

IBPS PO Preliminary Grand Test –IPP-180803

HINTS & SOLUTIONS

ANSWER KEY

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

HINTS & SOLUTIONS

1. (5) All the given statements are grammatically correct and at the same time, they convey the similar meaning. Hence option (5) is the correct choice.
2. (1) Read all the sentences carefully. All the sentences, except for (1), are grammatically correct as well as contextually similar. However, in the case of statement (1), there is a grammatical error. The verb “**are**” is not supporting its subject which is singular [**The level of...**]. It should be replaced by a singular helping verb “**is**” to make the sentence grammatically correct. Hence option (1) is the correct choice.
3. (4) All the sentences, except for (4), are grammatically correct and contextually similar. However, in the case of sentence (4), the use of the verb “**will not**” changes the meaning of the sentence. In the case of other three sentences, there is no surety of change; whereas in the sentence (4), the sentence gives the sense of a change which definitely will not take place. Thus, the sentence is incorrect contextually. Hence option (4) is the correct choice.
4. (3) Read all the sentences carefully. All the sentences, except for (3), are grammatically correct as well as contextually similar. However, in the case of statement (3), the conjunction “**since**” upfront changes the meaning of the sentence. The rest of the three sentences are using the conjunctions “**while**”, “**though**” and “**but**” to bring a contrasting relation between the two statements which isn’t the case if we connect these statements using the conjunction “**since**”. It is to be noted that the conjunction “**since**” is used as the meaning “**for the reason that; because**”. Hence option (3) is the correct choice.
5. (5) All the given statements are grammatically correct and at the same time, they convey the similar meaning. Hence option (5) is the correct choice.
6. (3) The correct sequence of the phrases is ADCE making the sentence meaningful. Phrase (B) does not provide any meaning with respect to the other phrases and hence is irrelevant here. Phrases (A) and (D) can easily be identified as interlinked as it is mentioned in phrase (A) that we become reliant, phrase (D) completes it by providing the object on which we are relied upon. All the other sequences fail to make the sentence comprehensive. Hence option (3) is the correct choice.
7. (1) The different parts of the sentence can be assembled in a sequence of BDAC to make the sentence grammatically correct and contextually meaningful. Part (B) clearly introduces the sentence while part (D), (A) and (C) connect logically with each other and are moulded in an accurate grammatical structure. However, part (E) is superfluous and doesn’t fit in the sentence. Therefore, option (1) becomes the most satisfactory answer choice.
8. (2) The phrases can be arranged in a sequence of CDAB. However, phrase (E) fail to coherently relate with the sentence. Parts (C) and (D) can be contextually linked with each other. Moreover, parts (A) and (B) also form a coherent pair. Hence, by eliminating part (E) option (2) becomes the most suitable answer choice.
9. (5) The given sentence is properly assembled and doesn’t require any changes or restructuring. All the parts of the sentence help to make the sentence comprehensive, logical and grammatically error free. Hence, the correct answer key is option (5).
10. (1) The correct sequence of the phrases to forms a comprehensive sentence is EABC. Clearly, parts (B) and (C) can be interlinked, as ‘deprived’ can relate to ‘dethroned’ using the conjunction ‘and’. Moreover, part (E) is the perfect phrase to become the introduction of the sentence. Hence, option (1) most precisely validate the answer choice.
11. (1) The phrases can be arranged in a sequence of CBED. However, phrase (A) fail to coherently become the part of the sentence. Parts (E) and (D) can be contextually interlinked with each other. Moreover, parts (B) and (E) also form a coherent pair. Hence, by eliminating part (A), option (1) becomes the most suitable answer choice.
12. (4) The correct sequence that makes the sentence grammatically and contextually correct is BACD. This can be verified as the parts (B) and (A) frames a logical pair providing a coherent meaning. None of the given options provides these parts in a consecutive manner. Moreover, part (E) fails to become the part of the sentence in a coherent manner. Hence, option (4) is the most suitable answer choice.

13. (5) The given sentence is properly assembled and doesn't require any changes or restructuring. All the parts of the sentence help to make the sentence comprehensive, logical and grammatically error free. Hence, the correct answer key is option (5).
14. (3) The correct sequence to arrange the sentence properly and meaningfully is BACE. Expression (B) "universities are" can be joined with expression (A) "embedded in society" as they can be contextually related. However, part (D) doesn't belong to the context of the sentence and thus shall be eliminated. Therefore, option (3) is the most suitable answer choice.
15. (4) The correct sequence that makes the sentence grammatically and contextually correct is ADEB. This can be verified as the parts (A) and (B) form a logical pair providing a coherent meaning. None of the given options provides these parts in a consecutive manner. Moreover, part (C) fails to become the part of the sentence in a coherent manner. Hence, option (4) is the most suitable answer choice.
16. (4) Refer the first paragraph of the passage from which we can infer the government's intent regarding adoption of electric vehicles.
The government has formulated plans for promoting electric vehicles which clearly indicates that government is keen to adopt Electric vehicles. All the other options are not its correct explanation.
Hence option (4) is the most appropriate choice.
Refer the lines "... Union minister for heavy industries Anant Geete has spoken about making the public transport system fully electric through the second phase of Faster Adoption and Manufacturing of Hybrid and Electric vehicles in India (FAME India) scheme. It's possible that some of these plans will not materialize, but the government's intent is clear..."
17. (4) The phrase 'makes no bones' used in the passage is to provide the intention of the government regarding its clear intention of adopting electric vehicles. 'Make no bones' is an idiom which means to be transparent about something, without any equivocation.
Hence option (4) is the correct choice to be made.
Refer the line "The Union government makes no bones about its intent to promote electric vehicles (EVs). However, it would do well to learn a few lessons from what happened to smartphones before making grand technology bets. A number of incentives for EVs are on the table..."
18. (3) Refer the second paragraph of the passage "Just like early smartphones, rather than rushing to purchase the early iterations, a better idea would be to wait until the rich nations buy sufficient volumes of the products on offer, and bring prices down." From which it is clear that government should not make early purchases, they should wait till prices go down to avoid expensive procurement.
Hence option (3) is the best suited choice.
19. (2) Electric vehicles are not the solution to air pollution in developing countries as electric vehicles are expensive for developing countries to adopt, hence according to world bank, developing countries should encourage their citizens to make less use of cars, which emit more carbon dioxide than a diesel bus or hybrid bus. This proves sentence (II) as the most appropriate choice. Other sentences are not mentioned anywhere in the passage.
Hence option (2) is the correct choice.
20. (4) Refer the lines from third paragraph "But something like an all-electric fleet of buses is an expensive solution to the problem. A World Bank study on the cost effectiveness of electric and hybrid buses in developing countries concluded that in order to tackle air pollution, the policy goal should be to incentivise more people to leave their cars at home."
In reference to fifth paragraph of the passage, we can conclude that option (4) is the correct.
Refer the lines "While everyone agrees that charging infrastructure is essential to the success of EVs, whether there should be a charging station at every five kilometres or 10 cannot be known in advance." "... Similarly, shifts in technology—such as wireless charging, solid state batteries or a transition to hydrogen fuel cells—will have to be anticipated as these might render existing infrastructure obsolete." Option (1) is irrelevant.
Hence option (4) is the correct choice.
21. (5) The tone of the author is critical as the author is giving his deep interpretation of the issue with a neutral outlook. The author has provided the analysis of adopting Electric vehicles in developing countries. Hence option (5) is the correct choice.
22. (3) Incentivize is the word used in the passage which means motivate or encourage (someone) to do something. Hence it has similar meaning as impetus.
Forbearance means tolerance.
Rile means make annoyed or irritated.
Tumbled means fall suddenly.
Entrench means establish or settle.
23. (4) Arbitrary is the word used in the passage which means based on random choice or personal whim, rather than any reason or system. Hence it has similar meaning as capricious.
Reticent means not revealing one's thoughts or feelings readily.
Covet means desire.
Nuance means variation.
Bequest means a legacy.
24. (5) Obsolete is the word used in passage which means no longer produced or used; out of date. Hence it has opposite meaning as contemporary.
Dire means extremely serious or urgent.
Dissent means disagreement or dispute.
Counsel means advice.
Exhort means strongly encourage or urge (someone) to do something.
25. (2) Caution is the word used in the passage which means care taken to avoid danger or mistakes. Hence it has opposite meaning as imprudence.
Exemplar means a person or thing serving as a typical example or appropriate model.
Adjunct means connected or added to something.
Punitive means inflicting or intended as punishment.
Precedent means an earlier event or action that is regarded as an example or guide to be considered in subsequent similar circumstances.
26. (2) "**Plight of farmers is reflected, has dipped to**" is the correct set of expressions that makes the sentence contextually meaningful. The expressions given in bold do not make the sentence logically correct as the verb "**is dipping**" is directly signifying the subject "**Farmer's plight**" which is illogical in the context of the sentence. Among the given options, only (2) provides a meaningful sense to the sentence. Hence option (2) is the correct choice.

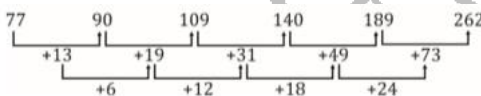
27. (4) “**Since there is dearth of, we need to provide gainful employment**” is the correct set of expressions that makes the sentence both grammatically correct and contextually meaningful. It is to be noted that the sentence is divided in two parts with both the sentences being independent. To connect these two statements coherently, we need to use a proper conjunction. Among the given options, only expressions given in option (4) makes the sentence meaningful as it uses the conjunction “**since**” to connect the sentences. Hence option (4) is the correct choice.

28. (5) The expressions given in bold in the sentence do not require any correction or replacement as they already give a meaningful sense to the sentence. It is to be noted that the word “**manufactured**” in the second highlighted expression is used as an adjective. Hence option (5) is the correct choice.

29.(1) “**that sums up, expressed in the**” is the correct set of expressions that makes the sentence both grammatically correct and contextually meaningful. It is to be noted that there will be a use of article “**The**” before “**Upanishad**” as it refers to the name of specific book. Apart from option (1), none of the options is grammatically correct. Hence option (1) is the correct choice.

30. (3) “**had hidden, but**” is the correct set of expressions that makes the sentence both grammatically correct and contextually meaningful. The other expression “**while to**” given in bold makes no proper sense to the sentence. Among the given options, (3) provides the most logical meaning to the sentence. Hence option (3) is the correct choice.

31. (5) Pattern is
 $4 + 3^3 = 31$
 $31 - 4^3 = 15$
 $15 + 5^3 = 140$
 $140 - 6^2 = 104$
 $104 + 7^3 = 447$

32. (2) 

33. (1) Pattern is:
 $91 + (2 \times 3) = 97$
 $97 + (4 \times 5) = 117$
 $117 + (6 \times 7) = 159$
 $159 + (8 \times 9) = 231$
 $231 + (10 \times 11) = 341$

34. (4) Pattern is
 $5 \times \frac{1}{2} + \frac{1}{2} = 3$
 $3 \times 1 + 1 = 4$
 $4 \times 2 + 2 = 10$
 $10 \times 4 + 4 = 44$
 $44 \times 8 + 8 = 360$

35. (3) $11 \times 2 = 22$
 $22 \times 3 = 66$
 $66 \times 5 = 330$
 $330 \times 7 = 2310$
 $2310 \times 11 = 25410$

36. (1) Diameter of semicircle = Side of square
 $= 21 \times 2 = 42 \text{ cm}$
 Area of square = $42 \times 42 = 1764 \text{ cm}^2$
 Area of semicircle = $\frac{22}{7} \times \frac{1}{2} \times 21^2 = 693 \text{ cm}^2$
 Area of unshaded region = $1764 - 693$
 $= 1071 \text{ cm}^2$

37. (4) Speed of boat in still water = 12 kmph
 Speed of Stream = x kmph

ATQ,
 $\frac{270}{(12-x)} = \left(100 + 66\frac{2}{3}\right)\% \text{ of } \frac{270}{12+x}$
 $\Rightarrow \frac{270}{12-x} = \left(1 + \frac{2}{3}\right) \times \frac{270}{12+x}$
 $\Rightarrow \frac{270}{12-x} = \frac{5}{3} \times \frac{270}{12+x}$
 $\Rightarrow (12+x) \times 3 = 5 \times (12-x)$
 $\Rightarrow x = 3$

So, speed of stream = x = 3 kmph

38. (2) Let initial quantity of milk in vessel X = 4x L
 Initial quantity of water in vessel X = x L
 10 liters of mixture 'X' is removed
 So, 8 liters of milk is removed and 2 liters of water is removed from vessel X

60L of mixture is added in vessel 'X' from vessel 'Y'
 So, $60 \times \frac{2}{5} = 24$ L of milk is added.
 and, $60 \times \frac{3}{5} = 36$ L of water is added.

ATQ,
 $\frac{4x-8+24}{x-2+36} = \frac{8}{5}$
 $20x - 40 + 120 = 8x - 16 + 288$
 $12x = 192$
 $x = 16$ L

So, quantity of mixture initial mixture in vessel X = $5 \times 16 = 80$ L

39. (3) Let the length of first train = 'x' m

ATQ,
 $\frac{1000+x}{\frac{76}{60}} = 90 \times \frac{5}{18}$
 $\frac{1000+x}{\frac{76}{60}} = 25$
 $x = 900$ m

Now time required to cross another

train = $\frac{900+500}{(90+162) \times \frac{5}{18}}$
 $= \frac{1400 \times 18}{252 \times 5} = 20$ sec.

40. (2) Let marked price of article 'A' = 10x Rs.

So, marked price of article 'B' = 15x Rs.

Selling price of article, A = $10x \times \frac{80}{100} = 8x$ Rs.

Selling price of article B = $15x \times \frac{60}{100} = 9x$ Rs.

Total selling price of both article = $8x + 9x = 17x$ Rs.

C.P. of both article = $\frac{17x}{106.25} \times 100 = 16x$ Rs.

So, Profit = $17x - 16x = x = 300$ Rs.

So, marked price of article B = $15 \times 300 = 4500$ Rs.

41. (3) Number of boys who applied for SBI Clerk from Bihar

$= \left(1 - \frac{1}{7}\right) \times 35000$

$= \frac{6}{7} \times 35000 = 30000$

Let number of girls who applied

for SBI PO from Punjab be x

Therefore, number of boys = 4x

ATQ,

$5x = 50000$

$x = 10000$

∴ Required percentage

$= \frac{30000 - 10000}{10000} \times 100 = 200\%$

42. (3) Average of student applying from MP, UP & Gujarat together for SBI Clerk

$$= \frac{1}{3}(25000 + 40000 + 20000)$$

$$= \frac{1}{3} \times 85000$$

Average of students applying from same state together for SBI PO

$$= \frac{1}{3}(40000 + 25000 + 35000)$$

$$= \frac{1}{3}(100000)$$

∴ Required difference = $\frac{100000-85000}{3}$

$$= 5000$$

43. (5) Total boys applying for SBI clerk & SBI PO together from Punjab

$$= \frac{4}{7} \times 70000 = 40000$$

Total girls applying for SBI clerk & SBI PO together from Punjab

$$= 70000 - 40000 = 30000$$

Girls applying for SBI clerk

$$= 30000 - 20000 = 10000$$

∴ Boys applying for SBI clerk

$$= 20000 - 10000 = 10000$$

Required percentage

$$= \frac{10000}{30000} \times 10 = 33\frac{1}{3}\%$$

44. (2) Let girls applying for SBI PO from MP be x

∴ Boys applying = 3x

ATQ,

$$3x + x = 40000$$

$$x = 10000$$

∴ boys applying for SBI PO from MP

$$= 3 \times 10000 = 30000$$

Average of student applying for SBI clerk from Punjab & Gujarat together

$$= \frac{20000 + 20000}{2} = 20000$$

∴ Required ratio = $\frac{30000}{20000} = 3 : 2$

45. (1) Difference between student applying for SBI PO from UP and Gujarat

$$= 35000 - 25000 = 10000$$

Average of student applying for SSC CGL & SBI Clerk together from Bihar

$$= \frac{70000}{2} = 35000$$

Required percentage = $\frac{35000-10000}{35000} \times 100$

$$= \frac{25000}{35000} \times 100 = \frac{500}{7}\%$$

46. (2) Rice imported by USA in 2016

$$= \frac{3600}{6} \times 7$$

$$= 4200 \text{ ton.}$$

Export of rice in Canada in 2016

$$= \left(100\% + \frac{100}{6}\%\right) \text{ of } 4200$$

$$= \frac{7}{6} \times 4200$$

$$= 4900 \text{ ton}$$

Required difference = (4900 – 4200) ton

$$= 700 \text{ ton}$$

47. (4) Average of rice exported by USA in year 2012, 2014 and 2015

$$= \frac{3300 + 5100 + 4500}{3}$$

$$= 4300 \text{ ton}$$

Average of rice imported by Canada in year 2013, 2014 and 2016 = $\frac{5500+3800+4200}{3}$

$$= \frac{13500}{3} = 4500$$

Required percentage = $\frac{4500-4300}{4500} \times 100$

$$= 4\frac{4}{9}\%$$

48. (5) Quantity of rice imported by USA in 2015 = $\frac{4500}{45} \times 56$

$$= 5600 \text{ ton}$$

According to question

$$5600 \times 60 + x \times 4500 = 538500$$

Where x is the cost incurred/ton in exporting rice

$$336000 + 4500x = 538500$$

$$4500x = 538500 - 336000$$

$$4500x = 202500$$

$$x = 45 \text{ Rs./ton}$$

Required % = $\frac{60-45}{45} \times 100$

$$= \frac{15}{45} \times 100$$

$$= 33\frac{1}{3}\%$$

49. (1) Rice imported by Canada in 2013, 2014 and 2016 together

$$= 5500 + 3800 + 4200 = 13500$$

Rice exported by USA in 2012, 2013 and 2014 together

$$= 3300 + 3700 + 5100 = 12100$$

Required ratio = 13500 : 12100 = 135 : 121

50. (2) Rice imported by USA in 2012

$$= \frac{3300}{11} \times 10 = 3000 \text{ ton}$$

Rice imported by Canada in year 2017

$$= \left(100\% + \frac{50}{7}\%\right) \text{ of } 4200$$

$$= \frac{750}{7} \times 100 \times 4200$$

$$= 4500 \text{ ton}$$

Required percentage = $\frac{3000}{4500} \times 100$

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

51. (1) (I) $2x^2 - 27x + 55 = 0$

$$2x^2 - 22x - 5x + 55 = 0$$

$$2x(x - 11) - 5(x - 11) = 0$$

$$(2x - 5)(x - 11) = 0$$

$$x = \frac{5}{2}, 11$$

(II) $3y^2 + 19y - 40 = 0$

$$3y^2 + 24y - 5y - 40 = 0$$

$$3y(y + 8) - 5(y + 8) = 0$$

$$(3y - 5)(y + 8) = 0$$

$$y = -8, \frac{5}{3}$$

$x > y$

52. (5) (I) $x^2 - 28x + 195 = 0$
 $x^2 - 13x - 15x + 195 = 0$
 $x(x - 13) - 15(x - 13) = 0$
 $(x - 15)(x - 13) = 0$
 $x = 13, 15$
 (II) $y^2 - 38y + 345 = 0$
 $y^2 - 15y - 23y + 345 = 0$
 $y(y - 15) - 23(y - 15) = 0$
 $(y - 23)(y - 15) = 0$
 $y = 15, 23$

53. (3) $y \geq x$
 (I) $x^2 + 9x - 136 = 0$
 $x^2 + 17x - 8x - 136 = 0$
 $x(x + 17) - 8(x + 17) = 0$
 $(x - 8)(x + 17) = 0$
 $x = -17, 8$
 (II) $y^2 - 9y - 136 = 0$
 $y^2 - 17y + 8y - 136 = 0$
 $y(y - 17) + 8(y - 17) = 0$
 $(y + 8)(y - 17) = 0$
 $y = -8, 17$
 No relation can be established between x and y.

54. (4) (I) $x^2 + 17x + 42 = 0$
 $x^2 + 14x + 3x + 42 = 0$
 $x(x + 14) + 3(x + 14) = 0$
 $(x + 3)(x + 14) = 0$
 $x = -14, -3$
 (II) $2y^2 - 3y - 14 = 0$
 $2y^2 - 7y + 4y - 14 = 0$
 $y(2y - 7) + 2(2y - 7) = 0$
 $(y + 2)(2y - 7) = 0$
 $y = -2, \frac{7}{2}$
 $y > x$

55. (2) (I) $x^2 - 29x + 210 = 0$
 $x^2 - 14x - 15x + 210 = 0$
 $x(x - 14) - 15(x - 14) = 0$
 $(x - 15)(x - 14) = 0$
 $x = 14, 15$
 (II) $y^2 - 27y + 182 = 0$
 $y^2 - 13y - 14y + 182 = 0$
 $y(y - 13) - 14(y - 13) = 0$
 $(y - 13)(y - 14) = 0$
 $y = 13, 14$
 $x \geq y$

56. (3) Let speed of train X be x km/hr & speed of train Y be y km/hr
 ATQ,
 $\frac{36}{x} - \frac{36}{y} = \frac{30}{60}$
 $\frac{36}{x} - \frac{36}{y} = \frac{1}{2}$... (i)
 $\frac{36}{y} - \frac{36}{x} = \frac{15}{60}$
 $\frac{4 \times 36}{y} - \frac{36}{x} = \frac{1}{4}$... (ii)
 Adding (i) and (ii) & solving
 $4 \times \frac{36}{y} - \frac{36}{y} = \frac{1}{2} + \frac{1}{4}$
 $y = 144 \text{ km/hr}$
 $x = 48 \text{ km/hr}$
 DIFFERENCE = $144 - 48 = 96$

57. (4) Total profit = Rs 3000
 = 20% of B's capital
 \therefore 100% of B's capital
 $= \frac{3000}{20} \times 100 = \text{Rs } 15000$
 Let total capital be 100x
 A's capital = 30x
 B's capital = 20x
 C's capital = 50x
 $\therefore x = \frac{15000}{20} = \text{Rs } 750$
 \therefore average of capital of A & C together
 $= \frac{750 \times (50 + 30)}{2} = 750 \times 40 = \text{Rs } 30000$

58. (1) Capacities of vessels = 2 : 1

	Milk	Water	mixture
Vessel - 1	5	2	7
Vessel - 2	4	1	5

Equate the mixture

	Milk	Water	Mixture
Vessel - 1	25	10	35
Vessel - 2	28	7	35

Capacities

	Milk	Water	Mixture
(vessel - 1) \times 2	50	20	70
(Vessel - 2) \times 2	28	7	35

Water taken out
 $= \frac{1}{2} \times 20 + \frac{1}{7} \times 7 = 11$
 Mixture will be
 $= \frac{1}{2} \times 70 + \frac{1}{7} \times 35 = 40$
 \therefore percentage of water = $\frac{11}{40} \times 100 = 27.5\%$

59. (1) No. of selection can be in following ways
 $= 4C1 \times 6C1 \times 5C2 + 4C1 \times 6C2 \times 5C1 + 4C1 \times 6C3$
 $= 4 \times 6 \times 10 + 4 \times 15 \times 5 + 4 \times 20$
 $= 240 + 300 + 80$
 $= 620$

60. (1) speed of boat in still water = $\left(10 + 10 \times \frac{80}{100}\right) \text{ km/hr}$
 $= 18 \text{ km/hr}$

ATQ—
 $\frac{560}{(10 + 18)} + \frac{560}{(10 + 18) + x} + \frac{1120}{(18 - 10) + x} = 90$

$\frac{560}{28 + x} + \frac{1120}{8 + x} = 70$

$\frac{8}{28 + x} + \frac{16}{8 + x} = 1$

$64 + 8x + 448 + 16x = x^2 + 36x + 224$

$x^2 + 12x - 288 = 0$

$x = 12 \text{ km/hr}$

61. (3) $\frac{24}{100} \times 550 + \frac{90}{100} \times 910 \approx ? + 251$
 $132 + 819 \approx ? + 251$
 $? = 700$

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62. (1) $300 \times \frac{?}{9} + 150 \times 20 \approx 420 \times 30 + 350 \times 40$
 $\frac{300}{9} \times ? + 3000 = 12600 + 14000$
 $? \times \frac{300}{9} = 23600$
 $? = \frac{23600}{100} \times 3 = 708$

63. (2) $(?)^2 + \frac{90}{100} \times 2000 + 5 \times 80 \approx 130 \times 20$
 $(?)^2 + 1800 + 400 = 2600$
 $(?)^2 = 2600 - 2200 = 400$
 $? = 20$

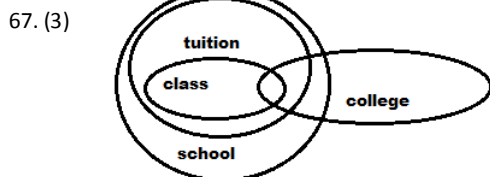
64. (5) $\frac{1590}{3} + \frac{?}{100} \times 140 \approx 180 \times 8$
 $530 + \frac{?}{5} \times 140 = 1440$
 $? = 650$

65. (4) $840 + 1260 - 120 \times 20 \approx \frac{750}{100} \times 2 - ?$
 $2100 - 2400 = 15 - ?$
 $? = 315$



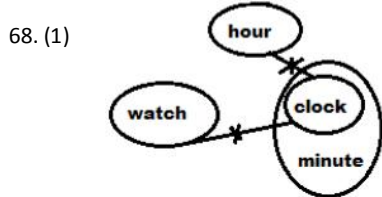
For I- Since there is no direct relation between the elements ears and neck, therefore we cannot conclude that no ears is neck.

For II- Since there is no direct relation between the elements eyes and neck. Hence, the possibility case will be true. Therefore, All eyes can be neck is true.



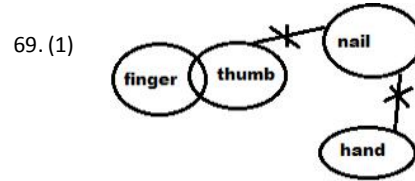
For I- From the venn diagram it is clear that some portion of school is college but definitely all school is college cannot be concluded. Therefore, All school is college is false..

For II- From the venn diagram it is clear that some portion of school is collage but here it is case a of possibility. Therefore, All school can be collage is true.



For I- Since some portion of minute is clock and no clock is hour, therefore, it can be concluded that some minute can never be hour

For II- Since there is no direct relation between the elements minute and watch, therefore case of possibility can be true. So, we can conclude that all watch being minute is a possibility.

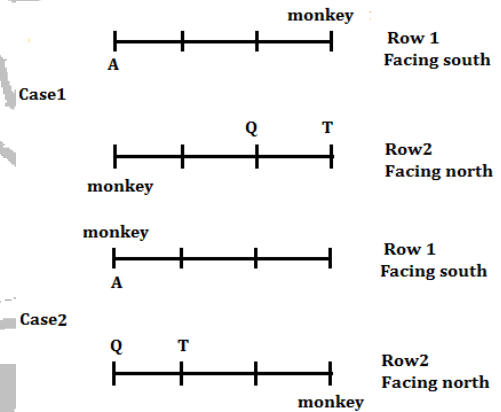


For I- Since there is no direct relation between the elements finger and hand, so there can be a possibility of all hand being finger. Therefore, conclusion I is true.
 For II- Since it is given that no thumb is nail, therefore we can conclude that some nails can never be thumb.

70. (1) The third, seventh, tenth and eleventh letter from the word 'SACRILEGIOUS' are 'C, E, O and U'.

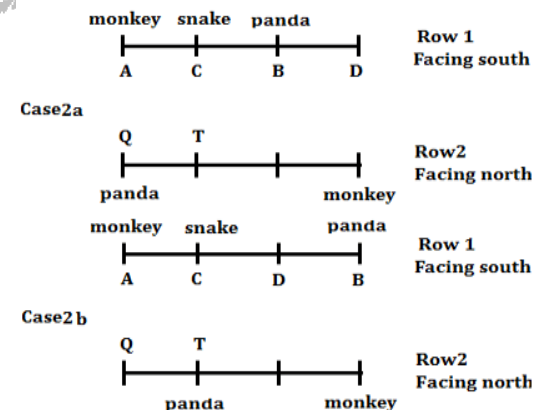
No meaningful words can be formed using these four letters.

71-75. Q sits immediate left to T and one of them sits at the end of the row. The persons who like monkey sit at the ends in both the rows. Neither Q nor T likes monkey. A sits at the right end. We get two possibilities:



The one who likes panda in row 1 faces the one who sits 2nd right to the one who likes panda in row2, from this case1 gets eliminated and we get 2 more cases in case 2.

D is neighbor of the one who likes panda. C likes snake but does not sit at the corner, from this we get D sitting at the end in case2a and D sitting immediate left to C in case2b.

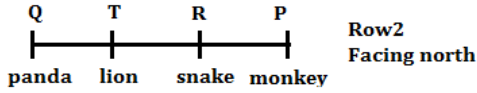
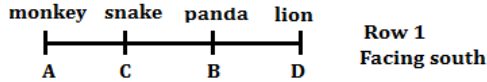


The ones who like lion and snake in row 2 sit next to each other, so case2b gets eliminated as there is no place for the ones who likes lion and snake in row2. Now case2a, since the ones who like snake cannot face each

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other therefore, T likes lion. P faces the one who likes lion, so P sits at the end. The final arrangement is:



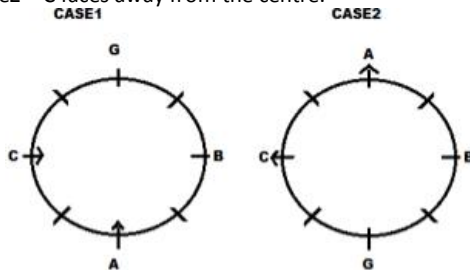
Student	Hill station	Class
A		
B	Shimla	V
C	Nainital	V
D		IV
E		
F	Mussoorie	
G		

A does not study with C and F, who is not in IV, so F is in III and A is in IV. G, the one who likes Manali and the one who likes Darjeeling study in the same class, so they cannot be from V or III class. G does not like mount Abu, so it likes Panchmarhi and studies IV. D does not like Manali therefore it likes Darjeeling. The final arrangement is:

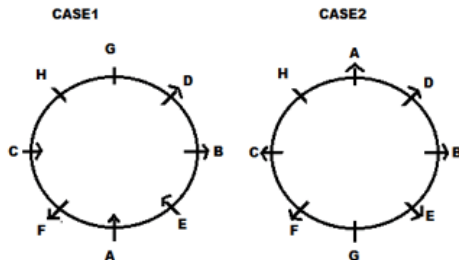
Student	Hill station	Class
A	Manali	IV
B	Shimla	V
C	Nainital	V
D	Darjeeling	IV
E	Mount Abu	III
F	Mussoorie	III
G	Panchmarhi	IV

- 71. (3)
- 72. (2)
- 73. (2)
- 74. (1)
- 75. (4)

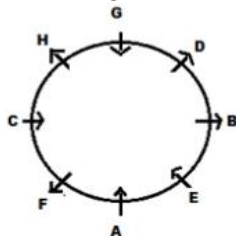
76-80. C sits opposite to B, but they do not face each other. B is 2nd to the right of A. G sits 2nd left to C, there are two possibilities case1--C faces towards the centre and case2--C faces away from the centre.



E is not immediate neighbor of C. D is not neighbour of C and faces away from the center. H, who sits opposite to E, is 2nd to the left of D. F face same direction as D and B, but opposite to E. A and E face same direction, So, only place left for F is immediate right to C in case 1 and immediate left to C in case 2.



As per the given condition F face opposite direction to E, from this case 2 gets eliminated as F and E faces same direction in it. Further G and C face opposite direction to that of H So, the final arrangement is:

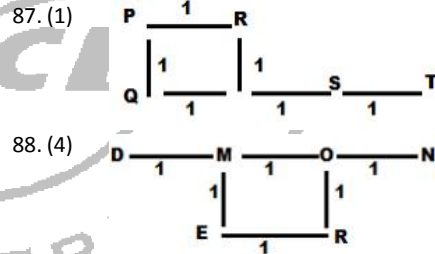


- 76. (3)
 - 77. (3)
 - 78. (2)
 - 79. (4)
 - 80. (4)
- 81-85. C likes Nainital and studies in V with only one more student who likes Shimla. F likes Mussoorie. D studies in IV. B does not study with D and does not study in III, from this B studies in V and likes Shimla.

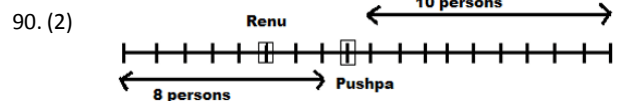
- 81. (4)
- 82. (2)
- 83. (5)
- 84. (3)
- 85. (1)
- 86. (5)

ARMAGEDDON
BQLBFFCCPM
BBCCFFLMPQ

The second letter from the left is 'B' and third letter from the right is 'M'. Number of letters between these letters according the English alphabetical series is Ten (C, D, E, F, G, H, I, J, K and L).



89. (5) Since, no fixed number of persons are mentioned, therefore it cannot be determined how many persons sit between Astuti and Alok.



10 persons are to the right of Pushpa, she is 11th from the right end.

Since, two persons are between Pushpa and Renu, who sits on the left of Pushpa, so Renu is 14th from the right end.

- 91-95. Book P is of History. Only three books are placed between book of History and R. Physics book is placed next to Book R. Two books are placed in between Physics and Maths book. Book S is of Maths. From this there can be four possible cases as shown below-

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Case-1:

P - History
Physics
R
S - Maths

Case-2:

P - History
S - Maths
R
Physics

Case-3:

Physics
R
S - Maths
P - History

Case-4:

S - Maths
R
Physics
P - History

Only one book is placed in between Maths and Science book. So, it is clear that book R is of Science. Only two books are placed in between Science and Hindi book. Book of Hindi is placed below Science book.

Case-1:

P - History
Physics
R - Science
S - Math
Hindi

Case-2:

P - History
S - Math
R - Science
Physics
Hindi

Case-3:

Physics
R - Science
S - Math
Hindi
P - History

Case-4:

S - Math
R - Science
Physics
Hindi
P - History

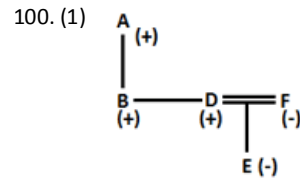
Book of Hindi is not placed adjacent to book of History. From this case-3 and Case-4 will be eliminated. Book T which is of Civics is placed immediately below the book of Geography. And as there is no place left for book T and book of Geography in case-2 so this will also get eliminated. Now, Proceeding with case-1:

P - History
Geography
T - Civics
Physics
R - Science
S - Math
Hindi

Book Q is of English and is placed below the book of Physics. So, book Q is placed immediately above book S. Book U is neither of Geography nor of Physics. So, book U is of Hindi. Book V is not placed below book T and book W is not of Geography. Then book V is of Geography and W is of Physics. So, the final arrangement of the stack is----

P - History
V - Geography
T - Civics
W - Physics
R - Science
Q - English
S - Math
U - Hindi

96. (5) $G > F \geq D > E \geq N, D > A$
 I. $G > N$ (True)
 II. $G > A$ (True)
97. (5) $M \geq N > D < E \leq A, D > O$
 I. $O < M$ (True)
 II. $A > O$ (True)
98. (1) $S \leq K < M \geq L > R, J > M$
 I. $J > S$ (True)
 II. $J < S$ (False)
99. (4) $E > D < M, A > D \geq F < G$
 I. $G < E$ (False)
 II. $G < M$ (False)



91. (4)
 93. (1)

92. (4)
 94. (1)

95. (1)