# IBPS PO Preliminary Grand Test –IPP-180810
# HINTS & SOLUTIONS

## ANSWER KEY

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

## HINTS & SOLUTIONS

1. (5) We can deduce our answer from referring to first paragraph of the passage.
In the first paragraph it is mentioned, that combination of art and science is ubiquitous, used in a variety of everyday products. Furthermore there is an increasing prevalence of software in traditional manufacturing industries, at the cost of traditional processes like mechanical and chemical engineering, to develop and innovate products.
Hence all the options are correct.

2. (2) The growing use of software in manufacturing industries has been discussed in second paragraph of the passage.
All the given sentences except sentence (a) comply with the context of the paragraph 2.
Hence option (b) is the most appropriate choice.
Refer the lines "… More importantly, the share of patents citing previous software patents has also doubled over this period."
"Up to 40% of the cost of a new car is determined by electronics and software content, and most premium cars are equipped with 70-80 microprocessors."
"More than 50% of medical devices contain software, with a modern pacemaker containing up to 80,000 lines of computer code. "

3. (3) We can deduce our answer from paragraph 3 in which it has been mentioned that US firms are more software-intensive than any other developed country due to availability of talented and inexpensive software engineers. Hence, we can say that software- intensive firms is proportional to talented human resources proving option (c) as correct.
Refer the lines "… Armed with the fact that US firms tend to be much more software-intensive than European and Japanese firms, the researchers argue that availability of talented human resources is a crucial reason why this phenomenon exists…"

4. (4) "The role of software in manufacturing in India" is an appropriate title of the passage.

5. (5) Refer the paragraph 5 which mentions that India's growth in manufacturing depends on how it adopts software and technology. Growth in manufacturing will ultimately make the GDP grow and raising patent filing means raising software- intensive firms. Moreover, the role of skilled professional is also essential for letting an economy grow. Also in the paragraph 4, it is given that The relationship between growth of patent filing by Indian citizens and growth in gross domestic product shows a positive correlation.
Hence, we can conclude that all the sentences (a), (b) and(c) are correct.
Refer the lines "India's quest to become a manufacturing powerhouse will, to a large extent, depend on how it embraces software and technology."
"The US has earned great dividends by attracting and retaining the top software talent from India, and around the world, through its prestigious universities and attractive STEM (science, technology, engineering and mathematics) visa programmes."

6. (2) Sentence (b) is correct in context of the passage.
Refer the lines "The Boeing 777 contains no less than 1,280 on-board processors that use more than four million lines of computer code." Paragraph 3 mentions that US is the largest software intensive firm in the world and not Japan. Hence only option (b) is the answer.

7. (4) Tandem means move as a team or company. Hence it has same meaning has lineup.
Surplus means more than what is needed or used; excess.
Rival means a person or thing competing with another for the same objective or for superiority in the same field of activity.

8. (1) Ubiquitous means present, appearing, or found everywhere. Hence it has same meaning as pervasive and omnipresent.
Concoction means a mixture of various ingredients or elements.
Taper means diminish or reduce in thickness towards one end.

9. (4) Plummeted means decrease rapidly in value or amount. Hence it is opposite in meaning to ascend.
Dissuade means persuade (someone) not to take a particular course of action.
Plunge means push or thrust quickly.
Copious means abundant in supply or quantity.

10. (1) Embrace means accept (a belief, theory, or change) willingly and enthusiastically. Hence it is opposite in meaning to repudiate and reject.
Reticent means not revealing one's thoughts or feelings readily.
Nuance means a subtle difference in or shade of meaning, expression, or sound.

11. (3) The most suitable combination of words to fill the given blanks of both the sentences is (C)-(D). 'Disposition' is a noun which means a person's inherent qualities of mind and character. Since, it is a synonym of 'personality, option (c) becomes the most viable answer choice.
Composition means the nature of something's ingredients or constituents; the way in which a whole or mixture is made up.
Complexion means the natural colour, texture, and appearance of a person's skin, especially of the face.

12. (4) The most suitable combination of words that precisely fits the given blank of the sentences is (A)-(C). 'Finesse' is a noun which means impressive delicacy and skill. Since, 'skill' is the synonym of 'finesse' option (d) becomes the most viable answer choice.
Impotence means inability to take effective action; helplessness.

13. (2) The most suitable combination of words that precisely fits the given blank of the sentences is (B)-(D). 'Requite' is a verb which means make appropriate return for (a favour, service, or wrongdoing). Moreover, 'reciprocate' means respond to (a gesture or action) by making a corresponding one. Therefore, both the words fill appropriately in the grammatical syntax and context of the sentence. All the other options fail to make the sentence coherent. Hence, option (b) is the most suitable answer choice.

14. (1) The most suitable combination of words that precisely fits the given blank of the sentences is (B)-(C). 'Disparage' is a verb which means to regard or represent as being of little worth. Moreover, 'belittle' means to dismiss (someone or something) as unimportant. Therefore, both the words fill appropriately in the grammatical syntax and context of the sentence. All the other options fail to make the sentence coherent. Hence, option (a) is the most suitable answer choice.
Commend means praise formally or officially.

15. (3) The most suitable combination of words that precisely fits the given blank of the sentences is (A)-(B). 'Delusion' is a noun which means an idiosyncratic belief or impression maintained despite being contradicted by reality or rational argument, typically as a symptom of mental disorder. Moreover, 'fallacy' means a mistaken belief, especially one based on unsound arguments. Therefore, both the words fill appropriately in the grammatical syntax and context of the sentence. All the other options fail to make the sentence coherent. Hence, option (d) is the most suitable answer choice.

16. (2) The most suitable idiom that should replace the word given in bold is "Hang in there" '*Hang in there'* is used *when you want to encourage someone to continue with something even if it is difficult.* Moreover, '*persistent'* means *continuing firmly or obstinately in an opinion or course of action in spite of difficulty or opposition.* Therefore, all the other sentences with highlighted idioms fail to provide the precise meaning of the given word. Since, 'Hang in there' can be used interchangeably with 'persistent' *, option (b)* becomes the most suitable answer choice.
*Break a leg* means good luck!
*Hit the sack* means go to bed.

*Bite the bullet* means decide to do something difficult or unpleasant that one has been putting off or hesitating over.

17. (1) The most suitable idiom that should replace the word given in bold is "on the ball". *When someone is 'on the ball' means, they are very alert and aware of what is happening.* Moreover *, 'responsive' means reacting quickly and positively.* Therefore, all the other sentences with highlighted idioms fail to provide the precise meaning of the given word. Since, 'on the ball' can be used interchangeably with 'responsive', *option (a)* becomes the most suitable answer choice.
*Miss the boat* means to be too slow to take advantage of an opportunity
*To pull yourself together* means to recover control of one's emotions.
*Wrap my head around* means to find a way to understand or accept (something).

18. (3) The most suitable idiom that should replace the word given in bold is "an apple of discord". *'Apple of discord'* is used to refer *something that causes trouble or unhappiness or conflict and dispute.* Moreover, *'contention'* means *a heated disagreement.* Therefore, all the other sentences with highlighted idioms fail to provide the precise meaning of the given word. Since, 'an apple of discord' can be used interchangeably with 'contention', *option (c)* becomes the most suitable answer choice.
*Bird's eye view* means a general view from above.
*Yeoman's service* means efficient or useful help in need.
*Greenhorn* means a person who is new to or inexperienced at a particular activity.

19. (4) The most suitable idiom that should replace the word given in bold is "playing truant". ' *Playing truant'* is used *to refer (of a pupil) stay away from school without leave or explanation.* Moreover, *'ditch'* means *to get rid of or give up.* Therefore, all the other sentences with highlighted idioms fail to provide the precise meaning of the given word. Since, 'playing truant' can be used interchangeably with 'ditch', *option (d)* becomes the most suitable answer choice.
*Throw up sponge* means to give up a contest; to acknowledge defeat
*A bull in a china shop* means a person who breaks things or who often makes mistakes or causes damage in situations that require careful thinking or behavior.
*Into the red* means a situation in which you are not making enough money.

20. (5)

21. (5) There is no error in the given statement.

22. (1) The error is in part (a) of the sentence.
'Fortunately,' will be used at the start of the sentence because the adverb which tells us about the specialty of the sentence is used generally at the start of the sentence.
Example-----
**Unfortunately**, he was wounded in the war.

23. (3) The error is in part (c) of the sentence.
Remove 'had' as we need to use only simple past.
The work which is completed first must be written in Past Perfect i.e., (subject +had + v3 ) which becomes THE TRAIN HAD LEFT.
The work which is completed after must be written in SIMPLE PAST i.e., (subject+ v2 + object ) which becomes HE REACHED THE STATION.

24. (5) There is no error in the given statement.

**25. (3)** There is an error in part (c) of the sentence.
The use of "equally" is superfluous as "as successful as" implies the same meaning.

**26. (3)** The bold word "undermined" doesn't fit in the context of the paragraph as it is describing about the constitutional rights and those rights are guaranteed by the constitution not undermined. Hence, "undermined" should be replaced by "guaranteed" which means a formal assurance (typically in writing) that certain conditions will be fulfilled. Thereby, option (c) becomes the most suitable answer choice.

**27. (4)** The word "obeyed" fails to provide the precise meaning to the paragraph as it can be seen in the passage that someone has been alleged by the police of something (following Maoist ideology in this case), so for a person who has been alleged would have violated the law, not obeyed it. Therefore, the word "obeyed" which means comply with a law or authority should be replaced by "violated" which means break or fail to comply with (a rule or formal agreement). All the other words given in bold cater the absolute meaning to the theme of the paragraph. Hence, option (d) is the most feasible answer choice.

**28. (5)** All the words given in bold are grammatically correct and contextually meaningful. The given set of words provides complete coherence to theme of the paragraph. Therefore, option (e) is the most suitable answer choice.

**29. (2)** The word "enhanced" fails to provide the precise meaning to the paragraph as it has been clearly mentioned before that the Maoists are powerful threat and those who are threat do not enhance the resources, they damage it. Therefore, the word "enhanced" which means to make things better should be replaced by "damaged" which means inflict harm on (something) to impair its value, usefulness, or normal function. All the other words given in bold cater the absolute meaning to the theme of the paragraph. Hence, option (b) is the most suitable answer choice.

**30. (1)** The word "withholds" fails to provide the precise meaning to the paragraph as a strong civil society never withholds political and economic rights, it vouchsafes it. Therefore, the word "withholds" which means refuse to give (something that is due to or is desired by another) should be replaced by "vouchsafes" which means give or grant (something) to (someone) in a gracious or condescending manner. All the other words given in bold cater the absolute meaning to the theme of the paragraph. Hence, option (a) is the most suitable answer choice.

**31. (5)** pattern is
$27 + 11^3 = 1358$
$1358 - 9^2 = 1277$
$1277 + 7^3 = 1620$
$1620 - 5^2 = 1595$
$1595 + 3^3 = 1622$
So, ?$=1620 - 5^2 = 1595$

**32. (2)** Pattern is –
$48 \times 1.5 = 72$
$72 \times 2.5 = 180$
$180 \times 4.5 = 810$
$810 \times 7.5 = 6075$
So,?$= 810 \times 7.5 = 6075$

**33. (1)** Pattern is



**34. (4)** Pattern is



**35. (2)** Pattern is –



**36. (3)** Let total population in village R = 100x
Child population $= \frac{35 \times 100x}{100} = 35x$
Male child population $= \frac{35x \times 60}{100} = 21x$
Female population $= \frac{45 \times 100x}{100} = 45x$
Adult male population $= 100x - 45x - 21x$
$= 34x$
Required % $= \frac{34x}{100x} \times 100 = 34\%$

**37. (4)** Let total population of village P and S be 100x and 100y respectively
Child population in village P and S is 30x and 16y respectively.
ATQ,
$\frac{30x}{16y} = \frac{3}{4}$
$\Rightarrow \frac{x}{y} = \frac{2}{5}$ ...(i)
Male children in village P $= \frac{30x \times 40}{100} = 12x$
male children in village S $= \frac{16y \times 75}{100} = 12y$
Require % $= \frac{12y}{12x} \times 100 = \frac{y}{x} \times 100 = \frac{5}{2} \times 100$
$= 250\%$

**38. (1)** Let population of village T = 100x
Population of village U = 120x
Required ratio $= \frac{\frac{100x}{100} \times 40}{\frac{120x}{100} \times 20} = \frac{40x}{24x} = \frac{5}{3}$

**39. (5)** Female population in village Q
$= \frac{6400 \times 48}{100} = 3072$
Female children in village Q
$= \frac{6400 \times 25}{100} \times \frac{20}{100} = 320$
Adult females = 3072 – 320 = 2752

**40. (2)** Let number of children in village S and R is x
Total population of S $= \left(\frac{x}{75} \times 100\right) \times \frac{100}{16} = \frac{25}{3}x$
Total population of R $= \left(\frac{x}{60} \times 100\right) \times \frac{100}{35} = \frac{100}{21}x$
Required % $\Rightarrow \frac{\left(\frac{25x}{3} - \frac{100x}{21}\right) \times 100}{\frac{100x}{21}} = 75\%$

**41. (4)** Let radius of circle = r
So, Area = $\pi r^2$
If 64% Area decreases
so, new area $= \frac{(100 - 64)\pi r^2}{100}$
Let now radius = R
$\Rightarrow \pi R^2 = \frac{36}{100}\pi r^2$
R= 0.6r
Decrease in radius $= \frac{(r - 0.6r)}{r} \times 100 = 40\%$

**42. (5)** Let cost price of the article = 100x

So, mark price = 140x

Selling price = $\frac{140x \times 80}{100}$ = 112x

Profit % = $\frac{112x - 110x}{100x} \times 100$ = 12%

**43. (1)** Let speed of boat in still water be = x

And speed of stream be y

Distance = D

ATQ,

$2\left(\frac{D}{x+y}\right) = \frac{D}{x-y}$

$2x - 2y = x + y$

$x = 3y$

Speed of stream = y

Speed of boat in upstream = $x - y = 3y - y = 2y$

Required % = $\frac{y}{2y} \times 100$ = 50%

**44. (3)** Initially total mixture = 1 liter

Milk = $\frac{1}{3}$ liter

Water = $\frac{2}{3}$ liter = $66\frac{2}{3}$%

Let x liter milk is added in the mixture

due to which water become $44\frac{4}{9}$%

ATQ,

$(1+x)$ of $44\frac{4}{9}\% = 1 \times 66\frac{2}{3}\%$

$x = \frac{1}{2}$ ltr

**45. (1)**

Total number → 1, 2, 3, 4, 5, 6, 7, 8, 9

No. of way to choose 3 odd and 3 even

Number is → $^5C_3 \times {}^4C_3$

The possible way

E → EVEN, O → ODD

(i) → OEEOEO

(ii) → OEOEEO

Total number of ways = $5_{C_3} \times 4_{C_3} \times (3!\times 3! + 3!\times 3!)$

=2880

**46. (5)** I. $4x^2 - 7x - 15 = 0$

$\Rightarrow 4x^2 - 12x + 5x - 15 = 0$

$\Rightarrow 4x(x-3) + 5(x-3) = 0$

$\Rightarrow (4x+5)(x-3) = 0$

$\Downarrow \qquad \Downarrow$

$x = \frac{-5}{4} \qquad x = 3$

II. $9y^2 + 33y + 18 = 0$

$\Rightarrow 9y^2 + 27y + 6y + 18 = 0$

$\Rightarrow 9y(y+3) + 6(y+3) = 0$

$\Downarrow \qquad \Downarrow$

$y = -3 \quad , \quad y = \frac{-2}{3}$

∴ no relation

**47. (4)** I. $x^2 = 169$

$\Rightarrow x = \pm 13$

II. $y^2 = 26y - 169 = 0$

$\Rightarrow y^2 - 26y + 169 = 0$

$\Rightarrow y = 13$

$\boxed{x \le y}$

**48. (4)** I. $x^2 = 529$

$\Rightarrow x = \pm 23$

II. $y = \sqrt[3]{12167}$

$y = 23$

$y \ge x$

**49. (5)** I. $11x^2 + 19x - 6 = 0$

$\Rightarrow 11x^2 + 22x - 3x - 6 = 0$

$\Rightarrow (11x - 3)(x + 2) = 0$

$\Downarrow \qquad \Downarrow$

$x = \frac{3}{11} \qquad x = -2$

II. $4y^2 + 12y = 16$

$\Rightarrow 4y^2 + 12y - 16 = 0$

$\Rightarrow (4y - 4)(y + 4) = 0$

$\Downarrow \qquad \Downarrow$

$y = 1 \qquad y = -4$

no relation

**50. (3)** I. $12x^2 - 7x = -1$

$\Rightarrow 12x^2 - 7x + 1 = 0$

$\Rightarrow 12x^2 - 4x - 3x + 1 = 0$

$\Rightarrow 4x(3x - 1) - 1(3x - 1) = 0$

$\Rightarrow (4x - 1)(3x - 1) = 0$

$\Downarrow \qquad \Downarrow$

$x = \frac{1}{4} \qquad x = \frac{1}{3}$

II. $6y^2 - 7y + 2 = 0$

$\Rightarrow 6y^2 - 4y - 3y + 2 = 0$

$\Rightarrow 2y(3y - 2) - 1(3y - 2) = 0$

$\Rightarrow (2y - 1)(3y - 2) = 0$

$\Downarrow \qquad \Downarrow$

$y = \frac{1}{2} \qquad y = \frac{2}{3}$

$\boxed{y > x}$

**51. (2)** The average of monthly expenditure on flour, rice and oil

$= \frac{(35+25+12.5) \times \frac{125000}{100}}{3}$ = Rs. $\frac{90625}{3}$

Total monthly expenditure on oil and salt together

$= \frac{(12.5+12.5)}{100} \times 125000$

= Rs. 31,250

Required percentage = $\frac{31250 - \frac{90625}{3}}{31250} \times 100$

$= \frac{\frac{3125}{3}}{3 \times 31250} \times 100$

$= \frac{10}{3}\%$

$= 3\frac{1}{3}\%$

OR

Required percentage = $\frac{(12.5+12.5) - \frac{(35+25+12.5)}{3}}{(12.5+12.5)} \times 100$

$= \frac{(75-72.5)}{3 \times 25} \times 100$

$= \frac{10}{3}\%$

$= 3\frac{1}{3}\%$

**52. (1)** Monthly expenditure on flour = $\frac{35}{100} \times 1,25,000$ = Rs. 43,750

∴ Total monthly income = 5 × 43,750 = Rs.2,18,750

Total monthly saving = Rs. 2,18,750 – Rs. 1,25,000 = Rs. 93,750

Total monthly expenditure on Rice, flour and sugar together

$= \frac{(75)}{10} \times 125000$ = Rs. 93,750

Required ratio = 1 : 1

**53. (4)** Difference between the monthly expenditure on flour and salt.

$= \frac{22.5}{100} \times 125000$ = Rs. 28,125

Difference between the monthly expenditure on rice and oil

$= \frac{12.5}{100} \times 125000$ = Rs. 15,625

Required percentage = $\frac{28125}{15625} \times 100$ =180%

OR

Required percentage = $= \frac{22.5}{12.5} \times 100$ =180%

**54. (2)** Expenditure on sugar = $15 \times \frac{125000}{100}$ = Rs. 18,750

Quantity of sugar = $\frac{18750}{50}$ = 375 kg

Quantity of flour = $\frac{375}{5} \times 16$ = 1200 kg

Price of flour per kg = $\frac{\frac{35}{100} \times 125000}{1200}$

$= \frac{43750}{1200}$= 36.45 ≈ Rs. 36

**55. (3)** Total monthly expenditure in 2018 = $125000 \times \frac{115}{100}$ = Rs. 1,43,750

Average of monthly expenditure on rice, oil and salt together in 2017

$= \frac{(25+12.5+12.5)\times\frac{125000}{100}}{3}$

= Rs. $\frac{62500}{3}$

Average of monthly expenditure on rice, oil and salt together in 2018

$= \frac{(25+12.5+12.5)\times\frac{143750}{100}}{3}$

= Rs. $\frac{71875}{3}$

Required increment = $\frac{71875}{3} - \frac{62500}{3}$

= Rs. $\frac{9375}{3}$

= Rs. 3125

Or,

We can directly calculate as

$= \frac{25+12.5+12.5}{3\times100} \times (143750 - 125000)$

$= \frac{1}{6} \times 18750 = 3125$

**56. (3)** Let the capacity of the tank be x lit. Then, the rate of leakage

$= \frac{x}{8\times60}$ lit/min.

ATQ,

$x = \frac{x}{8\times60}\times10\times60 - 10\times60\times5$

$\frac{10x}{8} - x = 3000$

$\frac{2x}{8} = 3000 \Rightarrow x = 12000$ lit.

**57. (1)** In sample of 245 ml.

Honey = 245 – 120 = 125

Sugar syrup = 120 ml.

Honey; sugar syrup = 125 : 120

= 25 : 24

ATQ,

$\frac{25}{49} = \left(1 - \frac{14}{x}\right)^2$

Where, x = total capacity

$\Rightarrow \frac{5}{7} = \left(1 - \frac{14}{x}\right)$

$\Rightarrow \frac{14}{x} = \frac{2}{7} \Rightarrow x = 49$ lit.

**58. (5)** Total present age of five employees

= 36 × 5 + 6 × 5 = 180+30 = 210 years

Total present age of all six employee = 42 × 6 = 252

Age of new employee five year ago = (252 – 210) - 5= 37 year

**59. (4)** Let the radius of smaller and bigger circle be 2x cm and 3x cm respectively.

ATQ—

$2\pi 2x + 2\pi 3x = 220$

$2\pi (2x + 3x) = 220$

$5x = \frac{110\times7}{22}$

$5x = 35$

x = 7 cm

radius of smaller circle = 14 cm

radius of larger circle = 21 cm

Required sum of area = $(2 \times 14)^2 + \frac{22}{7} \times 21 \times 21$

= 784 + 1386

= 2170 cm²

**60. (5)** Each equal part = $\frac{540}{3}$ = 180 km

ATQ—

$\frac{180}{x} + \frac{180}{\frac{6x}{5}} + \frac{180}{\frac{3x}{2}} = 7.5$

$\frac{1080+900+720}{6x} = 7.5$

$x = \frac{\frac{2700}{6x}}{7.5\times6}$

x = 60 km/hr

Let the length of train be L meter

And the speed of train = $\left(\frac{6\times60}{5} + \frac{3\times60}{2}\right)$

= (72 + 90)

= 162 km/hr

ATQ—

$162 \times \frac{5}{18} = \frac{L+540}{20}$

L = 900 – 540

L = 360 meters

**61. (4)** $\frac{220}{100} \times 380 + (36)^2 - \frac{?}{100} \times 400 = (24)^2$

$836 + 1296 - 4 \times ? = 576$

$4 \times ? = 2132 - 576$

$? = \frac{1556}{4}$

$? = 389$

**62. (5)** $(39)^2 = ? + (30)^2 - (16)^2 + \frac{56}{100} \times 1400$

$1521 = ? + 900 - 256 + 784$

$? = 1521 - 1428$

$? = 93$

**63. (2)** $(32)^2 + 12 \times 16 - \sqrt{2116} - (?)^2 = (33)^2 - 40$

$1024 + 192 - 46 - (?)^2 = 1089 - 40$

$1170 - 1049 = (?)^2$

$(?)^2 = 121$

$? = 11$

**64. (1)** $\frac{480}{?} = (9)^3 - 15 \times 40 - \frac{10}{100} \times 990$

$\frac{480}{?} = 729 - 600 - 99$

$\frac{480}{?} = 30$

$? = 16$

**65. (4)** $\sqrt{430 + 520 + \sqrt{121}} = (?)^2 + \sqrt{36}$

$\sqrt{430 + 520 + 11} = (?)^2 + 6$

$(?)^2 = 31 - 6$

$(?)^2 = 25$

$? = 5$

**66. (2)** I. E < B (False)    II. B ≥ E (False)
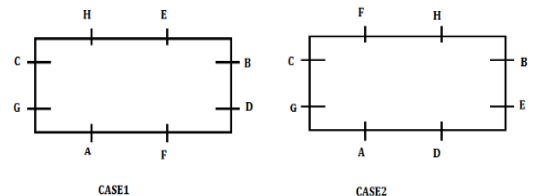
**67. (4)** I. G < C (True)    II. C > T (True)

**68. (3)** I.Y > I (False)    II. Y ≥ B (True)

**69. (1)** I. E < D (True)    II. C > B (False)

**70. (4)** I. J < K (True)    II. S > A (True)

**71-75.** A is immediate right to G, who is on the shorter side of the table. G and A are not arranged on the same side of the table. Three letters are between G and B, who is opposite to C. Vowels are not arranged in front of each other nor are on the same side. D is 3rd left to H. We get two possibilities:



CASE1          CASE2

The letter immediate right to D gets a number which is square of the number. So, in case 1 B and in case 2 E is square of a number but since, E gets a number multiple of 11, Hence, case2 gets eliminated.

The letter immediate right to D gets a number which is a square of the number, which is the square of the number what C got. Only C gets a single digit number. B gets odd number. So, only one case is possible, C --- 3 and B--- 81.

The letters which are immediate right to Vowels get odd multiples of 13, less than 90. So, H and F either gets 13, 39 or 65. H, which gets a number which is LCM of 3 &13, So H ---39. G
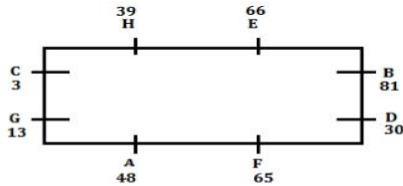
gets a number which is 1/5th of the number what F gets. So , F gets 65 and G gets 13.

E gets an even number. E gets 2nd highest number but lower than the number which B gets and more than the number what F gets(65), So, only possible case is E gets 66. A gets 5th lowest number. A gets a number greater than D but smaller than F. So, A gets number between 39 and 65 (i.e. 40, 48, 56 and 64). D, which is 5/8 of the number which A gets. The difference between the numbers of D and A is equal to between A and E. Now, taking all the possible number attached to (i.e. A=40, 48, 56 and 64) only A=48 satisfies the given equation.

=> E - A = A - D

=> 66 = 2A - D

=> A gets 48 and D gets 30. The final arrangement is:
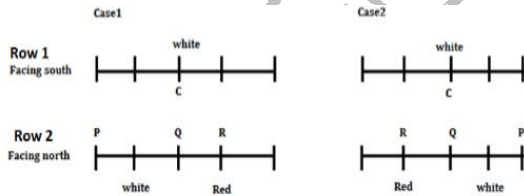


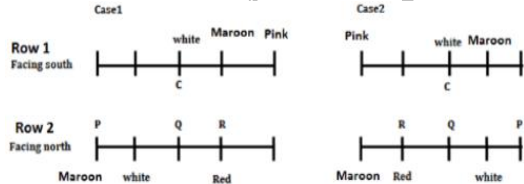71. (2)                72. (4)
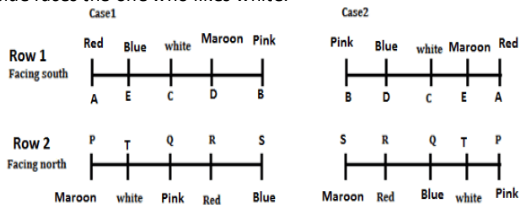73. (5)                74. (1)                75. (4)

**76-80.** P sits at one of the ends. Two persons sit between P and R, who likes red. C likes white and faces Q, who is not neighbor of P. One of the immediate neighbor of the one who likes white in row 2 faces the one who likes white in row 1, we get two possibilities:
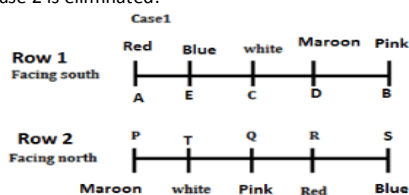


One of the immediate neighbor of R faces the one who likes pink. The one who likes maroon in row1 faces the one who sits 3rd to the right of the one who likes maroon in row2,



Now, no two persons who likes the same colour in row 1 and row2 face each other. E faces T, none of them likes pink. No one sits between D and B, who does not face R. The one who likes blue faces the one who likes white.



Now, it is given that the number of persons sitting between the ones who like blue and pink in row I is more than the number of persons sitting between the ones who like blue and pink in row 2. So, case 2 is eliminated.



76. (4)                77. (3)
78. (4)                79. (3)                80. (1)

**81-85.** Last speech was delivered by the one who was from United Kingdom. F delivered speech just after fourth person. The host country Canada's prime minister is the 6th person to deliver the speech. Not more than one person delivered speech before E, who is from USA. No person delivered speech between E and G. We have two possibilities:

CASE1

| Position | Person | Country |
|----------|--------|---------|
| 1st | E | USA |
| 2nd | G | |
| 3rd | | |
| 4th | | |
| 5th | F | |
| 6th | | Canada |
| 7th | | United Kingdom |

CASE2

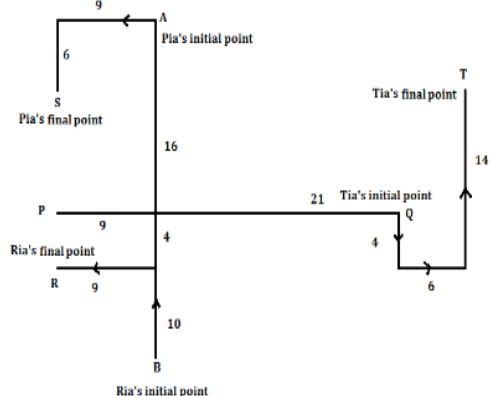| Position | Person | Country |
|----------|--------|---------|
| 1st | G/ | |
| 2nd | E | USA |
| 3rd | G/ | |
| 4th | | |
| 5th | F | |
| 6th | | Canada |
| 7th | | United Kingdom |

Only one person delivered speech between the ones from Italy and France, who did not deliver speech after Italy's prime minister. C, who is from japan delivered speech after the one from France. A, who is from Germany delivered speech on one of the positions before B, who is not from Canada. More than 1 person gave speech between A and B. So, case1 gets eliminated as after placing A and C in case 1 there is no position left to place the speeches delivered by the prime ministers of Italy and France's. So, A delivered speech on the 1st position. The final arrangement is:

| Position | Person | Country |
|----------|--------|---------|
| 1st | A | Germany |
| 2nd | E | USA |
| 3rd | G | France |
| 4th | C | Japan |
| 5th | F | Italy |
| 6th | D | Canada |
| 7th | B | United Kingdom |

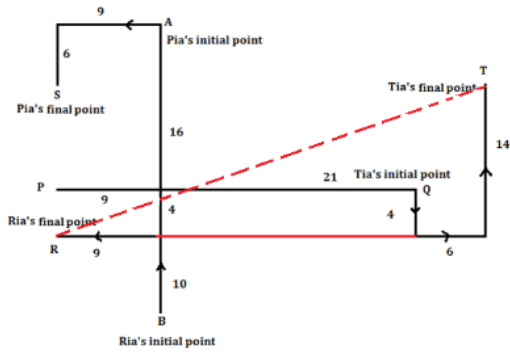81. (3)                82. (1)
83. (5)                84. (5)                85. (2)

**86-88.**



86. (4)    Total distance between point R and the point at which tia took the last left turn= (9+21+6) km = 36 km

The shortest distance between point T and R

$$= \sqrt{(36^2 + 14^2)} \text{ km}$$
$$= \sqrt{(1492)} \text{ km}$$
$$= 38.62$$
$$= 39(approx)$$

**87. (4)**                **88. (3)**

**89-93.** There are three floors between Q and S, who lives on the odd numbered floor. The one who lives on second floor likes Purple color. So, there will be four possible cases;

| Floor | Case 1 Person | Case 1 Color | Case 2 Person | Case 2 Color | Case 3 Person | Case 3 Color | Case 4 Person | Case 4 Color |
|---|---|---|---|---|---|---|---|---|
| 8 | | | | | | | | |
| 7 | Q | | | | | | S | |
| 6 | | | | | | | | |
| 5 | | | Q | | S | | | |
| 4 | | | | | | | | |
| 3 | S | | | | | | Q | |
| 2 | | Purple | | Purple | | Purple | | Purple |
| 1 | | | S | | Q | | | |

Two person lives between O, who likes brown color and Q. More than two persons lives between M and the one who likes brown color. M lives on the even numbered floor and does not like purple color. So, case 4 will be eliminated. Now, only two person lives between R who likes Green color and P. R does not live on an even numbered floor. T lives on one of the floor below N, who likes Black color.

| Floor | Case 1 Person | Case 1 Color | Case 2 Person | Case 2 Color | Case 3 Person | Case 3 Color |
|---|---|---|---|---|---|---|
| 8 | M | | O | Brown | M | |
| 7 | Q | | N | Black | N | Black |
| 6 | N | Black | P | | P | |
| 5 | R | Green | Q | | S | |
| 4 | O | Brown | M | | O | Brown |
| 3 | S | | R | Green | R | Green |
| 2 | P | Purple | T | Purple | T | Purple |
| 1 | T | | S | | Q | |

The one who likes Pink color lives immediately below then one who likes Yellow color. Neither P nor Q likes Yellow color. So, case 2 and case 3 is eliminated. Now, T does not like Red color.

| Floor | Person | Color |
|---|---|---|
| 8 | M | Yellow |
| 7 | Q | Pink |
| 6 | N | Black |
| 5 | R | Green |
| 4 | O | Brown |
| 3 | S | Red |
| 2 | P | Purple |
| 1 | T | Blue |

**89. (4)**                **90. (3)**
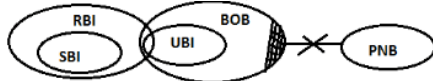
**91. (1)**                **92. (2)**                **93. (5)**
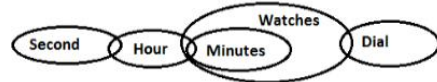
**94. (4)** 

For I- From the venn diagram it is clear that some part of BOB is in RBI. Hence, the conclusion I follows.

For II- Since there is no direct relation between the elements UBI and PNB and only some part of BOB is not PNB. Therefore, we cannot conclude that some UBI is not PNB.

For III- Since it is given that some BOB is not PNB, nothing has been mentioned about some/ all PNB being or not being BOB, hence possibility case will hold true. Hence, the given conclusion is satisfied.
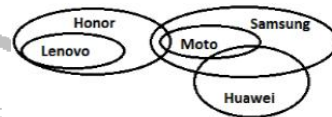
**95. (3)** 

For I- Since there is no direct relation between the elements dial and hour, So, possibility case will hold true. Therefore we can conclude that some dial is not hour is a possibility.

For II- Since there is no direct relation between the elements minutes and second. Therefore, we cannot conclude that some minutes are second.

For III- Since there is no direct relation between the elements watches and second. Therefore, we cannot conclude that all seconds are watches.
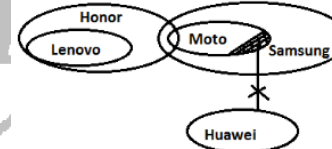
**96. (5)** 

For I- Since there is no direct relation between the elements Lenovo and Huawei. Therefore, we cannot conclude that some Lenovo is Huawei.

For II- From the venn diagram, it is clear that some Samsung is Huawei. Therefore negative case of the same cannot be concluded. Hence conclusion II does not follows.

For III- From the venn diagram , it is clear that all Lenovo is honor. Hence the conclusion some Lenovo is not honor is a possibility cannot be concluded.

**97. (2)** 

For I- Since there is no direct relation between the elements Lenovo and Samsung. Therefore, we cannot conclude that some Lenovo is Samsung.

For II-Since all moto is Samsung and some moto is not Huawei, therefore we can conclude that some Samsung is not Huawei.

For III- Since, there is no relation between Lenovo and Huawei and a negative conclusion with possibility can hold true. Hence, the conclusion III follows.

**98-100.**

| Word | Code |
|---|---|
| Madhya | * |
| Uttar | ! |
| Pradesh | @ |
| Bihar | # |
| Chattisgarh | $ |
| Kerela | & |
| Uttrakhand | % |

**98. (4)**                **99. (4)**                **100. (2)**