IBPS RRB PO PRELIMINARY GRAND TEST: IRPP-170703 - HINTS AND SOLUTIONS

ANSWER KEY

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

1-2. $\$ = \geq$
     $\# = \leq$
     $@ = >$
     $© = =$
     $\% = <$

1.   (2) $H < J = N > R \geq P \leq Q$
         (i) $H < Q$ – False
         (ii) $J > P$ – True
         (iii) $R > Q$ – False
         Only II follows

2.   (1) $H < J = N > R \geq P \leq Q$
         (i) $N \geq P$ – False
         (ii) $Q < N$ – False
         (iii) $R < H$ – False
         None follows

3.   (1)   From I, M is the grand mother of N.
         $M\ \delta\ T\ \$\ N\ @\ R$

$$M^-$$
$$|$$
$$T^+$$
$$|$$
$$N^- \Longleftrightarrow R^+$$

4.   (3)   5.   (1)

6-10. Input : 24 crores 82 road 93 safe 13 jam halt 46.
     Step 1 : 93 24 82 road safe 13 jam halt 46 cross.
     Step 2 : 93 82 24 road safe 13 jam 46 half cross.
     Step 3 : 93 82 46 24 road safe 13 jam halt cross.
     Step 4 : 93 82 46 24 safe 13 road jam halt cross.
     Step 5 : 93 82 46 24 13 safe road jam halt cross.

6.   (3)   7.   (1)
8.   (5)   9.   (2)
10. (1)

11-15.

Vehicle I	Vehicle II	Vehicle III
B^+ – Engineer	A^- – Teacher	C^- – Doctor
G^- – Teacher	F^- – Engineer	E^+ – Teacher
	D^+ – Doctor	

11. (3)   12. (2)
13. (2)   14. (4)
15. (1)

16-20.

Row 1 : D B F C E A
Row 2 : T P S Q R V
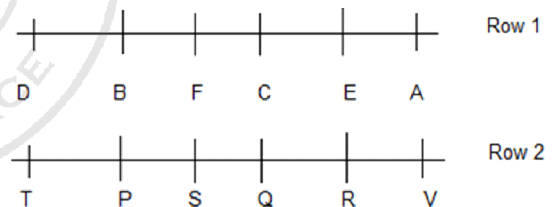
16. (1)   17. (2)
18. (2)   19. (2)
20. (3)

21-25.

SRH	M I	KKR
J – Indigo	F – Violet	H - Green
D – White	M – Blue	E – Red
V – Orange		S – Yellow

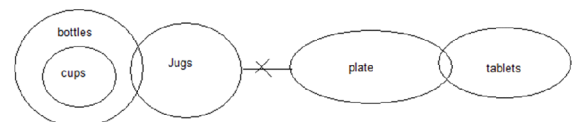21. (2)   22. (1)
23. (3)   24. (4)
25. (5)

26. (5)

(i)   ✓✗   (ii)   ✗
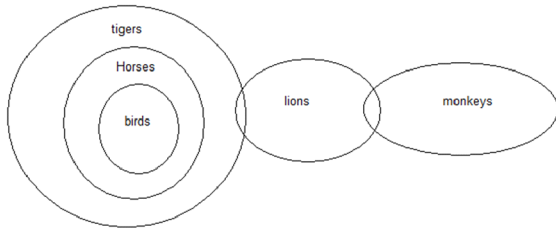(iii) ✗✓   (iv) ✓
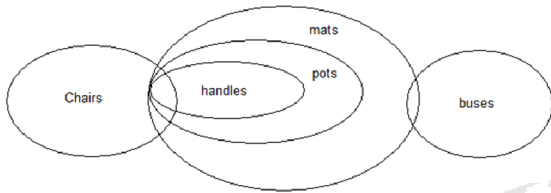Either I or III and IV follow.

27. (5)

(i) ✗   (ii) ✗
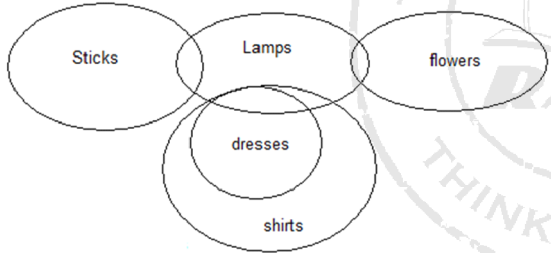(iii) ✗   (iv) ✓
Only IV follows.

28. (5)

(i) ✓✗   (ii) ✓
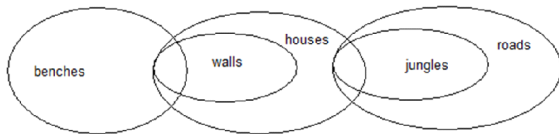(iii) ✗✓   (iv) ✓
Either I or III and II and IV follows.

29. (4)

(i) ✗   (ii) ✗
(iii) ✓   (iv) ✗
Only III follows.

30. (3)

(i) ✗   (ii) ✗
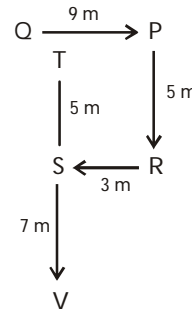(iii) ✓   (iv) ✓
Only III and IV follows.

31-33.   A   E   C   F   D   B
                    ↓   ↓
                    62   81

31. (1)   32. (5)
33. (3)

34-35.

34. (4)   35. (5)
36-40.   you – ni / ri
              are - ni / ri
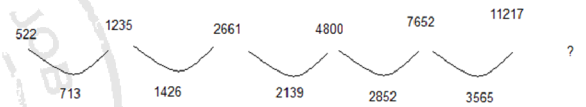   good – za
              with – si
              mc – ti
              meet – ap
              person – li
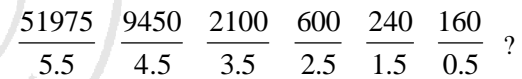   now – ku

36. (4)   37. (5)
38. (1)   39. (1)
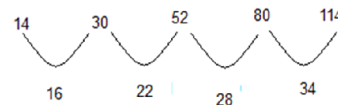40. (3)
41. (1)

Next number is 11217 + 3565 = 15495

42. (3) $\dfrac{51975}{5.5}$ $\dfrac{9450}{4.5}$ $\dfrac{2100}{3.5}$ $\dfrac{600}{2.5}$ $\dfrac{240}{1.5}$ $\dfrac{160}{0.5}$?

Next number $= \dfrac{160}{0.5} = 320$

43. (2) 3^6 3^5 3^4 3^3 3^2 ?
Next number $= 3^1 = 3$

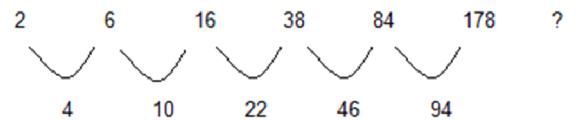44. (5)   4   18   48   100   180   294   ?

Next number = 40 + 114 + 294 = 448

45. (5)   2   6   16   38   84   178   ?

$4 \times 2 + 2 = 10$
$10 \times 2 + 2 = 22$
$22 \times 2 + 2 = 46$
$46 \times 2 + 2 = 94$
$94 \times 2 + 2 = 190$
Next number = 190 + 178 = 368

46. (1) (i) $x^2 + 5x + 6 = 0$
              $\Rightarrow x^2 + 2x + 3x + 6 = 0$
              $\Rightarrow x(x + 2) + 3(x + 2) = 0$
              $\Rightarrow (x + 2)(x + 3) = 0$
              $\Rightarrow x = -2, x = -3$

(ii) $y^2 + 7y + 12 = 0$
$\Rightarrow y^2 + 3y + 4y + 12 = 0$
$\Rightarrow y(y + 3) + 4(y + 3) = 0$
$\Rightarrow (y + 3)(y + 4) = 0$
$\Rightarrow y = -3, y = -4$
$\therefore x \geq y$.

47. (4) (i) $x^2 - 9x + 20 = 0$
$\Rightarrow x^2 - 5x - 4x + 20 = 0$
$\Rightarrow x(x - 5) - 4(x - 5) = 0$
$\Rightarrow (x - 5)(x - 4) = 0$
$\Rightarrow x = 4, x = 5$
(ii) $y^2 - 13y + 42 = 0$
$\Rightarrow y^2 - 6y - 7y + 42 = 0$
$\Rightarrow y(y - 6) - 7(y - 6) = 0$
$\Rightarrow (y - 6)(y - 7) = 0$
$\Rightarrow y = 6, 7$
$\therefore x < y$

48. (4) $2x + 3y = 14$ ...(1)
$4x + 2y = 16$ ...(2)
Eqn (1) multiply by 2
$4x + 6y = 28$ ...(3)
Eq (3) – eq (4)
$4x + 6y = 28$
$4x + 2y = 16$
$(-)\quad(-)\quad(-)$
$4y = 12$
$\Rightarrow y = 3$
$y = 3$ sub in (1),
$2x = 14 - 9$
$\Rightarrow x = \dfrac{5}{2} = 2.5$
$\therefore x < y$

49. (5) (i) $x = \sqrt{625} = 25$
(ii) $y = \sqrt{676} = 26$
$\therefore x < y$

50. (4) (i) $x^2 + 4x + 4 = 0$
$\Rightarrow x^2 + 2x + 2x + 4 = 0$
$\Rightarrow x(x + 2) + 2(x + 2) = 0$
$\Rightarrow (x + 2)(x + 2) = 0$
$\Rightarrow x = -2, -2$
(ii) $y^2 - 8y + 16 = 0$
$\Rightarrow y^2 - 4y - 4y + 16 = 0$
$\Rightarrow y(y - 4) - 4 - 4y + 16 = 0$
$\Rightarrow y(y - 4) - 4(y - 4) = 0$
$\Rightarrow y = 4, 4$

51-55.

Field	Boys	Girls
Medicine	8262	7938
Engineering	8316	1584
Micro Biology	3456	1944
Computers	4050	4050
Chemistry	4374	1026

51. (4) The no. of boys from the field of Engineering = 8316
Total no. of boys from all the fields
= 8262 + 8316 + 3456 + 4050 + 4374 = 28, 458
Required ratio = 8316 : 28458 = 154 : 527

52. (5) Total no. of boys from the field of medicine = 8262
Total no. of boys from the field of microbiology = 3456
Required difference = 8262 – 3456 = 4806.

53. (2) Total no. of boys in the field of Engineering = 8316
Total no. of girls in the field of Engineering = 1584
Required ratio = 8316 : 1584 = 21 : 4.

54. (1) Total no. of girls in the field of Chemistry = 1026
Total no. of students in all fields = 45,000

Required % = $\dfrac{1026}{45000} \times 100 = 2.28$

55. (3) Total no. of boys in the all the fields = 28,458
Total no. of girls in the all the fields = 16542

Required % = $\dfrac{16542}{28458} \times 100 = 58.13\%$

56. (5) Total expenditure on transport in all the years
= 2.8 + 3.2 + 2.9 + 3.8 + 4.1 (all in lakhs)
= 16.8 (lakhs)

Average = $\dfrac{16.8}{5} = 3.36$ (lakhs)

57. (5) Total expenditure in 1996
= 240 + 0.75 + 18 + 2.8 + 0.80 + 0.50 (lakhs)
= 262.85 (lakhs)
Total expenditure in 2000
= 350 + 0.89 + 38 + 4.1 + 0.88 + 0.66 = 394.53(lakhs)

Required % = $\dfrac{262.85}{394.53} \times 100 = 66.624\% \approx 67\%$

58. (3) Total expenditure of the given Company for given items in 1999
= 280 + 0.80 + 28 + 3.8 + 0.72 + 0.52
= 313.84(lakhs) = 3.1384(crores) $\approx$ 3.139 crore

59. (1) Total expenditure on loans for all the years
= 18 + 25 + 32 + 28 + 38 = 141 (lakhs)
Total expenditure on salary for all the years.
= 240 + 285 + 270 + 280 + 350 = 1425 (lakhs)

Required % = $\dfrac{141}{1425} \times 100 = 9.895\% \approx 10\%$

60. (5) Total expenditure on bonus in all the years
= 0.50 + 0.42 + 0.64 + 0.52 + 0.66 = 2.74 (lakhs)
Total expenditure on transport in all the years.
= 2.8 + 3.2 + 2.9 + 3.8 + 4.1 = 16.8 (lakhs)
Required Ratio = 2.74 : 16.8 = 274 : 1680 = 137 : 840.

61. (3) Total no. of students studying in the college D
= 900 + 970 + 908 + 940 + 960 + 920 = 5598

Average = $\dfrac{5598}{6} = 933$

62. (1) The no. of students studying in college C in 2004 = 980

Total no. of students studying in various college in that year = 990 + 1000 + 980 + 940 + 1000 = 4910

Required % = $\dfrac{980}{4910} \times 100 = 19.99\% \approx 20\%$

63. (2) The no. of students studying in College A in 2006 = 980

The no. of students studying in College E in 2006 = 1120

Required Ratio = 980 : 1120 = 7 : 8

64. (5) Total no. of students studying college A all the years = 860 + 910 + 930 + 990 + 940 + 980 = 5610

∴ Average = 935

Total no. of students studying college C all the years = 780 + 820 + 910 + 980 + 980 + 1020 = 5490

Average = $\dfrac{5940}{6} = 915$

Required difference = 935 – 915 = 20

65. (4) Total no. of students studying in college B all the years = 890 + 980 + 1040 + 1000 + 940 + 960 = 5810.

Total no. of students studying in college D all the years = 900 + 970 + 908 + 940 + 960 + 920 = 5598.

Difference = 5598 – 5810 = 212

66. (4) Area of square = 200 sq. m

Side = $\sqrt{200} = 10\sqrt{2}$

Diagonal of square = $\sqrt{2}$ side $= \sqrt{2} \times 10\sqrt{2} = 20$

Area of square = $(20)^2 = 400$ sq. m

67. (4)

68. (1) One day work of P = $\dfrac{1}{10}$

One day work of Q = $\dfrac{1}{15}$

Both P & Q one day work

$= \dfrac{1}{10} + \dfrac{1}{15} = \dfrac{15+10}{150} = \dfrac{25}{150} = \dfrac{1}{6}$

Total work completed in

$\dfrac{1}{6} \to$ x days

1 - ?

= 12 days

69. (1) Three years ago average age of A & B = 18 yrs

Average age of A, B , C in row = 22 yrs

Total age of A & B in now = 21 × 2 = 42 yrs

Total age of A, B & C in now = 22 × 3 = 66

Age of C = 66 – 42 = 24yrs.

70. (4) The word AWARE be arranged in

$= \dfrac{5!}{2!} = \dfrac{120}{2} = 60$ ways

71. (1) Let us assume each side of square = 1000

Total distance of square = 4000

Total time $= \dfrac{1000}{200} + \dfrac{1000}{400} + \dfrac{1000}{600} + \dfrac{1000}{800}$

$= 5 + 2.5 + 1.66 + 1.25 = 10.41$

Average speed $= \dfrac{\text{Total Distance}}{\text{Total Time}} = \dfrac{4000}{10.41} = 384$

72. (2) The four consecutive even number is

x, x + 2, x + 4, x + 6

difference b/w 1st & 4th is = x + 6 – x = 6

73. (1) Abhishek   :   Sudin

$\Rightarrow (50,000 \times 12 + 80000 \times 24) : (70000 \times 24)$

$\Rightarrow (600000 + 1920000) : 1680000$

$\Rightarrow 2520000 : 1680000$

$\Rightarrow 252 : 168$

$\Rightarrow 3 : 2$

The profit share of Sudin = $\dfrac{2}{5} \times 87500 = 35000$

74. (1) Given the ratio of English & Hindi speaking members is 4x : 5x

$\dfrac{135}{100} \times 4x : \dfrac{120}{100} \times 5x = 9 : 10$

75. (3) $SI = \dfrac{PTR}{100}$

$\Rightarrow A = P + SI$

SI = 1668 – 1200 = 468

$468 = \dfrac{1200 \times 6 \times R}{100}$

R = 6.5%

76. (1) $35 \times 18 + 256 = (11)^3 - x$

x = 1331 – 886 = 445

77. (3) $\left[(688 \div 4) + 45\right] \div 5 = x$

$(172 + 45) \div 5 = x$

$\Rightarrow \dfrac{217}{5} = x$

$\Rightarrow x = 43.4$

78. (2) (17 × 23) + (37 × 43) = x

x = 391 + 1591 = 1982

79. (2) (9.4 × 6 × 16) + (3.4 × 32 × 20) = x

x = 902.4 + 2176 = 3078.4

80. (3) $\dfrac{1}{8} \times \dfrac{3}{5} \times \dfrac{4}{9} \times 36000 = x$

$\Rightarrow x = 1200.$