SOLUTIONS - SNAP 2009

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

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1. d The blank requires the possessive form of the pronoun 'me' to be used. Hence, 'mine' would be the correct answer.

2. d The blank requires a conjunction that would mean 'upto the time of'. Hence, 'till' would be appropriate.

3. c 'Since' is used for any action that has taken place from the past till now. Therefore we use the present perfect tense with the word 'since'. Hence, 'has changed' would be the correct answer.

4. d 'Dias' is the name of a Portugese navigator who was the first to round the Cape Of Good Hope. It cannot be a specific word. Therefore, this spelling is incorrect and the correct spelling is 'dais' which means a raised platform, as in a lecture hall, for speakers or honored guests.

5. d 'Superintendant', 'seive' and 'alloted' are all spelt incorrectly. Their correct spellings are 'superintendent', 'sieve' and 'allotted'. Only, 'dissipate' is the word with the correct spelling.

6. b The preposition 'in' is used for the names of land areas such as towns, cities, countries etc. Similarly, the preposition 'at' is used for specific addresses. Hence, 'in' should be used for 'Bangaluru' which is the name of a city and 'at' should be used for '115, Richmond Road' which is the exact address of the person. So, option(b) is correct.

7. b 'Euphemism' means an inoffensive or indirect expression that is substituted for one that is considered offensive or too harsh. Hence, 'aurally challenged' is the euphemism used for the word 'deaf'.

8. b 'Error' means a deviation from correctness or a mistake and 'fault' means a defect or imperfection. Hence, option (b) is the correct answer.

9. d 'Flouted' means to treat with disdain, scorn or contempt and suits the first blank. 'Flaunted' which means showing off, 'ignored' which means neglect are not suitable for the first blank. 'Broken' is anyways used as an adjective and hence cannot be used. 'Virtually' which means practically or nearly is also fit for the second blank.

10. a 'The Outback' is the specific name of a part of Australia. Hence, it should be within inverted commas.

11. c In the sentence given, 'Rima' is being used as the name that the other person is talking to regarding her desire to drive. Hence, the name should be separated by commas. Hence, there should be a comma before 'Rima' and after 'Rima'.

12. d 'Veracious' means truthful or honest. Hence, option(d) is the correct answer.

13. c 'Perturb' means to disturb or agitate in a strong way. Hence, option(c) is the correct answer.

14. b 'With a high hand' means in an arrogant or dictatorial manner. Hence, 'oppressively' would be close in meaning to this particular idiom.

15. d 'rack one's brains' means to think long and hard. Hence, option(d) is the correct answer.

16. c The idiom 'to get cold feet' means to become very nervous or to lose courage. Hence, option (c) is appropriate.

17. b 'To eat one's words' means to retract or withdraw what one has said. Hence, option(b) is correct.

18. c Both sentences (1) and (4) mean the same that 'they should have checked the tickets'.

19. a All the given answer options are not the opposite of the word 'benevolence' and therefore we need the opposite of the word 'magnanimous' which means generous in forgiving an insult or injury. Hence, 'mean' would be appropriate.

20. c 'Biannual' means occuring twice a year. Hence, option(c) is correct.
(**Note:** Directions of questions number 19 and 20 states that the question statement is a sentence. However, question statement in question 130 is not a sentence. It should be considered independent of the directions given).

21. d 'temporal', 'ephemeral' and 'transient' mean temporary or for a short duration. 'Eternal' means forever and hence, is odd word.

22. c 'Intra' as in intravenous means within the vein.

23. a '……down train ' down is an adjective that modifies train. Only answer choice 'a' has this combination.

24. b gall means bile (noun). It also means something bitter to endure. Only option 'b' has this combination

25. a 'an' in statement 5 'look above…' above is used as an adverb. Only option 'a' has that combination.

26. b 'Idly and sambhar' are taken as individual units which constitute a dish. Hence we will use phrasal verb 'make up ' instead of 'make'.

27. d no error

28. d objective form of indefinite pronoun 'who' should be used.

29. b objective personal pronoun is required and hence correct statement is 2

30. b statement 1 has an error of misplaced modifier. Statement 2 is correct

31. d simple present tense will be used.

32. b Statements 5 and 4 make a mandatory pair. Statement 1 and 3 make a mandatory pair. The Para should start with 5

33. d Statements a, b, c are incorrect as they lack tense consistency

34. b 'apt' means appropriate. 'Considered' means viewed with. 'Able' means capable. 'Likely' means possible and hence is the best fit

35. a 'he hardly cares' means that he doesn't care. In the given blank we require a phrase, which conveys opposite sentiment. Hence 'does he' is appropriate.

36. b direct comparison, Hence, option (b) is a simile.

37. a Death is talked of as a person. Hence, personification is the answer.

38. a 'A way to deal with Frozen Feelings'. Passage talks about dealing with negative childhood experiences. Hence, answer is 'a'.

39. c '…'glitch in learning process' signifies breakdown.

40. b option choice 'b' is taken directly from the passage. Refer to Para 3, line 4.

41. b In order to get the sum as 15 on the uppermost face of a die thrown three times, we have the following possibilities:
(4, 5, 6), (4, 6, 5), (6, 4, 5), (6, 5, 4), (5, 6, 4), (5, 4, 6), (5, 5, 5), (3, 6, 6), (6, 3, 6) and (6, 6, 3)
Total possibilities = 10
Number of favourable possibilities = 2

$\therefore$ Required probability = $\frac{2}{10}=\frac{1}{5}$.

42. * Given that, for a total distance of 30 kms, the boat takes 2 hours in downstream and 6 hours in upstream.
Let 'B' and 'R' be the speed of the boat in still water and stream respectively. So, we can written here

$B + R = \frac{30}{2}=15$ … (i)

$B - R = \frac{30}{6}=5$ … (ii)

Solving (i) and (ii), we get
$2B = 20$
$\Rightarrow$ B = 10 km/ hour.
*** Correct answer is not in the given options.**

43. a All the five-digit numbers, formed by using the digits 1, 2, 3, 4 and 5 without repetition, divisible by 4 will carry their last two digits as 12, 24, 32, 52.
When the last two digits are 12, the number of such five-digit numbers will be = 3 × 2 × 1 = 6
Similarly, for the last two digits to be 24, 32, and 52, number of such five-digit numbers will be 6 in each case.
$\therefore$ Total such numbers = 6 × 4 = 24
Also, number of five-digit numbers formed by using the digits 1, 2, 3, 4 and 5 without repetition = 5 × 4 × 3 × 2 × 1 = 120

$\therefore$ Required probability $=\frac{24}{120}=\frac{1}{5}$.

44. d According to the question, we have

$$\text{Mean}=\frac{23\times 20+(\text{sum of deviation})}{20}=\frac{23\times 20+70}{20}=26.5.$$

45. a The percentage of gold is 80% in 50 gms of alloy. Therefore, we have 40 gms of gold and 10 gms of silver.
Let 'x' gms of gold be added to the alloy.

$\therefore \frac{40+x}{50+x}=0.9 \Rightarrow x = 50$ gm.

46. c Ratio of incomes of the two persons = 7 : 3
Ratio of their expenses = 5 : 2
Since each of them saves Rs.300 per week, therefore, we can write
$7x - 5y = 300$ … (i)
$3x - 2y = 300$ … (ii)
Solving (i) and (ii), we get x = 900
Therefore, income of the first person
= 900 × 7 = Rs.6,300.

47. d Expenditure (E_1) = 24 × C_1 where C_1 is the initial consumption
Later, we have Expenditure (E_2) = 27 × C_2, where C_2 is the new consumption
Now $E_1 = E_2$, therefore, we have

$\frac{C_1}{C_2}=\frac{27}{24}\Rightarrow\frac{C_2}{C_1}=\frac{24}{27}=\frac{8}{9}$

Hence, decrease in consumption = $\frac{1}{9}\times 100 = 11.1\%$.

48. b In order to go from one station to another and come back to the starting one, we need 2 tickets.
Number of ways to select 2 stations out of 10 = $^{10}C_2$.
$\therefore$ Number of different journey tickets required by the authorities = 2 × $^{10}C_2$ = 90.

49. b 5% increase in circumference of a circle implies 5% increase in radius of the circle.

Initial area = πr^2

New area = $\pi(1.05r)^2 = (1.1025)\pi r^2$

Therefore, the area of the circle increases by 10.25%.

50. d Treating all the vowels as one entity, we have four places to fill, which can be filled in 4! ways.
The consonants B, C and S can be filled in 3! ways

$\therefore$ Required number of ways = $\frac{4!\times 3!}{2!}$

Note: Division by 2! is done since there are two A's.

51. c Let 'r' be the rate of interest.

$8000=6000\left(1+\frac{r}{100}\right)^4$ … (i)

Also, let 't' be the time when Rs.525 will amount to Rs.700.

Therefore, $700=525\left(1+\frac{r}{100}\right)^t$. … (ii)

From (i) and (ii), we get

$$\frac{8000}{700}=\frac{6000}{525}\left(1+\frac{r}{100}\right)^{4-t}\Rightarrow 1=\left(1+\frac{r}{100}\right)^{4-t}$$

$\therefore 4 - t = 0$ or $t = 4$ years.

Note: We have considered compound interest in this solution. Even if we would have considered simple interest, 't' would have been the same.

52. d At the start of a game of cards
J + B = 4T
or J + B + T = 5T

$\Rightarrow T=\frac{1}{5}(J+B+T)$ …(i)

From equation (i), we can see that T had (1/5)th of the total money at the begining of the game. Hence, option (d) is the correct choice.

53. a Initially J had Rs. $\left(\frac{T+B+J}{4}\right)$ and at the end of the evening, J had Rs. $\left(\frac{T+B+J}{3}\right)$.

Therefore, J won =

$$\left(\frac{T+B+J}{3}\right)-\left(\frac{T+B+J}{4}\right)=\frac{T+B+J}{12}$$

i.e., $\frac{1}{12}$th of the total money.

Hence, option (a) is the correct choice.

54. c Initially B had $\frac{11}{20}$th of the total money.

At the end, B had $\frac{5}{12}$th of the total money.

$\therefore \frac{11}{20}$ of total money $- \frac{5}{12}$ of total money $= 200$

$\Rightarrow$ Total money = Rs.1500

Hence, B initially had Rs.825.

55. d **Statement I:** $a - b < a - c$

$\Rightarrow -b < -c$ …(i)

As b is negative, –b will be positive.

As c is positive, –c will be negative.

$\therefore -c < -b$, which contradicts (i)

Therefore, statement I is false.

Statement II: $a < b$

$\Rightarrow \frac{a}{c} < \frac{b}{c}$

Since c is positive, $\frac{1}{c}$ is also positive. Multiplying both sides of the in equality by a positive number doesn't change the inequality.

Therefore, statement II is true.

Statement III: $\frac{1}{b} < \frac{1}{c}$

Since $\frac{1}{b}$ is negtaive and $\frac{1}{c}$ is postive, this inequality holds true.

Therefore, statement III is true.

56. a Let the side of the square with diagonal $4\sqrt{2}$ cm be 'x'. So we have

$x^2 + x^2 = 32 \Rightarrow x = 4$ cm

Area of the square = 16 sq. cm

Area of the new square = 32 sq. cm

$\therefore$ It's diagonal = $\sqrt{64} = 8$ cm .

57. c Diagonal of the base = $\sqrt{6^2 + 8^2} = 10$ cm

$\therefore$ Maximum length of a pencil = $\sqrt{10^2 + 2^2} = 2\sqrt{26}$ cm.

58. c The number of people who read at least one newspaper = 8.7 + 9.1 + 5.6 – (1.5 + 2 + 3) + 0.5 = 17.4

Hence, option (c) is the correct choice.

59. b The number of people who read only one newspaper = 4.7 + 4.6 + 2.6 = 11.9

60. a Let Sonali's monthly income be Rs.x.

According to the question,

30% of x = 12,750 $\Rightarrow$ x = Rs.42,500.

61. a Let 'x' kg of tea worth Rs.25 per kg be blended with 30 kgs of tea worth Rs.30 per kgs. So, we have

$$\frac{25x + 30 \times 30}{x + 30} = \frac{100}{110} \times 30 = \frac{300}{11} \Rightarrow x = 36 \text{ kg}.$$

62. * Wrong question 0.85G + 0.7B = 0.75 (G + B)

$\Rightarrow 2G = B$ …(i)

Also, G + B = 80 …(ii)

By solving (i) and (ii), we get a non-integral number of girls, which is not possible.

63. b According to the question, 300 gms of salt solution has 120 gms of salt.

Let 'x' gm be added to make it a 50% salt solution.

So we have,

$$\frac{120 + x}{300 + x} = \frac{1}{2} \Rightarrow x = 60 \text{ gms}$$

Hence, option (b) is the correct choice.

64. d The required number = $\frac{192}{8} = 24$.

65. b Each row and column has a circle, a square and a triangle, which are shaded black, light shaded and white in colour. Also, the letter at the top is C, T and +. Hence, the figure replacing the question mark is 

.

66. c A five-digit number is divisible by 3 if the sum of its digits is a multiple of 3.

Of the given six numericals, 0 + 1 + 2 + 3 + 4 + 5 = 15.

Thus, two cases arise.

Case I: Five-digit number formed by 0, 1, 2, 4 and 5

The first place cannot be occupied by zero, so there are four ways in which the first place can be filled. The remaining four places can be filled in (4!) or 24 ways.

$\therefore$ Number of such five-digit numbers = 4 × (4!) = 96.

Case II: Five-digit number formed by 1, 2, 3, 4 and 5.

Number of such five-digit numbers = 5! = 120

Therefore, total five-digit numbers thus formed = 96 + 120 = 216.

67. c In 25 days, 105 men working for 8 hours a day completed $\frac{2}{5}^{th}$ of the work.

Therefore, $\frac{2}{5}^{th}$ of the work = 25 × 105 × 8 man days of work.

The remaining $\frac{3}{5}^{th}$ of the work = $25 \times 105 \times 8 \times \left(\frac{3}{2}\right)$ man days of work.

Now, m men working for 9 hours a days completes the remaining work in 25 days.

$m \times 25 \times 9 = 25 \times 105 \times 8 \times \left(\frac{3}{2}\right)$

$\Rightarrow m = 140$

Therefore, (140 – 105) = 35 additional men needs to be employed to complete the work on time.

68. d A takes 8 days to build the structure.

B takes 3 days to break it.

LCM of (8, 3) = 24

In 4 days, A will complete 12 units of work.

In 2 days, A and B will complete 10 units of work.

$\therefore$ In first 6 days, 2 units of work gets completed.

Therefore, 22 units still need to be completed.

Hence, A will complete the work in $\frac{22}{3}$ days.

69. c Given that

$a + ar = 12$ … (i)

$ar^2 + ar^3 = 48$ … (ii)

Dividing (i) by (ii), we get

$$\frac{1 + r}{r^2(1 + r)} = \frac{12}{48}$$

$\Rightarrow r^2 = 4 \Rightarrow r = \pm 2$

For $r = \pm 2$, we get a = –12 or 4

But a = 4 is not possible. Thus a = –12.

Hence, option (c) is the correct choice.

70. c According to the given condition, we have
$a + b = 7$ … (i)

$$\frac{\Sigma(x)^2}{n} - \left(\frac{\Sigma x}{n}\right)^2 = 6.8 \quad \text{… (ii)}$$

Here, n = 5 and $\frac{\Sigma x}{n} = 6$, so putting these values, we get

$\Sigma(x)^2 = 214$

$\Rightarrow a^2 + b^2 + 64 + 25 + 100 = 214$

$\Rightarrow a^2 + b^2 = 25$ … (iii)

Looking at the options, we get a = 3, b = 4, which satisfies equation (iii).

71. a The required commission = 15,000 × (12.5%) = Rs.1,875.

72. b Following the rules of BODMAS,

$\sqrt{110.25} \times \sqrt{0.01} \div \sqrt{0.0025} - \sqrt{420.25}$

$= \sqrt{110.25} \times \sqrt{4} - \sqrt{420.25}$

$= \sqrt{441} - \sqrt{420.25} = 21 - 20.5 = 0.5.$

73. b The required percentage = $\frac{5}{66} \times 100 = 7.6\%$

74. a The required percentage = $\frac{21}{33} \times 100 \approx 64\%.$

75. d The required percentage = $\frac{16}{134} \times 100 \approx 12\%.$

76. d The required percentage = $\frac{112}{1049} \times 100 = 10.7\%.$

77. b The number of students in the Engineering faculty

$$= \frac{9}{100} \times \frac{1049 \times 100}{23} \approx 410.$$

78. b Number of students in the University

$$x = \frac{1049 \times 100}{23} \approx 4560.$$

79. d The number of Asian studies studying Science

$$= 4560 \times \frac{21}{100} \times \frac{6}{100} \approx 57.$$

80. d The required percentage = $\frac{34}{\frac{5}{100} \times 4560} \times 100 \approx 15\%.$

81. a 82. d 83. a 84. a 85. d 86. a 87. a

88. c 89. d 90. b 91. c 92. b 93. b 94. c

95. b 96. d 97. b 98. b 99. a 100. b 101. d

102. d 103. a 104. d 105. a 106. c 107. c 108. d

109. c 110. a 111. a 112. c 113. a 114. c 115. c

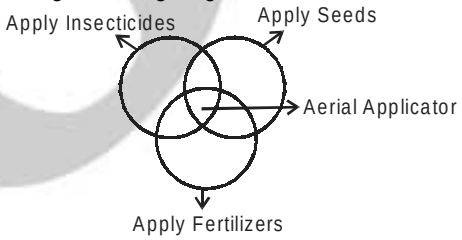
116. d 117. c 118. b 119. b 120. d

121. b Only the 'option b' satisfies the very first condition where 'A gives B and C a many tractors as they already have'.
Analysing option b -

Step 1: A gives B and C as many tractors as they already have
So now A, B and C will have (in that order) 6, 42 and 24 tractors
Step 2: B gives A and C as many tractors as they already have
So now A, B and C will have (in that order) 12, 12 and 48 tractors
Step 3: C gives B and A as many tractors as they already have
So now A, B and C will have (in that order) 24, 24 and 24 tractors

122. b Option (a) is incorrect as it is not necessary that a desktop publisher career requires skills in reading, communication, and mathematics. It is general statement given about the new jobs. Following the same logic, we can reject option (c) as well. Option (d) is incorrect as it talks about all the new jobs. According to the question statement, it is true only for most of the 'new jobs' and not all the jobs. Option (b) is the correct answer as it represents the information given in the question statement correctly.

123. d The question statement clearly states that 'without the use of crop ……. by more than 50 percent'. But this does not imply that use of crop protection products to control insects, weeds and diseases, will ensure that production cannot fall below 50 percent. Hence, option (d) cannot be validly concluded. Options (a) is not the correct choice as it can be validly concluded from the information given in the question. In first line it is clearly given that 'without the use of crop……..more than 50 percent.' Options (b) and (c) can be concluded from the question statement. It can be represented through following diagram:



124. b Evelyn accepts that Lou's premises are true. This justifies Lou's conclusion. Hence, the conclusion that Evelyn gave is unwarranted. Hence, option (b) is the correct answer Option (c) is incorrect choice, as if Evelyn is correct about Lou's argument, this does not make Evelyn's conclusion well supported. Option (d) is not the correct choice, as if Evelyn is mistaken about Lou's argument, does not prove that Evelyn's conclusion as false.

125. b The argument given in the question statement can be weakened by proving that the planes are safer than the cars. Option (a) is not the correct choice, as more inspection of planes does not guarantee that planes safer than cars. Following the same logic, one cannot prove that the planes are safer than the cars. Option (d) is not the correct choice as even if the air traffic controller is at fault, this does not make the planes safer than the cars. Option (b) is the correct answer as it implies that the proportion of car accidents is greater than the proportion of planes accidents.

126. b From the chart it is evident that industry B and C contribute to company S.

127. d Industry B processes element 4, 5 and 6 which are also processed by other industries. It is not possible to determine the percentage share of industry B. So answer must be cannot be determined.

128. c Industry A processes all 6 elements. Total production of these 6 elements is 100,000.

129. *b Decrease is an antonym of increase. Similarly, ascend is the opposite of descend. Hence, Option (b) 'RB' is the correct answer. The actual answer would be 'BR' but it seems that the test makers put it as 'RB' inadvertently. However, if 'RB' was not put erroneously, the next best option is AR.

130. a Modern and ancient are antonyms. Similarly, fashion as young and old are antonyms. Hence, option (a) 'AQ' is the correct answer.

131. b Part and whole are related in the similar fashion as class and school are. Hence, option (b) 'BQ' is the correct answer.

132. a Summit and apex have relationship of synonyms. Similarly, beautiful and pretty have relationship of synonyms. Hence, the correct answer is option (a) 'AQ'.

133. b B E A U T I F U L B U T T E R
5 7 3 0 4 1 2 0 8 5 0 4 4 7 9

Therefore, F = 2, U = 0, T = 4, U = 0, R = 9 and E = 7
Hence, code of FUTURE is 204097.

134. d For a 31 days month, number of Mondays = 5
For a 30 days month, number of Mondays = 4
For a 29 days month, number of Mondays = 4
For a 28 days month, number of Mondays = 4
Hence, the answer is 'cannot be specified'.

135. b 102 can be written as $\frac{17\times12}{2}$.

Therefore, '?' must be $\frac{15\times10}{2} = 75$.

136. b 336 can be written as 2 × 12 × 14.
So '?' must be 2 × 15 × 16 = 480.

137. a From statement III, we can conclude that G must be in the other boat as B is there in the given boat. One case that satisfies the given conditions is -
Boat 1 – F, B, D and C
Boat 2 – A, E and G
All other three options are false according to the above case.

138. d If E gets the boat with F, then A must get the same boat (Statement I)
Now, G cannot be in the other boat as then both C and B will have to be in the same boat as E and F. (hence violating the condition by Statement IV)
So correct arrangement must be -
Boat 1 – E, F, A and G
Boat 2 – C, D and B

139. c From left figure to right figure, number of both horizontal and vertical lines are decreasing by one.

140. c From left figure to right figure, dots remain at the same side but sticks rotate by 180°.

141.*a First letter of each term is increasing by 2 in position number. Similarly, 2nd, 3rd and 4th letters are increasing by 2 in position numbers. Therefore, MSYE is the 4th term. Hence, option (a) is the correct answer.
*** Note: Here V is typing error, it should be U.**

142. b **For Mohan -**
Cost due to STD calls = Rs.45 to Rs.60
Cost due to Local calls = 30(2) + 40(1) + 30(1) = 130
Overall cost ranges between Rs.175 and Rs.190.

For Rohan -
Cost due to STD calls = Rs.27 to Rs.36
Cost due to Local calls = 36(1) + 48(2) + 36(1) = 168
Overall cost ranges between Rs.195 and Rs.204.
So Rohan definitely would have spent more than Mohan.

143. a Let us analyse each option
Option a - Initial cost = Rs.38 × 1.5 = Rs.57
Cost according to new SMS scheme = Rs.35 + Rs.38 × 0.60 = Rs.57.80
Option b - Initial cost = Rs.40 × 1.5 = Rs.60
Cost according to new SMS scheme = Rs.35 + Rs.40 × 0.60 = Rs.59.00
Option c - Initial cost = Rs.60 × 1.5 = Rs.90
Cost according to new SMS scheme = Rs.35 + Rs.60 × 0.60 = Rs.71.00
Option d - Initial cost = Rs.59 × 1.5 = Rs.88.50
Cost according to new SMS scheme = Rs.35 + Rs.59 × 0.60 = Rs.70.40
∴ A person sending 38 local SMS (option a) a month won't benefit.

144. d From option d -
Cost due to STD calls = Rs.48.50
Cost due to local calls = At least Rs.55
Cost due to price of plan = Rs.99
∴ Total bill must be more than that of Rs.199/Month.

145. a Let 'a' be the number of calls made to group of countries "USA, Canada, Europe (Fixed line)", 'b' be the number of calls made to group of countries "Gulf, Europe (Mobile), SAARC" and 'c' be the number of calls made to group of countries "Rest of the world".
∴ Total bills from ISD calls = 7a + 10b + 40c and a + b + c = 12

$\Rightarrow 40c = \frac{80}{100} \times (7a + 10b + 40c)$

$\Rightarrow 5 \times 40c = 4 \times (7a + 10b + 40c)$

$\Rightarrow 40c = 4 \times (7a + 10b)$

$\Rightarrow a = \frac{10(c-b)}{7}$

As 'a' is an integer, therefore c – b can be either 0 or 7.
Case I : When c – b = 0, then a = 0 and b = c = 6
Case II : When c – b = 7, then a = 10 and c = 7 + b
$\Rightarrow$ a + c is $\geq$ 17, but a + b + c = 12.
∴ This is not possible.
Hence, minimum 0 calls were made to group of countries "USA, Canada, Europe (Fixed line)".

146. c Average demand of five companies

$= \frac{(3000 + 600 + 2500 + 1200 + 3300)}{5} = \frac{10600}{5} = 2120$

Average production of five companies

$= \frac{(1500 + 1800 + 1000 + 2700 + 2200)}{5} = \frac{9200}{5} = 1840$

Required difference = 2120 – 1840 = 280.

147. a $\frac{\text{Production of company D}}{\text{Production of company A}} = \frac{2700}{1500} = 1.8$.

148. b Paper cost = 10%

Angle representing paper cost = $\frac{10}{100} \times 360 = 36$ degrees.

149. d 2% of the total cost = Rs.2,000
∴ Total cost = Rs.1,00,000
For 5% profit, total sale price of 12,500 copies
= 1.05 × 1,00,000 = Rs.1,05,000

∴ Sale price per copy = $\frac{10,5000}{12,500}$ = Rs.8.40.

150. d Fruit grows on a tree and tree is called sky.