IBPS PO Preliminary -2021. IPP-2021-11003

HINTS & SOLUTIONS

ANSWER KEY

1. (3)	21. (2)	41. (2)	61. (2)	81. (4)
2. (3)	22. (1)	42. (2)	62. (5)	82. (1)
3. (4)	23. (1)	43. (4)	63. (4)	83. (1)
4. (5)	24. (5)	44. (1)	64. (2)	84. (1)
5. (5)	25. (4)	45. (1)	65. (4)	85. (4)
6. (2)	26. (4)	46. (2)	66. (1)	86. (1)
7. (4)	27. (1)	47. (2)	67. (4)	87. (3)
8. (1)	28. (2)	48. (2)	68. (4)	88. (3)
9. (3)	29. (5)	49. (4)	69. (3)	89. (2)
10. (5)	30. (3)	50. (1)	70. (4)	90. (1)
11. (2)	31. (1)	51. (2)	71. (5)	91. (3)
12. (5)	32. (5)	52. 4)	72. (5)	92. (3)
13. (3)	33. (4)	53. (5)	73. (4)	93. (2)
14. (1)	34. (1)	54. (2)	74. (3)	94. (3)
15. (4)	35. (2)	55. (1)	75. (2)	95. (1)
16. (2)	36. (2)	56. (2)	76. (1)	96. (2)
17. (2)	37. (5)	57. (3)	77. (2)	97. (5)
18. (1)	38. (2)	58. (1)	78. (4)	98. (2)
19. (3)	39. (3)	59. (1)	79. (2)	99. (1)
20. (3)	40. (4)	60. (2)	80. (4)	100. (5)

HINTS & SOLUTIONS

1. (3)
2. (3)
3. (4)
4. (5)
5. (5)
6. (2)
7. (4)
8. (1)
9. (3)
10. (5)
11 – 15. The proper sequence of sentences to form a meaningful paragraph will be BDAEFC.
11. (2)
12. (5)
13. (3)
14. (1)
15. (4)
16. (2)
17. (2)
18. (1)
19. (3)
20. (3)
21. (2)
22. (1)
23. (1)
24. (5)
25. (4)

26. (4)
27. (1)
28. (2)
29. (5)
30. (3)
31. (1)   I. $3x^2 + 17x + 20 = 0$
or, $3x^2 + 5x + 12x + 20 = 0$
or, $(x + 4)(3x + 5) = 0$
$\therefore x = -4 \text{ or } \dfrac{-5}{3}$
II. $7y^2 + 5y - 2 = 0$
or, $7y^2 - 2y + 7y - 2 = 0$
or, $(y + 1)(7y - 2) = 0$
$\therefore y = -1 \text{ or } \dfrac{2}{7}$
Hence, x < y

32. (5)   I. $3x^2 = 24\%$ of 200
or, $3x^2 = 48$
$\therefore x = \pm 4$
II. y = 4 Hence, x ≤ y

33. (4)   I. $x^2 + 6x - 71 = 0$
or, $(x - 6)(x + 12) = 0$
$\therefore$ x = 6 or – 12
II. $y^2 + 25y + 156 = 0$
or, $(y + 12)(y + 13) = 0$
$\therefore$ y = – 12 or – 13
Hence, x ≥ y

34. (1)   I. $3x^2 + 17x + 20 = 0$
or, $x^2 + 16x + 64 = 0$
or, $(x + 8)^2 = 0$ $\therefore$ x = 8
II. $2y^2 + 22y + 60 = 0$
or, $y^2 + 11y + 30 = 0$
or, $(y + 5)(y + 6) = 0$
$\therefore$ y = – 5 or – 6
Hence, x < y

35. (2)   I. $6x^2 - 25x + 21 = 0$
or, $6x^2 - 18x - 7x + 21 = 0$
or, $(x - 3)(6x - 7) = 0$
$\therefore x = 3 \text{ or } \dfrac{7}{6}$
II. $6y^2 + 25y + 21 = 0$
or, $y^2 + 18y + 7y + 30 = 0$
or, $(y + 3)(6y + 7) = 0$
$\therefore y = -3 \text{ or } \dfrac{-7}{6}$
Hence, x > y

36. (2)
37. (5)
38. (2)
39. (3)
40. (4)
41. (2)   Ratio of capitals of Prakash, Sunil and Anil
= 11 :16.5 : 8.25 = 4 : 6 : 3
[Take common 2.75]

Sum of ratio of capital = 4 + 6 + 3 = 13
50% of Anil's share in the profit

$= \dfrac{19.5 \times 3}{13} \times \dfrac{50}{100}$ = Rs. 2.25

42. (2) Total expenses = $\dfrac{1}{2} + \dfrac{1}{4} + \dfrac{1}{8} + \dfrac{1}{20}$

$= \dfrac{20 + 10 + 5 + 2}{40} = \dfrac{37}{40}$

Saving = Rs. 900

Total monthly income

$= \dfrac{\text{Savings}}{1 - \text{Total expenses}}$

$= \dfrac{900}{\left(1 - \dfrac{37}{40}\right)} = \dfrac{900}{\dfrac{3}{40}}$

$= \dfrac{900}{3} \times 40 = \text{Rs.12000}$

43. (4) Number of males in committee = 2
Number of females in committee = 1
Total number of ways = $^5C_2 \times {}^3C_1$

required number = $^5C_2 \times {}^3C_1$

$= \dfrac{5!}{2!(5-2)!} \times \dfrac{3!}{1!(3-1)!}$

$\dfrac{5 \times 4 \times 3!}{2 \times 3!} \times \dfrac{3 \times 2!}{1 \times 2!}$

$= 10 \times 3 = 30$

44. (1) Circumference of circular plot

$= \dfrac{3300}{15} = 220m$

$\therefore 2\pi r = 220$

$r = \dfrac{220}{2\pi} = \dfrac{220 \times 7}{2 \times 22} = 35\text{m}$

Area of the plot = πr^2

$= \dfrac{22}{7} \times 35 \times 35$

$= 3850 sq$

Cost of flooring of 1 sq m plot = Rs. 100
Cost of flowing of 3850 sqm plot
= 3850 × 100 = Rs. 385000

45. (1) First Method
1 Male = 2 Females
8 males and 4 females = 20 females
After 2 days 4 males have left the work and 4 new females joined at their place
= 4 males + 8 females = 8 + 8 females = 16 females
M_1 = 20 females; D_1 = 6 - 2 = 4 days
M_2 = 16 females ; D_2 = ?
$M_1D_1 = M_2D_2$
20 × 4 = 1 6 × D$_2$

$D_2 = \dfrac{20 \times 4}{16}$

D$_2$ = 5 days

Second Method
1 Male = 2 Female

(8 + 2) male does work in 1 day = $\dfrac{1}{6}$

1 male and his work in 1 day = $\dfrac{1}{60}$

8 males and 4 females did work in 2days = 2 x $\dfrac{1}{6} = \dfrac{1}{3}$

After 2 days 4 males and 8 females or 4+4 males will be the work.

Remaining work = 1 - $\dfrac{1}{3} = \dfrac{2}{3}$

Time taken to complete remaining work

$60 \times \dfrac{2}{3} \times \dfrac{1}{8} = 5 days$

46. (2) 50% × 22500 : 60% ×25600, 1125 : 1536

47. (2)

48. (2) 25% × 20500 + 10% × 25600
+31% × 22500 + 19% ×36400

$= \dfrac{5125 + 2560 + 6975 + 6916}{4} = 5394$

49. (4) $(60\% \times 25600 - 50\% \times 22500)$
$= 15360 - 11250 = 4110$

50. (1) 31% × 25600 = 7936

51. (2) % profit = 35%

$\text{Expenditure} = \text{income} \times \dfrac{100}{100 + \%P}$

$\text{Thus}, 91.8 \times \dfrac{100}{135} = \text{Rs.68lakh}$

52. 4) $\dfrac{E_1}{E_2} = \dfrac{6}{5} \text{So}, E_1 = 6, E_2 = 5$

Now,

$I_1 = E_1 \times \dfrac{100 + 30}{100} = E_1 \times 1.3$

$I_2 = E_2 \times 1.2$

$\dfrac{I_1}{I_2} = \dfrac{E_1}{E_2} \times \dfrac{1.3}{1.2} = \dfrac{6 \times 1.3}{5 \times 1.2} = \dfrac{78}{60}$

$I_1 : I_2 = \dfrac{13}{10} = 13 : 10$

53. (5)

54. (2) %P$_A$=20%

$\text{Expenditure}_A = \dfrac{I}{1.2} = \dfrac{90}{1.2} = 7.5\text{lakhs}$

$\%P_B = 35\%$

$\text{Income}_B = 90 * 1.35 = 135\text{lakhs}$

$\text{Ratio} = \dfrac{135}{75} = \dfrac{9}{5}$

55. (1) Let the expenditure be x.

$\text{Income} = x \times \dfrac{100 + 25}{100} = 1.25x$

$\therefore \% = \dfrac{x}{1.25x} \times 100 = \dfrac{100}{1.25} = 80\%$

56. (2) $\times 2 - 20, \times 2 - 20, \times 2 - 20, \ldots\ldots\ldots$

57. (3) $\times (2^2 - 1), \times (3^2 - 1), \times (4^2 - 1),$
$\times (5^2 - 1), \times (6^2 - 1) \ldots\ldots\ldots$

58. (1) $\times 1 + 7, \times 2 + 14, \times 3 + 21, \times 4 + 28 \ldots\ldots\ldots$

59. (1) $\times 1 + 2, \times 2 + 4, \times 3 + 6, \times 4 + 8, \times 5 + 10 \ldots\ldots\ldots$

60. (2)

61. (2) $? = \sqrt{289.19} \times (2.08) \div 10.97$

$\approx 17 \times 2 \div 11 = 3.09 \approx 3$

62. (5) $1884 \div 144.89 + 6.99 + (?)^2 = 69.09$

$\approx 1885 \div 145 + 7 + (?)^2 = 69$

$= 13 + 7 + (?)^2 = 69$

$\therefore (?)^2 = 49$

$\therefore ? = 7$

63. (4)   ? = 142% of 649.98 + 77.07

$\approx$ 142% of 650 + 77 = 923 + 77 = 1000

64. (2) $? = 136 \div \left(\dfrac{3}{8} \times \dfrac{2}{7} \times \dfrac{5}{3} \right) = 136 \div \left(\dfrac{5}{28} \right)$

$= 136 \times \dfrac{28}{5} \approx 27 \times 28 = 756 \approx 760$

65. (4) $? = \sqrt{36000} = \sqrt{3600} \times \sqrt{10}$

$= 60 \times 3.16 = 189.73 \approx 190$

66. (1)
67. (4)
68. (4)
69. (3)
70. (4)
71. (5)   There is no valid assumption of the information if there is no increase in noise pollution there is no need of the given information or survey.
72. (5)   Increase in noise levels can prove harmful from the health prospective.
73. (4)   Strict action against the violators can help to control the noise pollution.
74. (3)   To minimize the difference between MGNREGA and minimum wages amendment in MGNREGA is required.
75. (2)   MGNREGA provide employment to million of people in rural households for 100 days.
76. (1)   Aman is in front of Pawan.
77. (2)   Dhawan is the second host.
78. (4)   Aman, Naman and Gagan sit on the same side.
79. (2)   Aman and Naman sit between Dhawan and Gagan.
80. (4)   Pawan is 2nd right to Dhawan.
81. (4)   E > B < Q = D

E > D

Hence I does not follow

F ≤ B < Q = D

F ≤ D

Hence II does not follow.

82. (1)   E > B ≥ F

E > F

Hence I follows.

A ≥ B < E

No relation between A and E

83. (1)   H > B ≥ I

H > I

Hence I follows.

G ≥ H > B ≥ I

G ≥ I

Hence II does not follow.

84. (1)   G ≥ H > B

G > B

Hence I follows

I ≤ B < H ≤ X

I <X

Hence II does not follows.

85. (4)   B = J ≤ O ≤ A

B ≤ A

Hence I does not follow.

B = J ≤ O ≤ A

J ≤ A

Hence II does not follow.

86. (1)
87. (3)
88. (3)
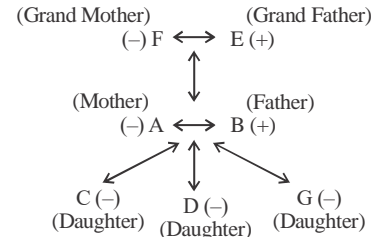89. (2)
90. (1)
91 – 95.

(Grand Mother) (–) F ⟷ E (+) (Grand Father)

(Mother) (–) A ⟷ B (+) (Father)

C (–) (Daughter)   D (–) (Daughter)   G (–) (Daughter)

	Cor.
A	R
B	Q
C	Q
D	P
E	Q
F	P
G	R

Female	Male
C	B
A	E
D	
G	
F	

91. (3)
92. (3)
93. (2)
94. (3)
95. (1)
96 – 100. always to be right = 4,9,3,2   ....(i)

right is also just = 9,7,6,5   .....(ii)

So, the code of right = 9

come to terms = 1,3,8   .....(iii)

terms are just = 0,1,6

So, the code of terms = 1

always is = 7,4   .....(iv)

From Eqs. (i) and (v), always = 4

From Eqs. (i) and (iii), to = 3

96. (2)   The code of come = 8 because to = 3 and terms = 1
97 – 98. Explained with diagrams
97. (5)
98. (2)
99. (1)
100. (5)   just