ANSWER KEY- SNAP 2004

1	c	**2**	c	**3**	b	**4**	d	**5**	d	**6**	d	**7**	d	**8**	c	**9**	c	**10**	b
11	b	**12**	d	**13**	a	**14**	a	**15**	b	**16**	*	**17**	*	**18**	c	**19**	c	**20**	c
21	a	**22**	b	**23**	c	**24**	b	**25**	c	**26**	d	**27**	d	**28**	d	**29**	d	**30**	c
31	c	**32**	b	**33**	c	**34**	*	**35**	b	**36**	a	**37**	b	**38**	b	**39**	a	**40**	d
41	d	**42**	c	**43**	a	**44**	a	**45**	d	**46**	c	**47**	b	**48**	*	**49**	b	**50**	b
51	a	**52**	a	**53**	d	**54**	a	**55**	d	**56**	b	**57**	d	**58**	d	**59**	a	**60**	d
61	c	**62**	c	**63**	d	**64**	a	**65**	d	**66**	b	**67**	a	**68**	d	**69**	b	**70**	c
71	c	**72**	c	**73**	b	**74**	a	**75**	a	**76**	b	**77**	d	**78**	d	**79**	b	**80**	d
81	b	**82**	b	**83**	d	**84**	c	**85**	b	**86**	a	**87**	c	**88**	a	**89**	b	**90**	b
91	d	**92**	a	**93**	a	**94**	b	**95**	a	**96**	a	**97**	c	**98**	a	**99**	a	**100**	d
101	a	**102**	b	**103**	c	**104**	c	**105**	d	**106**	c	**107**	*	**108**	*	**109**	c	**110**	c
111	a	**112**	c	**113**	*c	**114**	c	**115**	d	**116**	d	**117**	d	**118**	a	**119**	d	**120**	a
121	c	**122**	b	**123**	a	**124**	d	**125**	b	**126**	d	**127**	a	**128**	c	**129**	*	**130**	a
131	d	**132**	b	**133**	c	**134**	a	**135**	a	**136**	c	**137**	d	**138**	d	**139**	a	**140**	d
141	c	**142**	d	**143**	c	**144**	d	**145**	a	**146**	b	**147**	c	**148**	d	**149**	b	**150**	c
151	b	**152**	b	**153**	b	**154**	d	**155**	b	**156**	c	**157**	b	**158**	c	**159**	a	**160**	a

SOLUTIONS - SNAP 2004

1. c $c^z = (b^y)^z = (a^{xy})^z = a^{xyz} = a$

$\Rightarrow xyz = 1.$

2. c For a unique solution,

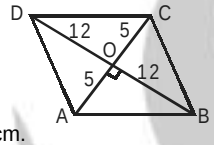
$$\frac{a}{a-b} \neq \frac{-(a+b)}{a} \Rightarrow a^2 : b^2 \neq 1 : 2.$$

3. b Let a two-digit number be 10x + y.
Sum of the digits of the number = x + y
∴ The difference = (10x + y) – (x + y) = 9x
Therefore, the result is divisible by 9.
Note: (Same can be checked for three or more digit numbers as well and in each case the result will be divisible by 9. Hence, the difference will always be divisible by 9.)

4. d $AB^2 = OA^2 + OB^2$

$= 5^2 + 12^2$

$\Rightarrow AB = 13$ cm



Hence, perimeter = 4AB = 52 cm.

5. d The locus of the centres of the circles would be the bisector of the angle because arms of the acute angle will always be a tangent to the circles.

6. d Cosine of an angle is negative in IInd and IIIrd quadrants only. Hence, cos140° is a negative quantity.

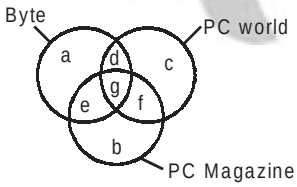
7. d Volume of cone : Volume of cylinder : Volume of hemisphere

$$= \frac{1}{3}\pi r^2 h : \pi r^2 h : \frac{2}{3}\pi r^3$$

$$= \frac{1}{3}\pi r^3 : \pi r^3 : \frac{2}{3}\pi r^3 \quad \text{(Since r = h)}$$

= 1 : 3 : 2.

8. c a + d + e + g = 48 ... (i)
b + e + f + g = 44 ... (ii)
c + d + f + g = 39 ... (iii)
a + b + c + d + e + f + g = 100 – 20 = 80 ... (iv)



Adding (i), (ii) and (iii) and subtracting (iv) from it, we get
d + e + f + 2g = (48 + 44 + 39) – 80 = 51 ...(v)
Also, d + g = 17
g + f = 18
e + g = 22
On adding above equations, we get
d + e + f + 3g = 57 ...(vi)

From (v) and (vi),
d + e + f = 39, g = 6
∴ a + b + c = 80 – (39 + 6) = 35.

9. c Number of hours between Tuesday 10 a.m. and Saturday 6 a.m. = 24 × 4 + 8 = 104
∴ Total time gained by the watch = (104 × 15) sec

$$= \frac{104 \times 15}{60} \text{min} = 26 \text{ min}$$

∴ Watch will show 6.26 p.m. on Saturday.

10. b $\theta = \frac{11}{2}m - 30h = \frac{11 \times 54}{2} - 30 \times 6 = 117°.$

11. b Let the six consecutive odd integers be
(2n – 5), (2n – 3), (2n – 1), (2n + 1), (2n + 3) and (2n + 5).
Sum of the integers = 888
$\Rightarrow$ 12n = 888
∴ n = 74

$$\text{Median} = \frac{\text{Sum of middle terms}}{2} = \frac{(2n-1)+(2n+1)}{2} = 2n$$

= 74 × 2 = 148.

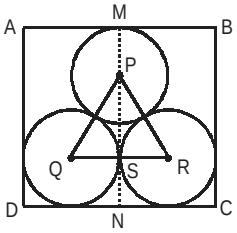
12. d $1 = \left(\frac{3}{4}\right)\left(1 + \frac{y}{x}\right)$

$$\Rightarrow 1 + \frac{y}{x} = \frac{4}{3} = 1 + \frac{1}{3}$$

$$\Rightarrow \frac{y}{x} = \frac{1}{3}$$

$$\Rightarrow y = \frac{x}{3}.$$

13. a



$PS = \sqrt{PQ^2 - QS^2} = \sqrt{(20)^2 - (10)^2} = 10\sqrt{3}$ cm

$\therefore MN = MP + PS + SN = 10 + 10\sqrt{3} + 10$

$= (20 + 10\sqrt{3})$ cm

Also, AB = (20 + 20) = 40 cm.
∴ Area of rectangle = AB × AD = AB × MN

$= 40 \times (20 + 10\sqrt{3})$

$= 800 + 400\sqrt{3}$ cm^2.

14. a $x^2y^3z < 0$

$\Rightarrow x^2y^2.yz < 0$

$\Rightarrow yz < 0$ $\{\because x^2y^2$ will always be positive$\}$.

15. b Let the first term of the sequence be a.

Therefore, sum of z consecutive integers $= \frac{z(2a + (z-1))}{2}$

$\therefore$ z should always be a multiple of 4 for the sum to be even.

16. * The correct answer i.e. 5 kg is not present in the options.

17. * It is not clear from the figure which angle is 30°.

18. c Value of stocks at present
= 100000(1 + 0.1)(1 + 0.05)(1 – 0.1) = Rs.1,03,950.

19. c Positive drug cases in 1st phase = 85% of 100 = 85.
Let the number of tests conducted in 2nd phase be x.
$\therefore$ 85 + 0.55x = 0.75(100 + x)
$\Rightarrow$ x = 50
$\therefore$ Total number of tests = 100 + 50 = 150.

20. c The least possible distance that could be measured will be surely in the middle.
Hence, the shortest length that could be measured

$= \frac{3}{5} - \frac{4}{7} = \frac{1}{35}$.

21. a Let the present age of Akshit be x.
Therefore, Mohit's present age = x + 24
$\therefore$ 3x = x + 24
$\Rightarrow$ x = 12 years.
Let y years ago Mohit's age was 4 times that of Akshit.
$\therefore$ 4(12 – y) = 36 – y
$\Rightarrow$ y = 4.

22. b Every prime number is divisible by 1 and itself only.
Therefore, 7 is the only possible number.

23. c Distance covered by Ashish in an hour = 4 km.
$\therefore$ Distance between the two after an hour
= 53 – 4 = 49 km.

$\therefore$ Time taken $= \frac{49}{(4+3)} = 7\,\text{hr}.$

Distance from Tanvi's home = 3 × 7 = 21 km.

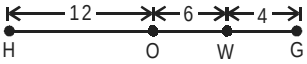
24. b Population after 1 hour $= 10^4 \times \left(\frac{60}{15}\right)^4 = 4^4(10)^4$.

25. c For the largest part of the job to be finished in an hour, the two fastest machines should be put at work.

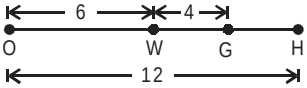
$= \frac{1}{4} + \frac{1}{5} = \frac{9}{20}$.

26. d Since line x = y is perpendicular bisector of AB,
B would be a reflection of A.
$\therefore$ Coordinates of B are (–3, –4).
Similarly, BC is bisected by x-axis.
$\therefore$ Coordinates of C will be (–3, 4).

27. d Let H, O, W and G points represent home, office, wife's office and gym respectively.
Case I:- For distance to be maximum



$\therefore$ x = 12 + 6 + 4 = 22 km.
Case II:- For distance to be minimum



$\therefore$ x = 12 – (6 + 4) = 2 km.
From Case I and Case II, $2 \le x \le 22$.

28. d Sum of the numbers in the columns form on A.P., i.e., –6, –12, –18…, –36.
$\therefore$ Sum of the numbers in the given table

$= \frac{6}{2}\{2 \times (-6) + (6-1) \times 6\} = -126.$

29. d Difference between a two digit number and number formed by reversing the digits of the number is of the form 9(x – y).
$\Rightarrow$ 9(x – y) = 54
$\therefore$ x – y = 6
Only option (b) and (d) satisfy the above condition. But, option (b) cannot be the answer as the reversed amount should be greater than the original one.

30. c Probability of getting a head in the sixth toss $= \frac{1}{2} = 50\%$.

31. c Let the number of physics and philosophy books be x and y respectively.
Either of the statements alone is not sufficient.
Using both the statements:
From (1), y = 4x
From (2), y – x = 36
$\therefore$ x = 12 and y = 48.

32. b From (1), A > 0.
On the basis of the above information, we cannot say whether A is integer or not.
From (2), A = ±13.
In either of the cases, A is an integer.

33. c Either of the statements alone is not sufficient.
Using both the statements:
5w + 20 + 3w = 180° (Linear pair)
$\Rightarrow$ w = 20°
Also, Y = 4x.
$\Rightarrow$ 5w + 20 = 4x
$\therefore$ x = 30°.

34. * Since product of two odd integers is always an odd integer. So, either of the statements is alone sufficient.
However, there is no such option.
(**Note:** Correct answer is not available in the given options)

35. b Statement (1) is alone not sufficient.
Using statement(2),

Amount of coconut oil $= \left(1 - \frac{1}{6} - \frac{5}{12}\right) \times 500$

$= \frac{5}{12} \times 500 = 208.33$ ml.

36. a Average = $\frac{a+b+c+d}{4} = 22$

$\therefore$ a + b + c + d = 88.
From statement (1),

$d = 3\left(\frac{a+b+c}{3}\right) = a+b+c$ (Greatest).

37. b Statement (1) alone is not sufficient.
Using statement (2),
A = 8 and B = 7

$$\text{Since, } \begin{array}{r} X\ 5 \\ +2\ Y \\ \hline A\ B \end{array}$$

$\therefore$ Y = 7 – 5 = 2 and X = 8 – 2 = 6.

38. b Statement (1) is alone not sufficient.
Using statement (2),

Number of rotations = $\frac{1000}{2\pi r} = \frac{1000}{2\pi(0.3)}$

39. a From statement (1),
ab = –12
Also, $ab^2 = 36$.
$\Rightarrow$ b = –3 and a = 4
Hence, statement (1) is alone sufficient.

40. d Information given in the two statements is inadequate.

41. d From (2), 20 males $\cong$ 30%.

$\therefore$ Total males = $\frac{100}{30} \times 20 \cong 67$.

From (1), $\frac{1}{3}$ of 60% females recommended, but number of females is not known.

42. c Either of the statements alone is not sufficient.
Using both the statements,
let production staff be x.
From statement (2),
$\therefore$ administrative staff = x – 40
From statement (1),
(x – 40) 1.12 = 0.8 (x × 1.2)
$\Rightarrow$ x = 280.

43. a Using statement (1),
Sheetal was born in 1975 + 3.5 years, i.e, 1979
Statement (2) is alone not sufficient.

44. a Using statement (1),

$2^{\sqrt{x}} = 4$
$\Rightarrow 2^{\sqrt{x}} = 2^2$
$\Rightarrow x = 2^2 = 4$

Hence, 2^x is not greater than 100.
Statement (2) is alone not sufficient.

45. d Income (in Rs. crores) from hardware services in 2002

$= \left(\frac{72.4 \times 100}{(100+45)}\right) = 49.93$

Income (in Rs. crores) from security services in 2002

$= \left(\frac{54.7 \times 100}{(100-2)}\right) = 55.82$

Income (in Rs. crores) from software services in 2002

$= \left(\frac{112.3 \times 100}{100+298}\right) = 28.22$

Income (in Rs. crores) from consulting services in 2002

$= \left(\frac{48.9 \times 100}{100-27}\right) = 67$

$\therefore$ BU had maximum income in consulting service.

For questions 46 to 55:

Year	Total Revenue	Software price (Rs)	Hardware price(Rs)	Hardware GP(% of Sales	Other expenses	Number of units	Gross profit on Hardware	Gross profit on Software	Total gross profit	overall profit or loss	percentage gross profit on hardware
1992	4,320,000	140,000	220,000	22	380,000	12	48400	46666.66667	1140800	760,800	28.20512821
1993	5,760,000	150,000	170,000	18	496,000	18	30600	50000	1450800	954800	21.95121951
1994	8,100,000	180,000	120,000	16	1,000,000	27	19200	60000	2138400	1138400	19.04761905
1995	9,880,000	180,000	80,000	14	1,680,000	38	11200	60000	2705600	1025600	16.27906977
1996	12,600,000	225,000	75,000	12	1,840,000	42	9000	75000	3528000	1688000	13.63636364
1997	12,000,000	200,000	50,000	10	2,870,000	48	5000	66666.66667	3440000	570000	11.11111111
1998	12,800,000	150,000	50,000	8	3,700,000	64	4000	50000	3456000	-244000	8.695652174
1999	7,560,000	165,000	45,000	6	4,000,000	36	2700	55000	2077200	-1922800	6.382978723
2000	7,980,000	165,000	45,000	4	3,300,000	38	1800	55000	2158400	-1141600	4.166666667
2001	4,400,000	165,000	35,000	3	2,600,000	22	1050	55000	1233100	-1366900	3.092783505

Number of software or hardware

$$= \frac{\text{Total revenue}}{\text{Price of sotfware} + \text{Price of hardware}}$$

Gross profit on software = Price of software × 0.33
Gross profit on hardware = Price of hardware × corresponding profit on it.
Total gross profit on software and hardware = Number of software or hardware × (gross profit on each software + gross profit on each hardware)
Percentage gross profit on each unit of hardware

$$= \frac{\text{Profit percent} \times 100}{100 - \text{Profit percent}}.$$

46. c

47. b

48. * Total gross profit in 1996 = 3528000 ≈ 3.5 million.

49. b Overall profit has got negative in the year 1998.Hence from 1998 it has started making loss.

50. b The total gross profit in 2000 was 2158400 ≈ 2.15 million.

51. a The gross profit per unit hardware sold in 1992 was 48400 ≈ 50,000.

52. a percentage gross profit on software

$$= \frac{\text{profit percent} \times 100}{100 - \text{profit percent}} = \frac{33.33 \times 100}{100 - 33.33} = 50\%$$

So it is closest to hardware for the year 1992.

53. d

54. a

55. d

56. b By going as per the option steepest increase commercial consumption if for 1997 – 98 = 1408 – 935 = 473.

57. d Percentage increase in per capita consumption for the period

$$1979\text{–}2000 = \frac{91.15 - 45.57}{45.57} \times 100 \approx 100\%.$$

58. d Percentage of domestic consumption out of total consumption of water

$$= \frac{\text{Total domestic consumption}}{\text{Total consumption}} \times 100$$

$$= \frac{61325}{70306} \times 100 = 87.22 \approx 88\%.$$

59. a Total metered and unmetered connections crossed 1.2 million mark first time 1996–97.

60. d Percentage increase in metered connection in1994-95 over (1995–96

$$= \frac{853807 - 826624}{826624} \times 100 = 3.28\%$$

Percentage increase in unmetered connection during the same period

$$= \frac{315687 - 311262}{311262} \times 100 = 1.42\%.$$

Hence, option (d) is the most appropriate answer.

61. c Density for,

$$\text{India} = \frac{944580000}{3287590} \approx 287$$

$$\text{China} = \frac{1,232,083,000}{9,596,961} = 128$$

$$\therefore \text{No. of times} = \frac{287 - 128}{128} = 1.25 \text{ (approx.)}$$

62. c Required % $\approx \frac{30}{58} \times 100 = 50.7\%.$

63. d Number of illiterates in India = 0.48 × 944580 = 453,398.4 million
Total population of the contries together = 344248 million
Hence, (d) is the correct option.

64. a Per capita expenditure of Nepal on education

$$= \frac{3.1\% \text{ of } 1 \text{ USD billion}}{22021 \times 10^3} = \frac{0.031}{22021000} \times 10^9 = \$1.4.$$

65. d Average number of people living in every square kilometer of world $= \frac{5,767,443,000}{135,604,354} = 42.53.$

66. b Percentage of female who studied matriculation or less

$$= \frac{324679 + 208455 + 109642}{708867} \times 100 \approx 90\%.$$

67. a Total migrant population = 5,040,307 + 707,867
= 5748174
5% of 5748174 = 287408.7
Total technical degree and diploma population
= 156234 + 17041 + 117194 + 11227 = 301696.

68. d Total number of migrant graduatesin 1991 = 669897 + 37823
= 707720.
Also, number of migrant graduates in 2001 = 20% of (6839804 + 1008206) = 1569602
∴ Percentage increase

$$= \frac{1569602 - 707720}{104720} \times 100 = 121.78\%.$$

69. b Percentage of female migrant $= \frac{707867}{707867 + 5040307} = 12.31\%.$

70. c Decadal growth rate

$$= \frac{(6,839,804 + 1,008,206) - (5,040,307 + 707,867)}{5,040,307 + 707,867} \times 100 \approx 36\%$$

$$\therefore \text{Growth rate per year} = \frac{36}{12} = 3\%.$$

71. c Option (a) does not convey the point that the author has tried to make in the passage. The author emphasizes on the point that there is a real and an unreal self within us. One cannot say based on the passage that there are two perceptual selfs in one person. Option (d) is irrelevant to the argument made in the passage. Hence, option (c) is the correct answer.

72. c The author emphasizes the importance of living in the present. In saying that he has little use of the past or future he means that memories and experiences of the past and the thoughts about the future are irrelevant to live in the present moment.

73. b The author says that people misunderstand mind to be their real self while it is just an instrument and are controlled by the instrument rather than controlling and using the instrument. The author becomes aware of his real self when the author realizes that he is not the mind and the mind is separate from his being. Hence, option (b) is the correct answer.

74. a Option (b) is no reason for the author to experience intense joy as this cannot be established based on the passage. It is not mentioned on the passage that the author renounced everything so, option (c) is ruled out. The lines "A time came when … miserable self ever existed." make it clear that the author could feel intense joy because he could free himself of the mental noises and realize the serenity within. Hence, option (1) is the correct answer.

75. a Option (b) cannot be definitively said based on the passage. Option (c) and (d) are nowhere implied in the passage. The author through the beggar's story emphasizes that one has to seek and put in efforts to find the happiness. Hence, option (a) is the correct answer.

76. b Based on the passage one cannot say that White men are arrogant or not. From the tone of the Chief of Seattle it is quite clear that he is not being defiant. Whether the statement is the most profound and respectful statement on the environment cannot be definitely determined based on the passage. Hence, option (b) is the correct answer.

77. d Whether the chief is emotional or sentimental cannot be said based on the passage. The passage mentions that the red Indians consider most of the creatures as their brothers, earth as their mother etc. This may not necessarily mean that his people worship all creations. The speaker just makes it clear that Human life as well as natural life are mutually co-dependent. Hence, option (d) is the correct answer.

78. d The passage does not definitively prove any of the three given statements. Hence, option (d) is the correct answer.

79. b The passage in no way brings out the eternal truth. Whether the visionary is agonized or not is not clear from the passage. There is no indication in the passage that there is a great tragedy in the making. Hence, option (b) is the correct answer.

80. d The propositions mentioned in the passage seem to be quite impractical and philosophical when considered in practical grounds. Hence, option (d) is the correct answer.

81. b Statements B and A form a mandatory pair because attractiveness mentioned in statement B is explained in statement A. Statements A and D form a mandatory pair because. The concept explained in statement A concludes in statement D. Hence, option (b) is the correct answer.

82. b Statements C and D form a mandatory pair because the traits of a good manager talked about in the statement C are explained in statement D. Statement A and C form a mandatory pair because the traits mentioned in statement A are explained in statement C. According to these pairs option (b) is the correct answer.

83. d Statements D and A form a mandatory pair because the authoritative method mentioned in D is explained in A. As this is the only option with this combination (d) is the correct answer.

84. c Statements B and D form a mandatory pair because the goals mentioned in B are referred to in statement d as "These 'goals'." Statements C and A form a mandatory pair because c introduces the idea that "the pursuit of material prosperity alone, would lead us into a blind valley" this idea is explained in statement A. Hence, option (c) is the correct answer.

85. b Statements A and C form a mandatory pair because the problem referred to in statement a is explained in statement C by the help of an example. Statements C and B form a mandatory pair because statement B again connects to the idea mentioned statement a. Hence, option (b) is the correct answer.

86. a Statements A and B form a mandatory pair because the proposal mentioned in statement A is referred to in statement B. Statements B and C form a mandatory pair as C provides a background to B by explaining the current situation. Hence, option (a) is the correct answer.

87. c Statements D and A form a mandatory pair because 'speech' in statement D is referred to in statement a, for 'its shortness'. Statements C and D also form a mandatory pair because the action that took place in the time referred to in statement c is mentioned in statement D. Hence, option (c) is the correct answer.

88. a Statements A and C form a mandatory pair because (A) mentions the world which is referred to in (C) and 'note' and remember are the related terms that establish a connection between both the statements. Statements (B) and (D) form a mandatory pair because 'but' in statement (d) connects it with statement (C) to provide the contrast. Hence, option (a) is the correct answer.

89. b Statements (B) and (C) form a mandatory pair as (C) provides an explanation for the cause of (B). No other combination has this pair hence; option (b) is the correct answer.

90. b Statements (D) and (C) form a mandatory pair because the premise referred to in (D) is mentioned in (C). As this is the only option with this combination of mandatory pair option (b) is the correct answer.

91. d There is no contrast in the sentence so 'although' and 'though' cannot be used. 'Ordinarily' does not give any meaning to the sentence. 'Because' fits, because it relates the two phrases in the sentence.

92. a A vaccine has to be 'effective' for cure 'enduring' and 'acceptable' do not fit in because both render the sentence meaningless. 'Intensive' does not fit because

93. a 'The' fits in the blank as the sentence talks of Hepatitis B as a general disease. 'Some' and 'that' do not fit because the sentence becomes meaningless with their use. 'Any' may again refer to any particular case of the disease. Hence, option (a) is the correct answer.

94. b 'For example' is the correct expression. Other options do not fit.

95. a As a quantifier (small) is already there after the blank no other quantifiers like 'some', 'little' and 'enough' can fit. Hence, option (a) is the correct answer.

96. a From statement A:

$x^3 + 1 = 0$

$\Rightarrow x = -1, \frac{1+\sqrt{3}i}{2}, \frac{1-\sqrt{3}i}{2}$

Statement A is alone sufficient.

From statement B:

$x^2 - 1 = 0$

$\Rightarrow x = \pm 1$

Statement B is alone not sufficient.

97. c Either of the statements alone is not sufficient.
Using both the statements:

$x = \frac{4}{3}$ and $y = \frac{2}{3}$.

Hence, both the statements together are sufficient.

98. a Using statement A alone:
$n = 4j^2 = (2j)^2$
Therefore, n is a perfect square.
Hence, statement A is alone sufficient.

Using statement B alone:
Nothing can be concluded from statement B.

99. a Using statement A alone:
$a > 2b \Rightarrow 2a > 4b$
Hence, statement A is alone sufficient.

100. d For xy to be negative, exactly one between x and y has be negative.
On the basis of the information given in the two statements, it cannot be concluded whether either of the quantity would be negative or not.
Hence, question cannot be answered even by using both the statements together.

101. a Using statement A alone:
$x > 5$
Therefore, area of square after 5% increase in its length of the side = $(1.05s)^2 = 1.1025s^2$
Therefore, area will increase by 10.25%.
Hence, statement A is alone sufficient.

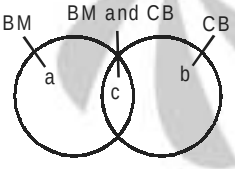
102. b $k^2 + k - 2$ is positive when $x < -2$ & $x > 1$ and negative when $-2 < x < 1$.
Hence, statement B is alone sufficient.

103. c From statement A and B a^b will always be equal to value of a i.e, 1 while b^a will always be equal to b i.e. greater than 2.

104. c From A and B we can clearly say that z will be largest number.

105. d On the basis of the information given in the two statements, it can be concluded that y is a positive quantity but nothing can be said about x. Hence, the the information given in the two statements is inadequate.

106. c



Here, region 'a', 'b' and 'c' represent maximum number of students who opted for BM, maximum number of students who opted CB and minimum number of students who opted both BM and CB, repectively.
Going by the options:
From option 1,
$c = 1$
$\Rightarrow a = 24 - 1 = 23$ and $b = 21 - 1 = 20$
$\therefore a + b + c = 23 + 20 + 1 = 44$.
Since students opting for MR cannot be less than a + b + c.
Hence, option 1 gets elieminated.
Similarly, option 2 can also be eliminated.
From option 3,
$a + b + c = 39$
Also, students opted for MR is 39.
Therefore, option (c) is the correct answer.

107 *

108*

109. c The given information can be tabulated as:

Person	Department	Company
x	Marketing	Manufacturing
George	Quality	x
x	Finance	x

From option (a), if Pauline works in finance department she could be either in pharmaceutical or software company.
From option (b), if George joins a software firm then, Paul could either join manufacturing or pharmaceutical firm.
From option (c), if George joins pharmaceutical industry and Paul is working in finance department then Pauline surely must have joined a manufacturing firm.
Hence, option (c) is the correct answer.

110. c As there is no established connection between the premise of the question (ambitious people are good parents) and the argument (people with successful careers and well-raised children are not really ambitious). Hence, the speaker assumes the conclusion.

111. a The question clearly states that the tasks designed to require the illiterate people to reason to a conclusion are relatively successful when the mechanical devices used in the test are familiar to them. This brings the argument to the conclusion that reasoning abilities of illiterate people should not be tested using tasks that do not involve familiar devices.

112. c Only if the evaluation can identify that an employee is productive or not can the Monthly employee evaluations work.
Hence, option (c) is the correct answer.

113.*c There is no clear answer to the question. Option (c) is the one with which one can go in the absence of a definitive answer as it is the best among the options given.

114. c The medical research team discovered that low stress levels and low risk of heart disease are related and conclude that healthy cardiovascular system could protect the people from stress of modern life. However, the conclusion, if valid, depends on the assumption that high stress levels do not increase one's chances of suffering from heart disease.

115. d A correlation has to be there between Bangalore and Delhi or Chennai and Mumbai. Option (d) gives a correlation between Mumbai and Bangalore and on the basis of this correlation no conclusion can be drawn. Other Options support the argument.
Hence, option (d) is the correct answer.

For questions 116 to 118:
(a) Maximum three types of flowers can be grown in a season
(b) Q cannot be grown in winter season as well as with W or X.
(c) S and T are always together.
(d) R will follow Q in the next season.

116. d From (b), Q cannot be grown in winter.Hence option (a) is eliminated.
From (c), S and T come together Hence option (b) is also eliminated.
From (a) More than three flowers are not possible in a season.
Hence, option (c) is also eliminated.
Therefore, option (d) is the correct answer.

117. d

Spring	Summer	Winter
W,X	Q,S,T	Z,R

118. a Following table shows the possible combination:

Spring	Summer	Winter
Z,Q	W,R	S,T

From above it is clear that X could be grown in summer.

For questions 119 to 124:

(a) F will give presentation before H.
(b) X's presentation is before Z and atleast one person should give presentation between them.
(c) (X,Y,Z) and (F,G,H) cannot be together.

119. d From (c), option (a) and (b) can be eliminated.
From (b), option (c) can be eliminated.
Hence, option (d) is the correct answer.

120. a From (a), H will give presentation on Saturday.
From (c), G cannot come on Thursday.
From (b), only Z can come on Thursday.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			Z or Y	F	H

So, Monday to Wednesday must include G and X.

121. c From (b), if X's presentation is on Thursday then Z cannot be on Friday. Hence, options (b) and (d) can be eliminated.
From (c), Y also cannot give presentation on Friday. Hence, option (a) can also be eliminated.
Hence, option (c) is the correct answer.

122. b From (b), it is quite clear that Z could give the presentation on any day after Wednesday.

123. a From the given conditions, it is clear that Z, F and H will give the presentation on consecutive days. Hence, X could give it either on Monday or Tuesday.

124. d The given situation can be tabulated as shown below.

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
F or Y	F or Y	H	X	**G**	Z

125. b

126. d

127. a

128. c

Owners	Name of Dog	Breed of Dog	Prize won
E	M	Boxer	2nd prize
F	L	Doberman	4th prize
G	J	Airedale	3rd prize
H	K	Collie	1st prize

129. * Nothing substantial can be deduced.

130. a

For questions 131 to 135

131. d Since each first mate spoke immediately after his or her captain. In option (4) two first mates V and N come together.

132. b If L was third of the first mates that spoke before R.
Following are the possible orders:
S N T V W L R
or
S V T N W L R
So, L cannot be the fourth speaker after S.

133. c Since, W is not the last speaker. It implies that W's first mate is either N or V.
Possible order is shown below:

S T $\underset{\uparrow}{\_\_}$ R L W V or N
V or N

Therefore, R must have spoken at fourth position.

134. a If V is S's first mate, then N can speek only after captain i,e, After T.

135. a Possible order baseds on condition are given below:
S T N R V W L
or
S T N W L R V
Therefore, L spoke before R.

136. c 137. d 138. d 139. a 140. d

141. c 142. d 143. c 144. d 145. a

146. b 147. c 148. d 149. b 150. c

151. b 152. b 153. b 154. d 155. b

156. c 157. b 158. c 159. a 160. a