

IBPS SO Preliminary Grand Test –ISP-181205

HINTS & SOLUTIONS

ANSWER KEY

1.(4)	26. (2)	51. (4)	76. (3)	101. (2)	126. (2)
2. (2)	27. (2)	52. (3)	77. (5)	102. (1)	127. (1)
3. (1)	28. (1)	53. (4)	78. (3)	103. (2)	128. (1)
4. (3)	29. (1)	54. (3)	79. (4)	104. (5)	129. (1)
5. (3)	30. (3)	55. (4)	80. (1)	105. (2)	130. (4)
6. (1)	31. (2)	56. (1)	81. (1)	106. (4)	131. (2)
7. (3)	32. (4)	57. (4)	82. (2)	107. (1)	132. (2)
8. (2)	33. (3)	58. (5)	83. (4)	108. (3)	133. (4)
9. (2)	34. (4)	59. (3)	84. (2)	109. (2)	134. (4)
10. (5)	35. (5)	60. (1)	85. (1)	110. (5)	135. (3)
11. (3)	36. (2)	61. (4)	86. (5)	111. (2)	136. (3)
12. (1)	37. (5)	62. (2)	87. (3)	112. (4)	137. (2)
13. (2)	38. (2)	63. (3)	88. (4)	113. (1)	138. (3)
14. (2)	39. (2)	64. (1)	89. (2)	114. (1)	139. (5)
15. (5)	40. (3)	65. (5)	90. (2)	115. (2)	140. (1)
16. (4)	41. (1)	66. (4)	91. (2)	116. (2)	141. (3)
17. (5)	42. (2)	67. (4)	92. (1)	117. (1)	142. (2)
18. (2)	43. (5)	68. (2)	93. (3)	118. (3)	143. (5)
19. (3)	44. (4)	69. (4)	94. (4)	119. (1)	144. (4)
20. (2)	45. (5)	70. (2)	95. (1)	120. (3)	145. (1)
21. (4)	46. (1)	71. (5)	96. (3)	121. (2)	146. (3)
22. (5)	47. (2)	72. (2)	97. (5)	122. (5)	147. (1)
23. (2)	48. (4)	73. (2)	98. (4)	123. (5)	148. (1)
24. (2)	49. (3)	74. (3)	99. (4)	124. (4)	149. (2)
25. (4)	50. (4)	75. (1)	100. (2)	125. (4)	150. (3)

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- 1.(4) Option (1) is incorrect as they just used the concept formulated by Lorin. Option (2) is incorrect as they were used first in 1950s. Option (3) is incorrect as it is happened in 1947. Only option (4) is true.
2. (2) Only option (2) is correct since paragraph tries to answer the question 'How much bigger can airplanes get?'
3. (1) Option (1) is the correct choice. Although each of the other options is mentioned specifically in the context of the V-22, the question is specific about the difference between the V-22 and a standard plane.
4. (3) The 3rd paragraph clearly mentions the cause for the non use of radars a decade from now.

5. (3) It is obviously the correct choice and it will be more clear by interpreting the final sentence of the passage correctly.
6. (1) Imperative means of vital importance; crucial hence exigent is the word most similar in meaning.
7. (3) **Stealthy** means behaving or done in a cautious and surreptitious manner, so as not to be seen or heard hence **surreptitious** is the word most similar in meaning.
8. (2) Propulsion means the action of driving or pushing forwards hence impediment is the word most opposite in meaning.
9. (2) Inferior means lower in rank, status, or quality hence Maverick is the word most opposite in meaning.
10. (5) Propellant means drive or push something forwards hence abridge is the word most opposite in meaning.
11. (3) The use of 'of time' is superfluous because 'for a short period' or 'for a short time' is used.
Ex. He stayed here for a short period.
12. (1) After 'despite', 'of' will not be used because 'Despite = In spite of'.
Ex. Despite his good performance, he was not selected. In spite of his good performance, he was not selected.
13. (2) Use 'amongst' in place of 'among' as 'amongst' is used before a vowel sound and 'among' is used before a consonant sound.
14. (2) In place of 'from', 'of' will be used because 'die of a disease', 'die of hunger' is used.
Ex. The old woman died of hunger.
15. (5) The sentence is grammatically correct.
16. (4) Use 'had' in place of 'have' as from "The issues were complex", we come to know that the incident occurred in the past.
17. (5) The sentence is grammatically correct.
18. (2) Use 'why he had' in place of 'why had he' because reported speech is assertive in indirect narration.
19. (3) Use 'if' or 'whether' in place of 'that' because 'if' or 'whether' is used in indirect narration.
20. (2) Use 'were' before 'surprised' because the sentence is in passive voice.

21-25. The correct sequence is **DEAFCB**

21. (4)
22. (5)
23. (2)
24. (2)
25. (4)
26. (2)

Among the given four options, elimination of incorrect sentences can be easily carried out based on their inappropriate grammar usage like in the case of options (3) and (4). Moreover, they have altered the basic and true meaning of the sentence as asked in the question. Similarly, option (1) is incorrect in sentence structure which deviates the meaning of the sentence. Thus options (1), (3) and (4) are inept to the required answer. However, sentence (2) depicts the correct grammar usage along with its sentence structure which adds meaning to the sentence so formed after their union.

- Hence option (2) is the correct sentence regarding both grammar and context.
27. (2) The first part of the sentence is grammatically correct as the sentence is in Present Tense. In the second part, "it's" should be replaced by "its" as "It's" is always the abbreviation of "it is" as in "It's (= it is) a nice day, isn't it?" while "Its" is the possessive of "it" as in, "That is Morton's puppy but I don't know its name." In the second case "its" means "belonging to it". Thus in the context of the sentence, the possessive of "it", "its" is the correct usage. The third part of the sentence is grammatically correct and thus doesn't require any correction. Hence (2) is the correct option.
28. (1) "reforms, upcoming" is the correct set of words that fits into both the sentences perfectly. The word "**reforms**" means make changes in (something, especially an institution or practice) in order to improve it. The use of the plural verb "are" in the second sentence suggests that the subject should be plural as well, thus options (2) and (4) can be eliminated. The other word "**upcoming**" means about to happen; forthcoming. In the context of the meaning of the sentences, no other word fits meaningfully. Hence (1) is the correct choice.
29. (1) At the very outset, we need to understand the meaning of the given inference. The inference suggests that in today's world, electrification is a basic human necessity. Now we need to be specific about "basic human necessity" which infers how electrification would cater to our needs in bringing about a change in the existing condition. Among the three paragraphs, paragraph (1) provides a better explanation that could be referred from the last sentence of it. However, paragraphs (2) and (3) are out of the context. Paragraph (2) talks about the structural reforms in the power sector which would promote more electricity generation to meet up the required needs. Thus there is no mention of basic human necessity in the paragraph which marks its elimination. Similarly, paragraph (3) deals with the failure of the government's electrification program, the Deen Dayal Upadhyay Gram Jyoti Yojana launched in July 2015. Hence only paragraph (1) agrees with the given inference, "**Electrification, in contemporary times, is a basic human necessity.**"
30. (3) "transform, portfolio" is the correct set of words that fit into both the sentences perfectly. The word "**transform**" means make a marked change in the form, nature, or appearance of. Thus the word adds the appropriate meaning to both these sentences. The other word, "**portfolio**" means a set of pieces of creative work intended to demonstrate a person's ability to a potential employer. Thus the word makes the correct attachment to the sentences. Hence (3) is the correct choice.
31. (2) Referring to the second paragraph of the passage we infer that Telecom regulatory authority of India is turning towards digital radio broadcasting which is more efficient with no operational restriction as compared to analogue terrestrial radio broadcasting.
32. (4) Refer to second paragraph of the passage "It adds that transmission in analogue mode is susceptible to radio frequency (RF) interference, resulting in poor reception quality.", "...that signal quality could suffer in portable environments such as moving vehicles or on hand-held devices." . Hence both the sentences (I) and (III) are true.
33. (3) "Will India embrace digital radio broadcasting?" is an appropriate title of the passage. As we see that the passage revolves around the theme of TRAI switching to the digital radio broadcasting which is efficient and less susceptible to radio frequency interference as compared to analogue radio broadcasting. Hence this title is appropriate.
34. (4) Refer to the last paragraph of the passage "radio firms cannot give up on FM transmission after investing so much in it", "For revenues to come, there needs to be a well-developed ecosystem of radio receivers." Hence both sentences (1) and (3) are correct.
35. (5) Referring to the last paragraph of the passage we conclude that all of the above sentences are true. Due to all of the mentioned reasons broadcast experts and radio industry executives are showing no interest in switching to digital radio broadcast from FM transmission.
36. (2) **Nascent** means just coming into existence and beginning to display signs of future potential. Hence it has similar meaning as **burgeoning**.
Capitulating means surrendering.
Condescending means patronizing.
Amicable means agreeable.
Sagacity means wisdom.
37. (5) **Enthused** means express eager enjoyment, interest, or approval regarding something. Hence it has opposite meaning as **apathetic**.
Spurious means false, untrue.
Prudent means careful, wise.
Tenacious means persistent stubborn.
Wary means careful, watchful.
38. (2) **Retrieve** means get or bring (something) back from somewhere. Hence it has opposite meaning as **forfeit**.
Venerable means respectable because of its age.
Surreptitious means secret.
Reclusive means hermit, withdrawn.
Provocative means likely to get people riled up.
39. (2) Use 'you return from' as we never use back after return.
40. (3) Auxiliary verb is used before subject in the sentences starting from No sooner, hardly, scarcely, rarely, seldom.
41. (1) we use Be + v3 in passive voice hence option (1) is the correct answer.
42. (2)
43. (5)
44. (4) 'specific' is the correct word that fits to the blank as the word before blank (narrow) is pointing to a particular question. All other options are irrelevant.
45. (5) The phrase here is ".....their free time". We cannot use 'unite', 'procure', 'store' or 'gather' for time. Hence 'increase' is the correct word that fits in the blank and hence is the correct option.
46. (1) The observations are given in the paragraph which suggested that data are recorded and not fabricated or procrastinated (means prediction) or posted. Hence 'recorded' is the correct word that completes the sentence.
47. (2) The paragraph is about spending money for buying free time. Hence 'spend' is the correct word that justifies the sentence. All other options are irrelevant.

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48. (4) This is the paragraph telling us about the study of researchers. Hence 'study' is the word that is making the sentence meaningful.
49. (3) A question has been asked before the blank and the response of that question is divided into half. Hence 'split' makes the sentence complete and meaningful.
50. (4) 'Degree' is the correct word here as all other words are not making the sentence meaningful. The sentence is talking about experiencing the amount of life satisfaction by spending the given amount of money. Hence 'degree' is the correct option.

51-55. Input: next 57 problem 82 14 trend 02 purchase growth 41
 Step I :growth next 57 problem 82 14 trend 02 purchase 41
 Step II :growth 02 next 57 problem 82 14 trend purchase 41
 Step III : growth 02 next 14 57 problem 82 trend purchase 41
 Step IV : growth 02 next 14 problem 57 82 trend purchase 41
 Step V : growth 02 next 14 problem 41 57 82 trend purchase
 Step VI : growth 02 next 14 problem 41 purchase 57 82 trend
 Step VII : growth 02 next 14 problem 41 purchase 57 trend 82

51. (4)
 52. (3)
 53. (4)
 54. (3)
 55. (4)
56-60.

In this puzzle, we should place all the given condition in a table, like; X lives just above the floor on which B lives, who studies in VIIT. The one who studies in VIIT lives either on 8th floor or Ground floor. There are three floors between VIIT and the one who studies in JUIT. M lives at odd numbered floor but below from 5th floor. Now, above these conditions, it is clear that B does not live at top most floors, so he lives at ground floor. Now if B lives at 1st floor or ground floor then, M definitely lives at 3rd floor. And the one who studies in JUIT, lives at 5th floor.

Floor	Friends	Colleges
8		
7		
6		
5		JUIT
4		
3	M	
2	X	
1	B	VIIT

Now, there are three floors between H and the one, who studies in JUET. The one, who studies in JUET lives just above the floor in which M lives. So the one who studies in JUET lives at 4th floor and H lives at 8th floor. The one, who studies in JU, lives just above on the floor on which the one who studies in SRM lives. The one, who lives just below H, does not study in SRM.

For these above conditions, the one who studies in JU lives at 3rd floor and the one who studies in SRM lives at 2nd floor. Since if we place at 7th floor for JU student, then there will be not place left for the vacant floor.

Floor	Friends	Colleges
8	H	
7		
6		
5		JUIT
4		JUET
3	M	JU
2	X	SRM
1	B	VIIT

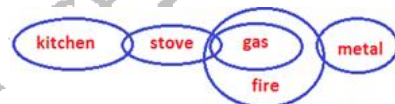
The one, who studies in JUIT, lives at odd numbered floor but below from H. So there is only one space left that is at 7th floor. The floor which is immediately above the floor of W is a vacant floor. So W lives at 5th floor and vacant floor is at 6th floor. L lives above from vacant floor. So L lives at 7th floor and G lives at 4th floor.

Floor	Friends	Colleges
8	H	GGI
7	L	JUIT
6	Vacant	
5	W	JUIT
4	G	JUET
3	M	JU
2	X	SRM
1	B	VIIT

56. (1)
 57. (4)
 58. (5)
 59. (3)
 60. (1)
61-65.

Professors	Subject			Buildings
	English	Mathematics	History	
G	√	x	x	Three
H	x	x	√	Six
I	x	√	x	Five
J	x	x	√	Seven
K	√	x	x	Four
L	x	√	x	One
M	x	√	x	Two

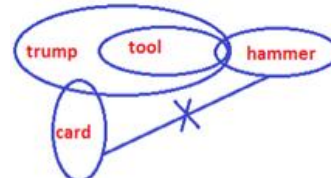
61. (4)
 62. (2)
 63. (3)
 64. (1)
 65. (5)
 66. (4)



67. (4)



68. (2)



69. (4)



70. (2)



- 71-75.**

Step 1.
 From the data given in the question, F is a fan of batsman K and does not like Jumbo rats. R does not like Punjab royals. M is a fan of J. W likes Jaipur

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warriors and he is not a fan of batsman I. H is not a fan of batsman K and he likes Dragons XI. M does not like Flying sharks. D's favourite IPCL team is Adda kings and he is a fan of batsman J.

We get,

Kids	Batsman	IPCL TEAM
M	J	Flying sharks
T		
D	J	Adda kings
F	K	Jumbo rats
H	K	Dragons XI
R		Punjab royals
W	I	Jaipur warriors

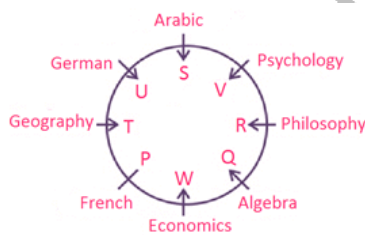
Step 2.

Proceeding further from the given information, Only two kids are fan of J. It means H is a fan of I and W is a fan of K. R and H are not a fan of the same batsmen. It means R is a fan of K. Each batsman has at-least two fans. It means T is a fan of I. Those who like Angry monks and Punjab royals are fan of the same batsman. It means that batsman is K because there is no other possibility. Similarly T will be the one who likes Flying sharks and M likes Jumbo rats since M does not like Flying sharks.

Finally we get our solution as,

Kids	Batsman	IPCL TEAM
M	J	Jumbo rats
T	I	Flying sharks
D	J	Adda kings
F	K	Punjab royals
H	I	Dragons XI
R	K	Angry monks
W	K	Jaipur warriors

71. (5)
72. (2)
73. (2)
74. (3)
75. (1)
76-80.



76. (3)
77. (5)
78. (3)
79. (4)
80. (1)

81-85.

Step 1.

From the data given in the question, L was not born in 1989 or 1963. G wears Kurta-pajama and was born in 1972. J was not born in 1963. K was born in 1997 I was born in 1977.

We get,

Persons	Clothing	Year of Birth
G	Kurta-pajama	1972
H		
I		1977
J		1963
K		1997
L		1989, 1963

Step 2.

Proceeding with remaining data given in the question, Neither J nor H was born in 1980. It means L must be the one who was born in 1980 since there is no other possibility left. The one wearing the Tuxedo was born in 1980 and one wearing a Half-pant was born in 1977. Since J was not born in 1963 so H must be the one who was born in 1963 and J must be the one who was born in 1989 as there is no other possibility left.

We get,

Persons	Clothing	Year of Birth
G	Kurta-pajama	1972
H		1963
I	Half-pant	1977
J		1989
K		1997
L	Tuxedo	1980

Step 3.

Proceeding with remaining data given in the question, Sherwani is not worn by the one who was born in 1989. The one who was born in 1963 does not wear Sherwani or Dhoti. So, sherwani must have been worn by the one who was born in 1997 and Dhoti must have been worn by the one who was born in 1989 as there is no other possibility left.

So, we get our final solution as,

Persons	Clothing	Year of Birth
G	Kurta-pajama	1972
H	Suit	1963
I	Half-pant	1977
J	Dhoti	1989
K	Sherwani	1997
L	Tuxedo	1980

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

The conclusion of the argument is that landmark preservation laws deprive landlords of their right to use their own property. (e) comes to grips with this assumption by nothing that a landmark building may not be purely private property and some part of building may belong to the community at large. (a) does not valid as it represents only a partial attack on argument.(b) strengthens the claims that landmark preservation laws represent an unwanted interference with the rights of the landlord.

87. (3) The argument states that people who follow the appropriate strategies for counteracting their genetic susceptibilities to disease will never get sick. How can it be that they would never get sick? The argument requires an assumption about the cause of all sickness

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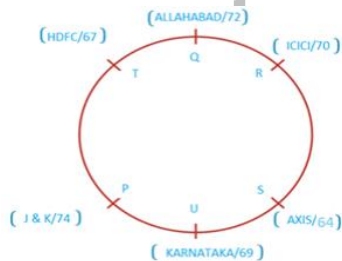
that every known disease of humans must correspond to some genetic susceptibilities. So (c) is the correct option.

88. (4) The author argues for the following connection: videos take money away from movies. What choice (d) asserts, in effect, is that the money spent on videos came from some other source. So, (d) statement undermines the given passage.
89. (2) A hike in fees is no means to make the students more serious in studies. So, argument I is vague. However, with the increase in fees, poor meritorious students would not be able to afford post-graduate studies. So, argument II holds.
90. (2) Oil, being an essential commodity, our country must keep it in reserve. So, argument I is vague, while argument II holds as it provides a substantial reason for the same.

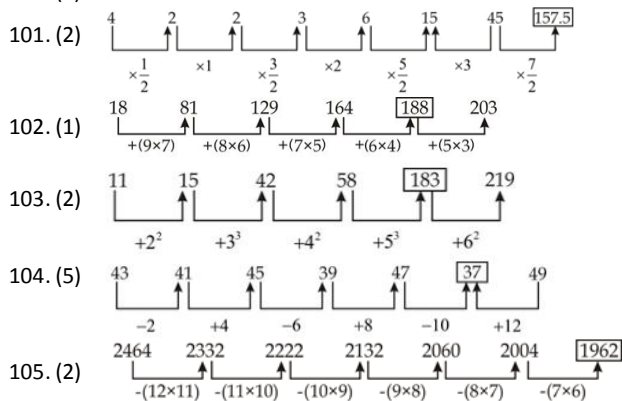
91-95.

Word	Code
Where	lao
Is	hai
Your	tip
Spiritual Power	Sai kin
He	Piu
Goes	Sit
Through	nit
Best	tin
Close	fai

91. (2)
92. (1)
93. (3)
94. (4)
95. (1)
96-100.



96. (3)
97. (5)
98. (4)
99. (4)
100. (2)



106. (4) Females in D3 (Cipla) = $18000 \times \frac{18}{100} \times \frac{4}{9} = 1440$
Females in D3 (Surya) = $17500 \times \frac{18}{100} \times \frac{7}{15} = 1470$
Total = $1440 + 1470 = 2910$
107. (1) Males in D5 (Cipla) = $18000 \times \frac{10}{100} \times \frac{4}{5} = 1440$
Males in D6 (Cipla) = $18000 \times \frac{14}{100} \times \frac{7}{10} = 1764$
Average = $\frac{1440+1764}{2} = 1602$
108. (3) Females in D1 (Surya) = $\frac{24}{100} \times 17500 \times \frac{3}{7} = 1800$
Males in D3 (Cipla) = $\frac{18}{100} \times 18000 \times \frac{5}{9} = 1800$
109. (2) Females in D1 (Cipla) = $\frac{20}{100} \times 1800 \times \frac{5}{9} = 1500$
Female in D4 (Surya) = $\frac{16}{100} \times 17500 \times \frac{5}{14} = 1000$
Ratio = $1500 : 1000 = 3 : 2$
110. (5) Females in D5 (Cipla) = $\frac{10}{100} \times 1800 \times \frac{1}{5} = 360$
Female in D5 (Surya) = $\frac{10}{100} \times 17500 \times \frac{3}{10} = 525$
Difference = 165
111. (2) Let A and B can do $3x$ and $4x$ unit of work in one day.
So,
Total work = $(3x + 4x) \times 8 = 56x$
 $(A + B)$ two day work = $7x \times 2 = 14x$
Remaining work = $42x$
In 6 days B will complete = $6 \times 4x = 24x$ units
So, remaining $18x$ units are completed by C in 6 day
So,
 $56x$ unit will be completed in = $\frac{56x}{\frac{18x}{6}} = \frac{56}{3}$ days

112. (4) Profit will be shared in ratio
 $= 4 \times 6 : 8 \times 3 : 9 \times 4 = 2 : 2 : 3$
C's profit = $\frac{16750}{2} \times 3 = 25125$
113. (1) Downstream speed = $\frac{18}{3} = 6$ km/hr
 $orx + y = 6$ (when $x \rightarrow$ speed of boat in Still water, $y \rightarrow$ speed of current)
speed of current = $\frac{1}{3} \times 6 = 2$ km/hr
Speed of boat in still water = 4 km/hr
Required time = $\frac{100}{(4-2)} = 50$ hour
114. (1) Let cost of B = x
So,
 $\frac{120(x+150)}{70(x)} = \frac{7}{2}$
 $= 24x + 24 \times 150 = 49x$
 $x = 144$
Selling price of A = $\frac{120}{100}(144 + 150)$
 $= \frac{6}{5} \times 294 = 352.8$

115. (2) Required probability
 $= \frac{4c_3 + 4c_2 \times 5c_1}{9c_3} = \frac{4 + 6 \times 5}{84} = \frac{34}{84} = \frac{17}{42}$
116. (2) $42.8 \times 13.5 \times 16.2 \times ? = 2340.09$
 $\therefore ? = \frac{2340.09}{42.8 \times 13.5 \times 16.2} = 0.25$
117. (1) $(3.7)^{-3} \times (13.69)^{-2} \times \frac{1}{50.653} \div (13.69)^{-5} = (3.7)^?$
Or, $(3.7)^? = (3.7)^{-3} \times (3.7)^{-2 \times 2} \times (3.7)^{-3} \times (3.7)^{10}$
 $= (3.7)^{-3-4-3+10} = (3.7)^0$
 $\therefore ? = 0$
118. (3) $\frac{27}{17} \times 2295 \div 9 - ? = \sqrt{729}$
Or, $? = \frac{27}{17} \times 2295 \div 9 - 27$
 $= \frac{27 \times 135}{9} - 27$
 $= 27 \times 15 - 27 = 405 - 27 = 378$

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119. (1) $486 \div ? \times 7392 \div 66 = 1008$
 Or, $\frac{486}{?} \times \frac{7392}{66} = 1008$
 $\therefore ? = \frac{486 \times 7392}{66 \times 1008} = 54$
120. (3) $17.8\% \text{ of } ? = 427.2 \times 8.4\% \text{ of } 135$
 Or, $\frac{17.8 \times ?}{100} = \frac{427.2 \times 8.4 \times 135}{100}$
 $\therefore ? = \frac{427.2 \times 8.4 \times 135}{17.8} = 27216$
121. (2) A \rightarrow Profit percent = 25%
 B \rightarrow Let CP = x,
 SP = 1.25x
 New CP = x + 500
 Profit percentage = $\frac{1.25x - (x + 500)}{x + 500} \times 100 = \frac{100}{9}$
 x = 4000
 Profit = 1000 Rs.
 C \rightarrow C.P. = x
 S.P. = 0.85(x + 1000)
 $\frac{0.85x + 850 - x}{x} \times 100 = 25 - \frac{75}{4}$
 x = 4000
 Profit = (5000 - 4000)
 = 1000 Rs.
 So A and either B or C are sufficient.
122. (5) As we don't know the time for which Rinku borrowed the amount, so the rate of interest can't be determined
123. (5) Let the speed of boat in still water and speed of stream be x and y respectively.
 St A $\rightarrow \frac{45}{x+y} = 3 \Rightarrow x+y = 15$
 St B $\rightarrow y = \frac{1}{4}x \Rightarrow x = 4y$
 St C $\rightarrow \frac{36}{x-y} = 4 \Rightarrow x-y = 9$
 So, any two of the three statements are sufficient to answer the question.
124. (4) St A — Lengths = 4x, 5x
 St B — ratio of speed = 1:2
 St C — speed of 1st train = 36 km/hr
 From B and C
 Speed of second train = 72 km/hr
 As we don't know the directions of their motion so relative speed can't be determined
125. (4) St. C $\rightarrow \frac{\sqrt{3}}{4}a^2 = 16\sqrt{3}$, from here side of the equilateral triangle and height can be calculated.
 St. B — Side of triangle = $\frac{48}{3 \times 2} = 8$
 $h = \frac{\sqrt{3}}{2}a$
 St. A — no conclusion
 So using either B or C alone we can find the height.
126. (2) Let total quantity be x litres
 So,
 $\frac{3}{5}x - \frac{3}{5} \times 12.5 = \frac{x}{2}$
 $\frac{3}{5}x - \frac{x}{2} = 7.5$
 x = 75
 Initial quantity of water
 = $\frac{2}{5} \times 75 = 30$ litre
 Required percentage = $\frac{\text{Final} - \text{Initial}}{\text{Initial}} \times 100$
 $= \frac{30 - \frac{2}{5} \times 12.5 + 12.5 - 30}{30} \times 100$
 $= \frac{37.5 - 30}{30} \times 100 = \frac{7.5}{30} \times 100 = \frac{750}{30} = 25\%$

Or,

	Milk	:	Water
Initial Concentration	3	:	2
Final Concentration	1	:	1

Let total quantity = x

So,

$$\text{Required percentage} = \frac{\frac{1}{2}x - \frac{2}{5}x}{\frac{2}{5}x} \times 100 = 25\%$$

127. (1) Let length of Platform = 100x m

Length of Train = 80x m

$$\text{Speed of trains} = \frac{180x}{60} = 3x \text{ m/sec}$$

$$\text{Speed of person} = \frac{20}{100} \times 3x = \frac{3x}{5} \text{ m/sec}$$

$$\text{Required time} = \frac{80x}{\left(3x + \frac{3x}{5}\right)} = \frac{80 \times 5}{18} = \frac{200}{9} \text{ sec.}$$

128. (1) Total age of 8 members = 8 \times 40 = 320 years

Total age after replacement of 1 member

$$= 320 - 55 + 39 = 304 \text{ year}$$

$$\text{New average} = \frac{304}{8} = 38 \text{ year}$$

\therefore average decreased by 2 years

129. (1) Let, length = x

breadth = y

$$x + y = \frac{160}{2}$$

$$x + y = 80 \quad \dots (a)$$

$$\text{and } x - y = 48 \quad \dots (b)$$

From eqⁿ (a) and eqⁿ (b)

$$x = \frac{128}{2} = 64$$

$$\text{and } y = 16$$

Area of square = Area of rectangle

$$(\text{edge})^2 = 16 \times 64$$

$$\text{Edge} = 4 \times 8$$

$$\text{Edge of square} = 32 \text{ m}$$

130. (4) $\frac{1}{3} + \frac{1}{4} + \frac{x}{12} = 4$

$$\frac{4 + 3 + x}{12} = 4$$

$$x = 41$$

131. (2) Total clerk from A, C and D

$$= 32\% \text{ of } 1200 + 27\% \text{ of } 3200 + 45\% \text{ of } 2200$$

$$= 384 + 864 + 990$$

$$= 2238$$

Total officers from B and E

$$= 54\% \text{ of } 1500 + 80\% \text{ of } 5800$$

$$= 810 + 4640$$

$$= 5450$$

$$\text{Req. Ratio} = \frac{2238}{5450} = \frac{1119}{2725}$$

132. (2) Total employees from C, D and E

$$= 3200 + 2200 + 5800$$

$$= 11200$$

Total officer from C, D and E

$$= (100 - 27)\% \text{ of } 3200 + 55\% \text{ of } 2200 + 80\% \text{ of } 5800$$

$$= 2336 + 1210 + 4640$$

$$= 8186$$

$$\text{Req. difference} = 11200 - 8186 = 3014$$

133. (4) Male clerk in Company D

$$= 60\% \text{ of } 45\% \text{ of } 2200$$

$$= 594$$

Female officer in Company C

$$= 40\% \text{ of } 73\% \text{ of } 3200$$

$$= 934.4$$

$$\text{Red. \%} = \frac{594}{934.4} \times 100 = 63.57\% \approx 65\%$$

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134. (4) Officer in A and B = $816 + 810 = 1626$
 Clerk in C and E = $864 + 1160 = 2024$

$$\text{Req.} = \frac{1626}{2024} \approx 0.8$$
135. (3) Clerk in company X
 = 80% of 46 % of 1500 = 552
 Officer in company X
 = 130% of 55% of 2200 = 1573
 Total employees in company X = $552 + 1573 = 2125$.
136. (3) M.P. of mobile handset = $\frac{3325}{95} \times 100$
 = 3500 Rs.
 \therefore tax = $\frac{20}{100} \times 3500$
 = 700 Rs.
 \therefore Total discount = $(3500 - 3325) + 700$
 = 875 Rs.
137. (2) Alcohol in First Mixture = $\frac{3}{7}$
 Alcohol in second mixture = $\frac{5}{11}$
 Alcohol in Final mixture = $\frac{4}{9}$

$$\therefore \frac{\frac{3}{7} \times \frac{5}{11}}{\frac{4}{9}} = \frac{1}{99} : \frac{1}{63} = 7 : 11$$

 \therefore Required quantity = $\frac{7}{18} \times 18 = 7$ litres
138. (3) The amount of petrol left after 4 operations = $200 \left(1 - \frac{40}{200}\right)^4$
 = 81.92 litres
 \therefore amount of kerosene = $200 - 81.92$
 = 118.08 litres
139. (5) $P = \frac{1000 \times 100}{4 \times 5} = 5000$ Rs.
 Required C.I. = $10000 \left[\left(1 + \frac{5}{100}\right)^2 - 1 \right]$
 = $10000 \times \frac{41}{400} = 1025$ Rs.
140. (1) Required Area of the shaded region
 = $(16)^2 - \left[\frac{1}{2} \times 6 \times 8 + \frac{1}{2} \times 8 \times 6 + \frac{1}{2} \times 16 \times 10 \right]$
 = $256 - 128$
 = 128 cm²
141. (3) Average = $\frac{1}{6} [320 + 280 + 400 + 440 + 380 + 400]$
 = $\frac{2220}{6} = 370$
142. (2)
$$\text{Req. \%} = \frac{(400 + 260) + (440 + 300)}{(360 + 340 + 260 + 300 + 240 + 340)} \times 100$$

 = $\frac{1400}{1840} \times 100 = 76.086\% \approx 75\%$
143. (5)
$$\text{Req. Ratio} = \frac{320 + 360}{400 + 340} = \frac{680}{740} = \frac{34}{37}$$
144. (4) Female graduates from IT in 2014 = 40% of 440
 = 176
 Male graduate from CS in 2016 = 60% of 340
 = 204

$$\text{Req. Ratio} = \frac{176}{204} = \frac{44}{51}$$
145. (1)
$$\text{Req\%} = \frac{(400 + 340) - (280 + 340)}{(280 + 340)} \times 100$$

 = $\frac{740 - 620}{620} \times 100 \approx 20\%$
146. (3) Required Answer = $\frac{35}{100} (30 + 15 + 15)$
 = $\frac{35 \times 60}{100} = 21$ lakh
147. (1) It can be clearly seen from the graph that maximum variation in production in production is of aircel sim cards = $(40\% \text{ of } 44 \text{ lakh} - 30\% \text{ of } 35 \text{ lakh}) = 7.1$ lakh
148. (1) Required difference = $\frac{44 \times 20}{100} - \frac{35 \times 15}{100}$
 = $\frac{880 - 525}{100}$
 = $\frac{355}{100}$ lakh
 = 355000