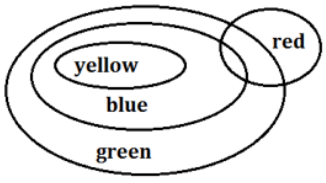
16. (4) 17. (2)
18. (3) 19. (5) 20. (3)
21. (3) Using condition (i)
22. (2) Using condition (iv)
23. (4) Using condition (iii)
24. (1) Using condition (ii)
25. (4) Using condition (iii)
26. (4)



For-I False, as there is no relation between elements clock and hour.

For-II False, as there is no relation between elements time and hour.

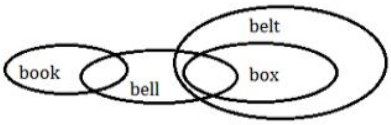
27. (2)



For-I False because from venn diagram it is a definite case. Hence possibility case will not hold true.

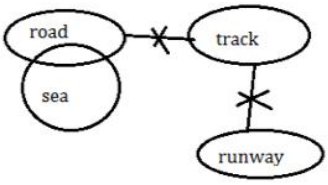
For-II True. Since all yellow are blue and all blue are green, All yellow are green can be concluded.

28. (3)



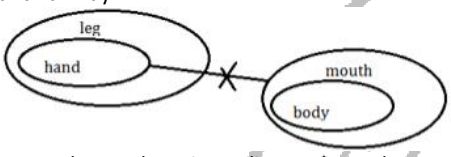
For-I False, as there is no direct relation between book and belt,
For-II False, as there is no direct relation between book and belt.
Since the subject and predicate in both the conclusions are same and it is the case of some and some not, therefore it will be either and or .

29. (1)



For-I True, as some sea are road and no road is track therefore, Some sea are not track.
For-II False, as there is no direct relation between road and runway.

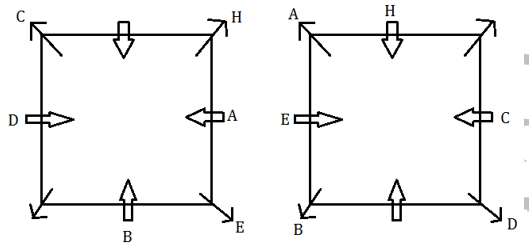
30. (2)



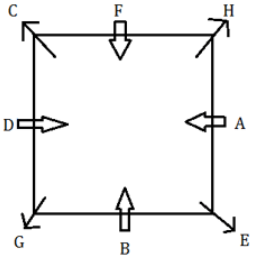
For-I False, as there is no direct relation between leg and body.
For-II Since Some part of leg which is hand cannot be body. Therefore, conclusion II is true.

31-35. D sits third to the left of H, who sits third to the right of B. A sits opposite to D. E sits opposite to C, who is not an immediate neighbor of B. So, there will be two possible cases according to the position of B---

Case-1 Case-2

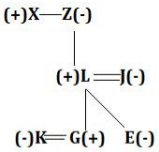


G sits third to the right of F. D is not an immediate neighbor of F. F does not sit at any of the corner.
By this condition case 2 will be cancelled and we got the final arrangement---

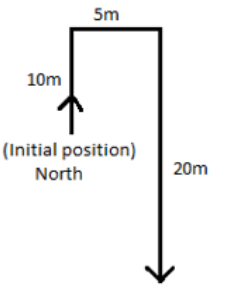


31. (2) 32. (4)
33. (3) 34. (1) 35. (4)
36. (2) Saurabh's rank from bottom = (23+12)=35
From top = (45-35+1) = 11

37-38.



37. (2) 38. (1)
39. (3)
40. (3)



41. (3) (i) $x^2 - 5x + 6 = 0$
$x^2 - 3x - 2x + 6 = 0$
$x(x-3) - 2(x-3) = 0$
$(x-2)(x-3) = 0$
$x = 2, 3$
(ii) $y^2 - 14y + 45 = 0$
$y^2 - 9y - 5y + 45 = 0$
$y(y-9) - 5(y-9) = 0$
$(y-5)(y-9) = 0$
$y = 5, 9$
$y > x$

42. (5) (i) $x^2 - 4x - 21 = 0$
$x^2 - 7x + 3x - 21 = 0$
$x(x-7) + 3(x-7) = 0$
$(x+3)(x-7) = 0$
$x = -3, 7$
(ii) $y^2 - 10y + 16 = 0$
$y^2 - 8y - 2y + 16 = 0$
$y(y-8) - 2(y-8) = 0$
$(y-2)(y-8) = 0$
$y = 2, 8$
No relation between x and y

43. (3) (i) $2x^2 - 7x + 6 = 0$
$2x^2 - 4x - 3x + 6 = 0$
$2x(x-2) - 3(x-2) = 0$
$(2x-3)(x-2) = 0$
$x = \frac{3}{2}, 2$
(ii) $2y^2 - 15y + 25 = 0$
$2y^2 - 10y - 5y + 25 = 0$
$2y(y-5) - 5(y-5) = 0$
$(2y-5)(y-5) = 0$
$y = \frac{5}{2}, 5$
$y > x$

44. (1) (i) $2x^2 - 11x - 21 = 0$
$2x^2 - 14x + 3x - 21 = 0$
$2x(x-7) + 3(x-7) = 0$
$(2x+3)(x-7) = 0$
$x = \frac{-3}{2}, 7$
(ii) $y^2 + 17y + 66 = 0$
$y^2 + 11y + 6y + 66 = 0$
$y(y+11) + 6(y+11) = 0$
$(y+6)(y+11) = 0$
$y = -11, -6$
$x > y$

45. (2) (i) $x^2 - 14x + 45 = 0$
$x^2 - 9x - 5x + 45 = 0$
$x(x-9) - 5(x-9) = 0$
$(x-5)(x-9) = 0$
$x = 5, 9$

(ii) $2y^2 - 9y - 5 = 0$
$2y^2 - 10y + y - 5 = 0$
$2y(y-5) + 1(y-5) = 0$
$(2y+1)(y-5) = 0$
$y = \frac{-1}{2}, 5$
$x \geq y$

46. (4) $\frac{510}{?} = \sqrt{324} + \sqrt{256}$
$\Rightarrow \frac{510}{?} = 18 + 16$
$\Rightarrow ? = \frac{510}{34} = 15$

47. (3) $2^{?+2} = \frac{32}{1024} \times \frac{128}{8} \times 128 = 64 = 2^6$
$\Rightarrow ? + 2 = 6 \Rightarrow ? = 4$

48. (5) $?^2 = \frac{55}{100} \times 440 - \frac{80}{100} \times 345 + 2 \times 7^2$
$?^2 = 242 - 276 + 98 = 64$
$\Rightarrow ? = 8$

49. (1) $? = \frac{209}{399} \times 21^2 - (11)^2$
$? = \frac{19 \times 11}{19 \times 21} \times 21^2 - 11^2$
$? = 231 - 121 = 110$

50. (3) $? = 86 \times 5 + 26 \times 11 - 22 \times 13$
$? = 430 + 286 - 286$
$? = 430$

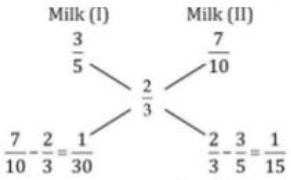
51. (2) Let amount be X, Y and Z respectively
$\frac{X \times 4 \times 1}{100} = \frac{Y \times 4 \times 2}{100} = \frac{Z \times 4 \times 3}{100}$
$X = 2Y = 3Z = 6A$ (let)
$X = 6A, Y = 3A, Z = 2A$ so part is 6 : 3 : 2
Smallest part $= \frac{2189}{11} \times 2$
$= 199 \times 2$
=Rs. 398

52. (2) (Priya and Monika)'s 1 day work alternatively
$= \frac{1}{18} + \frac{1}{30} = \frac{8}{90}$
(Priya and Monika)'s 22 days work
$= \frac{8 \times 11}{90} = \frac{88}{90}$
Remaining work $= 1 - \frac{88}{90} = \frac{1}{45}$
$\therefore \frac{1}{45}$ work done by Priya $= \frac{2}{5}$ days
Total time $= 22\frac{2}{5}$ days.

53. (4) Let C.P. of potato = X Rs.
C.P. of tomato= (7.5 – X) Rs.
And S. P. of potato $= \frac{122X}{100}$ Rs.
S. P. of tomato $= \frac{92}{100}(7.5 - X)$ Rs.
$\therefore 7.5 = \frac{122X}{100} + \frac{92}{100}(7.5 - X)$
X = 2 Rs.
C.P. of tomato = (7.5 – 2)
= 5.5 Rs.
S. P. of tomato $= \frac{92}{100} \times 5.5$
= 5.06 Rs.

54. (2) Total no. of balls = 6 + 4 + 8 = 18
No. of ways to draw one red ball $= {}^6c_1$
No. of ways to draw two green balls $= {}^4c_2$
Required probability $= \frac{{}^6c_1 \times {}^4c_2}{{}^{18}c_3} = \frac{3}{68}$

55. (2)



Required ratio $= \frac{1}{30} : \frac{1}{15} = 1 : 2$

56. (1) Total female population in village A & B together
$= 7200 \times \frac{12.5}{100} \times \frac{4}{9} + 7200 \times \frac{17.5}{100} \times \frac{1}{3}$
= 400 + 420
= 820
Required percentage $= \frac{820}{7200 \times \frac{17.5}{100} \times \frac{3}{8}}$
$= \frac{820}{840} \times 100$
$= 97\frac{13}{21}\%$

57. (5) Central angle for population of village D & E
$= \frac{(30+15)}{100} \times 360$
= 162°

58. (2) Total population of village Q
$= 7200 \times \frac{25}{100} \times \frac{65}{100}$
= 1170
Total male population in village Q
$= 1170 \times \frac{9}{13}$
= 810

59. (4) Total illiterate population in village D
$= 7200 \times \frac{30}{100} - 7200 \times \frac{17.5}{100} \times \frac{75}{100}$
= 2160 – 945
= 1215
Required percentage $= \frac{1215}{2160} \times 100$
= 56.25%

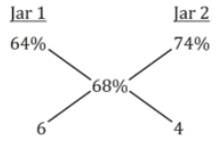
60. (3) Required ratio $= \frac{15}{17.5}$
= 6 : 7

61. (5) Let monthly salary of Amrit = $100x$
Amount invested in house rent = $100x \times \frac{30}{100} = 30x$
Remaining amount = $100x - 30x = 70x$
Amount invested in Food = $70x \times \frac{20}{100} = 14x$
Remaining amount = $70x - 14x = 56x$
Amount invested in mutual fund = $56x \times \frac{25}{100} = 14x$
ATQ
$(14x + 14x) = 5600$
$x = 200$
So monthly salary of Amrit = 100 × 200 = Rs. 20,000

62. (3) Let ages of Mohit and Swati one year hence is 13x and 9x respectively
ATQ,
$(13x - 1) + (9x - 1) = 32 \times 2$
$x = 3$
So, present age of Mohit = $(13 \times 3 - 1) = 38$ year
Let present age of Nitesh = y years
$\frac{y-3}{38-3} = \frac{4}{7}$
$y = 23$ years

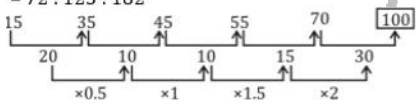
63. (5) Let x people were supposed to work
$\therefore (x - 8) \times 28 = x \times 20$
$\Rightarrow 7x - 56 = 5x$
$\Rightarrow x = 28$

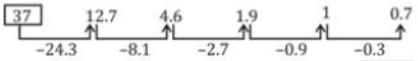
64. (4) Percentage of milk in first jar = 64%
Percentage of milk in second jar = (100 – 26) = 74%
Now using allegation method

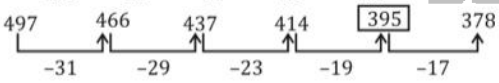


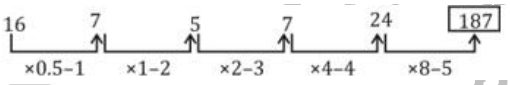
Required ratio = 3 : 2

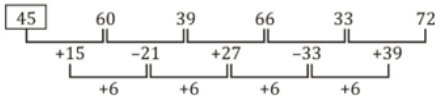
65. (1) Ratio of salaries of Ritu, Payal and Sakshi
in next year $= 3 \times \frac{120}{100} : 5 \times \frac{125}{100} : 7 \times \frac{130}{100}$
$= 72 : 125 : 182$

66. (4)


67. (2)


68. (1)


69. (3)


70. (1)


71. (1) Speed of train in m/s $= \frac{60 \times 505}{18} = \frac{50}{3}$ m/s
Distance covered by train in 15 seconds $= \frac{50}{3} \times 15 = 250$ meter
Length of platform = 250 – 180 = 70 meter
Speed of man $= \frac{70}{4} \times \frac{60}{1000} = 1.05$ km/hr

72. (2) Let number is 'x'
$So \Rightarrow \frac{3}{7}x = 60$
x= 140
$80\%\ of\ x = \frac{80}{100} \times 140 = 112$

73. (5) Number of ways = 9!

74. (3) Total cards = 52
Red cards = 26
Queen cards = 4
Required Probability $\Rightarrow \frac{26+4-2}{52} = \frac{7}{13}$

75. (1) Total income = 20000 Rs
Saving = x Rs
Saving % $= \frac{x}{20000} \times 100 = \frac{x}{200}\%$
New, salary = 35000
New saving $= \frac{35000 \times x}{200 \times 100} = \frac{7}{4}x\ Rs$
percentage increase in saving $= \frac{\frac{7}{4}x - x}{x} \times 100$
= 75%

76. (4) $? = \frac{25 \times 26 \times 48 \times 13}{52 \times 65 \times 10} = 12$

77. (1) $? = \frac{9-27+18}{\sqrt{1444}} = \frac{0}{\sqrt{1444}} = 0$

78. (3) $? = \frac{28}{100} \times 150 + \frac{100}{900} \times 333$
$= 42 + 37$
$= 79$

79. (2) ? = 1009.08

80. (4) $? = 31 + \frac{2}{3} \times \frac{108}{9} \times \frac{21}{36} \times \frac{27}{42}$
$= 31 + 3$
$= 34$