

REASONING

1. If '2' is added to each odd digit and '1' is subtracted from each even digit in the number '2368547', which of the following digits will appear twice in the new number thus formed?
- (1) None
(2) Both 3 and 5
(3) Only 1
(4) Both 5 and 7
(5) Only 2
2. How many persons are standing in a straight line? (Note : All are facing north)?
- I. J stands third from the right end of the line. Q stands to the immediate left of J. Only two persons stand between Q and T. No person stands to the left of T.
- II. R stands third from the left end of the line. Q is one of the immediate neighbours of R. Only two persons stand between Q and S.
- (1) The data either in statement I alone or statement II alone are sufficient to answer the question.
(2) The data in both statements I and II are necessary to answer the question.
(3) The data in statement I alone are sufficient to answer the question while the data in statement II alone are not sufficient to answer the question.
(4) The data in statement II alone are sufficient to answer the question while the data in statement I alone are not sufficient to answer the question.
(5) The data in both statements I and II together are not sufficient to answer the question.
3. How far is Point X from Point J?
- I. Point Q is 2.5m to the west of Point J. Point P is 2.5m to the south of Point Q. Point X is to the east of Point F such that Point F is the midpoint of a 5m line formed by joining Points P and X.
- II. Point R is 5m to the south of point Q. point Z is 5m to the east of Point R. Point X is 2.5m to the north of Point Z. Point J is 2.5m to the east of Point Q.
- (1) The data either in statement I alone or statement II alone are sufficient to answer the question.
(2) The data in both statements I and II are necessary to answer the question.
(3) The data in statement I alone are sufficient to answer the question while the data in statement II alone are not sufficient to answer the question.
(4) The data in statement II alone are sufficient to answer the question while the data in statement I alone are not sufficient to answer the question.
(5) The data in both statements I and II together are not sufficient to answer the question.
4. This question consists of an information and two statements numbered I and II given below it. You have to decide which of the given statements weaken/s or strengthen/s the given information and decide the appropriate answer.
- Information :** Examination committee of College X has recommended that the negative marking in the exam should be removed.

- I. The students tend to give answers simply by guessing when there is no negative marking in the exam.
- II. Selecting the best candidate from the population becomes difficult in the absence of negative marking.
- (1) Both Statement I and Statement II weaken the information.
(2) Statement I strengthens the information while statement II weakens the information.
(3) Statement I weakens the information while statement II strengthens the information.
(4) Both Statement I and Statement II are neutral statements.
(5) Both Statement I and II strengthen the information.
5. Study the given information carefully and answer the question given below:

'Ever since we started involving our employees in the key decision making process from the last year, the productivity of our employees has been 100%'- statement by HR manager of Company D.

Which of the following statements can be inferred from the given statement? [An inference is something by which you can logically deduce something to be true based on known premises.]

- (1) Employees of Company D will always take correct decisions in all the situations.
(2) Company D completely relies on its employees for all key decisions.
(3) The productivity of employees of Company D has always been satisfactory in the past.

(4) Involving employees in decision making process is an effective method to motivate them.

(5) Employees of Company D have now become competent enough to give valuable suggestions.

Directions (8-10) : Study the following information carefully and answer the questions given below :

Eight friends L, M, N, O, P, Q, and S are sitting around a square table in such a way that four of them sit at four corners while four sit in the middle of each of the four sides, not necessarily in the same order. The ones who sit in the middle of the sides face the centre while those who sit at the four corners are outside (i.e. opposite to the centre.)

- R sits third to the right of P. P sits on one of the corners of the table.
- Only one person sits between O and R. M is one of the immediate neighbours of O.
- N sits second to the right of M.
- Only three persons sit between M and L.
- S sits to the immediate right of L.
- What is the position of N with respect to L ?
 - (1) Second to the right
 - (2) Third to the right
 - (3) Third to the left
 - (4) Second to the left
 - (5) None of the above
- 7. Which of the following statements is true regarding R on the basis of given arrangement ?
 - (1) Either two or four persons are sitting between R and S
 - (2) Q sits second to the right of R
 - (3) L sits third to the left of R
 - (4) R is an immediate neighbour of both N and Q.
 - (5) None of the given statements is true
- 8. How many persons sit between R and S when counted from the right of R ?

- (1) Three (2) Four
(3) None (4) Two
(5) One

9. Who sits second to the left of O ?
(1) L (2) R
(3) P (4) N
(5) S

10. Four of the following five are alike in a certain way based on the given arrangement and so form a group. Which is the one that does not belong to that group ?
(1) S (2) Q
(3) O (4) R
(5) M

Directions (11-15) : In each of the following questions, two or three statements followed by two Conclusions numbered I and II have been given. You have to take the given statements to be true even if they seem to be at variance from the commonly known facts and then decide which of the given Conclusions logically follows from the given statements disregarding commonly known facts.

Give answer (1) if only Conclusion I follows

Give answer (2) if either Conclusion I or Conclusion II follows

Give answer (3) if only Conclusion II follows

Give answer (4) if neither Conclusion I nor Conclusion II follows

Give answer (5) if both the Conclusion I and Conclusion II follow

(11-15) : Statements

- All fares are prices.
Some prices are costs.
All costs are tariffs.

11. Conclusions

- I. No fare is a tariff.
II. No cost is a fare.

12. Conclusions

- I. At least some prices are tariffs.
II. All tariffs being prices is a possibility.

13. Statements

- No proof is an evidence.
No proof is an indication.

Conclusions

- I. All indications being evidence is a possibility.
II. No evidence is an indication.

(14-15) : Statements

- Some tests are exams.
No exam is a challenge.
Some challenges are wins.

14. Conclusions

- I. No test is a win.
II. Atleast some tests are wins.

15. Conclusions

- I. All tests can never be challenges.
II. No win is an exam.

Directions (16-20) : Study the following information carefully and answer the questions given below :

Twelve persons are sitting in two parallel rows containing six people each in such a way that there is an equal distance between adjacent persons. In row-1, M, N, O, P, Q and R are seated (but not necessarily in the same order) and all of them are facing south. In row-2, A, B, C, D, E and F are seated (but not necessarily in the same order) and all of them are facing north. Therefore, in the given seating arrangement, each member seated in a row faces another member of the other row.

- B faces one who sits third to the right of Q.
 - Only three persons sit between Q and N.
 - R is neither an immediate neighbour of N nor Q. One of the immediate neighbours of R faces P.
 - Only three persons sit between F and the one who faces O.
 - A sits second to the left of the one facing M.
 - C is not an immediate neighbour of B. N does not face E.
16. Which of the following statements is true with respect to the given information?
- (1) D faces N
 - (2) M faces one of the immediate neighbours of F.
 - (3) F sits exactly between A and D.

- (4) None of the given options is true.
(5) O is an immediate neighbour of R.
17. Who amongst the following sits second to the right of the person who faces B ?
(1) M (2) O
(3) R (4) N
(5) P
18. Which of the following groups of persons represents the persons sitting at extreme ends of both the rows ?
(1) M, Q, C, F (2) P, R, D, E
(3) N, R, E, F (4) O, Q, A, C
(5) Q, P, A, C
19. Four of the following five are alike in a certain way based on the given arrangement and so form a group. Which is the one that does not belong to that group ?
(1) AD (2) RM
(3) PQ (4) BEC
(6) CF
20. Who amongst the following faces E ?
(1) G (2) P
(3) O (4) M
(5) R
21. Study the given information carefully and answer the question given below :
Carmakers Neubahn's domestic sales have surged as they have reported sales of 12,000 cars this December. This number is more than double the number of cars sold by them in the third quarter (October–December) put together last year.
Which of the following can be concluded from the given statement ?
(1) If 6000 more cars were sold in the third quarter of last year, the two numbers would have become equal.
(2) Kellbahn definitely sold less than 6000 cars in December last year.
- (3) Addition of International sales figures would have made performance of last quarter better.
(4) If 6000 less cars were sold in December this year, the number of cars sold would have been same as that in December last year.
(5) Kellbahn definitely sold less than 12,000 cars in November this year.
22. Study the given information carefully to answer the question given below :
'Kalkaar' is a famous fabric threadwork that originated in City G of a country.
(A) 'Kalkaar' was an innovation of 'Hardali' tribe of City G. Though the tribe lost its existence long ago, 'Kalkaar' is still very much in demand.
(B) Only the authentic 'Kalkaar' depicts fruits and flowers of a specific tree that was worshipped by 'Hardali' tribe.
Which of the following can be inferred from the given information ?
[Note : An inference is something by which you can logically deduce something to be true based on known premises.]
- (1) The 'Hardali' tribe did not worship Gods and Goddesses.
(2) Some people not belonging to the tribe have taken the 'Kalkaar' work forward and managed to keep fulfilling its demand.
(3) During the existence of 'Hardali' tribe, 'Kalkaar' was the only means of their income.
(4) No city other than city G sells authentic cloth materials of 'Kalkaar' thread-work.
(5) Since not many people belonged to the 'Hardali' tribe, others came to know about the tribe only through its innovation of 'Kalkaar'.
23. Study the given information carefully and answer the question given below :
School M, which has always been among the winning schools in interschool sports competitions has sent only 3 participants for the inter-school competitions to be held this year. More participants were expected from the school as last year out of its 19 participants, 13 won gold medal while others won silver and bronze medals.
Which of the following may not be a reason for the decrease in number of participants for interschool sports competition from School M ?
(1) Parents of students studying in School M are unwilling to send their children for the interschool sports competition this year.
(2) Most coaches have resigned from School M this year as they got a much better offer from School D, and School M has not found a good replacement yet.
(3) Most parents of students studying in School M were reluctant to send their children for interschool sports competition this year as the arrangements provided last year were substandard.
(4) The sponsors of School M have reduced the funding of the school by half this year.
(5) Two-third students, out of those who went to the interschool competition last year, either failed, or scored very low in the final exam and the school did not consider giving them grace marks based on sports performance.
24. How many such pairs of letters are there in the word 'SHARPLY', each of which has as many letters between them in the word (in both forward

and backward directions), as there are between them in the English alphabetical series ?

- (1) None
- (2) One
- (3) Two
- (4) More than three
- (5) Three

Directions (25–30) : Study the following information carefully and answer the questions given below :

Seven friends namely, P, Q, R, S, T, U and V visit seven different cities namely, Berlin, Kabul, Jakarta, Madrid, Chicago, Miami and Sydney, but not necessarily in the same order, starting from Monday to Sunday (of the same week.)

Q visits a city on Wednesday. Only one person visits between Q and the one who visits Madrid. T visits immediately after the one who visits Madrid. Only four persons visit between T and the one who visits Sydney. Only one person visits between the one who visits Sydney and R. The one who visits Berlin visits immediately before R. The one who visits Chicago visits on one of the days before the one who visits Berlin but not on Wednesday. More than three persons visit between the one who visits Chicago and P. Only two persons visit between S and the one who visits Miami. Only two persons visit between the one who visits Miami and the one who visits Jakarta. V does not visit Berlin.

25. On which of the following days does S visit a city ?

- (1) Sunday
- (2) Thursday
- (3) Tuesday
- (4) Saturday
- (5) Friday

26. As per the given arrangement R is related to the one who visits Jakarta in a certain way and T is related to the one who visits Miami in the same way. To which of the following is V related to in the same way ?

- (1) The one who visits Kabul
- (2) The one who visits Sydney
- (3) The one who visits Madrid
- (4) The one who visits Berlin
- (5) The one who visits Chicago

27. Which of the following cities does P visit ?

- (1) Berlin
- (2) Jakarta
- (3) Sydney
- (4) Madrid
- (5) Miami

28. Which of the following statements is true about U ?

- (1) All the given statements are true.
- (2) U visits Berlin.
- (3) U visits a city on Saturday.
- (4) Only three persons visit between U and Q.
- (5) U visits a city immediately before T.

29. Four of the following five are alike in a certain way and thus form a group as per the given arrangement. Which of the following does not belong to that group ?

- (1) T – Thursday
- (2) P – Sunday
- (3) Q – Wednesday
- (4) R – Friday
- (5) V – Monday

30. Who amongst the following visits Kabul ?

- (1) P
- (2) R
- (3) S
- (4) U
- (5) Q

Directions (31–36) : Study the following information carefully and answer the questions given below :

Eight persons — P, Q, R, S, W, X, Y and Z — live on eight different floors of a building but not necessarily in the same order. The lowermost floor of the building is numbered one, the one above that is numbered two and so on till the topmost floor is numbered eight.

P lives on an odd numbered floor below the floor numbered six. Y lives immediately above P. Only three persons live between Y and W. There are as many persons between W and R as are between R and Y. Z lives on an odd numbered floor below Y but not on the floor numbered three. Only one person lives between Q and X. Q lives above X.

31. Who amongst the following lives on the floor numbered three ?

- (1) S
- (2) W
- (3) X
- (4) P
- (5) Q

32. As per the given arrangement, four of the following five are alike in a certain way, and so form a group. Which one of the following does not belong to the group ?

- (1) W – Five
- (2) Y – One
- (3) S – Three
- (4) Q – Four
- (5) X – Eight

33. Who amongst the following lives exactly between S and X ?

- (1) Only P
- (2) Only Q
- (3) Both Z and R
- (4) No one
- (5) Both P and Y

34. If Q and Y interchange their places and so do W and S, then who will live between Q and W as per the new arrangement ?

- (1) P
- (2) X
- (3) R
- (4) S
- (5) Other than those given as options

35. On which of the following floor numbers does R live ?

- (1) Two
- (2) Six
- (3) Five
- (4) Seven
- (5) Three

Directions (36–40) : In each of the following questions, a relationship between different elements is shown in statements. The statements are followed by two Conclusions numbered I and II. Study the Conclusions based on the given statements and select the appropriate answer :

Give answer (1) if only Conclusion I is true

Give answer (2) if either Conclusion I or Conclusion II is true

Give answer (3) if only Conclusion II is true

Give answer (4) if neither Conclusion I nor Conclusion II is true

Give answer (5) if both the Conclusion I and Conclusion II are true

QUANTITATIVE APTITUDE

51. 16 men and 16 women together can complete a piece of work in 6 days. If 12 women can complete the same project in 22 days, in how many days will 10 men complete the same project?

- (1) 12 (2) 20
 (3) 16 (4) 8
 (5) 14

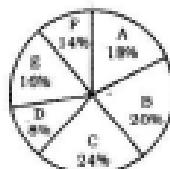
52. The interest earned when Rs. P is invested for four years in a scheme offering 9% p.a. simple interest is more than the interest earned when the same sum (Rs. P) is invested for two years in another scheme offering 12% p.a. simple interest, by Rs. 360. What is the value of P?

- (1) 2000 (2) 3600
 (3) 2500 (4) 4000
 (5) 3000

Directions (53-58) : Refer to the pie-chart and answer the given questions.

Percentage of employees in different departments of branch 'LMN' in the year 2014 :

Total number of employees = 550



53. In 2014, there were 30% post graduate employees in department B. In 2015, 20 employees of the same department were shifted to branch PQR. If in 2015, the percentage of post graduate employees in department B were the same, how many post graduate employees were shifted to branch PQR?

- (1) 4 (2) 10
 (3) 7 (4) 8
 (5) 5

54. The number of employees in department D is what percent less than the total number of employees in departments A and F together?

- (1) 50 (2) 60
 (3) 75 (4) 25
 (5) 85

55. In department C, the respective ratio between the number of female employees and male employees was 5 : 6. There were equal number of unmarried males and unmarried females in department C. If the respective ratio between married females and married males was 4 : 5, what is the number of unmarried females?

- (1) 20 (2) 8
 (3) 10 (4) 12
 (5) 16

56. In 2014, the number of female employees in department E

was $\frac{5}{11}$ of the total number of employees in the same department. If the number of female employees in department D was 16 less than that in department E, what is the number of male employees in department D?

- (1) 38 (2) 33
 (3) 28 (4) 20
 (5) 24

57. What is the average number of employees in departments C, E and F?

- (1) 80 (2) 67
 (3) 97 (4) 109
 (5) 99

58. What is the central angle corresponding to the number of employees in department F?

- (1) 53.9 (2) 56.5
 (3) 59.4 (4) 62.8
 (5) 51.6

59. Four years ago, the respective ratio between the age of Ram and that of Sona, was 4 : 9. Tina is ten years older than Ram. Tina is ten years younger than Sona. What is Tina's present age?

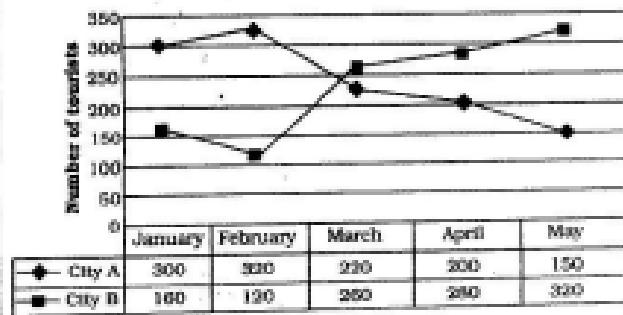
- (1) 40 years (2) 36 years
 (3) 30 years (4) 20 years
 (5) 42 years

60. A jar has 60 litres of milk. From the jar, 12 litres of milk was taken out and replaced by an equal amount of water. If 12 litres of the newly formed mixture is taken out of the jar, what is the final quantity of milk left in the jar?

- (1) 38.4 litres (2) 40 litres
 (3) 36 litres (4) 38.8 litres
 (5) 36.5 litres

Directions (61-66) : Refer to the graph and answer the given questions.

Data regarding number of tourists in two cities- A and B in five different months in the year 2008. Data are given in hundreds.



81. The number of tourists in city B in April is what percent more than that in city A in the same month?

- (1) 25 (2) 35
(3) 20 (4) 30
(5) 40

82. In the month of December of the previous year (2004), the total number of tourists in both the cities together was 25% more than that in January 2005. What was the number of tourists in both the cities together in December 2004?

- (1) 57,500 (2) 53,000
(3) 60,500 (4) 54,250
(5) 60,000

83. What is the difference between total number of tourists in cities A and B together in January and that in February?

- (1) 2,000 (2) 2,200
(3) 1,000 (4) 1,500
(5) 2,000

84. What is the average number of tourists in city A in February and March?

- (1) 25,000 (2) 28,000
(3) 27,000 (4) 26,000
(5) 28,500

85. What is the respective ratio between the total number of tourists in city A in April and May together and that in city B in the same months together?

- (1) 7 : 16 (2) 7 : 12
(3) 5 : 12 (4) 8 : 13
(5) 7 : 8

86. The number of tourists in city B in March is what percent less than that in the same city in May?

- (1) 25 (2) 30
(3) $\frac{3}{4}$ (4) $15\frac{1}{2}$
(5) $10\frac{3}{5}$

Directions (87-91) : What approximate value will come in place of question mark (?) in the given questions? (You are not expected to calculate the exact value)

87. $\sqrt{?} = (1346.92 + 46.94) + 29.9$
- 8.28
(1) 121 (2) 441
(3) 1024 (4) 49
(5) 196

88. $32.01^2 \times 612^2 \times 33.99^2 \div (2^2 \times 16.97)^2 = ?^2$
(1) 3 (2) 4
(3) 9 (4) 10
(5) 6

89. $(14.99\% \text{ of } 4799.995) + ? = (170\% \text{ of } 7.111)^2$
(1) 150 (2) 25
(3) 100 (4) 50
(5) 5

90. $\frac{3}{20} \text{ of } 2329 = ? + (1.6 \times 0.499)$
(1) 30 (2) 300
(3) 600 (4) 120
(5) 60

91. $\sqrt{1296.002} + 8.999 + 9.99 + 29.4 = ?$
(1) 80 (2) 8
(3) 4 (4) 120
(5) 40

92. In the year 2013, the population of a village A was 30% more than the population of village B. The population of village A in 2014 increased by 20% as compared to the

previous year. If the population of village A in 2014 was 7176, what was the population of village B in 2013?

- (1) 4000 (2) 5000
(3) 4800 (4) 4600
(5) 5200

93. Tom gave 20% of a certain amount of money to Ali. From the money Ali received, he spent 25% on school fees and 35% on buying school uniform. After the mentioned expenses, Ali had Rs. 2800 remaining with him. How much money did Tom have initially?

- (1) Rs. 21,000
(2) Rs. 35,000
(3) Rs. 30,000
(4) Rs. 27,000
(5) Rs. 28,000

94. A and B started a business with investments of Rs. 3500 and Rs. 2500 respectively. After 4 months C joined with Rs. 6000. If the difference between C's share and B's share in the annual profit was Rs. 1977, what was the total annual profit?

- (1) Rs. 15,620
(2) Rs. 16,340
(3) Rs. 14,620
(4) Rs. 12,770
(5) Rs. 13,180

Directions (76-80) : Study the table and answer the given questions.

Data regarding number of books sold in either hard bound or paperback editions and also the categories of books sold in fiction and non-fiction categories by four different shops, in a particular month (February 2015)

| Book Shop | Respective ratio between number of hardbounds sold and number of paperbacks sold | Number of paperbacks sold out of total books sold | %age of fictions (hardbound + paperback) sold out of total books sold |
|-----------|--|---|---|
| A | 3 : 3 | 1200 | 60 |
| B | 1 : 5 | 1000 | 62 |
| C | 1 : 3 | 600 | 70 |
| D | 3 : 5 | 675 | 75 |

Note : Total books sold = number of hard bounds + number of paperbacks sold

75. The number of hard bound editions sold by shop C is what percent less than that sold by shop A ?
(1) 90 (2) 50
(3) 75 (4) 70
(5) 80

76. The number of non-fiction sold by shop B is what percent of the number of non-fiction books sold by shop A ?
(1) 52.5 (2) 64.75
(3) 60 (4) 40
(5) 60

77. The total number of books sold by shop B is what percent more than that sold by shop D ?

- (1) $\frac{1}{2}$ (2) 25
(3) 30 (4) 10
(5) $\frac{1}{9}$

78. What is the average number of fiction books sold by shops A and B together ?
(1) 990 (2) 720
(3) 880 (4) 1100
(5) 960

79. In March 2015, the number of paperback editions sold by shop D was 20% more than the same sold by the same shop in the previous month. The number of paperback editions sold in March 2015 by shop D constituted 50% of the total number of books sold by shop D in March 2015. What was the total number of books sold in March 2015 by shop D ?
(1) 1860 (2) 1240
(3) 1670 (4) 1000
(5) 1620

80. What is the respective ratio between the number of non-fiction books sold by shop C and number of non-fiction books sold by shop D ?
(1) 7 : 9 (2) 8 : 9
(3) 6 : 7 (4) 8 : 11
(5) 3 : 5

81. The distance between two places A and B is 140kms. The

first scooter departs from place A to B, at a speed of 30kmph at 10 am. The second scooter departs from place B to A at a speed of 30 kmph at 12 pm. At what time will both the scooters meet each other ?
(1) 12 : 30 pm
(2) 01 : 50 pm
(3) 1 : 00 pm
(4) 12 : 50 pm
(5) 1 : 30 pm

82. Two mobile phones were purchased at the same price. One was sold at a profit of 30% and the second was sold at a price which was Rs. 2500 less than the price at which the first was sold. If the overall profit earned by selling both the mobile phones was 5%, what was the cost price of one mobile phone ?
(1) Rs. 8000 (2) Rs. 5000
(3) Rs. 6000 (4) Rs. 4500
(5) Rs. 5500

Directions (83-88) : In each of the following questions, two equations numbered I and II are given. You have to solve both the equations and select the appropriate option.

Give answer (A)
(1) $x > y$
(2) $x \leq y$
(3) $x \geq y$
(4) $x < y$
(5) Relationship between x and y cannot be established.

83. I. $2x^2 - 21x + 52 = 0$
II. $2y^2 - 11y + 12 = 0$
84. I. $3x^2 - 13x + 14 = 0$
II. $2y^2 - 5y + 3 = 0$
85. I. $4x^2 - 8x + 3 = 0$
II. $4y^2 - 15y + 14 = 0$
86. I. $2x^2 - 5x + 9 = 0$
II. $y^2 - 7y + 12 = 0$
87. I. $4x^2 + 19x + 22 = 0$
II. $2y^2 + 11y + 15 = 0$
88. I. $x^2 + 8x + 15 = 0$
II. $y^2 + 3y + 2 = 0$

Directions (89-94) : What will come in place of the question mark (?) in the following number series ?

89. 608 201 60 21 6 ?
(1) 0.5 (2) 2
(3) 5 (4) 1
(5) 3
90. 19 10 11 18 38 ?
(1) 97.5 (2) 110
(3) 115 (4) 124.5
(5) 99.5
91. 6 4 5 11 7 169
(1) 44 (2) 39
(3) 45 (4) 96
(5) 69
92. 24 26 20 32 12 ?
(1) 42 (2) 34
(3) 66 (4) 46
(5) 64
93. 18 19 24 37 66 ?
(1) 158 (2) 224
(3) 219 (4) 198
(5) 127
94. 19 19.6 20.8 23.2 26 ?
(1) 25.7 (2) 27.6
(3) 21.8 (4) 29.8
(5) 26.2

Directions (95-99) : Each of the questions given below consists of a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statements sufficient to answer the question. Read both the statements and

Give answer (A) if the data in statement I alone are sufficient to answer the question, while the data in statement II alone are not sufficient to answer the question.

Give answer (B) if the data in statement II alone are sufficient to answer the question, while the data in statement I alone are not sufficient to answer the question.

Give answer (C) if the data in statement I alone or in statement II alone are sufficient to answer the question.

Give answer (D) if the data in both the statements I and II are not sufficient to answer the question.

Give answer (E) if the data in both the statements I and II together are necessary to answer the question.

96. What is the curved surface area of the right circular cylinder?

- The area of the base of the cylinder is 154cm^2 .
- The volume of the cylinder is 1232cm^3 .

97. What is the area of the circular field?

- The area of the largest square that can be inscribed in the given circular field is 2450cm^2 .
- The area of the smallest square in which the given circular field can be inscribed is 4900cm^2 .

98. In how many days can 'B' alone complete the work?

- A, B and C together can complete the work in $3\frac{9}{13}$ days. A and B together can complete the work in $4\frac{4}{5}$ days. B and C together can complete it in $\frac{6}{7}$ days.

- A, B and C together can complete the piece of work in $3\frac{9}{13}$ days. A and C together can complete the work in $5\frac{1}{3}$ days.

99. What was the initial quantity of mixture of juice and water?

- Juice and water were in the ratio of 8 : 3 respectively in the mixture initially.
- When 11 litres of mixture is taken out and 6 litres of juice is added, the ratio between juice and water becomes 10 : 3 respectively.

100. How much money did Mr. Rajesh receive as retirement funds?

- Out of the total money received Mr. Rajesh invested 51% in various schemes, gave 35% of the total money received to his wife and remaining money he spent on miscellaneous items.

101. Out of the total money received, Mr. Rajesh spent 5% on son's wedding and gave 35% to his wife. Out of the remaining, he invested 25% in insurance policies, 22% in pension fund scheme, 35% in share market and remaining Rs. 4,50,000 he spent on furnishing the house.

102. The speed of a boat in still water is 15 kmph and the speed of the current is 3 kmph. The distance travelled by the boat from point A to point B downstream is 24km more than the distance covered by the same boat from point B to point C upstream in the same time. How much time will the boat take to travel from point C to point B downstream?

- 2 hrs
- 2 hrs 30 mins
- 2 hrs 40 mins
- 2 hrs 10 mins
- 3 hrs 20 mins

ENGLISH LANGUAGE

Directions (101 – 106) : In each of the following questions, each sentence has two blanks, each blank indicating that something has been omitted. Choose the set of words for each blank that best fits the meaning of the sentence as a whole.

101. Forensic experts have _____ samples from the spot to _____ whether there are any traces of explosives.
(1) picked, ensure
(2) left, verify
(3) marked, gather
(4) lifted, ascertain
(5) released, detection

102. Researchers have _____ that increased body fat is _____ with greater sensitivity to sweet taste.
(1) found, associated
(2) established, accounted
(3) published, accumulate
(4) written, secreted
(5) segmented, amounted

103. The organisation _____ mid-day meals to _____ one million school children.

- provides, over
- supplies, equal
- leaves, about
- ascertains, limited
- distributes, amount

104. _____ of the work on the new college will go a long way in _____ the shortage of engineers in the State.

- Starting, requesting
- Completion, addressing
- Finishing, establishing
- Absolution, overcoming
- Surpassing, limiting

105. The actor is set to return to the big screen in a movie that _____ contrasting _____ of horror and comedy.

- amalgamates, film
- blends, genres
- involve, issues
- featuring, depictions
- celebrates, visual

Directions (109 – 115) : Read the following passage carefully and answer the questions. Certain words/phrases are given in bold to help you locate them while answering some of the questions.

The Arctic is the canary in global-warming. Canaries expired in contact with gases such as carbon monoxide and methane, warning miners to leave the area. The Arctic sea is similarly sensitive to changes which might otherwise not be obvious as the Earth warms up in response to more of another gas, carbon dioxide. The area of the Arctic Ocean covered by ice at the height of summer has been shrinking by 11% a decade for the past 33 years. But the details are obscure because gathering data in the Arctic Ocean is **hard**. But, a systematic approach to that gathering has begun. The Marginal Ice Zone (MIZ) programme, paid for by the United States Navy, has laid dozens of devices. These measure the thickness of the icy layer, and also the salinity, temperature, oxygen concentration, organic-matter composition and movement of the seawater be-

neath. With luck, the MIIZ's researchers with their elaborate network of sensors and instrument-laden robots known as Seagliders will gather the largest quantity of data yet collected on the seasonal melting of the Arctic ice sheet and thus find out exactly what song the Arctic canary is singing.

Monitoring sea ice is a fairly recent activity. It began seriously in the 1950s, from aboard nuclear submarines. Satellite monitoring started in 1979. Since then the summer sea ice has shrunk by 12% a decade. That is consistent with the trend predicted by climate-change models over the past three decades, an indication that their mathematical simulations of global warming are roughly right. Scientists have constructed a record of the Arctic past suggests that the summer sea ice that is at its lowest level for at least 2,000 years. Six of the hottest years on record—going back to 1880—have occurred since 2004. According to the Intergovernmental Panel on Climate Change (IPCC), the last time the polar regions were significantly warmer was about 125,000 years ago. This transformation is in fact happening faster than anyone had predicted. According to the scientists, the average thickness of the pack ice has fallen by roughly half since the 1970s, probably for two main reasons. In the summer of 2007, coastal parts of the Arctic Ocean rose to 7°C , bracingly swimable. The other was a prolonged eastward shift in the early 1800s in the Arctic's prevailing winds, known as the Arctic Oscillation. This moved a lot of ice into the Atlantic and has not been replaced.

Attention has recently also been focussed on lesser-known greenhouse gases, including ozone and methane, and on soot from diesel exhaust and forest fires. These are known as "short-lived climate forcers". Though they linger in the atmosphere for a relatively short time, they can have a powerful greenhouse effect. Soot, or black carbon, stays in the atmosphere for an average of six days, whereas carbon dioxide lasts for centuries, even

millennia. Yet black carbon has an unusually potent warming effect in the snowy Arctic because the dark soot, after being rained or snowed onto bright snow or ice, continues to absorb heat. The UN's Environment programme estimates that reducing black carbon and methane emission could cut Arctic warming by two-thirds over the next three decades. That would not prevent the disappearance of the summer sea ice, but it might delay it by a decade or two.

106. What do the statistics regarding the Arctic climate cited in the passage indicate?

- (1) This year is the hottest in 125,000 years.
- (2) Of late temperatures have been rising.
- (3) Arctic temperatures have remained stable for about two decades.
- (4) The Arctic is heating up ten times more quickly than mathematicians predicted.
- (5) There is not much change in Arctic temperatures over the millennia.

107. What is the author's view regarding the MIIZ's programme?

- (1) He is dissatisfied as it is funded by only one country and its findings are likely to be biased.
- (2) He wishes it to be successful as it will provide valuable information about climate change.
- (3) It is too costly a venture and these resources should be invested elsewhere.
- (4) It utilises cutting edge technology and will be very useful for military operations in the region.
- (5) Other than those given as options.

108. Which of the following can be said about short lived climate forcers?

- (1) Their impact on the climate is very brief.
- (2) These are responsible for delaying the loss of Arctic ice.

(3) These are very harmful to the environment.

(4) These have helped ensure relatively stable climate patterns.

(5) These are responsible for delaying the process of Arctic Oscillation.

109. Choose the word which is most nearly the same in meaning to the word FAIRLY given in bold as used in the passage.

- (1) honestly
- (2) equally
- (3) impartially
- (4) quite
- (5) favourably

110. Choose the word which is OPPOSITE in meaning to the word HARD given in bold as used in the passage.

- (1) delicate
- (2) understanding
- (3) sensitive
- (4) flexible
- (5) durable

111. What does the phrase 'The Arctic is the canary in global-warming' convey?

- (1) The Arctic has a varied bird life yet to be discovered.
- (2) Global warming has been responsible for the extinction of canaries in the Arctic.
- (3) Warm temperatures have made it explore the Arctic.
- (4) Canaries surprisingly have proved very useful in exploring the Arctic.
- (5) The Arctic is sensitive to changes in climate.

112. Which of the following is TRUE in the context of the passage?

- (1) The US has made efforts to study the Arctic.
- (2) International bodies are not taking interest in studying climate change.
- (3) Arctic ice is shifting not melting according to the latest scientific evidence.
- (4) Increased exploration in the Arctic is posing a danger to its marine life.
- (5) None of the given statements is true in the context of the passage.

113. Which of the following factor(s) is/are factor(s) which have impacted data gathering in the Arctic ?
(A) High concentrations of carbon monoxide and methane.
(B) Conflicts among countries over exploratory rights.
(C) Lack of interest in the Arctic.
(1) Only (A)
(2) Only (B)
(3) All (A), (B) and (C)
(4) Only (A) and (B)
(5) None of the given options (A), (B) and (C)
114. What does the author suggest regarding monitoring of sea ice?
(A) It is too time consuming and therefore of not much use.
(B) It provides an exaggerated picture of global warming and should be done away with.
(C) It has provided insight into climate patterns both past and future.
(1) Only (A)
(2) Only (B)
(3) Only (C)
(4) All (A), (B) and (C)
(5) None of the given options (A), (B) and (C)
115. Which of the following is the central idea of the passage ?
(1) Efforts to understand the Arctic are important as it is an indicator of global warming.
(2) Scientists need to co-operate among themselves to better understand global warming.
(3) The Arctic is proof that Climate change is a cycle that scientists are unnecessarily alarmed.
(4) Warmer Arctic temperatures will provide scientists and explorers wonderful opportunities.
(5) None of these

Directions (116 – 125) : Which of the phrases given against the sen-

tence should replace the word/phrase given in bold in the sentence to make it grammatically correct ? If the sentence is correct as it is given and no correction is required, mark 'No correction required' as the answer.

116. Astronomers determined that the planet spins **faster** than any other object in our solar system, with a rotational velocity of about 55,000 miles per hour.
(1) spins fast then
(2) spinning faster then
(3) spins faster than
(4) spins very faster than
(5) No correction required

117. While following the leaders is hardly an innovative idea, there is **much** to be learnt from companies that excel at innovation management.

- (1) more to be learn
(2) much to be learning
(3) much learning
(4) nothing to learning
(5) No correction required

118. The latest device developed by IBM increases speed of the internet by 200 Gigabits per second at **very lowly power**.
(1) every low power
(2) very lower power
(3) very low power
(4) powered very low
(5) No correction required

119. China's economy grew at its lowest pace in a quarter of a century last year, **raised expectations** of a further devaluation of the Yuan.

- (1) rising expectation
(2) raising expectations
(3) expectations rose
(4) expecting rise
(5) No correction required

120. The fact that shopping is now happening across various channels is **only adds** to the complexity of the business.
(1) only adding to
(2) adding up to only
(3) only adding up
(4) just adds to
(5) No correction required

121. As global growth slows down, people look towards innovation in technology to get it back on track.

- (1) backed on track
(2) backup with tracks
(3) tracking back
(4) tracing back with
(5) No correction required

122. We **operated** in business and societal environments that are complex, dynamic and uncertain.

- (1) operating on
(2) operates on
(3) operating for
(4) operate in
(5) No correction required

123. According to research, ethnically diverse teams **could been** less productive than more homogeneous teams.

- (1) can being least
(2) could least
(3) can be low
(4) can be less
(5) No correction required

124. **What** happening is to the world of innovation these days?" asked the worried CEO.
(1) What is happening
(2) What is happened
(3) Where happening is
(4) What are happening
(5) No correction required

125. He has let himself **gone** for he lost his job.

- (1) go for (2) going for
(3) go since (4) gone since
(5) No correction required

Directions (126 – 128) : Read each sentence to find out whether there is any grammatical error in it. The error, if any, will be in one part of the sentence. Mark the part with the error as your answer. If there is no error, mark 'No error' as your answer. (Ignore the errors of punctuation, if any)

126. Children love sweets.(1)/ but have you ever wondered (2)/ why some children demands (3)/ more sugary treats than others ? (4) No error (5)

127. The actor, who (1) arrived on only ten minutes (2) before the actress, (3) left before the event ended.(4) / No error (5)

128. It is a little late to play 'Secret Santa' (1)/ with your co-workers, but that is not to say (2)/ that you cannot still give them a surprise gift (3)/ and make their day.(4)/ No error (5)

129. The actor was photographed (1)/ while dining at (2)/ a five star restaurant and was (3)/ quite annoyed on it.(4)/ No error (5)

130. Drinking herbal tea (1)/ can help you (2)/ calm down during (3)/ a stressful time.(4)/ No error (5)

131. The initial calls (1)/ of emergency (2)/ sent the police (3)/ into a flurry.(4)/ No error (5)

132. The Government sought (1)/ an early release of funds (2)/ to expedite the construction of (3)/ five new medical colleges in the state.(4)/ No error (5)

133. Did the co-pilot of (1)/ the ill-fated plane (2)/ that crashed come in as (3)/ a last minute replacement?(4)/ No error (5)

134. Agitated teachers, (1)/ surrounded the homes of (2)/ some of the ministers, demanding (3)/ regularization of their jobs.(4)/ No error (5)

135. When the actor (1)/ came to know that (2)/ the director was shooting at the same studio, (3)/ he dropped for a visit. (4)/ No error (5)

Directions (136-140) : Rearrange the given six sentences/ group of sentences (A), (B), (C), (D), (E) and (F) in a proper sequence so as to form a meaningful paragraph and then answer the given questions.

(A) Between these two Asian countries, India is a significant contributor on account of both pre and post harvest waste in cereals, pulses, fruits and vegetables.

(B) India's lower overall ranking is because most of the countries ranking above it cause much of their land in raising poultry, while a major chunk of land in India is under agriculture.

(C) It said Asian countries, especially India and China, were the worst culprits causing loss of

- 1.3 billion tonnes of food every year.

4) That's why the highest waste of cereals, pulses, fruits and vegetables occurs in India.

3) In terms of overall food waste—agricultural produce, poultry and milk—India ranks seventh, with the Russian Federation at the top of the list.

7) Globally, one-third of the food produced is wasted, costing the world economy about \$750 billion, a report said.

8. Which of the following should be the **SECOND** sentence after the rearrangement?

 - (1) A
 - (2) B
 - (3) C
 - (4) D
 - (5) F

9. Which of the following should be the **FOURTH** sentence after the rearrangement?

 - (1) A
 - (2) B
 - (3) C
 - (4) E
 - (5) D

10. Which of the following should be the **FIRST** sentence after the rearrangement?

 - (1) A
 - (2) B
 - (3) C
 - (4) D
 - (5) F

11. Which of the following should be the **THIRD** sentence after the rearrangement?

 - (1) A
 - (2) B
 - (3) F
 - (4) D
 - (5) E

12. Which of the following should be the **LAST** (**SIXTH**) sentence after the rearrangement?

 - (1) A
 - (2) E
 - (3) D
 - (4) C
 - (5) B

Directions (141–150): In the given passage there are blanks, each of which has been numbered. Against each five words are suggested, one of which fits the blank appropriately. Find out the appropriate word in each case.

As is well known, India made a major effort to cut (141) red tape and ‘unshackle the tiger’ a little over twenty years ago. The economy re-

healthy annual growth rate averaging close to 7 percent over this period. Companies active in the Indian market (143) Indian or foreign—benefited from this growth as, to quote our Chinese neighbours, ‘the rising tide lifted all boats.’ However, while opportunities for growth will (144) some product categories are becoming saturated, or at least the most lucrative customers have already been (145). This is true in case of mobile services, for example, where penetration has already reached 70 percent. This means that to (146) growth and profitability, companies will have to look at new ways to entice customers. Ergo... innovation is on the corporate agenda.

But the bigger reason d'être for innovation is India's (147) social challenges. With the second-largest population in the world, the world's largest number of poor people, a literacy rate of only 70 percent, inadequate healthcare, and poor nutrition levels, India's economic and geopolitical aspirations will have meaning (148) if we can raise our performance on social indicators rapidly. Given the country's resources (149) and its poor track record in (150) these issues, there is a crying need for innovation.

| | |
|---------------------|----------------|
| 141. (1) cross | (2) by |
| (3) for | (4) of |
| (5) though | |
| 142. (1) together | (2) well |
| (3) great | (4) poorly |
| (5) strong | |
| 143. (1) whether | (2) neither |
| (3) instead | (4) giving |
| (5) condition | |
| 144. (1) there | (2) happen |
| (3) most | (4) cease |
| (5) move | |
| 145. (1) associated | |
| (2) immovable | |
| (3) tapped | (4) knocked |
| (5) banked | |
| 146. (1) certain | (2) approve |
| (3) believe | (4) contradict |
| (5) verify | |
| 147. (1) complex | (2) trivial |
| (3) awesome | (4) far |
| (5) stultified | |

