

SBI PO Prelims 2017

REASONING ABILITY

Directions (1-5): Study the following information carefully and answer the given questions.

In an apartment, 8 persons i.e. D, E, F, G, H, I, J and K live on different floors of 8 storey-building but not necessarily in the same order. The lowermost floor of the building is numbered 1 and the topmost floor of the building is numbered 8. They are of different stream of engineering i.e. Chemical engineering, Instrumentation Engineering, Software engineering, Aeronautical Engineering, Mechanical Engineering, Electrical Engineering, Automobile Engineering, and Civil Engineering.

The one who lives on fourth floor is specialized in Mechanical engineering. D lives on odd numbered floor but above 3rd floor. The number of person between D and Electrical engineering specialized person is same as number of person between D and I. The one who is specialized in Instrumentation Engineering lives on lower most floor. K lives on an even numbered floor and he is specialized in Automobile engineering. There are two floors between E and H and E lives above to H. E is specialized in Aeronautical Engineering. J lives just above the one who is specialized in Aeronautical Engineering. The number of floors between the one who is specialized in Aeronautical Engineering and Mechanical Engineering is two. The one who is specialized in Civil Engineering lives on odd numbered floor. The number of floors between the one who is specialized in Chemical engineering and J is four. The one who is specialized in Aeronautical engineering lives on odd numbered floor. The number of floors between the one who is specialized in Civil engineering and the floor on which F lives is same as the number of floors between F and G. I lives below the floor on which D lives.

1. How many persons live between the person who is specialized in Chemical engineering and the one who is specialized in Electrical Engineering?
(a) Six (b) One (c) Four
(d) Two (e) None of these
2. J is specialized in which of the following stream of engineering?
(a) Aeronautical Engineering
(b) Electrical Engineering
(c) Civil Engineering
(d) Instrumentation Engineering
(e) Mechanical Engineering

3. Four of the following five are alike in a certain way and hence they form a group. Which one of the following does not belong to that group?
(a) J (b) K (c) H
(d) I (e) G
4. D lives on which floor?
(a) 1 (b) 3 (c) 4
(d) 5 (e) 7
5. G is related to Mechanical Engineering, in the same way as F is related to Automobile Engineering. Then, which of the following is H related to? (Following the same pattern)
(a) Mechanical Engineering
(b) Electrical Engineering
(c) Civil Engineering
(d) Instrumentation Engineering
(e) Aeronautical Engineering
6. Which of the following symbols should replace the sign (\$) and (#) in the given expression in order to make the expressions $P > C$ and $C \leq B$ definitely true?
' $A > B \geq R \$ C < R \leq Z = M \# P \geq X$ '
(a) $\geq, >$ (b) \geq, \leq (c) $>, =$
(d) $=, \geq$ (e) $<, \leq$
7. Five persons namely A, B, C, D and E are going to the school in different days of the week, starting from Monday to Friday. Two persons are going between C and B. C is going before Wednesday. D is going to the school immediate after E. A is not going on Friday. Then who among the following person is going to school on Wednesday?
(a) B (b) C (c) D
(d) E (e) A

Directions (8-12): Study the following information carefully and answer the question given below:

Eight people viz. A, B, C, D, P, Q, R and S are sitting in a straight line. They all are facing north. Each one of them has a different age i.e. 14, 16, 17, 19, 21, 23, 26 and 31 year, but not necessarily in the same order.

B sits at one of the extreme end of the row. There are three persons sitting between C and Q. Q is neither 14 nor 19yr old. There are two persons sitting between D and the person whose age is 23yr. Neither Q nor D is the oldest person. Age difference of immediate neighbours of

D is 5yr. A sits right to the R, but not immediate right. There are three persons sitting between B and the one whose age is 16yr. The one whose age is 19yr sits third to the right of C. R sits to the right of B. Q sits second to the right of the person whose age is 23yr. P sits immediate left of the person whose age is 14yr. Q is not youngest person. The one, whose age is 31yr in not immediate neighbour of the youngest person, C is not the fourth oldest person.

8. Who sits second to the right of D?
(a) A (b) S (c) P
(d) R (e) None of these
9. How many persons sits between the person whose age is 31yr and S?
(a) Four (b) Five (c) Three
(d) One (e) None of these
10. Who among the following person is 26yr old?
(a) R (b) D (c) C
(d) S (e) None of these
11. If P is related to 16yr in the same way as B is related to 26yr, then which of the following is R related to, following the same pattern?
(a) 19yr (b) 17yr (c) 21yr
(d) 31yr (e) None of these
12. What is the age difference of A's immediate neighbours?
(a) Three (b) Seven (c) Five
(d) Six (e) None of these
13. Q is the daughter of A. J is the brother of Q. J is the son of R. J is the father of S. If it is given that A is mother of Q, then what is the relation of R with respect to S?
(a) Father (b) Mother-in-law
(c) Mother (d) Father-in-law
(e) Grand father

Directions (14-18): Study the following information carefully and answer the question given below:

There are seven persons P, Q, R, S, T, U and V who were born on the same day of the same month of different year i.e. 1984, 1946, 1967, 1972, 1982, 1989 and 1992 but not necessarily in the same order.

Note: Their age are considered as on the same month and day of 2017 as their date of births.

The difference between the ages of Q and R is twice the square root of the age of one of the any seven persons. Difference between the ages of R and S is the same as the number obtained by dividing ages of any two among the other five persons. Age of P is greatest amongst those whose age is a multiple of five. T is older than V who is not the youngest. Q is not youngest person.

14. Who amongst the following person is the oldest?
(a) P (b) V (c) U
(d) T (e) None of these
15. What is the age of R?
(a) 33 years (b) 35 years (c) 25 years
(d) 45 years (e) 50 years
16. How many persons are younger than U?
(a) One (b) Two (c) Three
(d) Four (e) No one
17. What is the age of S?
(a) 45 years (b) 35 years (c) 33 years
(d) 50 years (e) 28 years
18. Who was born on 1989?
(a) V (b) U (c) T
(d) P (e) Q
19. In a certain code language 'economics growth registered' is written as 've jo qi', 'growth is expected' is written as 'qi lo mn', and 'registered expected number' is written as 'lo ve pr', then what is the code for "economic" ?
(a) lo (b) pr (c) qi
(d) ve (e) jo
20. If 2 is subtracted from each odd digit in the number 7493652 and 3 is added to each even digit in number then which of the following digit is repeated in the new number so obtained?
(a) 9, 4 (b) 6, 5 (c) 5, 9
(d) 5, 4 (e) 5, 7

Directions (21-22): Study the following information carefully and answer the question given below:

There are four boxes i.e. J, K, L and M in which four types of fruits are stored. Fruits are Litchi, Apple, Grapes and Mango. Boxes are arranged in such a manner from top to bottom.

There are two boxes between K and L. The box in which grapes are stored is above L, but not immediate above. The box in which Apple is stored is immediate below M, but not stored in box L. Litchi box is above the Mango box, but not immediate above Apple box.

21. In which of the following box, Litchi is stored?
(a) J (b) M (c) K
(d) L (e) Either (a) or (b)
22. Which of the following fruit is stored in second lowest Box?
(a) Grapes (b) Apple (c) Mango
(d) Litchi (e) Can't be determined

Directions (23-27): Study the following information carefully and answer the question given below:

Eight persons M, N, O, V, W, X, Y and Z attend seminars on different months of the year viz. March, June, October and November, such that not more than two persons attend their seminars in each of the months. Seminars can be held on either 10th or 27th day of the month. No two seminars can be held on the same day. W and N attend the seminars on the same month. There are three seminars between the seminars of X and O. W does not attend his seminar in November. Z attends his seminar immediately after N. V attends his seminar in the month of November. The number of persons who attend their seminars between the seminars of Y and Z respectively is the same as the number of persons who attend their seminars between the seminars of N and V respectively. X does not attend the seminar on October. W attends his seminar before N. Y does not attend his seminar on November.

23. M attends his seminar on which of the following dates?
 (a) 10th October (b) 27th November
 (c) 10th November (d) 10th March
 (e) None of these
24. Which of the following persons attends his seminar on 27th March?
 (a) W (b) N (c) M
 (d) X (e) None of these
25. How many persons attend the seminar after W?
 (a) 5 (b) 4 (c) 6
 (d) 3 (e) None of these
26. Who among the following persons attends the seminar on 10th October?
 (a) W (b) M (c) V
 (d) Z (e) None of these
27. How many persons attended seminar after V?
 (a) 5 (b) 4 (c) 7
 (d) No one (e) None of these

Directions (28-29): Study the following information and answer the given questions:

There are six family members A, B, C, D, E and F and all of them are of different age. A is younger than only one person. E is older than B and D but not as old as A. D is older than only one person. F is youngest in the family. The age of D is 25 year and the age of person who is second oldest is 40 year.

28. Who is oldest in the family?
 (a) A (b) B (c) D
 (d) E (e) C

29. What is the possible age of B?
 (a) 42 years (b) 20 years (c) 55 years
 (d) 19 years (e) 30 years
30. Which of the following statement shows ' $A \geq R$ ' and ' $B < C$ ' holds definitely true?
 (a) $B \leq C = A \geq K = R$ (b) $C = K > B < R \geq A$
 (c) $C > B > A \geq K = R$ (d) $B = K < C < R = A$
 (e) None of these

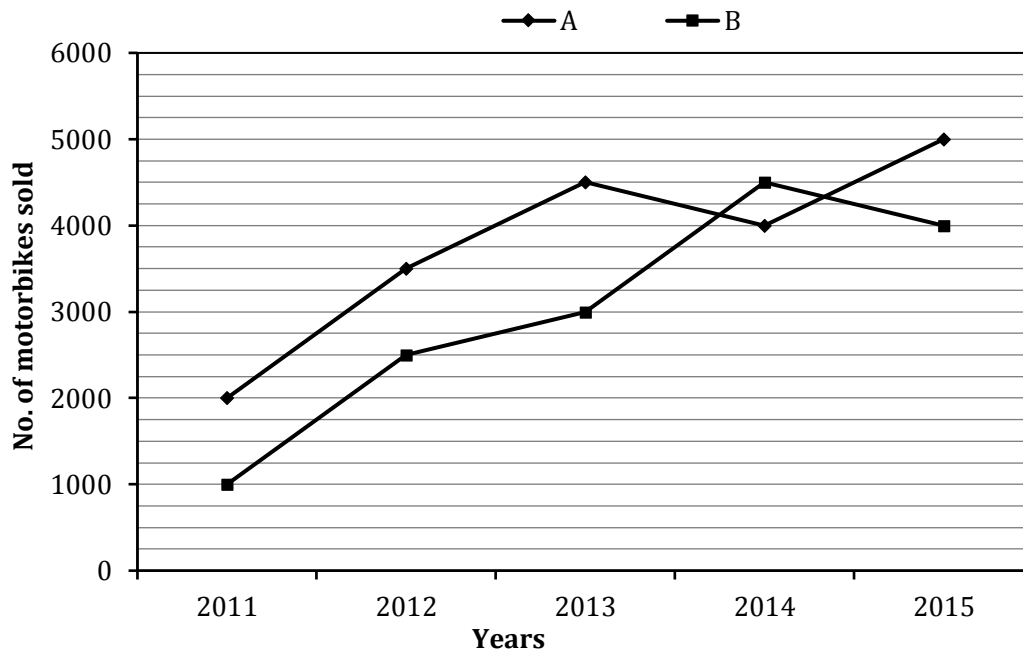
Directions (31-33): In the given questions, assuming the given statements to be true. Find which of the given two conclusions numbered I, II is/are definitely true and give your answer accordingly.

31. **Statement:** $M > U > L \leq N$; $L \geq Y > A$
Conclusions: I. $Y < N$ II. $Y = N$
 (a) Both I and II are true
 (b) Only II
 (c) Only I is true.
 (d) Either I or II is true.
 (e) None is true.
32. **Statement:** $J \geq A > D = E$; $L < A < M$
Conclusions: I. $M < J$ II. $J > L$
 (a) Only II is true.
 (b) Either I or II are true.
 (c) Both I and II are true
 (d) Only I is true.
 (e) None is true.
33. **Statement:** $M \leq K > L = Y$; $P \leq T > M$
Conclusions: I. $P > Y$ II. $T < L$
 (a) Only II is true.
 (b) Only I
 (c) Either I or II are true.
 (d) Both I and II are true
 (e) None is true

34. In a vertical row 13 persons are sitting. A is seventh from the beginning and two persons sits between G and A. Persons between A and L is same as persons between G and Q. Then what is the position of Q from the beginning?
 (a) Fourth (b) Eight (c) Sixth
 (d) Ninth (e) Can't be determined
35. A man walks 12m east from point A and reaches point B. From point B he takes left turn and walks 4m and then he takes right turn and walked 6m and again he takes right turn and walks 7m and again takes right turn and reaches point M. If it is given that point B is in north from point M, then what is the distance between B and M?
 (a) 7m (b) 6m (c) 5m
 (d) 4m (e) 3m

- 36.** Rs. 1800 is given at 20% per annum SI while Rs (1800 - P) is given at 30% per annum CI. If the difference between both interests at the end of two years is Rs 315. Find P.
 (a) Rs. 200 (b) Rs. 300 (c) Rs. 400
 (d) Rs. 100 (e) None of these
- 37.** Three partners A, B and C invested their amounts in ratio 7:5:3. At the end of six months, A withdraws his amount such that his total investment will be equal to C's initial investment. If C's share in annual Profit is Rs. 3600. A's annual profit will be ?
 (a) Rs. 6000 (b) Rs. 7000 (c) Rs. 4500
 (d) Rs. 9000 (e) None of these
- 38.** A and B sold two articles at 25% profit and 40% profit respectively. If total profit is Rs. 178 and the cost price of A is Rs 120 less than B. find the CP of B.
 (a) Rs. 310 (b) Rs. 370 (c) Rs. 320
 (d) Rs. 430 (e) None of these
- 39.** B's age is 10 years older than A. If the ratio of B's age 11 years hence and C's present age is 3:2. At present C's age is thrice A's age. What will be the age of C after 7 years?
 (a) 18 years. (b) 23 years. (c) 28 years.
 (d) 25 years. (e) None of these
- 40.** If the ratio of curved surface area to the volume of cylinder is 4:7 while the ratio of diameter to the height of cylinder is 14:5. Find the total surface area of cylinder?
 (a) 140 units (b) 130 units (c) 123 units
 (d) 132 units (e) None of these
- 41.** A bag contains 25 cards with numbered 1, 2, 3,....., 25. Two cards are picked at random (one after another and without replacement). Find the probability that the sum of numbers of both cards are odd?
 (a) $\frac{12}{50}$ (b) $\frac{13}{25}$ (c) $\frac{13}{50}$
 (d) $\frac{13}{27}$ (e) None of these
- 42.** If time taken to cover 'D-11' km upstream is four times the time taken to cover D km downstream. If ratio of speed of boat in still water to the speed of water current is 9:7. And the time taken to cover 'D-2' km in upstream is 2 hrs. what will be the speed of boat in still water?
 (a) 30 kmph (b) 20 kmph (c) 45 kmph
 (d) 35 kmph (e) None of these
- 43.** Time taken to complete a work by A alone is 100% more than the time taken by both A and B to complete the work. B is thrice as efficient as C. B and C together take 12 days to complete the same work. How many days A will take to complete the work alone?
 (a) 32 days (b) 16 days (c) 24 days
 (d) 20 days (e) None of these
- 44.** Sashi spends 32% of his income in various expenses. Of the remaining, she spends one - fourth on her brother while 9/17 on her sister and remaining keep as savings. If the difference between her money spending on brother and sister is Rs. 3800. What is Shashi's savings?
 (a) Rs. 3000 (b) Rs. 2500 (c) Rs. 4000
 (d) Rs. 3400 (e) None of these
- 45.** If two is subtracted to the numerator while 3 is added to the denominator, ratio becomes 3 : 2. While if 7 is added to the denominator while 4 is subtracted from the numerator, ratio becomes 5:3. What is the fraction?
 (a) $\frac{23}{54}$ (b) $\frac{-23}{64}$ (c) $\frac{76}{55}$
 (d) $\frac{-23}{55}$ (e) None of these
- Directions (46-50):** What should come in place of the question mark (?) in the following number series.
- 46.** 12, 7, 8, 13, 27, ?
 (a) 75 (b) 76 (c) 60
 (d) 65 (e) 68.5
- 47.** 15, 24, 49, 98, 179, ?
 (a) 310 (b) 300 (c) 305
 (d) 315 (e) None of these
- 48.** 5, 6, 14, 45, ?, 925
 (a) 184 (b) 243 (c) 234
 (d) 232 (e) None of these
- 49.** 9, 11, 22, 51, 107, ?
 (a) 195 (b) 210 (c) 200
 (d) 199 (e) None of these
- 50.** 67, 75, 59, 91, 27, ?
 (a) 180 (b) 155 (c) 170
 (d) 120 (e) None of these

Directions (51-55): Read the following line graph and answer the following questions given below it –
There are two motorbike manufacturing companies A and B. The sale of motorbikes by these two different companies in different years is given in the graph below.



51. What is the ratio of total sales of company B in 2012 and that of company A in 2014 together to the total sales of company A in 2011 and that of company B in 2015 together?

- (a) 13:12 (b) 11:9 (c) 12:7
(d) 13:10 (e) None of these

52. What is the difference between the sales of company A in 2016 and that of company B in 2016 if the sales of company A and B increase by 20% and 10% respectively in 2016 as compared to 2015?

- (a) 1700 (b) 1600 (c) 1800
(d) 2100 (e) None of these

53. The total sales of both companies in 2015 is what percent more than the total sales of both the companies in 2011?

- (a) 280% (b) 180% (c) 200%
(d) 250% (e) None of these

54. Find the difference between the total sales of company A from 2012 to 2014 and that of company B from 2013 to 2015?

- (a) 750 (b) 500 (c) 600
(d) 400 (e) None of these

55. If the sales of company A increases by 33.33% in 2011 over its sales in 2010, then find the percent increase in the sales of company A in 2015 with respect to the sales in 2010?(up to two decimal places)

- (a) 233.33% (b) 210.12% (c) 333.33%
(d) 272.32% (e) None of these

Directions (56-60): Read the following table and answer the following question :

Total number of voters in different districts and Percentage of male out of these voters are given.

District	Total voters (Male and Female)	Percentage of male out of total voters
A	350	30%
B	400	54%
C	370	50%
D	250	46%
E	300	45%
F	625	32%

56. Total number of male voters from district A and B together are how much more/less than total number of female voters from district E and D together?

- (a) 21 (b) 32 (c) 25
(d) 31 (e) None of these

57. The average of total voters from district B, C and D together are approximately what percent less/more than the no. of male of voters from districts D,E and F together?

- (a) 33.33% (b) 24.44% (c) 66.66%
(d) 16.66% (e) none of these

58. Find the ratio of the male voters from district D and E together to the female voters form district C, E and F together?

- (a) 10 : 31 (b) 10 : 41 (c) 10 : 51
(d) 10 : 61 (e) None of these

59. The no. of female voters from district F is what percent more/less than the no. of male voters from district A? (rounded off to nearest integer)
 (a) 290% (b) 230% (c) 300%
 (d) 305% (e) None of these

60. Find the ratio of no. of male voters from districts B and E together to the no. of female voters from districts C and A together?
 (a) 351:430 (b) 341:230 (c) 361:430
 (d) 231:410 (e) None of these

Directions (61-65): Given below are two equations in each question, which you have to solve and give answer

- (a) if $x > y$
 (b) if $x \geq y$
 (c) if $y > x$
 (d) if $y \geq x$
 (e) if $x = y$ or no relation can be established

61. I. $2x^2 - 5x + 2 = 0$ II. $2y^2 - 9y + 7 = 0$

62. I. $3x^2 + 7x + 4 = 0$ II. $y^2 + 9y + 20 = 0$

63. I. $3x^2 + 5x + 2 = 0$ II. $y^2 + 12y + 27 = 0$

64. I. $x^2 - 7x + 10 = 0$ II. $y^2 - 14y + 45 = 0$

65. I. $(x - 16)^2 = 0$ II. $y^2 = 256$

Directions (66-70): What approximate value should come in place of the question mark (?) in the following questions?

Note: (You are not expected to calculate the exact value.)

66. $24.001 \times 14.999 \times 9.998 = ?$
 (a) 4200 (b) 3000 (c) 3600
 (d) 4000 (e) 2500

67. $14.003\sqrt{?} + 53.0345\sqrt{?} = \frac{67}{26.999} \times (?)$
 (a) 801 (b) 720 (c) 729
 (d) 721 (e) 744

68. $10.11 \times 36.93 + \sqrt{48.875} \times 19.99 = 17.231 \times \sqrt{?}$
 (a) 25 (b) 144 (c) 225
 (d) 625 (e) 900

69. $1898.88 \div 189.921 + 9.99 + (?)^2 = 83.89$
 (a) 3 (b) 4 (c) 5
 (d) 8 (e) 7

70. $39.7\% \text{ of } 801 - 250.17 = ? - 63\% \text{ of } 801$
 (a) 800 (b) 500 (c) 574
 (d) 760 (e) 550

ENGLISH LANGUAGE

Directions (71-80): Read the following passage carefully and answer the questions given below it. Certain words are given in bold to help you locate them while answering some of the questions.

ABOUT 1.3 billion people use one or other version of Microsoft's Windows operating systems, and well over a billion have downloaded Mozilla's Firefox web browser. Minor variations aside, every copy of these products—like all other mass-market software—has exactly the same bits in it. This makes such software a honeypot for hackers, who can write attack code that will cause precisely the same damage to, say, every copy of Windows 7 it infects. Worse, the bad guys can **hone** their attacks by practising on their own machines, confident that what they see will be what their victims get.

This computing monoculture—which also extends to the widespread use of particular pieces of hardware, such as microprocessors from Intel and ARM—has long been the **bane** of technologists. In the face of a near constant **onslaught** from hackers, antivirus software is frequently several steps behind the foe. Symantec, one of the commercial pioneers of online security, estimates that antivirus software now stops only 45% of attacks. The firm recently declared that this approach was “dead” and a new one was needed.

Michael Franz, a computer scientist at the University of California, Irvine, agrees. And he believes the answer is to learn from nature. Lots of species are composed of individuals which are, the occasional set of identical twins apart, all slightly different genetically from each other. Sexual reproduction ensures this. Indeed, it is probably the reason sex evolved in the first place, for it means that no bacterium or virus can wipe out an entire population, since some are almost certain to be genetically immune to any given pathogen.

Applying the idea of genetic diversity to software is not a new idea. High-security systems, such as the fly-by-wire programs used in aeroplanes, are designed from the outset with code that differs between installations. But this approach is too costly for large-scale use. Some mass-market software companies have instead introduced modest diversity to deter attackers, such as randomly choosing the starting addresses of big blocks of memory, but this is not enough to defeat a determined hacker.

Dr Franz is therefore taking a novel approach by tweaking the programs, called compilers, that convert applications written in languages such as C++ and Java into the machine code employed by a computer's processor. Most compilers are designed to optimise things such as the speed of the resulting machine code. That leads to a single answer. Dr Franz's “multicompiler” trades a bit of this

optimality for diversity in the compiled code. This leeway, which diminishes the code's speed of execution by an amount imperceptible to the user, enables a multicompiler to create billions of different, but functionally identical, interpretations of the original program. When a user requests a specific application from a cloud-based "app store", the appropriate multicompiler in the store generates a unique version for him, thus making a hacker's task **nigh** impossible.

71. Which is the most suitable title for the passage?

- (a) Learning from Nature
- (b) Preclusion from Hacking
- (c) Divided we Stand
- (d) Genetic Diversity and Software
- (e) The appropriate Multi compiler

72. What is the author's tone in the passage?

- (a) Sarcastic
- (b) Impersonal
- (c) Enthusiastic
- (d) Hostile
- (e) Grieving

73. According to the passage, how the Dr.Franz's multicompiler makes hacker's task impossible?

- (i) By converting the applications written in languages into the machine code.
- (ii) By creating billions of different interpretations of the original program.
- (iii) By extending the code's speed of execution.
- (a) Only (i) is true
- (b) Only (ii) is true
- (c) Both (i) and (ii) are true
- (d) Both (ii) and (iii) are true
- (e) All are correct

74. According to the passage, what makes the software easily attacked by hackers?

- (a) Similar coding instructions in all programs.
- (b) Optimization of the speed of resulting machine code.
- (c) The widespread use of particular pieces of hardware.
- (d) The replica of the software containing same bits.
- (e) All of the above

75. Which of the following is false in context of the passage?

- (a) Dr. Franz's multicompiler approach is productive as it enhances the speed of the code's execution.
- (b) The firm declared that the antivirus approach to protect the software from hackers is not effective.
- (c) Antivirus software stops only 45% of attacks.
- (d) Sexual reproduction ensures the genetic difference in identical twins of species.
- (e) All are true.

76. Which efforts of software companies are found unsuccessful to secure the software from being hacked?

- (i) Antivirus Symantec is one of the unsuccessful efforts which stop only 45% of the attacks.
- (ii) Randomly choosing the starting addresses of big Block of memory is one such effort.
- (iii) Optimising the things such as speed of resulting machine code.
- (a) Only (i) is true
- (b) Only (ii) is true
- (c) Both (i) and (ii) are true
- (d) Both (ii) and (iii) are true
- (e) All are true

Directions (77-78): Choose the word/group of words which is most **opposite** in meaning to the word/group of words printed in bold as used in passage.

77. **Hone**

- (a) wreck
- (b) whet
- (c) secure
- (d) practice
- (e) perfect

78. **Onslaught**

- (a) defense
- (b) approximate
- (c) offense
- (d) assault
- (e) violation

Directions (79-80): Choose the word/group of words which is most **similar** in meaning to the word/group of words printed in bold as used in passage.

79. **Bane**

- (a) death
- (b) scourge
- (c) boon
- (d) corruption
- (e) content

80. **Nigh**

- (a) distant
- (b) clear
- (c) deserving
- (d) nearly
- (e) progressing

Directions (81-90): Which of the phrases (a), (b), (c) and (d) given below each sentence should replace the phrase printed in **bold** letters to make the sentence grammatically correct? If the sentence is correct as it is, mark (e) i.e., "No correction required" as the answer.

81. In Castle town, Rose met the doctor who wanted to know if Freddie was managing **to keep off** her ankle.

- (a) to keep away
- (b) to keep of
- (c) to keep out
- (d) to keep up with
- (e) No correction required

82. Don't **give it into** despair just because you didn't get into the college that was at the top of your wishlist.

- (a) Give yourself up in
- (b) Give off in
- (c) give up in
- (d) give in to
- (e) No correction required

83. It was dominated by Franklin Roosevelt, the cunning, determined, good-natured president **called forth by** the crisis of the Depression.
 (a) call forth on (b) called upon by
 (c) called out upon (d) called out by
 (e) No correction required
84. Shah Rukh Khan has expressed his disappointment **for being detained** by US authorities at Los Angeles International Airport.
 (a) at being detained (b) for detaining
 (c) because of detaining (d) owing to be detained
 (e) No correction required
85. The teacher asked the pupils to **get going at** some work quietly as she had to leave the classroom.
 (a) get even with (b) get hold of
 (c) get on with (d) get wind of
 (e) No correction required
86. After our month-long trip, it was time to **get along with** the neighbors and the news around town.
 (a) keep track on (b) get going with
 (c) catch hold of (d) catch up with
 (e) No correction required
87. Good instructors will **look upon** early signs of failure in their students
 (a) look in (b) look out for (c) look for
 (d) look up with (e) No correction required
88. If you **talk towards** someone in authority such as a parent or teacher, you answer them in a rude way
 (a) talk down with (b) talk over with
 (c) talk back to (d) talk around of
 (e) No correction required
89. Before we **take this farther**, let's consider something the Internet has taught us about ourselves.
 (a) take that farther (b) took it further
 (c) took it farther (d) take that further
 (e) No correction required
90. It was great to **think back of** not just that experience, but on why that film still resonates with people.
 (a) Think back on (b) think about
 (c) think it through (d) think back about
 (e) No correction required

Directions (91-100): In the following passage there are blanks, each of which has been numbered and one word has been suggested alongside the blank. These numbers are printed below the passage and against each, five options are given. In four options, one word is suggested in each option. Find out the appropriate word which fits the blank appropriately. If the word written alongside the blank fits the passage, choose option 'e' (No correction required) as the correct choice.

CHINA has long (91) **[moved]** between the urge to (92) **[enrich]** its elite with foreign knowledge and skills, and an opposing instinct to turn inward and rebuff such (93) **[importance]**. In the 1870s the Qing imperial court ended centuries of educational isolation by sending young men to America, only for the Communist regime to shut out the world again a few decades later. Today record numbers of Chinese study abroad: over half a million people left in 2015 alone, many for America. The Communist Party officially endorses international exchanges in education while at the same time preaching the dangers of Western ideas on Chinese campuses.

A new front in this battlefield is (94) **[emerging]**, as the government cracks down on international schools catering to Chinese citizens. Only holders of foreign passports used to be allowed to go to international schools in China: children of expat workers or the foreign-born offspring of Chinese returnees. Chinese citizens are still (95) **[illicit]** from attending such outfits, but more recently a new type of school has proliferated on the mainland, (96) **[proposing]** an international curriculum to Chinese nationals planning to study at foreign universities. Their number has more than doubled since 2011, to over 500. Many are clustered on the wealthy eastern seaboard, but even poor interior provinces such as Gansu, Guizhou and Yunnan have them. Some international schools are (97) **[privately run]**, including offshoots of famous foreign institutions such as Dulwich College in Britain or Haileybury in Australia. Even wholly Chinese ventures often (98) **[taken up]** foreign-sounding names to increase their appeal: witness "Etonkids", a Beijing-based chain which has no link with the illustrious British boarding school. Since 2003 some 90 state schools have (99) **[enabled]** international programmes too, many of them at the top high schools in China, including those (100) **[acquainted]** with Peking.

91. (a) wobbled (b) wavered
 (c) oscillated (d) rotated
 (e) No correction.
92. (a) supply (b) equip
 (c) endow (d) appoint
 (e) No correction.
93. (a) influences (b) impact
 (c) prevalence (d) instrument
 (e) No correction.

94. (a) eminent (b) elusive
(c) requisite (d) obligatory
(e) No correction.
95. (a) elicited (b) apprehended
(c) prohibit (d) Forbidden
(e) No correction.
96. (a) providing (b) presenting
(c) offering (d) contributing
(e) No correction.
97. (a) confidentially run (b) distinctly run
(c) Personally run (d) Publically run
(e) No correction.

98. (a) adopt (b) select
(c) Refrain (d) Outcast
(e) No correction.
99. (a) conducted (b) extended
(c) convoyed (d) opened
(e) No correction.
100. (a) accorded (b) affiliated
(c) provisioned (d) conversant
(e) No correction

Solutions

REASONING ABILITY

Directions (1-5):

Floors	Person	Stream
8	J	Electrical
7	E	Aeronautical
6	K	Automobile
5	D	Civil
4	H	Mechanical
3	F	Chemical
2	I	Software
1	G	Instrumentation

1. (c); 2. (b); 3. (e);
4. (d); 5. (e);
6. (b); $A > B \geq R \geq C < R \leq Z = M \leq P \geq X$
7. (d);

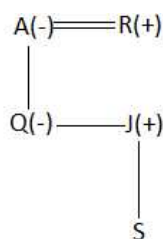
Day	Person
Monday	A
Tuesday	C
Wednesday	E
Thursday	D
Friday	B

Directions (8-12):

B	P	D	C	R	S	A	Q
31	21	14	26	16	23	19	17

8. (d); 9. (a); 10. (c);
11. (b); 12. (d);

13. (e);



Directions (14-18):

Persons	Year
T	1946
P	1967
Q	1972
R	1982
S	1984
V	1989
U	1992

14. (d); 15. (b); 16. (e);
17. (c); 18. (a);
19. (e); Economics = jo
20. (e); The given number is = 7493652
Number after operation = 5771935
There are two numbers (5,7) which are repeated.

Directions (21-22):

Box	Fruit
K	Litchi
M	Grapes
J	Apple
L	Mango

21. (c);

22. (b);

Directions (23-27):

Days → Month ↓	10 th	27 th
March	Y	X
June	W	N
October	Z	O
November	M	V

23. (c);

24. (d);

25. (a);

26. (d);

27. (d);

Directions (28-29): $C > A > E > B > D > F$

28. (e);

29. (e);

30. (c); ' $C > B > A \geq K = R$ '

Directions (31-33):

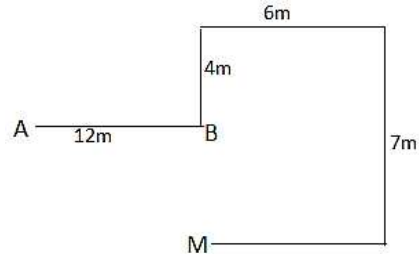
31. (d); I. $Y < N$ (false) II. $Y = N$ (false)

32. (a); I. $M < J$ (false) II. $J > L$ (True)

33. (e); I. $P > Y$ (false) II. $T < L$ (false)

34. (e); As from the given statement the position of G is not fixed so there is two possible case in which G sits three places above A or three places below A. And, the position of L and Q is also not fixed.

35. (e); The distance between B and M = $7 - 4 = 3\text{m}$



QUANTITATIVE APTITUDE

36. (b); Total S.I. = $\frac{1800 \times 2 \times 20}{100} = \text{Rs. } 720$

$$\text{Total C.I.} = (1800 - P) \left[\left(1 + \frac{30}{100} \right)^2 - 1 \right]$$

$$= (1800 - P) \times \frac{69}{100}$$

$$\text{ATQ, } (1800 - P) \times \frac{69}{100} - 720 = 315$$

$$\text{or, } (1800 - P) = \frac{100}{69} \times 1035$$

$$\text{or, } 1800 - P = 1500$$

$$\Rightarrow P = 300$$

37. (a); Let their initial investments be $7x$, $5x$ and $3x$ respectively

Ratio of their profit = $7x \times 6 + 3x \times 6 :$

$$5x \times 12 : 3x \times 12$$

$$= 60x : 60x : 36x$$

$$= 15 : 15 : 9$$

$$A's \text{ profit} = 3600 \times \frac{39}{9} \times \frac{15}{39}$$

$$= \text{Rs. } 6000$$

38. (c); Let, CP of B be $x + 120$

And that of A be x

$$\text{Then, } \frac{25}{100} \times x + \frac{40}{100} (x + 120) = 178$$

$$\text{or, } \frac{65x}{100} + 48 = 178$$

$$\text{or, } x = 200$$

$$\text{C.P. of B} = x + 120 = \text{Rs. } 320$$

39. (d); Let, age of A be ' x ' years,

Then age of B = ' $x + 10$ ' years

And age of C = $3x$ years

$$\text{ATQ, } \frac{x+10+11}{3x} = \frac{3}{2}$$

$$\text{or, } (x + 21)2 = 9x$$

$$\text{or, } 7x = 42$$

$$\Rightarrow x = 6$$

Age of C after 7 years = $3x + 7 = 18 + 7 = 25$ years

40. (d); $\frac{2\pi rh}{\pi r^2 h} = \frac{4}{7}$

$$\text{or, } \frac{2}{r} = \frac{4}{7}$$

$$\text{or, } r = \frac{7}{2}$$

$$\text{also, } \frac{2r}{h} = \frac{14}{5}$$

$$\Rightarrow h = \frac{5}{2}$$

$$\text{Total surface area} = 2 \times \frac{22}{7} \times \frac{7}{2} \left(\frac{7}{2} + \frac{5}{2} \right)$$

$$= 22 \times \frac{12}{2} = 132$$

41. (b); Sum can be odd in two cases :

1. First card is odd numbered & second one is even.

2. First card is even numbered & second one is odd.

$$\text{Required probability} = \frac{13}{25} \times \frac{12}{24} + \frac{12}{25} \times \frac{13}{24} = \frac{13}{25}$$

42. (c); $\text{ATQ, } \frac{D-11}{2x} = \frac{4D}{16x}$

$$\text{or, } D = 22 \text{ km}$$

$$\text{also, } \frac{D-2}{2} = 2x$$

$$\text{or, } D - 2 = 4x$$

$$\text{or, } x = 5$$

$$\text{Speed of boat} = 9x = 45 \text{ kmph}$$

43. (b); Let, C takes x days to complete the work alone
Then, B takes $\frac{x}{3}$ days to complete the work alone
 $\frac{1}{x} + \frac{3}{x} = \frac{1}{12}$
or, $x = 48$ days
Suppose, A and B take ' y ' days to complete the work together
Then, A takes $2y$ days to complete the work alone
 $\frac{1}{2y} + \frac{1}{16} = \frac{1}{y}$
or, $\frac{1}{2y} = \frac{1}{16}$
or, $2y = 16$
Hence, A will take 16 days

44. (a); Money spent on brother = $\frac{1}{4} \times 68\% = 17\%$
Money spent on sister = $\frac{9}{17} \times 68\% = 36\%$
ATQ,
(36% - 17%) of total = 3800
 \Rightarrow Total = Rs. 20000
Saving = $\frac{100 - (32 + 17 + 36)}{100} \times 20000$
 $= \frac{15}{100} \times 20000 = \text{Rs. } 3000$

45. (c); $\frac{x-2}{y+3} = \frac{3}{2}$
or, $2x - 4 = 3y + 9$
or, $2x - 3y = 13$ (i)
 $\frac{x-4}{y+7} = \frac{5}{3}$
or, $3x - 12 = 5y + 35$
or, $3x - 5y = 47$ (ii)
Solving (i) and (ii),
 $x = -76, y = -55$
Fraction = $\frac{76}{55}$

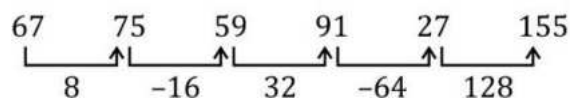
46. (e); $27 \times 2.5 + 1 = 68.5$;
 $\times 0.5 + 1, \times 1 + 1, \times 1.5 + 1, \times 2 + 1, \times 2.5 + 1$

47. (b);
- | | | | | | |
|----------------|----------------|----------------|----------------|-----------------|-----|
| 15 | 24 | 49 | 98 | 179 | 300 |
| ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| 9 | 25 | 49 | 81 | 121 | |
| 3 ² | 5 ² | 7 ² | 9 ² | 11 ² | |

48. (a); $\times 1 + 1, \times 2 + 2, \times 3 + 3, \times 4 + 4, \times 5 + 5$

49. (d);
- | | | | | | |
|---|----|----|----|-----|-----|
| 9 | 11 | 22 | 51 | 107 | 199 |
| ↓ | ↓ | ↓ | ↓ | ↓ | ↓ |
| 2 | 11 | 29 | 56 | 92 | |
| ↓ | ↓ | ↓ | ↓ | ↓ | |
| 9 | 18 | 27 | 36 | | |

50. (b);



51. (a); Total sales of company B in 2012 and that of company A in 2014 = $2500 + 4000 = 6500$
Total sales of company A in 2011 and that of company B in 2015 = $2000 + 4000 = 6000$
Ratio = $\frac{6500}{6000} = \frac{13}{12}$
52. (b); Sales of company A in 2016 = $5000 \times \frac{120}{100} = 6000$
Sales of company B in 2016 = $4000 \times \frac{110}{100} = 4400$
Difference = $6000 - 4400 = 1600$
53. (c); Total sales in 2011 = $2000 + 1000 = 3000$
Total sales in 2015 = $5000 + 4000 = 9000$
Req. % = $\frac{9000 - 3000}{3000} = 200\%$
54. (b); Sales of company A from 2012 to 2014 = $3500 + 4500 + 4000 = 12000$
Sales of company B from 2013 to 2015 = $3000 + 4500 + 4000 = 11500$
Difference = 500
55. (a); Sales of company A in 2010 = $2000 \times \frac{3}{4} = 1500$
Percentage % = $\frac{5000 - 1500}{1500} \times 100$
 $= \frac{3500}{1500} \times 100 = 233.33\%$
56. (a); No. of male voters from district A and B = $\frac{30}{100} \times 350 + \frac{54}{100} \times 400$
 $= 105 + 216 = 321$
Total no. of female voters from E and D = $250 \times \frac{54}{100} + 300 \times \frac{55}{100} = 135 + 165 = 300$
Difference = $321 - 300 = 21$
57. (b); Average no. of voters from district, B, C and D = $\frac{400 + 370 + 250}{3}$
Male voters from D, E, and F together
 $= 250 \times \frac{46}{100} + 300 \times \frac{45}{100} + 625 \times \frac{32}{100}$
 $= 115 + 135 + 200 = 450$
Req. % = $\frac{450 - 340}{450} \times 100 = 24.44\%$
58. (a); No. of male voters from district D and E = $250 \times \frac{46}{100} + 300 \times \frac{45}{100} = 115 + 135 = 250$
No. of female voters from C, E and F = $370 \times \frac{50}{100} + 300 \times \frac{55}{100} + 625 \times \frac{68}{100} = 185 + 165 + 425 = 775$
Ratio = $\frac{250}{775} = \frac{10}{31}$

59. (d); No. of female voters from F = $625 \times \frac{68}{100}$
 = 425
 No. of male voters from A = $\frac{350}{1} \times \frac{30}{100}$
 = 105
 Req. % = $\frac{425-105}{105} \times 100$
 = 304.7%
 $\approx 305\%$

60. (a); No. of male voters from B = $400 \times \frac{54}{100} = 216$
 No. of male voters from E = $300 \times \frac{45}{100}$
 = 135
 No. of female voters from C = $370 \times \frac{50}{100}$
 = 185
 No. of female voters from A = $350 \times \frac{70}{100}$
 = 245
 Required ratio = $\frac{351}{430}$

61. (e); I. $2x^2 - 4x - x + 2 = 0$
 $\Rightarrow 2x(x-2) - 1(x-2) = 0$
 $\Rightarrow (2x-1)(x-2) = 0$
 $\Rightarrow x = \frac{1}{2}, 2$
 II. $2y^2 - 9y + 7 = 0$
 $\Rightarrow 2y^2 - 7y - 2y + 7 = 0$
 $\Rightarrow y(2y-7) - 1(2y-7) = 0$
 $\Rightarrow y = \frac{7}{2}, 1$

\therefore No relation

62. (a); I. $3x^2 + 3x + 4x + 4 = 0$
 $\Rightarrow 3x(x+1) + 4(x+1) = 0$
 $\Rightarrow x = -1, -\frac{4}{3}$

II. $y^2 + 5y + 4y + 20 = 0$
 $\Rightarrow y(y+5) + 4(y+5) = 0$
 $\Rightarrow y = -4, -5$

$\therefore x > y$

63. (a); I. $3x^2 + 3x + 2x + 2 = 0$
 $\Rightarrow 3x(x+1) + 2(x+1) = 0$
 $\Rightarrow x = -1, -\frac{2}{3}$

II. $y^2 + 9y + 3y + 27 = 0$
 $\Rightarrow y(y+9) + 3(y+9) = 0$
 $\Rightarrow y = -3, -9$

$\therefore x > y$

64. (d); I. $x^2 - 5x - 2x + 10 = 0$
 $\Rightarrow x(x-5) - 2(x-5) = 0$
 $\Rightarrow x = 2, 5$

II. $y^2 - 9y - 5y + 45 = 0$
 $\Rightarrow y(y-9) - 5(y-9) = 0$
 $\Rightarrow y = 9, 5$

$\therefore x \leq y$

65. (b); I. $(x-16)(x-16) = 0$
 $\Rightarrow x = 16$

II. $y = \pm 16$

$\therefore x \geq y$

66. (c); $24 \times 15 \times 10 \approx 3600$

67. (c); $14\sqrt{?} + 53\sqrt{?} = \frac{67}{27} \times ?$
 $67\sqrt{?} = \frac{67}{27} \times ?$
 $\sqrt{?} = 27$
 $? = 729$

68. (e); $10 \times 37 + 7 \times 20 = 17 \times \sqrt{?}$
 $\sqrt{?} = 30$
 $? = 900$

69. (d); $\approx 1900 \div 190 + 10 + ?^2 = 84$
 Or, $?^2 = 84 - 10 - 10$ or, $? = 8$

70. (c); $\approx 40 \times 8 - 250 = ? - 63 \times 8$
 $? = 574$

ENGLISH LANGUAGE

71. (c); Here the title "Divided we stand" is more potent. As mentioned in the passage, Dr. Franz's multicompile trades a bit for diversity in the code to secure the software from being hacked.

72. (b); Here the author's tone is impersonal as he is concerned about computer's security.

73. (b); Refer to the second last line of last paragraph, "This leeway of the original program."

74. (d); Refer to the second line of first paragraph, "Minor variations aside, every copy of these

products—like all other mass-market software—has exactly the same bits in it. This makes such software a honeypot for hackers."

75. (a); Refer to the last paragraph, "Dr Franz's "multicompile" trades a bit of this optimality for diversity in the compiled code. This leeway, which diminishes the code's speed of execution by an amount imperceptible to the user, enables a multicompile to create billions of different, but functionally identical, interpretations of the original program." Hence only option (a) is incorrect in context of the passage.

76. (c); Refer to the last sentence of second last paragraph, "Some mass-market software companies have instead introduced modest diversity to deter attackers, such as randomly choosing the starting addresses of big blocks of memory, but this is not enough to defeat a determined hacker".
Refer to the last sentence of the second paragraph, "Symantec, one of the commercial pioneers of online security, estimates that antivirus software now stops only 45% of attacks. The firm recently declared that this approach was "dead" and a new one was needed." Hence both statements (i) and (ii) are correct in context of the passage.
77. (a); **Hone** means sharpen or refine. Hence it has opposite meaning to '**wreck**'.
78. (a); **Onslaught** means a destructive attack. Hence it has opposite meaning to '**defense**'.
79. (b); **Bane** means a cause of great distress. Hence it has same meaning as **scourge**.
80. (d); **Nigh** means near. Hence it has same meaning to **nearly**.
81. (e); '**Keep off**' means to avoid encroaching on or touching hence option (e) is the correct choice for the given question.
82. (d); 'Give in' means to cease fighting or arguing; admit defeat therefore it is most appropriate in context of the sentence and is the correct choice for the given question.
83. (e); There is no error in the statement as 'called forth' means to cause (something) to come into action or existence.
84. (a); Disappointed 'at' is the correct usage here.
85. (c); 'get on with' means to continue or resume doing (something); make progress regarding hence option (c) is the correct choice for the given question.
86. (d); 'Catch up with' is the correct usage as it means succeed in reaching a person who is ahead of one. It is also the most appropriate option if you consider the context of the sentence hence option (d) is the correct choice for the given question.
87. (b); 'look out for' means be vigilant and take notice hence option (b) is the correct choice for the given question as other options change the meaning of the sentence.
88. (c); 'Talk back' means reply defiantly or insolently hence option (c) is the correct choice for the given question.
89. (d); The use of 'further' which means additional to what already exists or has already taken place, been done, or been accounted for is correct and the first form of 'take' should be used therefore option (d) is the correct choice for the given question.
90. (a); 'Think back on' means to recall and is the most appropriate choice for the given question.
91. (c);
92. (b);
93. (a);
94. (e);
95. (d);
96. (c);
97. (e); No correction is required
98. (a);
99. (d);
100. (b);

