IBPS PO Preliminary -2022. IPP-130922

HINTS & SOLUTIONS

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

HINTS & SOLUTIONS

1-5. The correct sequence is **BCAFED.**
1.(3)   2.(4)
3.(5)   4.(4)   5.(3)
6.(3)   In place of 'in temper', use 'in a temper' which is idiomatic.
7.(5)   Sentence is grammatically correct.
8.(2)   Use 'a' in place of 'the'. Until there is no comparison between two or more than two persons or things, we don't use adjective of superlative degree. 'The most' is used in superlative degree whereas 'a most' is used in positive degree. In such situation, 'most' means 'very'. Ex. (i) You are **the most** powerful man in this party. (ii) You are **a most** powerful man. In the first sentence, 'you' is compared to other members of the party, whereas in second sentence 'you' is not compared to anyone. In this 'a most' means 'a very'.
9.(1)   'Brahmaputra' is the name of a river. Hence 'The' will be used before 'Brahmaputra'.
10.(5)   Sentence is grammatically correct.
11.(1)   Use 'women' in place of 'woman' as in compound nouns made of 'man' or 'woman', plural form is used in both the parts. Ex.'men conductors', 'man conductor'.

12.(1)   Use 'types' in place of 'type' because after demonstrative adjectives like these/ those/ certain/ other etc. noun is always in plural number.
13.(1)   Use 'have adored' in place of 'have been adoring' because verbs like adore, admire, believe, rely, trust, hope etc. are not used in continuous or perfect continuous tense. These verbs are generally used in simple tense or perfect tense. Ex. I admire her, I have admitted her since I met her.
14.(3)   'to' will not be used here as 'Let + subject + first form of verb' is used, like 'Let them go'.
15.(1)   'going' has been used in the form of 'participle' but its 'subject of reference' is not clear. Hence it should be 'While I/ she/ he was going…'.
16.(5)   "emanate" is the correct word to fill the gap as it means originate from; be produced by.
17.(3)   "world of free capital" is the correct phrase in context of the meaning of the sentence. The word 'capital' means people who possess wealth and use it to control a society's economic activity, considered collectively.
18.(4)   "outdated" is the correct word to fill the gap as it means out of date. Other words are almost similar but they are not the most appropriate in adding meaning to the sentence.
19.(1)   "crises" is the correct word to fill the gap as it means a time of intense difficulty or danger.
20.(4)   "can perhaps best be seen" is the correct phrase in context of its meaning of the sentence.
21.(2)   "whether" is the correct word as it means expressing a doubt or choice between alternatives.
22.(2)   "severe" is the correct word as it means strict or harsh.
23.(4)   "Consequences of the implementation of wrong and unnecessary economic policies" is the appropriate theme as the passage is about the economic policy failures leading to instability in employment generation and material insecurity to the people. Hence option (4) is the right choice.
24.(5)   All the given statements are true as they define the meaning of the phrase as presented by the author.
25.(2)   As mentioned in the passage (fifth paragraph), the design flaws in the monetary union in the Eurozone lead to difficulties like unpayable debt burden and decline in economy. Hence sentence (2) is the correct choice.
26.(4)   The author has mentioned three reasons behind the economic "combination of outworn bad ideas, incompetence and the malign influence of powerful special interests". Hence both the sentences (1) and (3) are correct.
27.(1)   Weisbrot has mentioned, "When the financial bleeding was stemmed, it became glaringly evident that the European authorities, and the ECB, could have intervened much earlier to reduce the damage in the eurozone periphery through monetary and fiscal policies." Hence sentence (1) is the correct choice.
28.(3)   **Draconian** means excessively harsh and severe. Hence it has similar meaning to **stringent**. **Innate** means natural. **Inhibit** means restrain. **Demure** means quiet. **Vex** means to confuse or to annoy.

29.(2) **Culpable** means deserving blame. It is similar to the meaning of **liable**.
Serendipity means luck.
Rife means abundant or plentiful.
Nominal means insignificant.
Inept means unqualified.

30.(4) **Proffered** means hold out or put forward (something) to someone for acceptance. Hence it has opposite meaning to **conceal**.
Enmity means ill-will.
Rash means incautious.
Staid means serious or self-restrained.
Salient means significant.

31.(5) $3x^2 = 3$
$x^2 = 1, x = 1, -1$
$4y^2 = 4, y = 1, -1$
So no relation can be established.

32.(3) $y = 56$
$x + y = 56, x = 0$
$x < y$

33.(3) $13x = 169 + 14 + 25 = 208$
$x = 16$
$5y = 85, y = 17$
$x < y$

34.(3) $x = \sqrt{6}, -\sqrt{6}$
$y = 8$
$x < y$

35.(2) $x^2 - 9x - 7x + 63 = 0$
$x(x - 9) - 7(x - 9) = 0$
$x = 7, 9$
$y^2 - 7y + 5y - 35 = 0$
$y(y - 7) + 5(y - 7) = 0$
$y = -5, 7$
$x \geq y$

36.(4) Distance travelled by car A = x km
Distance travelled by car B = $x + 200$ km
Let speed of A = $3y$
and speed of B = $4y$
According to question
$\dfrac{\frac{x}{3y}}{\frac{x + 200}{4y}} = \dfrac{2}{3}$
$\dfrac{4xy}{3y(x + 200)} = \dfrac{2}{3}$
$\Rightarrow 2xy = xy + 200y$
$= xy = 200y$
$= x = 200$ km
Total required sum = 200 + 200 + 200
= 600 km

37.(5) Let A completes work in $2x$ days.
and B completes work in $3x$ days.
So A can complete work in $= \dfrac{(2x + 3x) \times 45}{3x} = 75$ days
B can complete work in $= \dfrac{(2x + 3x) \times 45}{2x} = \dfrac{225}{2}$ days
In total 16 days, All 3 work on 5 days i.e.
3rd, 6th, 9th, 12th, 15th day and in remaining 11 days A work
So, in all A works for 11 days
B works for 10 days
and C works for 5 days
Part of total work done by C
$= 1 - \dfrac{11}{75} - \dfrac{10 \times 2}{225} = \dfrac{225 - 33 - 20}{225} = \dfrac{172}{225}$ part

38.(2) Ratio of profit $= \dfrac{\text{Capital of Ramesh} \times \text{Time}}{\text{Capital of Deepak} \times \text{Time}}$
Let Deepak's investment be for x months.
Then, $\dfrac{9}{4} = \dfrac{90000 \times 12}{60000 \times x}$
or, $x = \dfrac{90000 \times 12 \times 4}{9 \times 60000} = 8$ months

39.(1) Reqd% increase $= 12 + 17 \times \dfrac{12 \times 17}{100}$
$= 29 + 2.04 = 31.04\%$

40.(3) Let Amit had Rs. x.
Then, Jay $= \dfrac{2x}{5}$
Pramod $= \dfrac{2x}{5} \times \dfrac{1}{4} = \dfrac{x}{10}$
According to the question,
$\dfrac{x}{10} - 200 = 600$ or, $\dfrac{x}{10} = 800$
$\therefore x = 800 \times 10 = $ Rs. 8000

41.(3) Let Population $= x$
According to question
$\dfrac{\frac{12x}{100} \times \frac{3}{5}}{\frac{88x}{100} \times \frac{3}{7}} \times 100 \approx 19\%$

42.(1) Given $26\% \rightarrow 780000$
$\therefore$ Required ratio $= \dfrac{780000 \times \frac{(2-1)}{3}}{\frac{780000}{26} \times 74 \times \frac{(6-5)}{11}} = \dfrac{143}{111}$

43.(2) Population in Chennai = 850000
Above poverty line in Chennai
$= \dfrac{3}{4} \times 8,50,000 = 6,37,500$
Population of Delhi = 10,00,000
$Females = 2,60,000 \times \dfrac{2}{3} + 7,40,000 \times \dfrac{6}{11}$
$\approx 1,73,333 + 403636 \approx 576969 \approx 577000$

Desired% $= \dfrac{60500}{577000} \times 100 \approx 10\%$

44.(4) Since, individual population of metros is not given we cannot determine the required value.

45.(3) Let total population in kolkata be x
Given population below poverty line = 32%x
Males in Kolkata $= 32\% \times \dfrac{2}{5}x + 68\% \times \dfrac{4}{9}x$
$= 12.8\% + 30.2\%x = 43\%x$
$\therefore$ required percentage $= \dfrac{32}{43} \times 100$
$\approx 74\%$

46.(3) Let n number of cones are formed.
So,
Volume of n cones = Volume of 18 spheres
$\Rightarrow n \times \dfrac{1}{3} \times \pi \times 21^2 \times 28 = 18 \times \dfrac{4}{3} \times \pi \times 35^3$
$\Rightarrow n = 250$

47.(2) Slant height of cone $= \sqrt{21^2 + 28^2}$
= 35 cm
$\therefore$ Required cost of painting
$= 630 \times \dfrac{22}{7} \times 21 \times 35 \times \dfrac{5}{100^2}$
≈ 727

48.(1) Volume of container $= \dfrac{22}{7} \times 80^2 \times 140$

$= 2816000 \text{ cm}^3$

$\therefore$ Volume of required number of cubical blocks should be equal to half the volume of container

So, $x \times 20^3 = \dfrac{2816000}{2}$

$\Rightarrow x = 176$

49.(1) Required ratio

$= 2\pi \times 8(8 + 14) : \pi \times 21(21 + 35) : 4\pi \times 35^2$

$= 352 : 1176 : 4900$

$= 88 : 294 : 1225$

50.(3) T.S.A. of cuboid $= 2(12 \times 8 + 8 \times 5 + 5 \times 12)$

$= 392 \text{ cm}^2$

L.S.A. of cube $= 4 \times 20^2$

$= 1600 \text{ cm}^2$

$\therefore$ Required percentage $= \dfrac{1208}{1600} \times 100 = 75.5\%$

51.(1) Let vessel contains 100 L of mixture.

Change in water concentration will take place only due to the quantity of water added in place of quantity of milk taken out.

So, required % $= \dfrac{\frac{30}{100} \times 70}{30} \times 100 = \dfrac{21}{30} \times 100 = 70\%$.

52.(1) Total work completed by them in 10 days = 100% - 41% = 59%

A and B completes 27% work in 3 days.

When they work alternatively A works for 4 more days and B works for 3 more days.

So, A works for total 7 days and B works for total 6 days

6 days work of both = 27 × 2 = 54%

Remaining 5% work is completed by A in one day more

So A will complete work in $= \dfrac{100}{5} = 20$ days.

53.(2) Let marked price = M.P.

Let cost price = C.P.

and selling price = S.P.

According to question

CP + SP = MP

$CP + \left(MP - \dfrac{x}{100} \times MP\right) = MP$

$CP = \dfrac{x}{100} \times MP$

and $SP = \left(MP - \dfrac{x}{100} \times MP\right)$

So, $\text{Profit\%} = \dfrac{\left(MP - \frac{x}{100} \times MP\right) - \frac{x}{100} \times MP}{\frac{x}{100} \times MP} \times 100$

$\text{Profit\%} = \dfrac{100 - 2x}{x} \times 100$

54.(1) Let the cost price of a chair be Rs. x

Then, the cost price of a table

$= x \times \dfrac{130}{100} = \dfrac{13x}{10}$

According to the question,

$x + \dfrac{13x}{10} = 690$

or, $\dfrac{10x + 13x}{10} = 690$

or, $\dfrac{23x}{10} = 690$

$\therefore x = \dfrac{690 \times 10}{23} = \text{Rs. } 300$
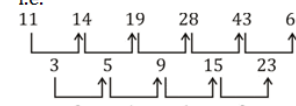
Therefore the cost price of a chair = Rs. 300

$\therefore$ The cost price of a table = 690 – 300 = Rs. 390

55.(1) Let the age of son be x years.

Father's age = y years

According to the questions,

$y = 3x + 3$ ... (i)

Now, 6 years later

Son's age = $x + 6$

$\therefore$ Father's age = $(y + 6) = 2(x + 6) + 12$

$= 2x + 12 + 12$

or, $y + 6 = 2x + 24$

or, $y - 2x = 24 - 6$

or, $y - 2x = 18$ ......(ii)

solving equation (i) and (ii), we get

$x = 15$

$\therefore y = 3x + 3 = 48$

Therefore father's age = 48

Son's age = 15

56.(2) The series is

$13 \times 1 + 1 \times 7 = 20$,

$20 \times 2 + 2 \times 6 = 52$,

$52 \times 3 + 3 \times 5 = 171$,

$171 \times 4 + 4 \times 4 = 700$

$700 \times 5 + 5 \times 3 = 3515$,....

57.(3) The series is

$37 + 24 = 61$,

$61 + 26 = 87$,

$87 + 30 = 117$,

$117 + 32 = 149$,

$149 + 36 = 185$...

58.(2) The series is

$\times 1 - 2$,

$\times 2 - 3$,

$\times 3 - 4$,

$\times 4 - 5$,

$\times 5 - 6$,....

i.e.

$7 \times 1 - 2 = 5$,

$5 \times 2 - 3 = 7$,

$7 \times 3 - 4 = 17$,

$17 \times 4 - 5 = 63$,

$63 \times 5 - 6 = \mathbf{309}$,...

59.(3) The series is

$+3, +5, +9, +15, +23$

i.e.

60.(3) The series is ×9–15, ×8–14, ×7–13, ×6–12, ...

i.e.

$12 \times 9 - 15 = 93$

$93 \times 8 - 14 = 730$

$730 \times 7 - 13 = 5097$

$5097 \times 6 - 12 = 30570$

$30570 \times 5 - 11 = 152839$

61.(2) Using formula $a^3 + b^3 = (a + b)(a^2 + b^2 - ab)$

$\dfrac{(0.673 + 1.327)(0.673^2 + 1.327^2 - 0.673 \times 1.327)}{(0.673^2 + 1.372^2 - 0.673 \times 1.327)} = 2^2 \times (?)^{-1}$
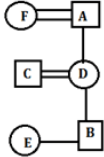
$2 = 4 \times (?)^{-1}, ? = 2$

62.(5) $\dfrac{13}{7} \times \dfrac{11}{6} \times \dfrac{9}{5} \div \dfrac{429}{70} = \dfrac{1}{5} \times ?$

on cancelling $1 = \dfrac{1}{5} \times ? \Rightarrow ? = 5$

63.(1) $\dfrac{9}{100} \times 950 - \dfrac{12.5}{100} \times 500 + ? = \dfrac{9}{100} \times 350 + \dfrac{2}{5} \times 1375$

$85.5 - 62.5 + ? = 31.5 + 550$

$? = 585.5$

$? \cong 560$

64.(3) $106 + 63 = ?\left(\dfrac{50 + 80}{100}\right) \Rightarrow ? = 130$

65.(3) $? = \dfrac{20 \times 45}{100} - \left(\dfrac{21}{5} \times \dfrac{10}{3}\right) \Rightarrow ? = 9 - 14 = -5.$

66-68. $E(7) < B(9) < F(10) < C(12) < D(18) < A(36)$

66.(2)   **67.(2)**   **68.(1)**

69.(2)
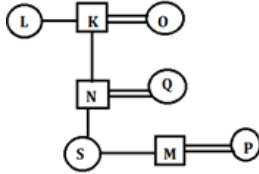
70.(1) Building E is 0.6 km away from building A; it can be in any direction (north, south, east, and west) from A. But in any case building E will always in North-West direction with respect to building C. We can't determine the distance between building D to A because in the question E's direction is not given from any point.
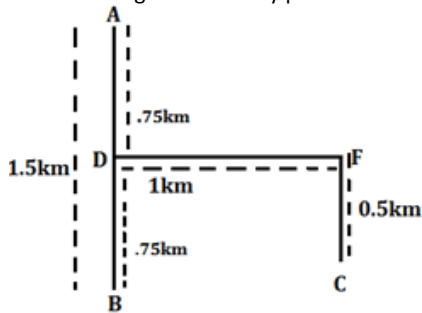
71-72.
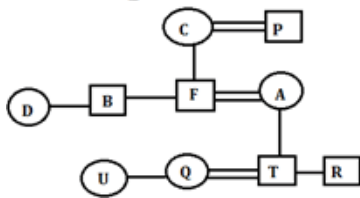
71.(5)

72.(1)

73.(1) $\sqrt{14^2 + 6^2} = 2\sqrt{58}$ m
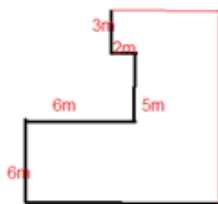
74.(1)
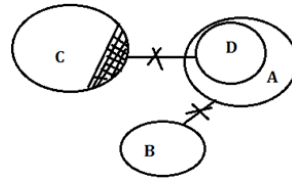
75.(4)
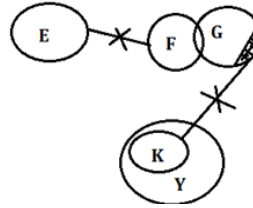
76.(4)
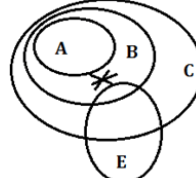
77.(4)
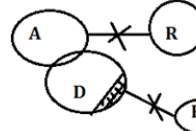
78.(3)
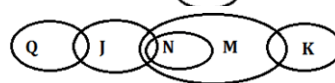
79-83. From the condition, O sits 3rd from the extreme end of the row whose rank is a perfect square, hence O can sit either 3rd from left or 3rd from right end of the row and his rank is 784, because this is the only number which is perfect square.

O faces south. M sits immediate left of O, and M rank is 3 digit Armstrong number which is divisible by 7, there is 2 Armstrong number 371 and 153, only 371 is divisible by 7 it means M's rank is 371. (An Armstrong number of **three** digits is an integer such that the sum of the cubes of its digits is equal to the number itself.) B's rank is an Armstrong number, only 1 Armstrong number (153) is remaining, means B's rank is 153. K sits 4 left of M. N rank is 5 times of 157, hence N rank is 785. From above conditions we will get 2 possible conditions-
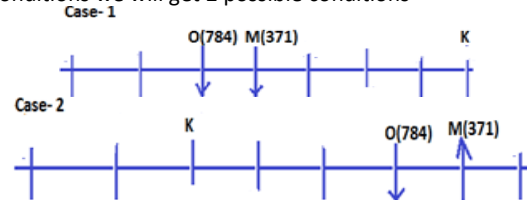
N sits 3rd right of M. P and M are the immediate neighbours of A, from this condition case 2 will be eliminated. Only case -1 will be continued.

From the rest conditions, L sits right of M. A's rank is 1.6 times of N's rank, it means A's rank is 1256). K's rank is average of L and A's rank, there is only one possibility that L's rank is 474 and K's rank is 865. P sits 5th place away from the N, so N faces north direction and P's rank will be fixed that is 302. M and P are immediate neighbors of A. B position will be fixed. P faces south direction. We will get final answer.


79.(1)   **80.(3)**
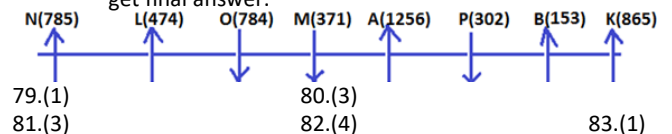
**81.(3)**   **82.(4)**   **83.(1)**

84-89. From the condition, A, whose salary is 5th highest (8500) faces outwards and sits at corner. F and G are not immediate neighbours of A. Neither F nor G sits smaller sides and corners, so only one possibility for F and G. A sits 3rd right of the one, whose salary is 4000. E sits 3rd left of the one whose salary is 8500. E faces outwards and his salary is not 4000. Only two among four sitting on the corners face outwards, E and A sit at corner and face outside so remaining persons who sit at corners will face inside the centre. B's salary is perfect cube as well as an odd number means B's salary will be 12167. B sits immediate left of E.
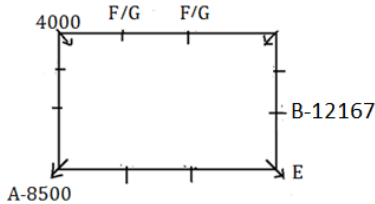
K sits 3rd right of B it means B will face outside to the centre. D is not an immediate neighbour of A, B, and the one whose salary is 4000, so only one position is left for D that is D will sit at corner and face inside to the centre. G sits 2nd right of D so F's and G's positions will be fixed. F's and G's salaries are perfect cube and 6000 respectively, only one perfect cube is remaining that is 5832 so F's salary will be 5832. K's salary is 1600. K and H are immediate neighbors and don't sit on smaller sides. K and H face same direction. K and H will face to the centre because it is given that not more than two friends sitting together face the same direction.

I does not sit on smaller sides it means I will sit at corner and his salary will be 4000. The one whose salary is 10th lowest (10500) and I sit diagonally opposite to each other, so E's salary will be 10500. C sits on smaller side and an immediate neighbor of I so C will sit immediate right of I.

J's salary is 1225 more than the salary of K's salary means J's salary will be 2825 and is not an immediate neighbor of C, hence J will sit between D and B. L's position will be fixed automatically. L and B face opposite direction it means L will face inside the centre. The one whose salary is 11000 sits 3rd left of J from this condition J's direction and H's salary will be fixed, J will face inside and H's salary will be 11000. Six persons face same direction it means another six persons will face opposite direction. H, K, L, D, I, J are facing to the centre hence all the remaining persons will face outside the centre. The one, whose salaries are 8001 and 9000 are immediate neighbors it means either L or C has salary of 8001 and 9000. D salary will be fixed that is 4500.
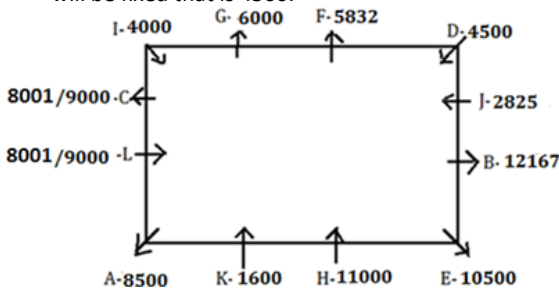
84.(4)   85.(3)   86.(4)
87.(3)   88.(5)   89.(4)
90-95. From the given condition, H lives on even numbered floor but not on 6th floor, it means H can live on 8th, 4th, and

2nd floor. But from the conditions, At least 2 persons live above E's floor. E lives above H's floor. Hence H can't sit on 8th floor.

H can live either on 4th or 2nd floor. From the given conditions, The one whose salary is a perfect cube lives just above C's floor. Only four people live between A and the one who has income of 5832. I lives on 5th floor. A lives above C and lives on odd numbered floor but not on 9th floor. E's income is 3500 and he lives on even numbered floor. F lives on odd numbered floor but not on topmost floor. . The one who lives on 4th floor, his income is perfect square.

Case-I				Case-II		
Floor	People	Salary		Floor	People	Salary
9				9		
8				8		
7	A			7	A	
6	E	3500		6	E	3500
5	I			5	I	
4		1600		4	H	1600
3	F			3	F	
2	H	5832		2		5832
1	C			1	C	

From the given condition, B lives one of the even numbered floor. Hence B can sit either on floor 8 or floor 2 in case II. If B lives 2nd floor means his income is 5832, but the condition is given that A's income is 1225 more than B's income. So A's income will be 7057, which is not given in the question. Hence B will live on 8th floor in case II. In case I, B has two positions remaining, either B will sit on 8th floor or 4th floor.

F's income is 2500 more than E's income. So F's income will be 6000. The one who has income of 7000 lives below F. G lives on one of the even numbered floor above A. Hence B can't sit on 8th floor, because A lives on 7th floor .Only one position is remaining above A for G, that is 8th floor. So G will live on 8th floor. Hence case II will be eliminated. B's position will be fixed, B will live on 4th floor. B's income is 1600, means A's income will be 2825 because the condition is given that A's income is 1225 more than B's income. So finally we will get the final answer from case I.

Floor	People	Salary
9	D	4000
8	G	9000
7	A	2825
6	E	3500
5	I	8500
4	B	1600
3	F	6000
2	H	5832
1	C	7000

90.(1)   91.(5)   92.(4)
93.(1)   94.(3)   95.(1)
96.(1)   I. I<S (True)
         II. I≤Q (False)
97.(2)   I. O>T (False)
         II. T>J (True)
98.(2)   I. Y≥U (False)
         II. W≥X (True)
99.(4)   I. B≤D (False)
         II. O<U (False)
100.(3) I. J>R (False)
         II. R=J (False)