IBPS PO Preliminary Grand Test –IPP-171018

HINTS & SOLUTIONS

ANSWER KEY

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

HINTS & SOLUTIONS

1.(5) Refer the second and third paragraphs of the passage. All the three statements are clearly mentioned there to verify that services are more urbanized than manufacturing. Hence (e) is the correct option.

2.(3) Refer the third paragraph of the passage, "...whereas large states such as Madhya Pradesh have experienced an above-average urbanization in services but a below-average urbanization in manufacturing." So statement (II) is incorrect regarding manufacturing sector. Statements (I) and (III) are clearly mentioned in fourth and third paragraphs respectively. Hence (c) is the correct option.

3.(5) Refer the second last paragraph of the passage, "Other organized services with high use of technology include financial intermediation, post and telecommunications, other business activities and supporting/auxiliary transport activities, and travel agencies. Education and health services also record a high usage of computers, but show lower internet usage." So it can be easily said that all four services require the high usage of technology. Hence (e) is the correct option.

4.(1) Read the passage carefully, the author has tried to bring all the important facts and figures related to the services and manufacturing in India and their contributions towards economic development which ultimately imply that services are more urbanized than manufacturing but they are not tied to big cities and thus raising the possibility of their being a growth driver that can promote inclusive spatial development. Hence only (a) summarizes the passage in a better and most appropriate way.

5.(2) Read the passage carefully, the author has tried to bring detailed treatment of issues related to services and manufacturing sector in India. He dives deep and tries to follow the chain of reasoning and draw inferences from them. The facts and figures thus accumulated help the author in analyzing the subject in a better way. Hence it can be said that the author's style of writing is analytical.

6.(4) Spatial means relating to space. Hence ' Dimensional" is the word most similar in meaning to it.
Foundational means denoting an underlying basis or principle; fundamental.
Radical means characterized by departure from tradition; innovative or progressive.
Elementary means relating to the rudiments of a subject.

7.(1) Counterpart means a person or thing that corresponds to or has the same function as another person or thing in a different place or situation.Analogue means a compound with a molecular structure closely similar to that of another. Hence both are similar in meanings.
Bantam means a level of amateur sport typically involving children aged between 13 and 15.
Insignia means a sign or token of something.
Transcription means an arrangement of a piece of music for a different instrument, voice, or group of these.

8.(2) Concentrated means wholly directed to one thing; intense. Condensed means made denser or more concise; compressed or concentrated. Therefore both are similar in meaning.
Critical means expressing adverse or disapproving comments or judgments.
Unyielding means (of a mass or structure) not giving way to pressure; hard or solid.

9.(2) Upturn means an improvement or upward trend, especially in economic conditions or someone's fortunes. Plummet means a steep and rapid fall or drop. Hence both are opposite in meanings.
Agitation means a state of anxiety or nervous excitement.
Transpose means cause (two or more things) to exchange places.
Convulsion means a violent social or political upheaval.

10.(4) Periphery means the outer limits or edge of an area or object. Axial means relating to or forming an axis. Hence both are opposite in meanings.
Selvage means an edge produced on woven fabric during manufacture that prevents it from unraveling.
Ecliptic means a great circle on the celestial sphere representing the sun's apparent path during the year, so called because lunar and solar eclipses can only occur when the moon crosses it.
Arsenal means an array of resources available for a certain purpose.

11.(1) Accretion means growth or increase by the gradual accumulation of additional layers or matter.
12.(4) Pliable means easily bent; flexible.
13.(5) Feudal means absurdly outdated or old-fashioned.
14.(2) Precept means a general rule intended to regulate behaviour or thought.
15.(1) Bonhomie means cheerful friendliness; geniality.
16.(2) The use of "back" after "returned" is not required as it is Superfluous. The word " return" itself means " go back, come back, give back".
17.(1) Replace 'than' by 'as' as in the case of Positive Degree, comparison between two persons or things follows the following syntax- " as/so + Positive Degree + as".
e.g. Ram is not as/so handsome as Mohan.
Sita is as beautiful as Mohini.
18.(4) Replace 'has' by 'have' as in this case "The majority" is used as Noun of Multitude and Noun of Multitude is considered as Plural which takes *Plural Verb* and Plural Pronoun. Also, the last part of the sentence has used the Plural Pronoun " they", so the Verb for "The majority" should also bePlural.
19.(3) Replace "there has not always been schools" by "there have not always been schools" as when "there" is used as Introductory Subject then the Verb it follows depends on the Number and Person of
subsequent Noun and Pronoun it follows. In the first part of the sentence, the use of Verb "has" for the Subject "There" is Singular as it is followed by Singular Noun " form" but in the second part of the sentence, Subject "there" is followed byPlural Noun " schools"; so "there" should be followed by Plural Verb.
20.(5) All the given sentences are grammatically correct.
21.(3) "expected to benefit" is the correct phrase to make the sentence meaningful.
22.(1) The word "maintenance" fits into the sentence more appropriately.
23.(4) "estimates" is the correct word that makes the sentence both meaningful and grammatically correct. Also, the verb used in this case should be singular as the subject is singular.
24.(5) "costing" is the correct usage as it means estimating the price of.
25.(3) "disappointing" is the word which suits the most to the sentence structure as it means failing to fulfill someone's hopes or expectations.
26.(2) "collection" is the correct usage as it means the action or process of collecting someone or something.
27.(5) "industry" is the correct usage as the sentence talks about the multiplex companies considering as one.
28.(1) "hit" is the correct usage as it means an instance of striking or being struck.
29.(4) "composition" is the correct usage as it means a thing composed of various elements.
30.(2) "negatively" is the correct usage as it means in a way that is not desirable or optimistic.
31.(2) The pattern of the number series is as given below:
$958 - 833 = 125$
$833 - 733 = 100$
$733 - 658 = 75$
$658 - 608 = 50$
$\therefore ? = 608 - 25 = 583$
32.(4) The pattern of the number series is as given below:
$11 \times 1 - 1 = 10$
$10 \times 2 - 2 = 18$
$18 \times 3 - 3 = 51$
$51 \times 4 - 4 = 200$
$200 \times 5 - 5 = 995$
$\therefore ? = d$
33.(1) The pattern of the number series is as given below:
$25 \times 2 - 2 = 50 - 2 = 48$
$48 \times 2 - 2 = 96 - 2 = 94$
$94 \times 2 - 2 = 188 - 2 = 186$
$186 \times 2 - 2 = 372 - 2 = 370$
$370 \times 2 - 2 = 740 - 2 = 738$
34.(2) The pattern of the number series is as given below:
$14 + 10 = 24$
$24 + 19 (= 10 + 9) = 43$
$43 + 28 (= 19 + 9) = 71$
$71 + 37 (= 28 + 9) = 108$
$108 + 46 (= 37 + 9) = 154$
35.(5) The pattern of the number series is as given below:
$144 + 29 = 173$
$173 - 33 = 140$
$140 + 29 = 169$
$169 - 33 = 136$
$136 + 29 = 165$
36.(1) No. of girls who passed from Class VII $= \frac{75}{100} \times \frac{3}{7} \times 140 = 45$
No. of boys who passed from Class VII $= \frac{65}{100} \times \frac{4}{7} \times 140 = 52$
Total students passed = 45 + 52 = 97
Req. ratio $= \frac{97}{140 - 97} = \frac{97}{43}$
37.(2) Let, the no. of boys and girls in class VIII be x and y respectively.
Total students who passed from class VIII $= \frac{7}{5} \times 150 = 70$
Now, $\frac{50}{100} \times x + \frac{40}{100} \times y = 70$
or, $\frac{x}{2} + \frac{2}{5} y = 70$ ... (i)
also, $x = 150 - y$
or, $\frac{150 - y}{2} + \frac{2}{5} y = 70$
or, $750 - 5y + 4y = 700$
or, $y = 50$
Hence, No. of boys = 150 – 50 = 100
38.(3) No. of girls who passed the exam from class IX $= \frac{50}{100} \times \frac{3}{5} \times 180 = 54$
No. of girls who passed the exam from class IX $= \frac{8}{9} \times 54 = 48$
No. of boys who passed from class XI $= \frac{9}{13} \times 130 - 48$
$= 90 - 48$
$= 42$
No. of boys who failed from class XI $= \frac{7}{13} \times 130 - 42$
$= 70 - 42$
$= 28$
39.(4) Required ratio $= \frac{\frac{2}{3} \times \frac{9}{17} \times 170 + \frac{4}{5} \times \frac{8}{17} \times 170}{\frac{3}{4} \times \frac{3}{7} \times 140}$
$= \frac{60 + 64}{45}$
$= \frac{124}{45}$
40.(1) Total no. of boys $= 72 \times \frac{100}{80} = 90$
Total no. of girls = 150 – 90 = 60
No. of girls who passed the exam $= \frac{17}{25} \times 150 - 72 = 30$
Req. % $= \frac{30}{60} \times 100 = 50\%$
41.(5) Total population is A = 12 lakh
Total population is B = 13 lakh
Total population is C= 13 lakh
Total population is D = 13 lakh
Total population is E = 14 lakh
Lowest or min. Population is in A city
42.(4) Total population in A [after increment] = 7 lakh × 1.1 + 5 lakh = 12.7 lakh
Total population in B [after increment] = 5 lakh × 1.2 + 8 lakh = 14 lakh
Desired difference = 1.3 lakh

43.(3) Average no. of males in B, C, D is $= \frac{5\text{ lakh}+7\text{ lakh}+10\text{ lakh}}{3}$

$= \frac{22\text{ lakh}}{3}$

Average no. of females in C, D, E $= \frac{6\text{ lakh}+3\text{ lakh}+6\text{ lakh}}{3}$

$= \frac{15\text{ lakh}}{3}$

Deserved ratio $= \frac{22/3}{15/3} = \frac{22}{15}$

44.(2) Total no. of females

$= (5+8+6+3+6)$ lakh

$= 28$ lakh

Total population = $(12+13+13+13+14)$ lakh

= 65 lakh

% of females $= \frac{28}{65} \times 100 \approx 43\%$

45.(4) Increment is in the total population, since we don't know increment in population of male or female, so we can't find out the ratio.

46.(1) Ratio of efficiency of A and B is 4 : 3

Let in one day A does $4x$ unit of work and

In one day B does $3x$ unit of work

In 30 days 60% work is completed.

So, in 50 days whole work will be completed.

In 2 day $7x$ unit is completed so in 50 days

$= 50 \times \frac{7x}{2}$ unit done

Whole work is completed by A in $= \frac{50 \times 7x}{4x \times 2} = \frac{175}{4}$ days

47.(1) When move in same direction

Then,

$\frac{100}{x-y} = 25$

or $x - y = 4$ ... (i)

When move towards each other

$\frac{100}{x+y} = \frac{1}{5} \times 25$

$x + y = 20$ ... (ii)

Solving (i) and (ii)

$x = 12$ km/hr.

$y = 8$ km/hr.

48.(3) Let shopkeeper has 4 kg of pure rice & 1 kg of impure rice and Let cost price of pure rice and impure rice is be 10 Rs/kg and 5 Rs/kg

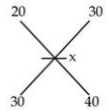
So overall C.P. for shopkeeper = 4 × 10 + 5 × 1 = 45 Rs.

But he sell all 5 kg at C.P. of pure rice = 5 × 10

= 50 Rs.

% profit $= \frac{5}{45} \times 100 = \frac{100}{9}\%$

49.(5)



$\frac{30-x}{x-20} = \frac{3}{4}$, $120 - 4x = 3x - 60$, $7x = 180$, $x = \frac{180}{7}$

So, selling price should be $= \frac{140}{100} \times \frac{180}{7} = \frac{7}{5} \times \frac{180}{7} = 36$ Rs./kg.

50.(2) Let A and B can complete work in $4x, 5x$ days respectively

So, According to question

$\frac{6}{4x} + \frac{8}{5x} = \frac{31}{100}$, $\frac{30+32}{20x} = \frac{31}{100}$, $\frac{62}{20x} = \frac{31}{100}$, $x = 10$

They both will complete the work in $= \frac{4 \times 5 \times 10 \times 10}{4 \times 10 + 5 \times 10} = \frac{40 \times 50}{90}$

$= \frac{200}{9}$ days

51.(2) P — 45000×12

Q — 54000×6

R — 30000×8

Ratio of their profit = 45 : 27 : 20

$\therefore$ Total profit earned $= \frac{92}{45} \times 13500$

$= 27600$

52.(4) Principal $= \frac{S.I. \times 100}{Time \times Rate}$

$= \frac{7200 \times 100}{6 \times 12} =$ Rs. 10000

$\therefore C.I. = P\left[\left(1 + \frac{R}{100}\right)^T - 1\right]$

$= 10000\left[\left(1 + \frac{5}{100}\right)^2 - 1\right]$

$= 10000\left[\left(\frac{21}{20}\right)^2 - 1\right]$

$= 10000\left(\frac{441}{400} - 1\right)$

$= \frac{10000 \times 41}{400} = Rs.1025$

53.(1) Suppose the fraction is $\frac{x}{y}$

$\therefore \frac{x+3x}{y+y} = \frac{30}{19}$

$\frac{4x}{2y} = \frac{30}{19}$

$76x = 60y$

$\frac{x}{y} = \frac{60}{76} = \frac{15}{19}$

54.(1) Suppose the age of daughter $= x$ yr

Age of Meena = $8x$ yr

After 8 yr,

$\frac{8x+8}{x+8} = \frac{10}{3}$

$24x + 24 = 10x + 80$

$24x - 10x = 80 - 24$

$14x = 56$

$x = 4$

So, the age of Meena = $8x = 8 \times 4 = 32$ yr

55.(3) Difference of ratio of B and C = 2 unit

$\therefore$ 2 unit = 4000 or 1 unit = Rs. 2000

Now, total amount received by A and B together = 8 × 2000 = Rs. 16,000

56.(3) (i) $4x^2 - 17x + 18 = 0$

$4x^2 - 9x - 8x + 18 = 0$

$x[4x-9] - 2[4x-9] = 0$

$[4x-9][x-2] = 0 \Rightarrow x = 2, \frac{9}{4}$

(ii) $2y^2 - 11y + 15 = 0$

$2y^2 - 5y - 6y + 15 = 0$

$y[2y-5] - 3[2y-5] = 0$

$[2y-5][y-3] = 0 \Rightarrow y = 3, \frac{5}{2}$

57.(5) (i) $3x^2 - 18x - 48 = 0$

$\Rightarrow x^2 - 6x - 16 = 0$

$x^2 - 8x + 2x - 16 = 0$

$x[x-8] + 2[x-8] = 0$

$[x+2][x-8] = 0 \Rightarrow x = 8, -2$

(ii) $4y^2 + 8y - 32 = 0$

$\Rightarrow y^2 + 2y - 8 = 0$

$y^2 + 4y - 2y - 8 = 0$

$y[y+4] - 2[y+4] = 0$

$[y+4][y-2] = 0$

$y = -4, 2$

No relation can be established.

58.(4) (i) $3x^2 + 42x + 144 = 0$
$\Rightarrow x^2 + 14x + 48 = 0$
$\Rightarrow x^2 + 8x + 6x + 48 = 0$
$x[x+8] + 6[x+8] = 0$
$[x+8][x+6] = 0$
$\Rightarrow x = -6, -8$

(ii) $4y^2 - 8y = 192$
$y^2 - 2y - 48 = 0$
$y^2 - 8y + 6y - 48 = 0$
$y[y-8] + 6[y-8] = 0$
$[y-8][y+6] = 0$
$\Rightarrow y = 8, -6$
$y \geq x$

59.(5) (i) $x^2 - 19x - 42 = 0$
$x^2 - 21x + 2x - 42 = 0$
$x[x-21] + 2[x-21] = 0$
$[x-21][x+2] = 0$
$x = 21, -2$

(ii) $2y^2 + 38y - 84 = 0$
$2y^2 + 42y - 4y - 84 = 0$
$2y[y+21] - 4[y+21] = 0$
$[y+21][2y-4] = 0$
$y = -21, 2$
No relation can be established

60.(2) (i) $x^{\frac{3}{2}} = 125$
$\Rightarrow x = 25$
(ii) $y^2 + 5y - 750 = 0$
$y^2 + 30y - 25y - 750 = 0$
$y[y+30] - 25[y+30] = 0$
$[y+30][y-25] = 0$
$y = -30, 25$
$x \geq y$

61.(3) $(4 \times 4)^3 \div (512 \div 8)^4 \times (32 \times 8)^4 = (2 \times 2)^{?+4}$
or, $\frac{(4^2)^3 \times (4^4)^4}{(4^3)^4} = (4)^{?+4}$
or, $\frac{4^6 \times 4^{16}}{4^{12}} = (4)^{?+4}$
or, $4^{10} = 4^{?+4}$
or, $? = 6$

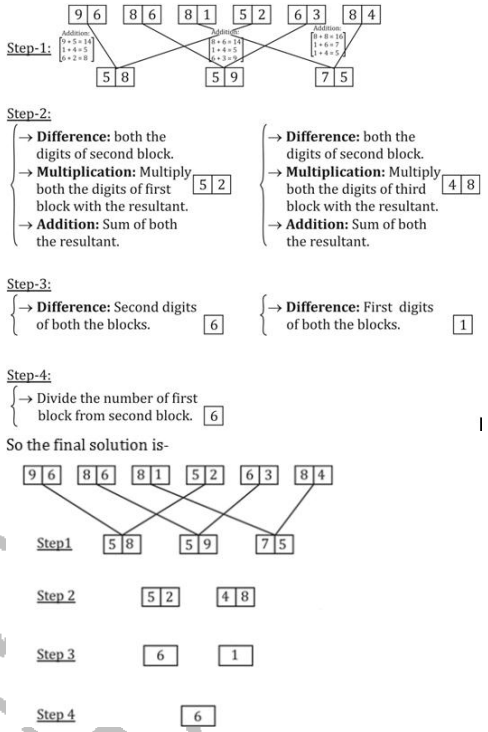
62.(5) $?^2 = 2\sqrt{14 \times 14 \times 2} - 21 + 8 + 49 - 28\sqrt{2}$
$= 28\sqrt{2} - 21 + 57 - 28\sqrt{2} = 36 = 6^2$
$\therefore ? = 6$

63.(1) $1 + \frac{1}{4} + 1 + \frac{1}{6} - 1 - \frac{1}{8} = ? + 1\frac{1}{12}$
$\Rightarrow ? = 1 + \frac{1}{4} + 1 + \frac{1}{6} - 1 - \frac{1}{8} - 1 - \frac{1}{12}$
$= \frac{1}{4} + \frac{1}{6} - \frac{1}{8} - \frac{1}{12} = \frac{6+4-3-2}{24} = \frac{5}{24}$

64.(3) $3420 \times \frac{30}{100} \times \frac{3}{19} = (?)^2 \times 2$
$\Rightarrow 162 = (?)^2 \times 2$
$\Rightarrow (?)^2 = \frac{162}{2} = 81$
$\therefore ? = \sqrt{81} = 9$

65.(2) $\sqrt{3136} \times \frac{65}{100} \times 5 = ? + 154$
$\Rightarrow 56 \times \frac{65}{100} \times 5 = ? + 154$
$\Rightarrow 182 = ? + 154$
$\Rightarrow ? = 182 - 154 = 28$

66-70.



66.(2) 67.(3)
68.(1) 69.(4) 70.(3)
71.(3) 72.(4)
73.(1) 74.(3) 75.(5)

76-80. It is given that their age are considered as on the same month and day of 2027 as their date of births so their ages are-

Year	1994	1956	1977	1982	1992	1999	2002
ages	33	71	50	45	35	28	25

The difference between the ages of H, Who likes Mussoorie and I is twice the square root of the age of one of the persons so $H - I = 2\sqrt{25} = 2*5 = 10$. Hence H or I is either 35 or 45 years old. The Difference between the ages of I and J, who likes Manali is the same same as the number obtained by dividing ages of any of two among the other five persons so there can be two possibilities.

Case 1- when H=35, I=45 then I-J = 2(50/25) hence J's age is either 43 or 47 years but it cannot be possible so this case will be eliminated.

Case 2- when H=45 years, I= 35 years then I-J = 2 hence J's age is 33 years.

The Age of the person who likes Nainital is greatest amongst those whose age is a multiple of five so his age is 50 years. K likes Dharamshala. L does not like either Gangtok or Shimla. I does not like either Manali or Nainital.

Persons	Age	Year	Hill station
	50	1977	Nainital
H	45	1982	Mussoorie
I	35	1992	
J	33	1994	Manali
	71	1956	
	25	2002	
	28	1999	

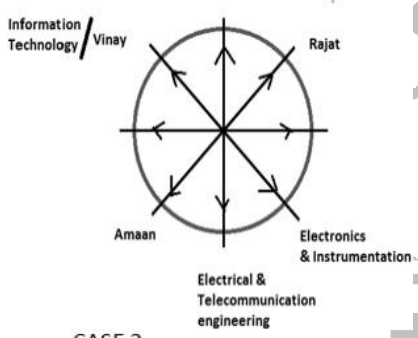
K is older than the person who likes Gangtok, who is not the youngest. So K's age is 71 years. The one who was born in 1992 does not like Gangtok hence the one who was born in 1999 likes Gangtok. L likes hill station which starts from the alphabet D so L likes Darjeeling and was born in 2002. M is younger than H so M likes Gangtok and G likes Nainital.

Persons	Age	Year	Hill station
G	50	1977	Nainital
H	45	1982	Mussoorie
I	35	1992	Shimla
J	33	1994	Manali
K	71	1956	Dharamshala
L	25	2002	Darjeeling
M	28	1999	Gangtok

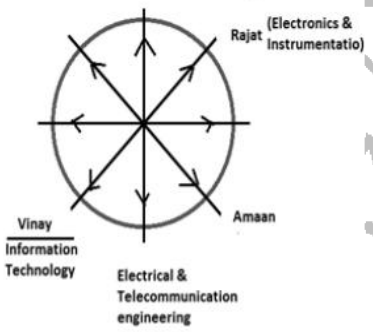
76.(5) 77.(3)
78.(5) 79.(1) 80.(3)

81-85. Step1: From the given definite conditions: - Rajat sits third to the left of the person who studies Electrical & Telecommunication Engineering. . The person who studies Information Technology Engineering sits second to the right of Amaan. Amaan is not an immediate neighbour of Rajat. Amaan does not study Electrical & telecommunication Engineering and Rajat does not study IT. Vinay studies Information Technology. Only one person sits between Amaan and the one who studies Electronics & Instrumentation Engineering. From the above given information there is only two possible place were Amaan can sit.

CASE 1.

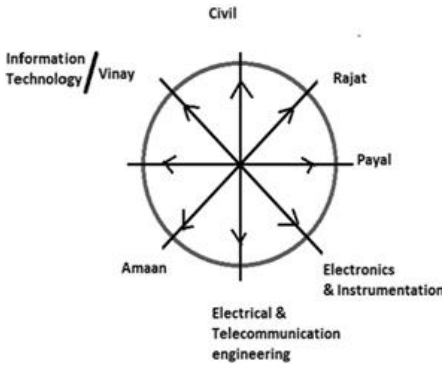


CASE 2.

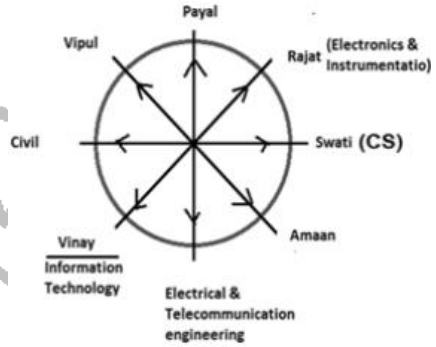


Step 2: Now Payal sits 3rd left Of Amaan. Only one person sits between Payal and the one who studies Civil Engineering. Swati and Payal are not immediate neighbours. Only two students sit between Vipul and Swati. Neither Vipul nor Swati studies Electrical & Telecommunication Engineering. The one who studies EEE sits third to the left of Rahul. So in case 2 there is only one place for Swati and Vipul. The one who studies EEE and the one who studies Electrical & Telecommunication Engineering are not immediate neighbours. Swati studies computer science Engineering. So in the case 2 if we place Vipul and Swati as per the given condition so there will be no place where we can place the condition For Rahul and the one who studies EEE. Hence case 2 will be eliminated.

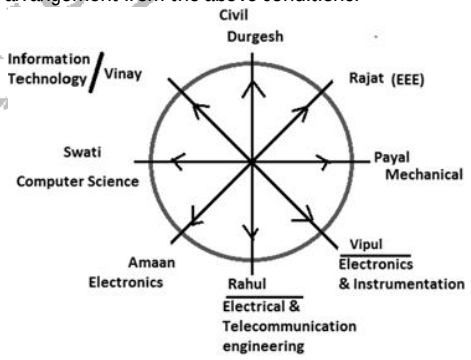
Case 1.



Case 2.



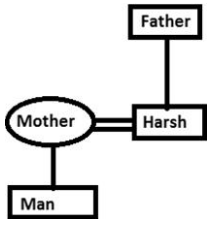
Step 3. So now in case-1 from the statements mentioned in Step 2, There is only one place for Rahul that is Rahul Studies Electrical and Telecommunication Engineering. As Swati and Payal are not the immediate neighbour then Vipul sits to the immediate right of Payal and studies in El Engineering. Now Swati will sit to the immediate right of Amaan and studies Computer Science engineering as because Computer science and Electronics Engineering Students are immediate neighbour and Amaan does not study in Computer science stream. Payal will study in Mechanical stream and Durgesh will study in Civil Stream. Hence we get our final sitting arrangement from the above conditions.



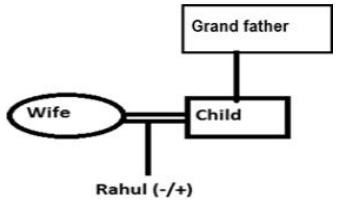
81.(4) 82.(1)
83.(3) 84.(5) 85.(4)

86.(3) As the code for constitutional is 'Ko' and the code for "of" is la. Hence the code of "evolution" is sha.

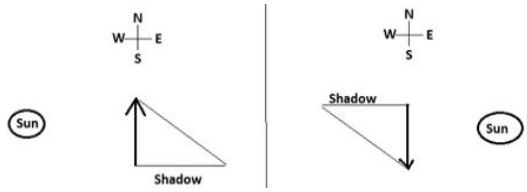
87.(5)



88.(4)



89.(5) There are two possible cases when the boy walking towards north and sun is in west direction than the shadow



90.(1) As it is given that B is greater than only D (B > D). And A is greater than B and C but A is not the lengthiest, hence we can deduce the following results from the given statements
E > A > C > B > D

91-95. In this floor based arrangement, we can see that, Q sits one of the odd numbered floor above the floor number 5 and his age is 31yr. There are 2 floors between Q and the person whose age is 55yr. Both vacant floors are even numbered floors. Floor number 8 is not the vacant floor. The number of floors between Q and T is same as between Q and P. P's age is perfect square.

Note: In above given condition, Q can be seated at 7th floor or 9th floor, but there is one condition that, the number of floors between Q and T is same as between Q and P. From this, Q cannot be sit at 9th floor. So Q will sit at 7th floor.

Since both vacant floor is even numbered floor and 8th floor is not vacant, so vacant floor will be 2nd and 6th floor. Now there are two cases, in which T and P can be seated at 9th and 5th floor.

Case 1

Floors	Person	Age
9	T	
8		
7	Q	31
6	Vacant	
5	P	25/81/9
4		55
3		
2	Vacant	
1		

Case 2

Floors	Person	Age
9	P	25/81/9
8		
7	Q	31
6	Vacant	
5	T	
4		55
3		
2	Vacant	
1		

Now, there is a condition, in which, difference between the age of the person who lives on top floor and ground floor is 15yrs. There is 1 person live between Q and S, whose age is an odd number. So S will be at 4th floor.

But for the difference purpose, there is only one case whose age is 24 and 9 yrs. So At top and bottom floor, those persons live whose age is 24 and 9 yrs and the age of U is square of the age of R who does not live an even numbered floor. There is only one case that is 9rs and 81 yrs. Then R will be 9 yrs old and U's age will be 81 yrs old. From this, the case 2 will be eliminated. Only Case 1 will continue. And R can't be live at top most floor since only T live at top floor that means R will live at bottom most floor and T will be 24 yrs old. So T can't be 9yrs old.

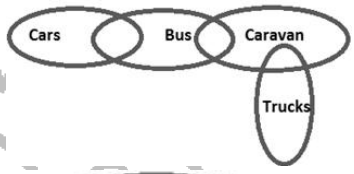
Floors	Person	Age
9	T	24
8		
7	Q	31
6	Vacant	
5	P	25/81
4	S	55
3		
2	Vacant	
1	R	9

U's age is 81yr and V's age is 27yr, but both can live on either 8th or 3rd floor and then P will be 25 yrs old.

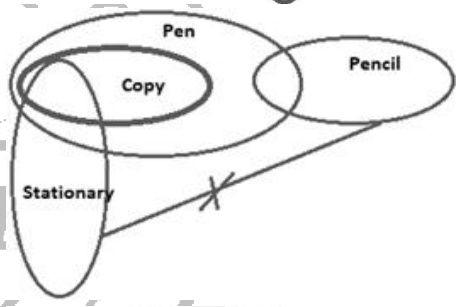
Floors	Person	Age
9	T	24
8	V/U	27/81
7	Q	31
6	Vacant	
5	P	25
4	S	55
3	U/V	81/27
2	Vacant	
1	R	9

91.(4) 92.(1)
93.(3) 94.(5) 95.(3)

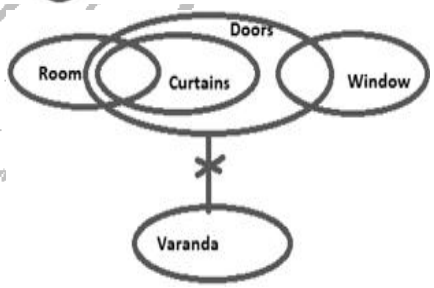
96.(5)



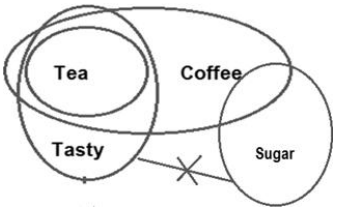
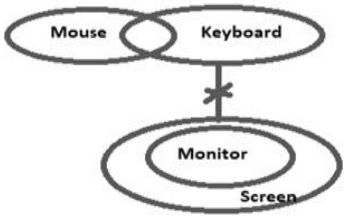
97.(3)



98.(2)



99.(3)



100.(3)