

IBPS RRB Office Asst. Preliminary Grand Test –IRP-180824

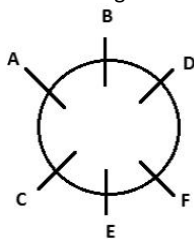
HINTS & SOLUTIONS

ANSWER KEY

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

HINTS & SOLUTIONS

1. (1) I. E < M (True)
II. O < H (False)
2. (3) I. L = A (False)
II. A < L (False)
3. (2) I. I > X (False)
II. P > X (True)
4. (4) I. V > I (False)
II. R < E (False)
5. (2) I. N > M (False)
II. S ≥ X (True)
- 6-8. All are facing centre.



6. (4)
7. (2)
8. (4)

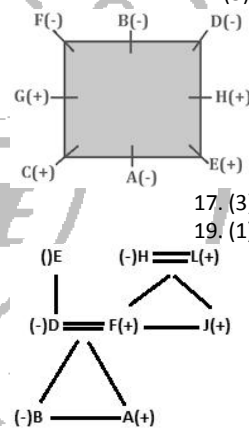
9. (3) Kamal's position from left end = (21-13) = 8th from left end. Eight persons sit between Kamal and Kishore so Kishore's position from left hand = (8+9) = 17th from left end. Since there are only seven persons to the left of Kamal, Kishore cannot sit on the left side of Kamal.
10. (2) One



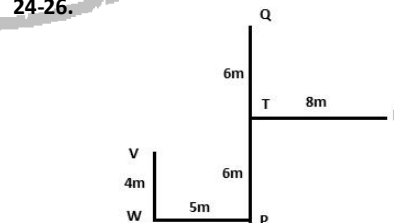
11-15.

Shirts	Brands
O	Pepe
K	Levis
M	Killer
N	Flying Machine
L	Mufti
G	Puma
J	Sparky

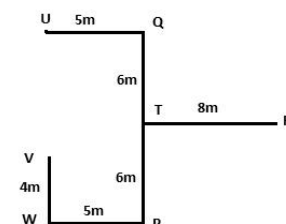
11. (2)
12. (3)
13. (1)
14. (3)
15. (5)
- 16-20.
16. (5)
17. (3)
18. (3)
19. (1)
20. (5)
- 21-23.



21. (3)
22. (5)
23. (4)
- 24-26.



24. (4) Southwest
25. (2) $\sqrt{8^2 + 5^2} = \sqrt{89}m$
26. (4) $\sqrt{12^2 + 5^2} = 13m$



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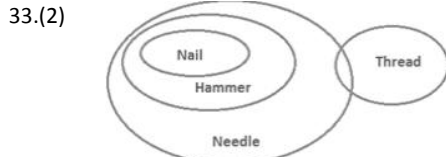
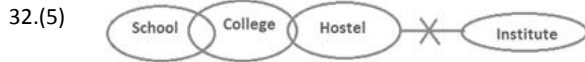


27-31.

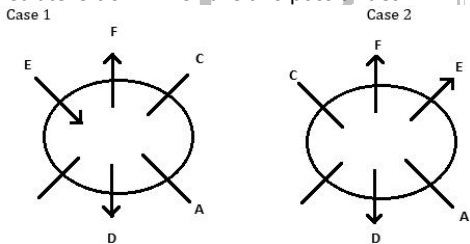
Track	I	II	III	IV	V
Person	B	E	D	A	C

Race	I	II	III	IV	V
Person	D	B	A	C	E

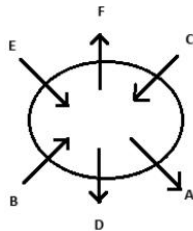
27.(2) 28.(5)
 29.(1) 30.(3) 31.(1)



37-40. D sits third to the right of F. D faces outside. C is not an immediate neighbor of D. C sits second to the left of E. A sits second to the right of F. B does not sit to the immediate left of D. We have two possibilities-



Now, immediate neighbors of E face opposite direction. A faces same direction as D. Not more than three people face outside. This will eliminate Case 2. So the final arrangement will be-



37. (3) 38. (3)
 39. (2) 40. (4)
 41. (2) $7 \xrightarrow{+0^2} 7 \xrightarrow{+4^2} 23 \xrightarrow{+8^2} 87 \xrightarrow{+12^2} 231 \xrightarrow{+16^2} 487$
 42. (3) $27 \xrightarrow{+2} 29 \xrightarrow{-3} 26 \xrightarrow{+5} 31 \xrightarrow{-7} 24 \xrightarrow{+11} 35$
 43. (1) $170 \xrightarrow{+3} 173 \xrightarrow{+5} 178 \xrightarrow{+7} 185 \xrightarrow{+11} 196 \xrightarrow{+13} 209$

44. (2) $2880 \xrightarrow{\times \frac{1}{6}} 480 \xrightarrow{\times \frac{1}{5}} 96 \xrightarrow{\times \frac{1}{4}} 24 \xrightarrow{\times \frac{1}{3}} 8 \xrightarrow{\times \frac{1}{2}} 4$

45. (1) $8 \xrightarrow{\times 1+1} 9 \xrightarrow{\times 2+3} 21 \xrightarrow{\times 3+5} 68 \xrightarrow{\times 4+7} 279 \xrightarrow{\times 5+9} 1404$

46. (1) A can complete the work in $3 \times 30 = 90$ hours
 B can complete the work in $4 \times 18 = 72$ hours
 (A + B)'s 1 hour work = $\frac{1}{72} + \frac{1}{90} = \frac{5+4}{360} = \frac{9}{360} = \frac{1}{40}$
 So, (A + B) can complete the work in 40 hours

As they work 10 hours every day, they will complete the work in $\frac{40}{10} = 4$ days

47. (3) $D = P \left(\frac{r}{100} \right)^2$
 Principal = Difference $\left(\frac{100}{r} \right)^2$
 $= \frac{400 \times 100 \times 100}{10 \times 10} = 40000$
 Now, interest is compounded half yearly
 $T = 4$ years, $r = \frac{10}{2} = 5\%$, $P = 40000$
 $A = 40000 \left(1 + \frac{5}{100} \right)^4 = 48620.25$
 C.I. = $A - P = 8620.25$
 S.I. = $\frac{40000 \times 5 \times 4}{100} = 8000$
 Difference = 620.25
 48. (3) $P(E) = \frac{3c_2 + 4c_3 + 5c_4}{12c_2} = \frac{1+4+10}{12 \times 2} = \frac{15}{24} = \frac{5}{8}$

49. (4) Let the distance is D
 $\frac{D}{8-6} - \frac{D}{8+6} = 30$
 $\frac{D}{2} - \frac{D}{14} = 30$
 $\frac{7D-D}{14} = 30$
 $\frac{6D}{14} = 30$
 $D = 70$

50. (5) Required No. of ways = $\frac{6!}{2!2!} \times \frac{5!}{3!} = 3600$

51. (2) $\frac{30 \times 2.5}{12+0.5} \times 2 = ?$
 $\frac{75}{12.5} \times 2 = ?$
 $12 = ?$
 $80 \times 170 = ?$

52. (5) $\frac{80 \times 170}{100} + \frac{3}{4} \times 216 - 10 = ? \times 6$
 $136 + 162 - 10 = ? \times 6$
 $\frac{288}{6} = ?$
 $48 = ?$

53. (5) $17 + \sqrt{169 \times 2 \times 2 \times 16} = ? + 11$
 $17 + 104 = ? + 11$
 $110 = ?$

54. (3) $\frac{(15+31)^2}{(11+12)^2} = (?)^2$
 $\left[\frac{46}{23} \right]^2 = (?)^2$
 $4 = ?^2$
 $? = 2$

55. (2) $\frac{200}{7} \times \frac{133}{8} - ? = 432 - \frac{60}{7} \times \frac{7}{3}$
 $25 \times 19 - ? = 432 - 20$
 $? = 63$

56. (2) Total admission in school 'C' in 2013
 $= \frac{4}{3} \times (210 - 60)$
 $= \frac{4}{3} \times 150$
 $= 200$
 Required average = $\frac{200+240}{2}$
 $= \frac{440}{2}$
 $= 220$

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57. (1) Boys who take admission in school
 A in 2012 = $\frac{9}{17} \times 170 = 90$
 Girls who take admission in school
 A in 2012 = $\frac{8}{17} \times 170 = 80$
 Boys who take admission in school A
 in 2015
 = $90 + 11\frac{1}{9}\%$ of 90 = $90 + 10 = 100$
 Girls who take admission in school A
 in 2015 = $200 - 100 = 100$
 Required sum = $100 + 80 = 180$

58. (5) Total number of admission in 2017
 = $\frac{160}{100} \times (70 + 150)$
 = $\frac{8}{5} \times 220$
 = 352

59. (2) Total admission in year 2014 = $140 + 160 = 300$
 Total admission in year 2016 = $70 + 150 = 220$
 Required % = $\frac{300 - 220}{220} \times 100$
 = $\frac{80}{220} \times 100$
 = $36\frac{4}{11}\%$

60. (4) Required ratio = $\frac{60 + 210}{70 + 150}$
 = $\frac{270}{220}$
 = 27 : 22

61. (5) Probability of drawn ball being blue = $\frac{2}{8} \Rightarrow \frac{1}{4}$
 Probability of drawn ball being not blue = $1 - \frac{1}{4} = \frac{3}{4}$

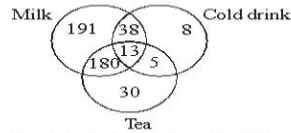
62. (3) $30x + 45y = 0$
 $6x + 9y = 0$
 $2x = -3y$ (i)
 $\frac{60x}{100} - \frac{20y}{100} = 22$
 $6x - 2y = 220$ (ii)
 From equation (1) & (2)
 $-9y - 2y = 220$
 $-11y = 220$
 $y = -20$
 $x = 30$
 Hence, $x + y = 10$

63. (1) Speed of Ajay = $\frac{240}{8}$ km/hr
 = 30 km/hr
 Speed of Ramesh = $\frac{30}{2} \times 5$
 = 75 km/hr
 Time required, traveling 780 km by Ramesh,
 = $\frac{780}{75}$
 = 10.4
 10.4 = 10 hrs 24mins.

64. (3) Let the work done by each boy and a woman in a day is B and W units respectively.
 $6W = 8B$
 $\frac{W}{B} = \frac{4}{3}$
 Efficiency of women: Boys = 4 : 3
 Total work if each woman does 4 units of work each day or boy will be 3 units each day \Rightarrow
 = $4 \times 6 \times 12$ or = $3 \times 8 \times 12$
 = 288 units = 288 units
 Let 'D' Days are required to finish the entire work when 3 women and 5 boys will work on it,
 $D \times [3W + 5B] = 288$
 $D [3 \times 4 + 5 \times 3] = 288$
 $D [27] = 288$
 $d = \frac{288}{27}$
 = $10\frac{2}{3}$ days.

65. (2) Total no. of possible cases = 3
 1) 1 boy 2 girl
 2) 2 boy 1 girl
 3) 3 boy 0 girl
 Desired case = 2 boy, 1 girl
 Probability = $\frac{1}{3}$

66. (4) Since number of Students who do not like any drinks = 35



No. of students only like milk = 191

67. (1) Students like only Tea & cold drink = 5

68. (2) Students, exactly like two drinks = $180 + 38 + 5 = 223$

69. (2) Student, who like at least one drink
 = $30 + 5 + 13 + 8 + 38 + 180 + 191 = 465$

70. (3) Students who like at least two drink = $5 + 38 + 13 + 180 = 236$

71. (1) $4M + 6W = 8 = (2M + 9W) \times 8$

$$2M = 3W$$

Let 1 man efficiency = 3

Let 1 woman efficiency = 2

$$\text{Total work} = \{(4 \times 3) + (6 \times 2)\} \times 8 = 192$$

$$\therefore \text{Required no of days} = \frac{192}{18 \times 2}$$

$$= 5\frac{1}{3} \text{ days}$$

$$M = \frac{1}{60}$$

$$W = \frac{1}{120}$$

$$\therefore \text{Required no of days} = \frac{1}{\frac{1}{60} + \frac{1}{120}}$$

$$= \frac{1}{\frac{1}{10} + \frac{1}{10}}$$

$$= \frac{1}{\frac{2}{10}}$$

$$= \frac{10}{2} = 5 \text{ days}$$

73. (3) C.P. S.P.
 100x 114x
 $(100x - 117)$ $(114x - 117)$
 $\frac{123}{100}(100x - 117) = 114x - 117$

$$12300x - 123 \times 117 = 11400x - 117 \times 100$$

$$900x = 14391 - 11700$$

$$x = 2.99$$

\therefore Required price = 299 Rs.

Let total unit = 50

$$20 \times \frac{1}{4} + 30 \times \frac{x}{100} = 9.5$$

$$\frac{3x}{10} = 4.5$$

$$x = 15\%$$

75. (1) In 1000 ml of mixture,

Alcohol = 700 ml

Water = 300 ml

Let x ml of alcohol is mixed.

According to question

$$\frac{300}{1000+x} \times 100 = 15$$

$$1000 + x = 2000 \Rightarrow x = 1000 \text{ ml}$$

76. (2) $23.8 + 13.2 = 37$

77. (1) $81.2 + 52.2 = 133.4$

78. (1) $26 + 16 = 42$

79. (3) $149834 - 85973 = 63861$

80. (1) $66.6 + 99.9 = 166.5$

