SBI PO (PRE) EXAM-2017
PREVIOUS YEAR PAPER

WRITTEN EXAMINATION STRUCTURE

Sr. No.	Name of Tests (Objective)	No. of Questions	Maximum Marks	Allotted Time
1.	English Language	30	30	20 minutes
2.	Quantitative Aptitude	35	35	20 minutes
3.	Reasoning Ability	35	35	20 minutes
	Total	**100**	**100**	**60** minutes

INSTRUCTIONS

(1) All the sections are available in English only, and the time suggested above for each test is not for guidance, you have to follow the above mentioned time.

(2) Do not use calculators, or any electronic medium for calculations. You may take a clean sheet of paper for rough work and all calculations must be performed manually by the candidate.

(3) There will be penalty for wrong answer marked by you in the objective tests. There are five alternatives in every question of a test.

(4) For each question for which a wrong answer has been given by you, 1/4 or 0.25 of the marks assigned to that question will be deducted as penalty. If a question is left blank, i.e. no answer is given by you, there will be no penalty for that question.

(5) There will be a cut off for each section and an overall cut off as well. Hence, your aim should be to answer maximum number of attempts in all three sections.

Directions (Qs.1 to 10): Read the following passage carefully and answer the questions given below it. Certain words are given in **bold** in the passage 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 practicing 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 largescale 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 optimize 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.

1. Which is the most suitable title for the passage?
    (1) Learning from Nature
    (2) Preclusion from Hacking
    (3) Divided we Stand
    (4) Genetic Diversity and Software
    (5) The appropriate Multi compiler

2. What is the author's tone in the passage?
    (1) Sarcastic   (2) Impersonal   (3) Enthusiastic   (4) Hostile   (5) Grieving

3. 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
(1) Only (i) is true
(2) Only (ii) is true
(3) Both (i) and (ii) are true
(4) Both (ii) and (iii) are true
(5) All are correct

4. According to the passage, what makes the software easily attacked by hackers?
(1) Similar coding instructions in all programs
(2) Optimization of the speed of resulting machine code
(3) The widespread use of particular pieces of hardware
(4) The replica of the software containing same bits
(5) All of the above

5. Which of the following is false in context of the passage?
(1) Dr.Franz's multicompiler approach is productive as it enhances the speed of the code's execution
(2) The firm declared that the antivirus approach to protect the software from hackers is not effective
(3) Antivirus software stops only 45% of attacks
(4) Sexual reproduction ensures the genetic difference in identical twins of species
(5) All are true

6. 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.
(1) Only (i) is true   (2) Only (ii) is true
(3) Both (i) and (ii) are true   (4) Both (ii) and (iii) are true   (5) All are true

For (Qs.7 & 8): Choose the word/group of words which is most **OPPOSITE** in meaning to the word/group of words given in **bold** as used in passage.

7. **Hone**
(1) wreck   (2) whet   (3) secure   (4) practice   (5) perfect

8. **Onslaught**
(1) defense   (2) approximate   (3) offense   (4) assault   (5) violation

For (Qs.9 & 10): Choose the word/group of words which is most **SIMILAR** in meaning to the word/group of words given in **bold** as used in passage.

9. **Bane**
(1) death   (2) scourge   (3) boon   (4) corruption   (5) content

10. **Nigh**
(1) distant   (2) clear   (3) deserving   (4) nearly   (5) progressing

Directions (Qs.11 to 20): Which of the phrases (1), (2), (3) and (4) given below each sentence should replace the phrase given in **bold** letters to make the sentence grammatically correct? If the sentence is correct as it is, mark (5) i.e., "No correction required" as the answer.

11. In Castle town, Rose met the doctor who wanted to know if Freddie was managing **to keep off** her ankle.
    (1) to keep away   (2) to keep of   (3) to keep out
    (4) to keep up with   (5) No correction required

12. Don't **give it into** despair just because you didn't get into the college that was at the top of your wishlist.
    (1) Give yourself up in   (2) Give off in   (3) give up in
    (4) give in to   (5) No correction required

13. It was dominated by Franklin Roosevelt, the cunning, determined, good-natured president **called forth by** the crisis of the Depression.
    (1) call forth on   (2) called upon by   (3) called out upon
    (4) called out by   (5) No correction required

14. Shah Rukh Khan has expressed his disappointment **for being detained** by US authorities at Los Angeles International Airport.
    (1) at being detained   (2) because of detaining   (3) for detaining
    (4) owing to be detained   (5) No correction required

15. The teacher asked the pupils to **get going at** some work quietly as she had to leave the classroom.
    (1) get even with   (2) get hold of   (3) get on with
    (4) get wind of   (5) No correction required

16. After our month-long trip, it was time to **get along with** the neighbors and the news around town.
    (1) keep track on   (2) get going with   (3) catch hold of
    (4) catch up with   (5) No correction required

17. Good instructors will **look upon** early signs of failure in their students
    (1) look in   (2) look out for   (3) look for
    (4) look up with   (5) No correction required

18. If you **talk towards** someone in authority such as a parent or teacher, you answer them in a rude way
    (1) talk down with   (2) talk over with   (3) talk back to
    (4) talk around of   (5) No correction required

19. Before we **take this farther,** let's consider something the Internet has taught us about ourselves.
    (1) take that farther   (2) took it further   (3) took it farther
    (4) take that further   (5) No correction required

20. It was great to **think back of** not just that experience, but on why that film still resonates with people.
    (1) Think back on   (2) think about   (3) think it through
    (4) think back about   (5) No correction required

Directions (Qs.21 to 30): 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 given 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 '5' (No correction required) as the correct choice.

CHINA has long **...(21)...** [moved] between the urge to **...(22)...** [enrich] its elite with foreign knowledge and skills, and an opposing instinct to turn inward and rebuff such **...(23)...** [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 **...(24)...** [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 **...(25)...** [illicit] from attending such outfits, but more recently a new type of school has proliferated on the mainland, **...(26)...** [proposing] an international curriculum to Chinese nationals planning to study a 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 Yunnar have them.

Some international schools are **...(27)...** [privately run], including offshoots of famous foreign institutions such as Dulwich College in Britain or Haileybury in Australia. Even wholly Chinese ventures often **...(28)...** [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 **...(29)...** [enabled] international programmes too, many of them at the top high schools in China, including those **...(30)...** [acquainted] with Peking.

21.	(1) wobbled	(2) wavered	(3) oscillated	(4) rotated	(5) No correction required
22.	(1) supply	(2) equip	(3) endow	(4) appoint	(5) No correction required
23.	(1) influences	(2) impact	(3) prevalence	(4) instrument	(5) No correction required
24.	(1) eminent	(2) elusive	(3) requisite	(4) obligatory	(5) No correction required
25.	(1) elicited	(2) apprehended	(3) prohibit	(4) Forbidden	(5) No correction required
26.	(1) providing	(2) presenting	(3) contributing	(4) offering	(5) No correction required

27. (1) confidentially run (2) distinctly run (3) Personally run
    (4) publically run (5) No correction required

| 28.	(1) adopt	(2) select	(3) refrain	(4) outcast	(5) No correction required
29.	(1) conducted	(2) extended	(3) convoyed	(4) opened	(5) No correction required
30.	(1) accorded	(2) affiliated	(3) provisioned	(4) conversant	(5) No correction required

TEST-II
QUANTITATIVE APTITUDE

31. 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.
(1) Rs.200   (2) Rs.300   (3) Rs.400   (4) Rs.100   (5) None of these

32. 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?
(1) Rs.6000   (2) Rs.7000   (3) Rs.4500   (4) Rs.9000   (5) None of these

33. 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.
(1) Rs.310   (2) Rs.370   (3) Rs.320   (4) Rs.430   (5) None of these

34. 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?
(1) 18 years   (2) 23 years   (3) 28 years   (4) 25 years   (5) None of these

35. 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?
(1) 140 units   (2) 130 units   (3) 123 units   (4) 132 units   (5) None of these

36. 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?
(1) $\dfrac{12}{50}$ (2) $\dfrac{13}{25}$ (3) $\dfrac{13}{50}$ (4) $\dfrac{13}{27}$ (5) None of these

37. 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?
(1) 30 kmph   (2) 20 kmph   (3) 45 kmph   (4) 35 kmph   (5) None of these

38. 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?
(1) 32 days   (2) 16 days   (3) 24 days   (4) 20 days   (5) None of these

39. Shashi spends 32% of her income in various expenses. Of the remaining, she spends one-fourth on her brother while $\dfrac{9}{17}$ 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?
(1) Rs.3000   (2) Rs.2500   (3) Rs.4000   (4) Rs.3400   (5) None of these

40. 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?
(1) $\dfrac{23}{54}$ (2) $\dfrac{-23}{64}$ (3) $\dfrac{76}{55}$ (4) $\dfrac{-23}{56}$ (5) None of these

Directions (Qs.41 to 45): What should come in place of the questions mark (?) in the following number series?

41. 12 7 8 13 27 ?
(1) 75 (2) 76 (3) 60 (4) 65 (5) 68.5

42. 15 24 49 98 179 ?
(1) 310 (2) 300 (3) 305 (4) 315 (5) None of these

43. 5 6 14 45 ? 925
(1) 184 (2) 243 (3) 234 (4) 232 (5) None of these

44. 9 11 22 51 107 ?
(1) 195 (2) 210 (3) 200 (4) 199 (5) None of these

45. 67 75 59 91 27 ?
(1) 180 (2) 155 (3) 170 (4) 120 (5) None of these

Directions (Qs.46 to 50): 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.
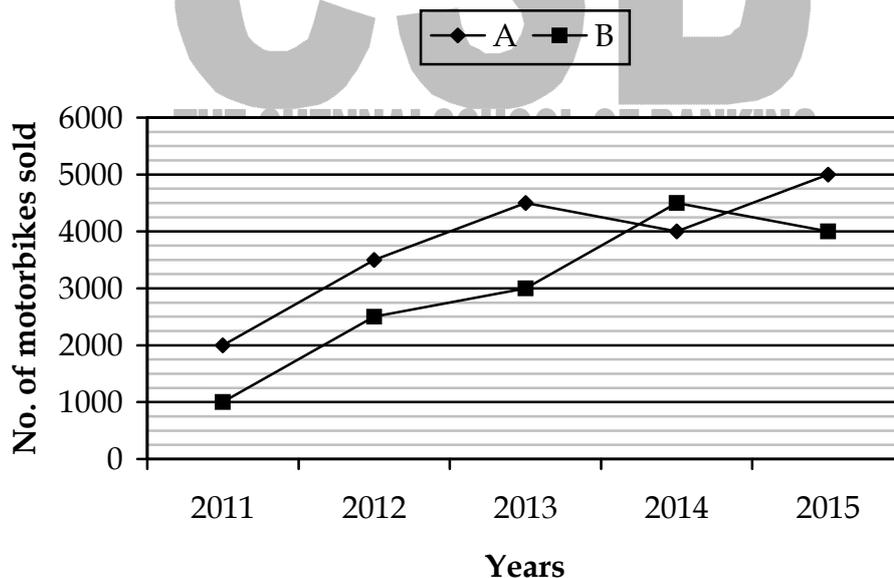
46. What is the ratio of total sales of company B in 2012 and that of company A in 2014 together to the total sales of company A in 2011 and that of company B in 2015 together?
(1) 13 : 12 (2) 11 : 9 (3) 12 : 7 (4) 13 : 10 (5) None of these

47. 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?
(1) 1700 (2) 1600 (3) 1800 (4) 2100 (5) None of these

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

    (1) 280%   (2) 180%   (3) 200%   (4) 250%   (5) None of these

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

    (1) 750   (2) 500   (3) 600   (4) 400   (5) None of these

50. 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)

    (1) 233.33%   (2) 210.12%   (3) 333.33%   (4) 272.32%   (5) None of these

Directions (Qs.51 to 55): Read the following table and answer the following questions:

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%

51. 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?

    (1) 21   (2) 32   (3) 25   (4) 31   (5) None of these

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

    (1) 33.33%   (2) 24.44%   (3) 66.66%   (4) 16.66%   (5) None of these

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

    (1) 10 : 31   (2) 10 : 41   (3) 10 : 51   (4) 10 : 61   (5) None of these

54. 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)

    (1) 290%   (2) 230%   (3) 300%   (4) 305%   (5) None of these

55. 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?

    (1) 351 : 430   (2) 341 : 230   (3) 361 : 430   (4) 231 : 410   (5) None of these

Directions (Qs.56 to 60): Given below are two equations in each question, which you have to solve and__

Give answer (1): If $x > y$
Give answer (2): If $x \geq y$
Give answer (3): If $y > x$
Give answer (4): If $y \geq x$
Give answer (5): If $x = y$ or no relation can be established

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

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

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

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

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

Directions (Qs.61 to 65): 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).

61. $24.001 \times 14.999 \times 9.998 = ?$
(1) 4200   (2) 3000   (3) 3600   (4) 4000   (5) 2500

62. $14.003\sqrt{?} + 53.0345\sqrt{?} = \dfrac{67}{26.999} \times (?)$
(1) 801   (2) 720   (3) 729   (4) 721   (5) 744

63. $10.11 \times 36.93 + \sqrt{48.875} \times 19.99 = 17.231 \times \sqrt{?}$
(1) 25   (2) 144   (3) 225   (4) 625   (5) 900

64. $1898.88 \div 189.921 + 9.99 + (?)^2 = 83.89$
(1) 3   (2) 4   (3) 5   (4) 8   (5) 7

65. 39.7% of $801 - 250.17 = ? - 63\%$ of 801
(1) 800   (2) 500   (3) 574   (4) 760   (5) 550

Directions (Qs.66 to 70): Read 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 lowermost 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.

66. How many persons live between the person who is specialized in Chemical Engineering and the one who is specialized in Electrical Engineering?
(1) Six   (2) One   (3) Four   (4) Two   (5) None of these

67. J is specialized in which of the following stream of engineering?
(1) Aeronautical Engineering   (2) Electrical Engineering   (3) Civil Engineering
(4) Instrumentation Engineering   (5) Mechanical Engineering

68. 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?
(1) J   (2) K   (3) H   (4) I   (5) G

69. D lives on which floor?
(1) 1   (2) 3   (3) 4   (4) 5   (5) 7

70. 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).
(1) Mechanical Engineering   (2) Electrical Engineering   (3) Civil Engineering
(4) Instrumentation Engineering   (5) Aeronautical Engineering

71. Which of the following symbols should replace the sign ($) and (#) in the given expression in order to make the expressions P > C and C ≤ B definitely true?
'A > B ≥ R $ C < R ≤ Z = M # P ≥ X'
(1) ≥, >   (2) ≥, ≤   (3) >, =   (4) =, ≥   (5) <, ≤

72. 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 immediately after E. A is not going on Friday. Then who among the following person is going to school on Wednesday?
(1) B   (2) C   (3) D   (4) E   (5) A

Directions (Qs.73 to 77): Study the following information carefully and answer the questions 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 ends of the row. There are three persons sitting between C and Q. Q is neither 14 nor 19 year old. There are two persons sitting between D and the person whose age is 23 year. 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 16 year. The one whose age is 19 year 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 23 year. P sits immediate left of the person whose age is 14 year. Q is not youngest person. The one, whose age is 31 year in not immediate neighbour of the youngest person, C is not the fourth oldest person.

73. Who sits second to the right of D?
    (1) A   (2) S   (3) P   (4) R   (5) None of these

74. How many persons sit between the persons whose age is 31 year and S?
    (1) Four   (2) Five   (3) Three   (4) One   (5) None of these

75. Who among the following person is 26 year old?
    (1) R   (2) D   (3) C   (4) S   (5) None of these

76. If P is related to 16yr in the same way as B is related to 26 year, then which of the following is R related to, following the same pattern?
    (1) 19 year   (2) 17 year   (3) 21 year   (4) 31 year   (5) None of these

77. What is the age difference of A's immediate neighbours?
    (1) Three   (2) Seven   (3) Five   (4) Six   (5) None of these

78. 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?
    (1) Father   (2) Mother-in-law   (3) Mother
    (4) Father-in-law   (5) Grand father

Directions (Qs.79 to 83): Study the following information carefully and answer the given questions:

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 years 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.

79. Who amongst the following persons is the oldest?
    (1) P   (2) V   (3) U   (4) T   (5) None of these

80. What is the age of R?
    (1) 33 years   (2) 35 years   (3) 25 years   (4) 45 years   (5) 50 years

81. How many persons are younger than U?
(1) One   (2) Two   (3) Three   (4) Four   (5) No one

82. What is the age of S?
(1) 45 years   (2) 35 years   (3) 33 years   (4) 50 years   (5) 28 years

83. Who was born on 1989?
(1) V   (2) U   (3) T   (4) P   (5) Q

84. 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 "economics"?
(1) lo   (2) pr   (3) qi   (4) ve   (5) jo

85. 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?
(1) 9, 4   (2) 6, 5   (3) 5, 9   (4) 5, 4   (5) 5, 7

Directions (Qs.86 & 87): Study the following information carefully and answer the given questions:

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.

86. In which of the following box, Litchi is stored?
(1) J   (2) M   (3) K   (4) L   (5) Either (1) or (2)

87. Which of the following fruits is stored in second lowest Box?
(1) Grapes   (2) Apple   (3) Mango   (4) Litchi   (5) Can't say

Directions (Qs.88 to 92): Study the following information carefully and answer the questions 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.

88. M attends his seminar on which of the following dates?
(1) 10th Oct   (2) 27th Nov   (3) 10th Nov   (4) 10th March   (5) None of these

89. Which of the following persons attends his seminar on 27th March?
(1) W   (2) N   (3) M   (4) X   (5) None of these

90. How many persons attend the seminar after W?
(1) 5   (2) 4   (3) 6   (4) 3   (5) None of these

91. Who among the following person attends the seminar on 10th October?
(1) W   (2) M   (3) V   (4) Z   (5) None of these

92. How many persons attend seminar after V?
(1) 5   (2) 4   (3) 7   (4) No one   (5) None of these

Directions (Qs.93 & 94): Study the following information carefully and answer the questions given:

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 years and the age of person who is second oldest is 40 year.

93. Who is oldest in the family?
(1) A   (2) B   (3) D   (4) E   (5) C

94. What is the possible age of B?
(1) 42 years   (2) 20 years   (3) 55 years   (4) 19 years   (5) 30 years

95. Which of the following statements shows 'A ≥ R' and 'B < C' holds definitely true?
(1) B ≤ C = A ≥ K = R   (2) C = K > B < R ≥ A   (3) C > B > A ≥ K = R
(4) B = K < C < R = A   (5) None of these

Directions (Qs.96 to 98): 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.

96. **Statements:** M > U > L ≤ N; L ≥ Y > A
    Conclusions: I. Y < N   II. Y = N
(1) Both I and II are true   (2) Only II   (3) Only I is true
(4) Either I or II is true   (5) None is true

97. **Statements:** J ≥ A > D = E; L < A < M
    Conclusions: I. M < J   II. J > L
(1) Only II is true   (2) Both I and II are true   (3) Either I or II is true
(4) Only I is true   (5) None is true

98. **Statements:** M ≤ K > L = Y; P ≤ T > M
    Conclusions: I. P > Y   II. T < L
(1) Only II is true   (2) Only I is true   (3) Either I or II is true
(4) Both I and II are true   (5) None is true

99. 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?
(1) Fourth   (2) Eight   (3) Sixth   (4) Ninth   (5) Can't say

100. A man walks 12m east from point A and reach point B. From point B he takes left turn and walks 4m and then he takes right turn and walk 6m and again he takes right turn and walk 7m and again takes right turn and reach point M. If it is given that point B is in north from point M, then what is the distance between B and M?
(1) 7m   (2) 6m   (3) 5m   (4) 4m   (5) 3m

- - × - -

ANSWERS

1. **Ans (3):** Divided we Stand

2. **Ans (2):** Impersonal

3. **Ans (2):** Only (ii) is true

4. **Ans (4):** The replica of the software containing same bits

5. **Ans (1):** Dr.Franz's multicompiler approach is productive as it enhances the speed of the code's execution

6. **Ans (3):** Both (i) and (ii) are true

7. <u>**Ans (1): wreck**</u>
    Hone means sharpen or refine. Hence it has opposite meaning to **'wreck'.**

8. <u>**Ans (1): defense**</u>
    Onslaught means a destructive attack. Hence it has opposite meaning to **'defense'.**

9. <u>**Ans (2): scourage**</u>
    Bane means a cause of great distress. Hence it has same meaning as **scourage.**

10. <u>**Ans (4): nearly**</u>
    Nigh means near. Hence it has same meaning to nearly.

11. <u>**Ans (5): No correction required**</u>
    'Keep off' means to avoid encroaching on or touching hence option (5) is the correct choice for the given question.

12. <u>**Ans (4): give in to**</u>
    '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.

13. <u>**Ans (5): No correction required**</u>
    There is no error in the statement as 'called forth' means to cause (something) to come into action or existence.

14. <u>**Ans (1): at being detained**</u>
    Disappointed 'at' is the correct usage here.

15. <u>**Ans (3): get on with**</u>
    'get on with' means to continue or resume doing (something) make progress regarding.

16. <u>**Ans (4): catch up with**</u>
    'catch up with' is the correct usage as it means succeed in reaching a person who is ahead of one.

17. <u>**Ans (2): look out for**</u>
    'look out for' means be vigilant and take notice.

18. <u>**Ans (3): talk back to**</u>
    'Talk back' means reply defiantly or insolently.

19. <u>**Ans (4): take that further**</u>
    The use of **'further'** which means additional to what already exists or has already taken place,

    been done, or been account for is correct and the first form of 'take' should be used.

20. <u>**Ans (1): Think back on**</u>
    'Think back on' means to recall and is the most appropriate choice for the given question.

21. **Ans (3):** oscillated

22. **Ans (2):** equip

23. **Ans (1):** influences

24. **Ans (5):** No correction required

25. **Ans (4):** Forbidden

26. **Ans (4):** offering

27. **Ans (5):** No correction required

28. **Ans (1):** adopt

29. **Ans (4):** opened

30. **Ans (2):** affiliated

31. **Ans (2): Rs.300**

Total S.I. $= \dfrac{1800 \times 2 \times 20}{100} = \text{Rs.}720$

Total C.I. $\Rightarrow 30 + 30 + 9 = 69\%$

$(1800 - P) \times \dfrac{69}{100} - 720 = 315 \Rightarrow (1800 - P) = \dfrac{100}{69} \times 1035 \Rightarrow 1800 - P = 1500 \Rightarrow P = 300$

32. **Ans (1): Rs.6000**

Let their initial investments $= 7x \times 6 + 3x \times 6 : 5x \times 12 : 3x \times 12 = 60x : 60x : 36x = 15 : 15 : 9$

A's profit $= \dfrac{3600}{9} \times 15 = \text{Rs.}6000$

33. **Ans (3): Rs.320**

Let, CP of B be $x + 120$

And that of A be $x \Rightarrow$ then, $\dfrac{25}{100} \times x + \dfrac{40}{100}(x + 120) = 178 \Rightarrow \dfrac{65x}{100} + 48 = 178 \Rightarrow x = 200$

$\therefore$ C.P of B $= 200 + 120 = \text{Rs.}320$

34. **Ans (4): 25 years**

Let, age of A be 'x' years, then age of B = '$x + 10$' years

And age of C = $3x$ years $\dfrac{x + 10 + 11}{3x} = \dfrac{3}{2} \Rightarrow (x + 21) \times 2 = 9x \Rightarrow 7x = 42 \Rightarrow x = 6$

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

35. **Ans (4): 132 units**

$\dfrac{2\pi h}{\pi r^2 h} = \dfrac{4}{7} \Rightarrow \dfrac{2}{r} = \dfrac{4}{7} \Rightarrow r = \dfrac{7}{2}$ also, $\dfrac{2r}{h} = \dfrac{14}{5} \Rightarrow h = \dfrac{5}{2}$

Total surface area $= 2\pi r(r + h) = 2 \times \dfrac{22}{7} \times \dfrac{7}{2}\left(\dfrac{7}{2} + \dfrac{5}{2}\right) = 22 \times \dfrac{12}{2} = 132$ units

36. **Ans (2):** $\dfrac{13}{25}$

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.

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

37. <u>**Ans (3): 45 kmph**</u>

$$\frac{D-11}{2x} = \frac{4D}{16x} \Rightarrow D = 22 \text{ km also}, \frac{D-2}{2} = 2x \Rightarrow D - 2 = 4x \Rightarrow x = 5$$

Spead of boat in still water = 9 × 5 = 45 kmph

38. <u>**Ans (2): 16 days**</u>

Let, C takes x days to complete the work alone

Then, B takes $\dfrac{x}{3}$ days to complete the work alone $\dfrac{1}{x} + \dfrac{3}{x} = \dfrac{1}{12} \Rightarrow x = 48$ days

Suppose, A and B take 'y' days to complete the work together

Then, A takes $2y$ days to complete the work alone $\dfrac{1}{2y} + \dfrac{1}{16} = \dfrac{1}{y} \Rightarrow \dfrac{1}{2y} = \dfrac{1}{16} \Rightarrow 2y = 16$

Hence, A will take 16 days

39. <u>**Ans (1): Rs.3000**</u>

Money spent on brother $= \dfrac{1}{4} \times 68\% = 17\%$

Money spent on sister $= \dfrac{9}{17} \times 68\% = 36\%$

(36% - 17%) of total $= 3800 \Rightarrow$ Total $= \dfrac{3800}{19} \times 100 = $ Rs.20000

Savings $= \dfrac{100 - (32 + 17 + 36)}{100} \times 20000 = \dfrac{15}{100}(20000) = $ Rs.3000

40. <u>**Ans (3): $\dfrac{76}{55}$**</u>

$$\frac{x-2}{y+3} = \frac{3}{2}$$

$\Rightarrow 2x - 4 = 3y + 9 \Rightarrow 2x - 3y = 13 \dots$ (i)
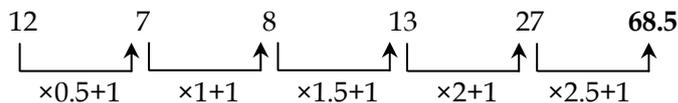
$$\frac{x-4}{y+7} = \frac{5}{3}$$

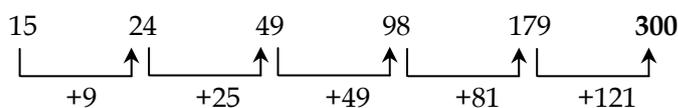$\Rightarrow 3x - 12 = 5y + 35 \Rightarrow 3x - 5y = 47 \dots$ (ii)

Solving (i) and (ii),

$x = -76$, $y = -55$

Fraction $= \dfrac{76}{55}$

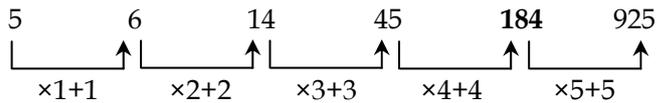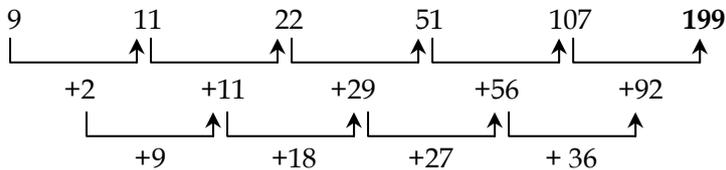**41.** <u>**Ans (5): 68.5**</u>

12	7	8	13	27	**68.5**
×0.5+1	×1+1	×1.5+1	×2+1	×2.5+1	

42. <u>**Ans (2): 300**</u>

15	24	49	98	179	**300**
+9	+25	+49	+81	+121	

43. <u>**Ans (1): 184**</u>

5	6	14	45	**184**	925

×1+1   ×2+2   ×3+3   ×4+4   ×5+5

44. <u>**Ans (4): 199**</u>

9	11	22	51	107	**199**

+2   +11   +29   +56   +92

+9   +18   +27   + 36

45. <u>**Ans (2): 155**</u>

67	75	59	91	27	**155**

+ 8   -16   +32   -64   +128
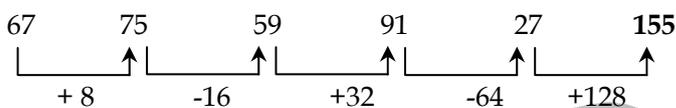
46. <u>**Ans (1): 13 : 12**</u>
Total sales of company B in 2012 and that of company A in 2014 = 2500 + 4000 = 6500
Total sales of company A in 2011 and that of company B in 2015 = 2000 + 4000 = 6000

$\text{Ratio} = \dfrac{6500}{6000} = \dfrac{13}{12}$

47. <u>**Ans (2): 1600**</u>

Sales of company A in 2016 $= 5000 \times \dfrac{120}{100} = 6000$

Sales of company B in 2016 $= 4000 \times \dfrac{110}{100} = 4400$

$\therefore \text{Difference} = 6000 - 4400 = 1600$

48. <u>**Ans (3): 200%**</u>
Total sales in 2011 = 2000 + 1000 = 3000
Total sales in 2015 = 5000 + 4000 = 9000

$\therefore \text{Required Percentage} = \dfrac{9000 - 3000}{3000} \times 100 = 200\%$

49. <u>**Ans (2): 500**</u>
Sales of company A from 2012 to 2014 = 3500 + 4500 + 4000 = 12000
Sales of company B from 2013 to 2015 = 3000 + 4500 + 4000 = 11500
$\therefore$ Required difference = 12000 - 11500 = 500

50. <u>**Ans (1): 233.33%**</u>

Sales of company A in 2010 $= 2000 \times \dfrac{3}{4} = 1500$

$\therefore \text{Percentage} \% = \dfrac{5000 - 1500}{1500} \times 100 = \dfrac{3500}{1500} \times 100 = 233.33\%$

51. <u>Ans (1): 21</u>

Total number of male voters from district A and B $= \dfrac{30}{100} \times 350 + \dfrac{54}{100} \times 400 = 105 + 216 = 321$

Total no. of female voters from E and D $= 250 \times \dfrac{54}{100} + 300 \times \dfrac{55}{100} = 135 + 165 = 300$

$\therefore$ Required difference = 321 – 300 = 21

52. <u>Ans (2): 24.44%</u>

Average no. of voters from district B, C and D $= \dfrac{400 + 370 + 250}{3} = 340$

Male voters from D, E and F together $= 250 \times \dfrac{46}{100} + 300 \times \dfrac{45}{100} + 625 \times \dfrac{32}{100} = 115 + 135 + 200 = 450$

$\therefore$ Required Percentage $= \dfrac{450 - 340}{450} \times 100 = 24.44\%$

53. <u>Ans (1): 10 : 31</u>

No. of male voters from district D and E $= 250 \times \dfrac{46}{100} + 300 \times \dfrac{45}{100} = 115 + 135 = 250$

No. of female voters from C, E and F $= 370 \times \dfrac{50}{100} + 300 \times \dfrac{55}{100} + 625 \times \dfrac{68}{100} = 185 + 165 + 425 = 775$

$\therefore$ Required ratio $= 250 : 775 = 10 : 31$

54. <u>Ans (4): 305%</u>

No. of female voters from F $= 625 \times \dfrac{68}{100} = 425$

No. of male voters from A $= 350 \times \dfrac{30}{100} = 105$

$\therefore$ Required percentage $= \dfrac{425 - 105}{105} \times 100 = 304.7\% \approx 305\%$

55. <u>Ans (1): 351 : 430</u>

No. of male voters from B $= 400 \times \dfrac{54}{100} = 216$

No. of male voters from E $= 300 \times \dfrac{45}{100} = 135$

No. of female voters from C $= 370 \times \dfrac{50}{100} = 185$

No. of female voters from A $= 350 \times \dfrac{70}{100} = 245$

$\therefore$ Required ratio = (216 + 135) : (185 + 245) = 351 : 430

56. <u>Ans (5): no relation can be established</u>

I. SR = 5; PR = 4; $\Rightarrow x = \dfrac{1}{2}, \dfrac{4}{2} \Rightarrow x = 0.5, 2$

II. SR = 9; PR = 14 $\Rightarrow y = \dfrac{7}{2}, \dfrac{2}{2} \Rightarrow y = 3.5, 1$

57. <u>**Ans (1):** $x > y$</u>

I. SR = -7; PR = 12 $\Rightarrow x = \dfrac{-4}{3}, \dfrac{-3}{3} \Rightarrow x = -1.33, -1$

II. SR = -9; PR = 20 $\Rightarrow y = -5, -4$

58. <u>**Ans (1):** $x > y$</u>

I. SR = -5; PR = 6 $\Rightarrow x = \dfrac{-3}{3}, \dfrac{-2}{3} \Rightarrow x = -1, -0.66$

II. SR = -12; PR = 27 $\Rightarrow y = -9, -3$

59. <u>**Ans (4):** $y \geq x$</u>

I. SR = 7; PR = 10 $\Rightarrow x = 5, 2$

II. SR = 14; PR = 45 $\Rightarrow y = 9, 5$

60. <u>**Ans (2):** $x \geq y$</u>

I. $x = 16$

II. $y = +16, -16$

61. <u>**Ans (3):** 3600</u>

? = 24 × 15 × 10 ≈ 3600

62. <u>**Ans (3):** 729</u>

$14\sqrt{?} + 53\sqrt{?} = \dfrac{67}{27} \times ? \Rightarrow 67\sqrt{?} = \dfrac{67}{27} \times ? \Rightarrow \sqrt{?} = 27 \Rightarrow ? = 729$

63. <u>**Ans (5):** 900</u>

$10 \times 37 + 7 \times 20 = 17 \times \sqrt{?} \Rightarrow \sqrt{?} = 30 \Rightarrow ? = 900$

64. <u>**Ans (4):** 8</u>

$1900 \div 190 + 10 + ?^2 = 84 \Rightarrow ?^2 = 84 - 10 - 10 \Rightarrow ? = 8$

65. <u>**Ans (3):** 574</u>

40 × 8 – 250 = ? – 63 × 8 $\Rightarrow$? = 574

For (Qs.66 to 70):

Floor	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

66. <u>**Ans (3):** Four</u>

Four persons live between the persons who is specialized in chemical and Electrical Engineering.

67. <u>**Ans (2):** Electrical Engineering</u>

J is specialized in Electrical Engineering.

68. **Ans (5): G**

Except G, all others are living in even numbered floors.

69. **Ans (4): 5**

D lives on floor numbered 5.

70. **Ans (5): Aeronautical Engineering**
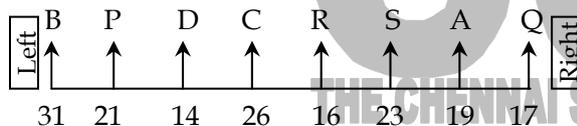
H is related to Aeronautical Engineering.

71. **Ans (2): ≥, ≤**

$A > B ≥ R ≥ C < R ≤ Z = M ≤ P ≥ X$

Conclusions: I. $P > C$ (✓)   II. $C ≤ B$ (✓)

72. **Ans (4): E**

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

∴ E is going to school on Wednesday.

For (Qs.73 to 77):

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

73. **Ans (4): R**

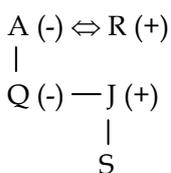R sits second to the right of D.

74. **Ans (1): Four**

There are four persons between S and B, who is 31 years old.

75. **Ans (3): C**

C is 26 years old.

76. **Ans (2): 17 year**

R is related to 17 years.

77. **Ans (4): Six**

Difference between ages of the immediate neighbours of A = 23 – 17 = 6 years.

78. **Ans (5): Grand father**

A (-) ⇔ R (+)
|
Q (-) — J (+)
      |
      S

∴ R is the grandfather of S.

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

79. **Ans (4): T**
    T is the oldest person.

80. **Ans (2): 35 years**
    R is 35 years old.

81. **Ans (5): No one**
    U is the youngest among all.

82. **Ans (3): 33 years**
    S is 33 years old.

83. **Ans (1): V**
    V was born on 1989.

84. **Ans (5): jo**
    'Economics' is coded as 'jo'.

85. **Ans (5): 5, 7**
    The given number is = 7493652
    Number after operation = 5771935
    There are two numbers (5, 7) which are repeated.

For (Qs.86 & 87):

Box	Fruit
K	Litchi
M	Grapes
J	Apple
L	Mango

86. **Ans (3): K**
    Litchi is stored in Box K.

87. **Ans (2): Apple**
    Apple is stored in second lowest box.

For (Qs.88 to 92):

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

88. **Ans (3): 10th November**
    M attends his seminar on November 10th.

89. <u>Ans (4): X</u>
X attends the seminar on 27th March.

90. <u>Ans (1): 5</u>
Five persons attend seminars after W.

91. <u>Ans (4): Z</u>
Z attends the seminar on 10th October.

92. <u>Ans (4): No one</u>
No one attends the seminar after V.

For (Qs.93 & 94): C > A (40) > E > B > D (25) > F

93. <u>Ans (5): C</u>
C is the oldest in the family

94. <u>Ans (5): 30 years</u>
B's age may be 30 years old

95. <u>Ans (3): C > B > A ≥ K = R</u>
Statement: C > B > A ≥ K = R
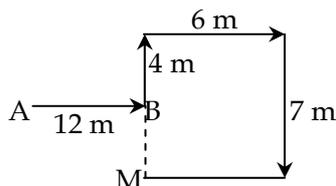**Conclusions:**   I. A ≥ R (✓)   II. B < C (✓)

96. <u>Ans (4): Either I or II is true</u>
Statement: Y ≤ L ≤ N
Conclusions: I. Y < N (×✓)   II. Y = N (×✓)

97. <u>Ans (1): Only II is true</u>
Statements: M > A ≤ J; J ≥ A > L
Conclusions: I. M < J (×)   II. J > L (✓)

98. <u>Ans (5): None is true</u>
Statement: P ≤ T > M ≤ K > L = Y
Conclusions: I. P > Y (×)   II. T < L (×)

99. <u>Ans (5): Can't say</u>
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.

100. <u>Ans (5): 3 m</u>
The distance between B and M = 7 – 4 = 3 m

- - × - -