

IBPS RRB Office Asst. Preliminary Grand Test –IRP-180716

HINTS & SOLUTIONS

ANSWER KEY

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

HINTS & SOLUTIONS

- 1. (2) I. $D < W$ (False)
II. $O < I$ (True)
- 2. (2) I. $N \leq K$ (False)
II. $A < J$ (True)
- 3. (1) I. $J \geq P$ (True)
II. $T < L$ (False)
- 4. (1) I. $Z > K$ (True)
II. $R > W$ (False)
- 5. (4) I. $X < O$ (False)
II. $O = C$ (False)



- 6.(4) 7.(1)
- 8.(1) 9.(2) 10.(2)
- 11. (5) From I, All even dates of the month are included. Hence, I alone is not sufficient.
From II, Birthday was celebrated on either of these three dates i.e. 27, 28, 29. Hence II alone is sufficient.
But from I and II together it is clear that Harsh celebrated his birthday on 28th of the month.
- 12. (5) From I, Saurabh scores 19, 38, 57, 76, 95

- 13. (4) From II, Saurabh scores marks from 61 to 89
So, From I and II Saurabh scores 76 marks.
From I, $J < K < M, N$. Hence I alone is not sufficient.
From II, $L < K$. Hence II alone is not sufficient.
From I and II together, it cannot be said that who among these is the shortest.
- 14. (4) $N < K$ (2 lakhs) $< O < M < L$
- 15. (4) $N < K$ (2 lakhs) $< O < M < L$
- 16-20. S takes lecture on Saturday. No one takes lecture after Q i.e. Q takes his lecture on Sunday. Not more than two persons take lecture between S and R. P takes his lecture immediately before R. We will have four possibilities

Case 1		Case 2		Case 3		Case 4	
Days	Person	Days	Person	Days	Person	Days	Person
Monday		Monday		Monday	P	Monday	P
Tuesday		Tuesday		Tuesday	P	Tuesday	R
Wednesday		Wednesday	P	Wednesday	R	Wednesday	
Thursday	P	Thursday	R	Thursday		Thursday	
Friday	R	Friday		Friday		Friday	
Saturday	S	Saturday	S	Saturday	S	Saturday	S
Sunday	Q	Sunday	Q	Sunday	Q	Sunday	Q

Now, T takes his lecture before U but not on Thursday. Neither Monday nor Friday is a Holiday. T does not take his lecture on Monday. This will eliminate Case 1, Case 2 and Case 3. The final arrangement will be -

Days	Person
Monday	P
Tuesday	R
Wednesday	T
Thursday	Holiday
Friday	U
Saturday	S
Sunday	Q

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

21-25. More than three persons live between M and O. M lives on floor number 9. N lives on floor number 5. There is a gap of two floors between P and O. S lives below P and O. R lives immediately above S. We have three possibilities -

Case1		Case2		Case 3	
Floor	Person	Floor	Person	Floor	Person
10		10		10	
9	M	9	M	9	M
8		8		8	
7	P	7		7	P
6		6	P	6	
5	N	5	N	5	N
4	O	4		4	O
3	R	3	O	3	
2	S	2	R	2	R
1		1	S	1	S

Now, L lives immediately below vacant floor. This will eliminate Case 1 and Case 3. No odd numbered floor is Vacant. Q does not live on top floor. So the final arrangement will be

Floor	Person
10	Vacant
9	M
8	Vacant
7	L
6	P
5	N
4	Q
3	O
2	R
1	S

21. (3)
23. (2)

22. (5)
24. (3)

25. (2)

26-30.

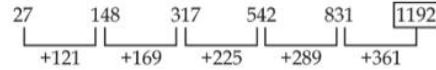
Element	Code
person/good	mo/sa
no	lo
is	ja
god	ka
present	la
everywhere	mk
one	ro

26. (3)
28. (4)
31. (3)
33. (4)

27. (5)
29. (1)
32. (1)
34. (3)

30. (3)
35. (2)

43. (2)



44. (4)

Pattern is
 $16^2 - 1 = 255$
 $18^2 - 1 = 323$
 $20^2 - 1 = 399$
 $22^2 - 1 = 483$
 $24^2 - 1 = 575$
 $26^2 - 1 = 675$

45. (4)

Series is
 $4 \times 0.5 = 2$
 $2 \times 1 = 2$
 $2 \times 1.5 = 3$
 $3 \times 2 = 6$
 $6 \times 2.5 = 15$
 $15 \times 3 = 45$

46. (1)

$$\sqrt{360 - 450 + 379} = \sqrt{289} = 17$$

47. (3)

$$3^7 = (3^2)^3 \times (3^4)^2 = 3^6 \times 3^8 + 3^9 = 3^5$$

Or, ? = 5

48. (2)

$$2^7 = 572 + 26 = 22 \times 12 = 264 - 200 = 64 = 2^6$$

Or, ? = 6

49. (1)

$$? = (4 + 1 - 2) + \left(\frac{1}{2} + \frac{7}{12} - \frac{5}{6}\right)$$

$$= 3 + \left(\frac{6 + 7 - 10}{12}\right) = 3\frac{1}{4}$$

50. (5)

$$36\% \text{ of } 245 = (40 - 4)\% \text{ of } 245$$

$$= \frac{2}{5} \times 245 - \frac{4 \times 245}{100} = 98 - 9.8 = 88.2$$

$$40\% \text{ of } 210 = \frac{2}{5} \times 210 = 84$$

$$\text{Difference} = 88.2 - 84 = 4.2$$

$$? = 10 - 4.2 = 5.8$$

51. (1)

$$\text{No. of ways} = {}_7C_2 \times {}_3C_2 = \frac{7 \times 6}{2 \times 1} \times 3 = 63$$

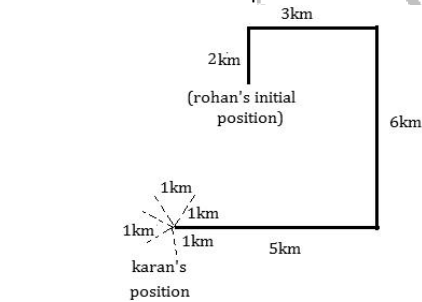
52. (1)

Let length of slower train = ℓ_1
 Length of faster train = ℓ_2
 $\therefore \ell_1 + \ell_2 = (5x - 4x) \times 30$
 $4x = \text{speed of slower train}$
 $5x = \text{speed of faster train}$
 $= 30x$... (i)
 And, $\ell_2 = 5x \times 4$
 $= 20x$
 $\therefore \ell_1 = 30x - 20x$
 $= 10x$
 $\therefore \frac{\ell_1}{\ell_2} = \frac{10}{20} = \frac{1}{2}$

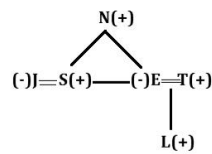
36. (2)
38. (4)

37. (1)

Karan can walk in any direction still he will be in South-west direction from initial position of Rohan.



39-40.



39. (1)
41. (1)

Pattern is
 $126 + 8 \times 1 = 126 + 8 = 134$
 $134 + 8 \times 3 = 134 + 24 = 158$
 $158 + 8 \times 5 = 158 + 40 = 198$
 $198 + 8 \times 7 = 198 + 56 = 254$
 $254 + 8 \times 9 = 254 + 72 = 326$

42. (3)

Series is
 $2 \times 2 + 1 = 5$
 $5 \times 3 + 2 = 17$
 $17 \times 4 + 3 = 71$
 $71 \times 5 + 4 = 359$
 $359 \times 6 + 5 = 2159$

53. (4)

Let speed of current = r km/h
 \therefore speed of boat in still water = $4r$
 A/q,
 $\frac{45}{4r - r} + \frac{45}{4r + r} = 8$
 $\Rightarrow \frac{15 + 9}{r} = 8$
 $\Rightarrow r = 3$ km/h

54. (3)

Sum = $\frac{4000 \times 100}{12.5 \times 4} = \text{Rs } 8000$
 $\therefore CI = 8000 \left[\left(1 + \frac{4}{100}\right)^2 - 1 \right]$
 $= 51 \times 12.8$
 $= \text{Rs } 652.8$

Grand Test – IRP-180716



55. (1) Speed in km/h of slower bus
 $= 20 \times \frac{18}{5} = 72 \text{ km/h}$
 Speed in km/h of faster bus
 $= 25 \times \frac{18}{5} = 90 \text{ km/h}$
 \therefore Required time $= \frac{72 \times 2}{90 - 72}$
 $= 8 \text{ h}$

56. (3) $21 + 29 + 144 = 194$

57. (2) $7 \times 18 + 1 \frac{2}{5} = 127 \frac{2}{5}$

58. (1) $\frac{144 \times 12 \times 36 \times 36}{432} = 5184$

59. (3) $\frac{11^7}{11^8} = (?)^2$
 $(?)^2 = 14641$
 $? = 121$

60. (3) $59 \times 3 = 150 + ? \quad ? = 27$

61. (2) Required average
 $= \frac{1}{5} \times (35 + 40 + 50 + 60 + 70) \times 1000$
 $= 51,000$

62. (3) Total boys who died in state Bihar in years 2007 and 2005 together
 $= \frac{5}{8} \times (40 + 60) \times 1000$
 $= 62,500$

\therefore Required percentage $= \frac{62500}{1,00,000} \times 100$
 $= 62.5\%$

63. (1) No. of children who died in West Bengal in 2004 and 2006 together
 $= 55000 + 45000$
 $= 1,00,000$
 And in 2005 and 2007 together $= (50,000 + 35,000)$
 $= 85,000$
 \therefore Required percentage $= \frac{15,000}{85,000} \times 100$
 $\approx 18\%$ more

64. (2) Required difference $= (190 - 85) \times 1000$
 $= 1,05,000$

65. (4) \therefore Required percentage $= \frac{7 - 4}{7} \times 100$
 $= 42.86\%$

66. (2) Let total quantity of mixture initially $= 100x$
 So quantity of milk initially $= 75x$
 So quantity of water initially $= 25x$
 8 liter of mixture is taken out
 So, $\frac{8 \times 75}{100} = 6$ liter of milk is taken out
 $8 - 6 = 2$ liter of water is taken out
 Now,
 ATQ,
 $\frac{75x - 6 + 7}{25x - 2} = \frac{7}{2}$
 $x = \frac{16}{25}$

So initial quantity of mixture $= \frac{16}{25} \times 100 = 64 \text{ L}$

67. (4) Required average $= 53 - \frac{[(49 + 57) - (45 + 52)]}{45}$
 $= 53 - \frac{9}{45}$
 $= 52.80 \text{ kg}$

68. (1) Let speed of boat in still water $= 11x$
 Speed of stream $= x$
 Now ATQ,
 $\frac{220}{(11x - x)} - \frac{220}{11x} = 1$
 $\frac{220}{10x} - \frac{220}{11x} = 1$
 $\frac{1}{x} (22 - 20) = 1$
 $x = 2$
 So speed of boat in still water $= 11 \times 2 = 22 \text{ km/hr}$

69. (3) Let C.P. of article $= 100x$
 S.P. of article if sold at 10% profit $= 110x$
 S.P. of article if it is marked up above 30% of C.P. and 10% discount is given
 $= 100x \times \frac{130}{100} \times \frac{90}{100}$
 $= 117x$

As per question, $117x - 110x = 56 \Rightarrow x = 8$
 So, C.P. of article $= 100x = 100 \times 8 = \text{Rs. } 800$

70. (2) Word are $= (3 - I, 2 - N, 1 - T, 2 - C, 1 - O)$
 Required no. of ways $= \frac{8!}{3! \times 2! \times 2!} = 1680$

71. (2) Speed $= \frac{\text{Distance}}{\text{Time}}$
 Total Distance $=$ Length of bridge + Length of train
 $= 1 + \frac{1}{2} = \frac{3}{2} \text{ km}$
 Speed $= \frac{\frac{3}{2}}{2 \times \frac{1}{60}} = \frac{3}{4} \times 60 = 45 \text{ kmph}$

72. (4) Let the speed of current be $V \text{ m/min.}$

$\frac{200}{48 - V} - \frac{200}{48 + V} = 10$

Or, $20(48 + V) - 20(48 - V) = 48^2 - V^2$

Or, $V^2 + 40V - 2304 = 0$

Or, $V = 32 \text{ m/min.}$

73. (3) Let the filling capacity of the pump be $x \text{ m}^3$ per minute

Then, emptying capacity of the pump

$= (x + 10) \text{ m}^3$ per minute

So, $\frac{2400}{x} - \frac{2400}{(x + 10)} = 8$

$\Rightarrow x^2 + 10x - 3000 = 0$

$\Rightarrow (x - 50)(x + 60) = 0$

$\Rightarrow x = 50 \text{ m}^3$ per minute

74. (3) Total Letters $= 7$. Total A $= 2$, Total R $= 2$

Total number of words $= \frac{7!}{2!2!} = 1260$

Now, taking both RR together, we consider

there as one unit RR can be arranged in $\frac{2!}{2!}$ ways and

The words having both R together $= \frac{6 \times 5 \times 4 \times 3 \times 2!}{2!} \times \frac{2!}{2!} = 360$

Number of words not having both R together $= 1260 - 360 = 900$

75. (5) Let the present age of Vignesh be V years.

Then, $V - 2 = 8$

$\therefore V = 10$ years

ATQ

$F + 10 = 2(V + 10)$,

$F = 2(10 + 10) - 10 = 30$ years.

$S = \frac{F}{6}$

So, Sikha's present age $= 5$ years.

76. (3) $? \approx 21^2 + 32^2 - 40^2 + 27^2$
 $\approx 441 + 1024 - 1600 + 729$
 ≈ 594

77. (2) $\frac{500}{100} \times ? \approx \frac{35}{100} \times 400 + \frac{50}{100} \times 250$
 $\Rightarrow ? \approx \frac{265}{5}$
 $\Rightarrow ? \approx 53$

78. (4) $\frac{?}{10} = 12 + 3 + 125 + 5 \Rightarrow ? = 290$

79. (5) $\frac{71}{100} \times ? = 36 + 26 + 9 \Rightarrow ? = 100$

80. (5) $? \approx \frac{3700}{100} + \frac{2640}{30} - \frac{10}{12} \times 96 \approx 37 + 88 - 80 = 45$

