Quantitative Aptitude

1. The average age of husband, wife and their child 3 years ago was 27 years and that of wife and the child 5 years ago was 20 years. The present age of the husband is:
   a) 35 years b) 40 years c) 50 years
   d) Data inadequate e) None of these

2. A rectangular courty 3.78 metres long and 5.25 metres wide is to be paved exactly with square tiles, all of the same size. What is the largest size of the tile which could be used for the purpose?
   a) 14 cms b) 21 cms c) 42 cms
   d) Data inadequate e) None of these

3. Murugan, Prasanna and Arun invested Rs.8000, Rs.4000 and Rs.8000 respectively in a business. Arun left after six months. If after eight months, there was a gain of Rs.4005, then what will be the share of Prasanna?
   a) Rs.890 b) Rs.1335 c) Rs.1602
   d) Rs.1780 e) None of these

4. In how many ways a committee, consisting of 5 men and 6 women can be formed from 8 men and 10 women?
   a) 266 b) 5040 c) 1176
   d) 86400 e) None of these

5. In a lottery, there are 10 prizes and 25 blanks. A lottery is drawn at random. What is the probability of getting a prize?
   a) 1/10 b) 2/5 c) 2/7
   d) 5/7 e) None of these

6. A man is 24 years older than his son. In two years, his age will be twice the age of his son. The present age of the son is
   a) 14 years b) 18 years c) 20 years
   d) 22 years e) None of these

7. A shopkeeper expects a gain of 22-1/2% on his cost price. If in a week, his sale was of Rs.392, what was his profit?
   a) Rs.18.20 b) Rs.70 c) Rs.72
   d) Rs.88.25 e) None of these

8. The sum of *n* terms of the series 1 + (1 + 3) + (1 + 3 + 5) + …. is :
   a) $\frac{n\,n+1}{2}^2$ b) n^2 c) $\frac{n\ \ n+1\ (2n+1)}{6}$
   d) Data inadequate e) None of these

9. $\overline{.081 \times .484 / .0064 \times 6.25}$ is equal to
   a) 0.9 b) 0.99 c) 9
   d) 99 e) None of these

10. A boy goes to his school from his house at a speed of 3 km./hr and return at a speed of 2 km./hr. If he takes 5 hours in going and coming, the distance between his house and school is
    a) 5 km b) 5.5 km c) 6 km

d) 6.5 km e) None of these

11. A can do a certain work in the same time in which B and C together can do it. If A and B together could do it in 10 days and C alone in 50 days, then B alone could do it in:
    a) 15 days b) 20 days c) 25 days
    d) 30 days e) None of these

12. If the circumradius of an isoceless triangle ABC is equal to AB (= AC), then angle A is equal to
    a) $\frac{\pi}{2}$ b) $\frac{\pi}{3}$ c) $\frac{\pi}{6}$
    d) $\frac{2\pi}{3}$ e) None of these

13. If 10, 12 and 'x' are sides of an acute angled triangle, how many integer values of 'x' are possible?
    a) 7 b) 12 c) 9
    d) 13 e) 11

14. A man can row upstream at 7 kmph and downstream at 10 kmph. Find man's rate in still water and the rate of current?
    a) 6.5, 1.2 km/hr b) 8.5, 1.5 km/hr c) 1.5, 1.6 km/hr
    d) 7.5, 1.8 km/hr e) None of these

Study the following table and answer the questions based on it.

Expenditures of a Company (in Lakh Rupees) per Annum Over the given Years.

Year	Item of Expenditure				
	Salary	Fuel and Transport	Bonus	Interest on Loans	Taxes
1998	288	98	3.00	23.4	83
1999	342	112	2.52	32.5	108
2000	324	101	3.84	41.6	74
2001	336	133	3.68	36.4	88
2002	420	142	3.96	49.4	98

15. What is the average amount of interest per year which the company had to pay during this period?
    a) Rs.32.43 lakhs b) Rs.33.72 lakhs c) Rs.34.18 lakhs
    d) Rs.36.66 lakhs e) None of these

16. The total amount of bonus paid by the company during the given period is approximately what percent of the total amount of salary paid during this period?
    a) 0.1% b) 0.5% c) 1%
    d) 1.25% e) None of these

17. Total expenditure on all these items in 1998 was approximately what percent of the total expenditure in 2002?
    a) 62% b) 66% c) 69%
    d) 71% e) None of these

18. The total expenditure of the company over these items during the year 2000 is?

a) Rs.544.44 lakhs b) Rs.501.11 lakhs c) Rs.446.46 lakhs
d) Rs.478.87 lakhs e) None of these

19. The ratio between the total expenditure on taxes for all the years and the total expenditure on fuel and transport for all the years respectively is approximately?
a) 4 : 7 b) 10 : 13 c) 15 : 18
d) 5 : 8 e) None of these

20. On 6th March 2005 Monday falls. What was the day of the week on 6th March 2004?
a) Sunday b) Saturday c) Tuesday
d) Wednesday e) None of these

21. At what angle the hands of a clock are inclined at 15 minutes past 5?
a) $58\frac{1}{2}°$ b) 64° c) $67\frac{1}{2}°$
d) $72\frac{1}{2}°$ e) None of these

22. Two pipes A and B can fill a tank in 20 and 30 minutes respectively. If both the pipes are used together, then how long will it take to fill the tank ?
a) 12 min b) 15 min c) 25 min
d) 50 min e) None of these

23. A lent Rs. 5000 to B for 2 years and Rs. 3000 to C for 4 years on simple interest at the same rate of interest and received Rs. 2200 in all from both of them as interest. The rate of interest per annum is:
a) 5% b) 7% c) 7 1/8%
d) 10% e) None of these

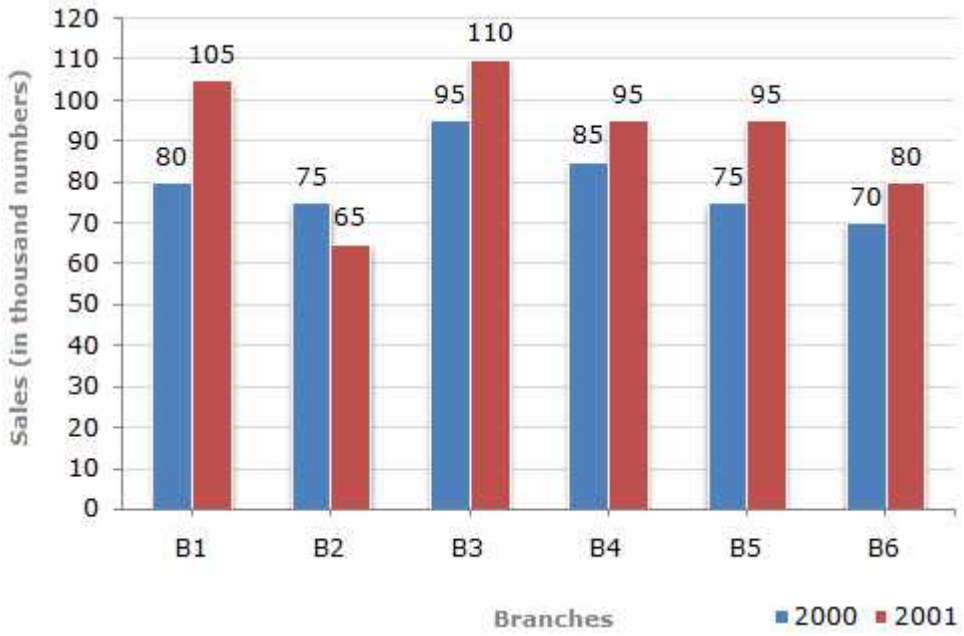
24. An agent gets a commission of 2.5% on the sales of cloth. If on a certain day, he gets Rs.12.50 as commission, the cloth sold through him on that day is worth
a) Rs.250 b) Rs.500 c) Rs.750
d) Rs.1250 e) None of these

25. The cost of carpeting a room 18 m long with a carpet 75 cm wide at Rs.4.50 per metre is Rs.810. The breadth of the room is :
a) 7 m b) 7.5 m c) 8 m
d) 8.5 m e) None of these

26. Which one of the following is the common factor of $(47^{43} + 43^{43})$ and $(47^{47} + 43^{47})$?
a) (47 ? 43) b) (47 + 43) c) $(47^{43} + 43^{43})$
d) Data inadequate e) None of these

27. A Students was asked to find the arithmetic mean of the numbers 3, 11, 7, 9, 15, 13, 8, 19, 17, 21, 14 and x. He found the mean to be 12. What should be the number in place of x?
a) 3 b) 7 c) 17
d) 31 e) None of these

28. Which of the following is a pair of co-primes?
a) (16, 62) b) (18, 25) c) (21, 35)
d) (23, 92) e) None of these


120
110
100
90
80
70
60
50
40
30
20
10
0
Sales (in thousand numbers)
80
105
75
65
95
110
85
95
75
95
70
80
B1
B2
B3
B4
B5
B6
Branches
2000
2001

d) 87.5% e) None of these

34. What is the average sales of all the branches (in thousand numbers) for the year 2000?
a) 73 b) 80 c) 83
d) 88 e) None of these

35. Total sales of branches B1, B3 and B5 together for both the years (in thousand numbers) is?
a) 250 b) 310 c) 435
d) 560 e) None of these

Reasoning Ability

36. In a row of 40 children, R is 11^{th} from the right and there are 15 children between R and M. What is M's position from the left and of the row?
a) 14^{th} b) 15^{th} c) 13^{th}
d) Can't be determined e) None of these

37. In a certain code language 'how many are there' is written as 'ka na ta da' and 'many are welcome here' is written as 'na pa ni ka'. How is 'how' written in that code language?
a) ta b) da c) ta or da
d) Data inadequate e) None of these

38. If the positions of the1^{st} and the 5^{th} digits of the number 83591427 are interchanged, similarly the positions of the 2^{nd} and the 6^{th} digits are interchanged and so on then which of the following will be the 2^{nd} digit from the right end after the rearrangement?
a) 5 b) 3 c) 9
d) 2 e) None of these

39. How many such pairs of letters are there in the words ADJUSTING each of which has as many letters between them in the word as in the English alphabet?
a) None b) One c) Two
d) Three e) More than three

40. How many meaningful English words can be formed with the letters LBAE using each letter only once in each word?
a) None b) One c) Two
d) Three e) More than three

41. In a certain code BUILDER is written as JVCKSFE. How is SEALING written in that code?
a) BTFKHOJ b) JOHKBFT c) TFBKHOJ
d) BFTKJOH e) None of these

42. If 'R' denotes '÷', 'T' denotes '□', 'M' denotes '+' and 'W' denotes '×', then
27 T 15 R 3 W 4 M 6 = ?
a) 7 b) 13 c) □23
d) 1 e) None of these

43. In a certain code WAVE is written as '5%3*' and WINS is written as '59@©'. How is SANE written in that code?
a) ©9@* b) *%©@ c) ©@%*
d) ©%@* e) None of these

44. Which of the following is the middle digit of the 3rd highest among the five three digit numbers given below?
368 931 472 715 647
a) 6 b) 3 c) 7
d) 1 e) 4

45. Among P, Q, R, S and T each having a different height, Q is shorter than only T and S is shorter than P and Q. Who among them is the shortest?
a) R b) S c) P
d) Data inadequate e) None of these

Directions (Q. 46-50) Study the following arrangement carefully and answer the questions given below.
B M % R 3 J @ K © D F 6 9 W 4 * N E P 2 $ A Y 5 I Q Z # 7 U G

46. Which of the following is the 6th to the left of the 20th from the left end of the above arrangement?
a) J b) Q c) W
d) E e) None of these

47. How many such consonants are there in the above arrangement, each of which is immediately preceded by a symbol and immediately followed by a number?
a) None b) One c) Two
d) Three e) More than three

48. If all the symbols and all the vowels are dropped from the above arrangement, which of the following will be the 12th from the right end?
a) 9 b) 6 c) P
d) Y e) None of these

49. How many such numbers are there in the above arrangement, each of which is immediately preceded by a letter but not immediately followed by a letter?
a) None b) One c) Two
d) Three e) More than three

50. What should come in the place of question mark (?) in the following series based on the above arrangement?
MRJ ©F9 *E2 ?
a) Y5I b) YIQ c) A5Q
d) YIZ e) None of these

Directions (Q. 51-55) In each of the questions below are given four statements followed by four conclusions numbered I, II, III and IV. You have to take the given statements to be true even if they seem to be at variance from commonly known facts. Read all the conclusions and then decide which of the given conclusions logically follows from the given statements disregarding commonly known facts.

51. **Statements:** Some pencils are windows.
All windows are roads.

Some roads are cups.
All cups are chains.

Conclusions:
I. Some chains are pencils.
II. Some cups are pencils.
III. Some chains are windows.
IV. Some roads are pencils.

a) None follows
b) Only II follows
c) Only IV follows
d) Only III and IV follow
e) Only III follows

52. **Statements:** Some beds are mirrors.
Some mirrors are dolls.
Some dolls are cheques.
Some cheques are pins.

Conclusions:
I. Some pins are dolls.
II. Some cheques are beds.
III. Some cheques are mirrors.
IV. Some dolls are beds.

a) None follows
b) Only I follows
c) Only II follows
d) Only III follows
e) Only IV follows

53. **Statements:** All chocolates are holders.
No holder is lamp.
Some lamps are desks.
All desks are pens.

Conclusions:
I. Some pens are holders.
II. Some desks are lamps.
III. No pen is holder.
IV. Some pens are chocolates.

a) Only I follows
b) Only II follows
c) Only III follows
d) Only either I or III follows
e) Only either I or III and II follow

54. **Statements:** All glasses are rooms.
Some rooms are planes.
All planes are ducks.
Some ducks are lanterns.

Conclusions:
I. Some lanterns are planes.
II. Some ducks are rooms.
III. Some rooms are glasses.
IV. Some ducks are glasses.

a) Only I and II follow
b) Only II and III follow
c) Only I, II and III follow

d) All I, II, III and IV follow
e) None of these

55. **Statement:** Some chairs are tents.
Some tents are jugs.
All jugs are glasses.
All glasses are pots.
Conclusions: I. Some pots are tents.
II. Some pots are chairs.
III. Some glasses are chairs.
IV. Some glasses are tents.
a) Only I and II follow
b) Only II and III follow
c) Only I and III follow
d) Only I and IV follow
e) None of these

Directions (Q. 56-60) In each question below is given a group of letters followed by four combinations of digits/symbols numbered (a), (b), (c) and (d). You have to find out which of the combinations correctly represents the group of letters based on the following coding system and the conditions that follow and mark the number of that combination as your answer. If none of combinations correctly represents the group of letter, mark (e) i.e., 'None of these' as your answer.

Letter	W	P	J	Q	E	T	I	A	U	F	D	B	V	M	H
Digit/Symbol code	5	6	9	1	2	3	@	4	©	8	%	*	7	#	$

Conditions:
(i) If the 1st letter is a consonant and the 4th letter is a vowel both are to be coded as the code for the vowel.
(ii) If the 2nd letter is a vowel and the last letter is a consonant both are to be coded as !.
(iii) If both the 1st and the last letters are consonants both their codes are to be interchanged.

56. MBUVWE
a) #*©#52 b) 7*©#52 c) #©*752
d) #!©75! e) None of these

57. AJBMFU
a) 49*48© b) #9*#8© c) 49*#8©
d) ©9*#84 e) None of these

58. AEIMVH
a) 42@#7$ b) 42@47$ c) #2@47$
d) 4!@#7! e) None of these

59. THAFIQ
a) 3$48@3 b) 1$48@3 c) 1$48@1
d) 3$48@1 e) None of these

60. WMEIJU
a) @#2@9© b) 5#2@9© c) @#259©

d) 5#259© e) None of these

Directions (Q. 61-65) A word and number arrangement machine, when given an input line of words and numbers rearranges them following a particular rule in each step. The following is an illustration of an input and rearrangement.

Input: 17 put show on 39 27 85 gold
Step I: show 17 put on 39 27 85 gold
Step II: show 85 17 put on 39 27 gold
Step III: show 85 put 17 on 39 27 gold
Step IV: show 85 put 39 17 on 27 gold
Step V: show 85 put 39 on 17 27 gold
Step VI: show 85 put 39 on 27 17 gold
Step VII: show 85 put 39 on 27 gold 17
And step VII is the last step of the rearrangement of the above input.
As per the rules followed in the above steps, find out in each of the following questions the appropirate step for the given input.

61. **Input:** glass full 15 37 water now 85 67
Which of the following will be Step VI of the above input?
a) water 85 now 67 full glass 15 37
b) water 85 now 67 glass full 15 37
c) water 85 now 67 glass full 15 37
d) There will be no such step
e) None of these

62. Step II of an input is: ultra 73 12 16 mail sort 39 kite
Which of the following steps will be the last but one?
a) VIII b) IX c) VII
d) VI e) None of these

63. Step III of an input is: win 75 voice 15 39 store gap 26
Which of the following is definitely the input?
a) voice 15 win 75 39 store gap 26
b) voice win 75 15 39 store gap 26
c) 15 75 win voice store gap 26
d) Can't be determined
e) None of these

64. Step II of an input is: tube 83 49 34 garden flower rat 56
How many steps will be required to complete the rearrangement?
a) Four b) Five c) Six
d) Three e) None of these

65. Input: hunt for 94 37 good 29 48 book
How many steps will be required to complete the rearrangement?
a) Four b) Five c) Six
d) Seven e) None of these

Directions (Q. 66-70) Study the following information carefully and answer the question given below.

A, B, C, D, E, F, G and H are sitting around a circle facing the centre. B is 2nd to the right of D who is 3rd to the right of F. C is 2nd to the left of A who is 2nd to the left of F. G is 3rd to the right of E.

66. In which of the following combinations is the 1st person sitting between the 2nd and the 3rd persons?
    a) GCD b) FGH c) EFH
    d) ABE e) None of these

67. Who is 3rd to the right of H?
    a) G b) D c) C
    d) Data inadequate e) None of these

68. Who is to the immediate right of A?
    a) B b) E c) F
    d) Data inadequate e) None of these

69. What is H's position with respect to B?
    a) 5th to the right b) 3rd to the left c) 5th to the left
    d) 3rd to the right e) 4th to the left

70. Who is to the immediate left of G?
    a) H b) F c) D
    d) Data inadequate e) None of these

English Language

Directions (Q. 71-80) Read the following passage carefully and answer the questions given below it.

A long time ago, on a big tree in the lap of the mountain, lived a bird named Sindhuka. It was a **rather** special bird because its droppings turned into gold as soon as they hit the ground.

One day, a hunter came to the tree in search of prey and he saw Sindhuka's droppings hit the ground and turn into gold. The hunter was struck with wonder. He though, "I have been hunting birds and small animals since I was a boy, but in all my 80 years, I have never seen such a miraculous creature. He decided that he had to catch the bird somehow. He climbed the tree and **skillfully** set a trap for the bird. The bird, quite unaware of the danger it was in, stayed on the tree and sang merrily. But it was soon caught in the hunter's trap. The hunter immediately seized it and shoved it into a cage.

The hunter took the bird home joyfully. But as he had time to think over his good fortune later, he suddenly realised, "If the king comes to know of this wonder, he will certainly take away the bird from me and he might even punish me for keeping such a rare treasure all to myself. So it would be safer and more honourable if I were to go to the king and present the unique bird to him," The next day, the hunter took the bird to the king and presented it to him in court with great **reverence.** The king was delighted t o receive such an unusual and rare gift. He told his courtiers to keep the bird safe and feed it with the best bird food available.

The king's prime minister though, was **reluctant** to accept the bird. He said "O Rajah, how can you believe the word of a foolish hunter accept this bird? Has anyone in our kingdom ever seen abird dropping gold? The hunter must be either crazy or telling lies. I think it is best that you **release** the bird from the cage." After a little thought, the king felt that his prime minister's words were correct. So he

ordered the bird to be released. But as soon as the door of the cage was thrown open, the bird flew out, perched itself on a nearby doorway and defecated. To everyone's surprise, the dropping immediately turned into gold. The king mourned his loss.

71. Which of the following is possible the most appropriate title for the story?
    a) The Skilled Hunter
    b) The King's Prime Minister
    c) The King's Defeat
    d) The Bird with the Gold Dropping
    e) The Trials and Tribulations of the Foolish Bird Sindhuka

72. Which of the following emotions made the hunter gift the bird to the king?
    a) Respect b) Joy c) Pride
    d) Fear e) Awe

73. Which of the following is true according to the story?
    a) Birds like Sindhuka were very common in the area near the mountain
    b) Sindhuka remained caged for the rest of its life
    c) Sindhuka was unaware of the trap laid by the hunter
    d) The King, when told to not accept the bird, did not listen to his Prime Minister
    e) All are true

74. Why was the king's Prime Minister reluctant to accept the bird?
    a) He believed that the bird would die if caged
    b) He know about the hunter's habit of lying
    c) He believed that the bird would bring bad luck to the king
    d) His sources had informed him that the hunter was crazy
    e) None of these

75. How did the hunter find Sindhuka?
    a) He had read stories about the bird and had set traps at various locations in the city
    b) He followed the bird's droppings
    c) He was on the lookout for a prey when he chanced upon it
    d) People from the city had informed him about the bird's whereabouts
    e) He was attracted by the birds calls

Directions (Q. 76-78) Choose the word which is most similar in meaning to the word/group of words printed in bold as used in the passage.

76. Rather
    a) Regular b) Quite c) Instead
    d) But e) Known

77. Release
    a) Free b) Vacate c) Vent
    d) Let expire e) Make public

78. Reverence
    a) Respect b) Detail c) Astonishment
    d) Hope e) Remembrance

Directions (Q. 79-80) Choose the word which is most opposite in meaning to the word printed in bold as used in the passage.

79. Reluctant
    a) True b) Clever c) Averse
    d) Hesitant e) Keen

80. Skilfully
    a) Angrily b) Haphazardly c) Highly
    d) Cheaply e) Deftly

Directions (Q. 81-85): Rearrange the following six sentences (A), (B), (C), (D), (E) and (F) in the proper sequence to form a meaningful paragraph and then answer the questions given below.

A. The researchers in these companies claim that they could do better by allowing their employees to doze off at work place.
B. The dreams, while at work, are thus helpful to solve crucial problems.
C. Would you believe that some UK based companies are arranging for bed at the work place?
D. The reason, they claim, could be that dreams produce creative solutions.
E. We only hope that these crucial problems in UK are different from those of ours.
F. But it is true and is considered as a step to improve quality of their products.

81. Which of the following should be the First sentence after rearrangement?
    a) A b) B c) C
    d) D e) None of these

82. Which of the following should be the Third sentence after rearrangement?
    a) A b) B c) C
    d) D e) None of these

83. Which of the following should be the Fourth sentence after rearrangement?
    a) A b) B c) C
    d) D e) None of these

84. Which of the following should be the Fifth sentence after rearrangement?
    a) A b) B c) C
    d) D e) None of these

85. Which of the following should be the Sixth sentence after rearrangement?
    a) A b) B c) C
    d) E e) None of these

Directions (Q. 86-90) Read this sentence to find out whether there is any grammatical mistake/error in it. The error, if any, will be in one part of the sentence. Mark the part with the error as your answer. If there is no error, mark 'No error' as your answer. (Ignore the errors of punctuation if any).

86. Attributing rise in inflation partly for withholding of food stocks by traders/the minister said that/he was committed/to easing this supply side bottleneck.
    a) Attributing rise in inflation partly for withholding of food stocks by traders
    b) The minister said that

c) He was committed
d) To easing this supply side bottleneck.
e) No error

87. India's largest utility vehicle and tractor maker/is again in the race to acquire/for stake in Swedish company/which is a premium car maker.
a) India's largest utility vehicle and tractor maker
b) Is again in the race to acquire
c) For stake in Swedish company
d) Which a premium car maker
e) No error

88. With sale of branded or premium petrol becoming almost nil/due to high duties,/a government appointed panel has recommended/slashing excise duty to make them at par with regular fuel.
a) With sale of branded or premium petrol becoming almost nil
b) Due to high duties
c) A government appointed panel has recommended
d) Slashing excise duty to make them at par with regular fuel
e) No error

89. Keeping in mind/that power cuts are on different days in different areas/the change in the factory law would enable individual factories within an area/to determining their own weekly holidays.
a) Keeping in mind
b) That power cuts are on different days in different areas
c) The change in the factory law would enable individual factories within an area
d) To determining their own weekly holidays
e) No error

90. Police officers have refused on identify the bystander,/who is the only eyewitness to the crime,/but have said that the investigating team would explore/if he could be a witness in the case.
a) Police officers have refused on identify the bystander
b) Who is the only eyewitness to the crime
c) But have said that the investigating team would explore
d) If he could be a witness in the case
e) No error

Directions (Q. 91-95): Below the four words are given. One of these four words may be wrongly spelt. Find out the word which is wrongly spelt, if there is any. The number of that word is your answer. If all the words are correctly spelt mark All correct as the answer.

91. Below the four words are given. One of these four words may be wrongly spelt. Find out the word which is wrongly spelt, if there is any. The number of that word is your answer. If all the words are correctly spelt mark All correct as the answer.
a) Adventure b) Demonstration c) Environment
d) Innosent e) All Correct

92. Below the four words are given. One of these four words may be wrongly spelt. Find out the word which is wrongly spelt, if there is any. The number of that word is your answer. If all the words are correctly spelt mark All correct as the answer.
a) Limitasion b) Dependable c) Miniature

d) Qualitative e) All Correct

93. Below the four words are given. One of these four words may be wrongly spelt. Find out the word which is wrongly spelt, if there is any. The number of that word is your answer. If all the words are correctly spelt mark All correct as the answer.
a) Lucrative b) Ancestral c) Performanse
d) Incidentally e) All Correct

94. Below the four words are given. One of these four words may be wrongly spelt. Find out the word which is wrongly spelt, if there is any. The number of that word is your answer. If all the words are correctly spelt mark All correct as the answer.
a) Futility b) Separasion c) Embarrassment
d) Positively e) All Correct

95. Below the four words are given. One of these four words may be wrongly spelt. Find out the word which is wrongly spelt, if there is any. The number of that word is your answer. If all the words are correctly spelt mark All correct as the answer.
a) Tournament b) Enhancement c) Amazingly
d) Continuation e) All Correct

Directions (Q. 96-100): Rearrange the following six sentences (A), (B), (C), (D) and (E) in the proper sequence to form a meaningful paragraph and then answer the questions given below.

A. Therefore, it is important to source a large part of economic growth in agriculture, in rural non-agricultural activities and in productive expansion of the informal sector which all have high employment elasticities, as well as in an export strategy based on labour intensive exports.
B. It is important because it creates more resources and has the potential of creating more space for the involvement of the poor.
C. If the growth is sourced upon those sectors of the economy or those activities that have a natural tendency to involve the poor in their expansion, such growth helps poverty eradication.
D. Economic growth is important.
E. But this involvement depends on the sources of growth and the nature of growth.

96. Which of the following should be the First sentence after rearrangement?
a) A b) B c) C
d) D e) E

97. Which of the following should be the Second sentence after rearrangement?
a) E b) D c) C
d) B e) A

98. Which of the following should be the Third sentence after rearrangement?
a) A b) B c) C
d) D e) E

99. Which of the following should be the Fourth sentence after rearrangement?
a) E b) D c) C
d) B e) A

100. Which of the following should be the Fifth sentence after rearrangement?
a) A b) B c) C

d) D e) E

Solutions:

1. Sum of the present ages of husband, wife and child = (27 x 3 + 3 x 3) years = 90 years.
   Sum of the present ages of wife and child = (20 x 2 + 5 x 2) years = 50 years.
   Husband's present age = (90 - 50) years = 40 years.

2. Largest size of the tile.
   HCF of 378 cm and 525 cm = 21 cms.

3. Murugan : Prasanna : Arun = (8000 × 6) : (4000 × 8) : (8000 × 8)
   = 48 : 32 : 64
   = 3 : 2 : 4
   Kamal's share = Rs.4005 × $\frac{2}{9}$
   = Rs.890

4. Required number of ways = $({}^{8}C_5 \times {}^{10}C_6)$
   = $({}^{8}C_3 \times {}^{10}C_4)$
   = $[\frac{8 \times 7 \times 6}{3 \times 2 \times 1} \times \frac{10 \times 9 \times 8 \times 7}{4 \times 3 \times 2 \times 1}]$
   = 11760

5. P (getting a prize) = $\frac{10}{(10+25)} = \frac{10}{35} = \frac{2}{7}$
6. Let the son's present age be x years.
   Then, man's present age = (x + 24) years
   = (x + 24) + 2 = x (x + 2)
   = x + 26 = 2x + 4
   = 22 years

7. C.P. = Rs.[$\frac{100}{122.50}$ × 392]
   = Rs.[$\frac{1000}{1225}$ × 392]
   = Rs.320
   Therefore, profit = Rs.(392 − 320)
   = Rs.72

8. 1 + 4 + 9 + 16 + …. + n^2
   = $1^2 + 2^2 + 3^2 + 4^2 + \ldots. + n^2 = \frac{n\ n+1\ 2n+1}{6}$

9. Sum of decimal places in the numerator and denominator under the radical sign being the same, we remove the decimal.
   Given exp. = $\sqrt{81 \times 484 / 64 \times 625}$
   = $9 \times \frac{22}{8} \times 25$
   = 0.99

10. Average speed = $[2 \times 3 \times \frac{2}{3} + 2)$ km./hr.

$= \frac{12}{5}$ km./hr.

Distance travelled = $[\frac{12}{5} \times 5]$ km.

= 12 km.

Distance between house and school = $[\frac{12}{2}]$ km

= 6 km.

11. (A + B)'s 1 day's work = $\frac{1}{10}$

C's 1 day's work = $\frac{1}{50}$

(A + B + C)'s 1 day's work = $[\frac{1}{10} + \frac{1}{50}] = \frac{6}{50} = \frac{3}{25}$ …….. (i)

A's 1 day's work = (B + C)'s 1 day's work …….. (ii)

From (i) and (ii), we get 2 × (A's 1 day's work) = $\frac{3}{25}$

A's day's work = $\frac{3}{50}$

B's 1 day's work = $[\frac{1}{10} - \frac{3}{50}] = \frac{2}{50} = \frac{1}{25}$

So, B alone could do the work in 25 days.

12. Sin B = $\frac{b}{2R}$

$= \frac{AC}{2R}$

$= \frac{R}{2R}$ [Given AB = AC = R]

$= \frac{1}{2}$

B = $\frac{\pi}{6}$ or $\frac{5\pi}{6}$

But, when B = $\frac{5\pi}{6}$, C = $\frac{5\pi}{6}$ [AB = AC ⇒ B = C]

⇒ B + C > π

So, B = $\frac{5\pi}{6}$ not possible

∴ B = $\frac{\pi}{6}$

C = $\frac{\pi}{6}$ [AB = AC ⇒ B = C]

A = $\pi - [\frac{\pi}{6} + \frac{\pi}{6}]$

A = $\frac{2\pi}{3}$

13. For any triangle sum of any two sides must be greater than the third side.
The sides are 10, 12 and 'x'.
From Rule 2, x can take the following values : 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21 – A total of 19 values.
When x = 3 or x = 4 or x = 5 or x = 6, the triangle is an OBTUSE angled triangle.
The smallest value of x that satisfies both conditions is 7. ($10^2 + 7^2 > 12^2$)
The highest value of x that satisfies both conditions is 15. ($10^2 + 12^2 + 15^2$)
When x = 16 or x = 17 or x = 18 or x = 19 or x = 20 or x = 21, the triangle is an OBTUSE angled triangle.
Hence, the values of x that satisfy both the rules are x = 7, 8, 9, 10, 11, 12, 13, 14, 15. A total of 9 values.

14. Rate in still water $= \frac{1}{2}(10 + 7)$ km./hr.
$= 8.5$ km./hr.
Rate of current $= \frac{1}{2}(10 - 7)$ km./hr.
$= 1.5$ km./hr.

15. Average amount of interest paid by the company during the given period
$= \text{Rs. } [\frac{23.4 + 32.5 + 41.6 + 36.4 + 49.4}{5}]$ lakhs
$= \text{Rs. } [\frac{1833}{5}]$ lakhs
$= \text{Rs.}36.66$ lakhs

16. Required percentage $= [\frac{3.00 + 2.52 + 3.84 + 3.68 + 3.96}{288 + 342 + 324 + 336 + 420} \times 100]\ \%$
$= [\frac{17}{1710} \times 100]\ \%$
$= 1\%$

17. Required percentage $= [\frac{288 + 98 + 3.00 + 23.4 + 83}{420 + 142 + 3.96 + 49.4 + 98} \times 100]\ \%$
$= [\frac{495.4}{713.36} \times 100]\ \%$
$= 69.45$

18. Total expenditure of company during 2000 = Rs.324 + 101 + 3.84 + 41.6 + 74) lakhs
= Rs.544.44 lakhs

19. Required ratio $= \frac{83 + 108 + 74 + 88 + 98}{98 + 112 + 101 + 133 + 142}$
$= \frac{451}{586}$
$= \frac{1}{1.3}$
$= \frac{10}{13}$

20. The year 2004 is a leap year. So, it has 2 odd days.
So, the day on 6th March 2005 will be 2 days beyond the day on 6th March 2004.
But 6th March 2005 is Monday
So, 6th March 2004 is Saturday.

21. Angle traced by hour hand in $\frac{21}{4}$ hours $= [\frac{360}{12} \times \frac{21}{4}]° = 157\frac{1}{2}°$
Angle traced by minute hand in 15 min. $= [\frac{360}{12} \times 15]° = 90°$
So, required angle $= [157\frac{1}{2}]° - 90° = 67\frac{1}{2}°$

22. Part filled by A in 1 min. $= \frac{1}{20}$
Part filled by B in 1 min. $= \frac{1}{30}$
Part filled by (A + B) in 1 min. $= [\frac{1}{20} + \frac{1}{30}]$
$= \frac{1}{12}$
Both the pipes can fill the tank in 12 minutes.

23. Let the rate be R% p.a.

Then, $[\frac{5000 \times R \times 2}{100}] + [\frac{3000 \times R \times 4}{100}] = 2200$

100R + 120R = 2200
R = $[\frac{2200}{220}] = 10$
So, rate = 10%

24. Let the total sale be Rs. x
Then, 2.5% of x = 12.50
$[\frac{25}{100} \times \frac{1}{100} \times x] = \frac{125}{10}$
$x = [\frac{125}{10} \times \frac{100 \times 10}{25}] = 500$

25. Length of the carpet = $[\frac{total\ cost}{Rate/m}] = [\frac{8100}{45}]$ m = 180 m.
Area of the room = Area of the carpet = $[180 \times \frac{75}{100}]\ m^2 = 135\ m^2$
So, breadth of the room = $[\frac{Area}{length}] = [\frac{135}{18}]$ m = 7.5 m

26. When n is odd, $(x^n + a^n)$ is always divisible by (x + a)
So, each one of $47^{43} + 43^{43}$ and $47^{47} + 43^{43}$ is divisible by 47 + 43

27. Clearly, we have (3+11+7+9+15+13+8+19+17+21+14+x/12)
Number in place x is
137 + x = 144
x = 144 − 137
x = 7

28. HCF of 18 and 25 is 1. So, they are co-primes.
29. Ratio of speed of camel and elephant = $\frac{5}{3} : \frac{7}{5} = \frac{5}{3} \times 15 : \frac{7}{5} \times 15$
= 25 : 21

30. For managing, A received = 5% of Rs. 7400 = Rs. 370.
Balance = Rs. (7400 - 370) = Rs. 7030.
Ratio of their investments = (6500 x 6) : (8400 x 5) : (10000 x 3)
= 39000 : 42000 : 30000
= 13 : 14 : 10
B's share = Rs. $[7030 \times \frac{14}{37}]$ = Rs.2660

31. Required ratio = $\frac{75 + 65}{85 + 95} = \frac{140}{180} = \frac{7}{9}$
32. Required percentage = $[\frac{70 + 80}{95 + 110} \times 100]$ %
= $[\frac{150}{205} \times 100]$ %
= 73.17%

33. Average sales (in thousand number) of branches B1, B3 and B6 in 2000
$= \frac{1}{3} \times 80 + 95 + 70 = \frac{245}{3}$

Average sales (in thousand number) of branches B1, B2 and B3 in 2001

$= \frac{1}{3} \times 105 + 65 + 110 = \frac{280}{3}$

$\therefore$ required percentage $= [\frac{245/3}{280/3} \times 100]\% = [\frac{245}{280} \times 100]\% = 87.5\%$

34. Average sales of all the six branches (in thousand numbers) for the year 2000

$= \frac{1}{6} \times 80 + 75 + 95 + 85 + 75 + 70$

$= 80$

35. Total sales of branches B1, B3 and B5 for both the years (in thousand numbers)

$= 80 + 105 + 95 + 110 + 75 + 95 = 56$

36. Option A
37. Option C

How many are there ⟶ ka na ta da (i)

Many are welcome here ⟶ na pi ni ka (ii)

From equations (i) and (ii), many are ⟶ na ka

how ⟶ ta or da

38. Option A

Given number = 8 3 5 9 1 4 2 7

According to question, after rearrangement, new number =

1 4 2 7 8 3 5 9

2nd digit from right = 5

39. Option D

A D J U S T I N G

So, the pairs are AI and GI

40. Option B
41. Option E
42. Option B

Given arrangement = 27 T 15 R 3 W 4 M 6

According to question, letters converted into mathematical symbols

= 27 □ 15 ÷ 3 × 4 + 6 = 27 □ 5 × 4 + 6

= 27 □ 20 + 6 = 33 □ 20 = 13

43. Option D

W A V E and W I N S

5 % 3 * 5 9 @ ©

Similarly,

S A N E

© % @ *

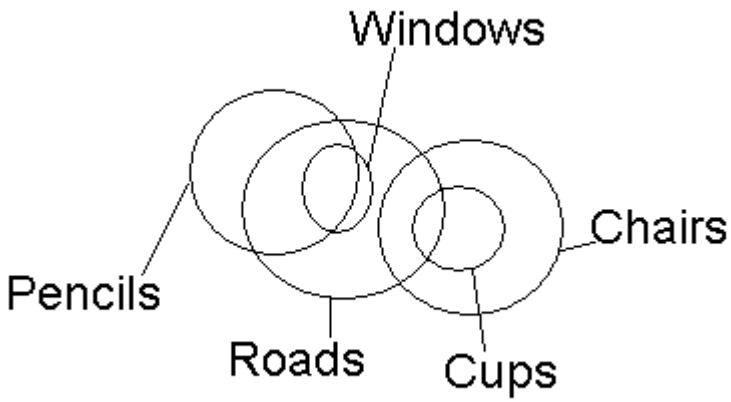
44. Option E

3rd highest number = 647

Middle digit = 4

45. Option D

According to height T > (P, Q) > (S, R)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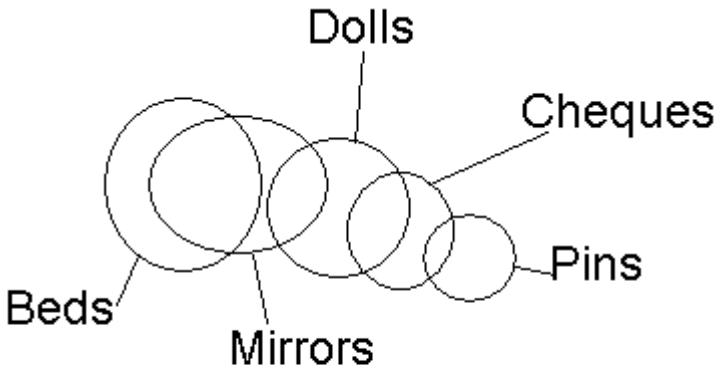
Pencils
Roads
Cups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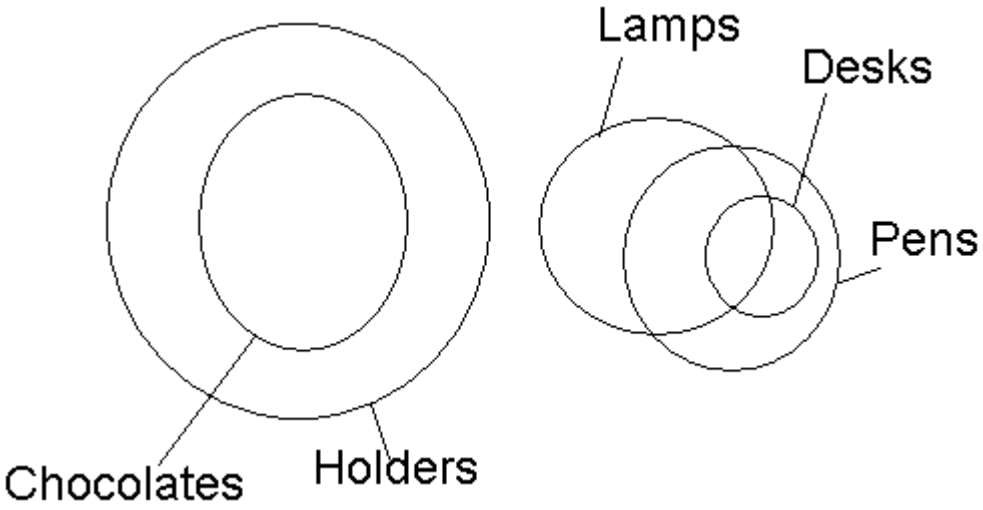
Pins
Beds
Mirrors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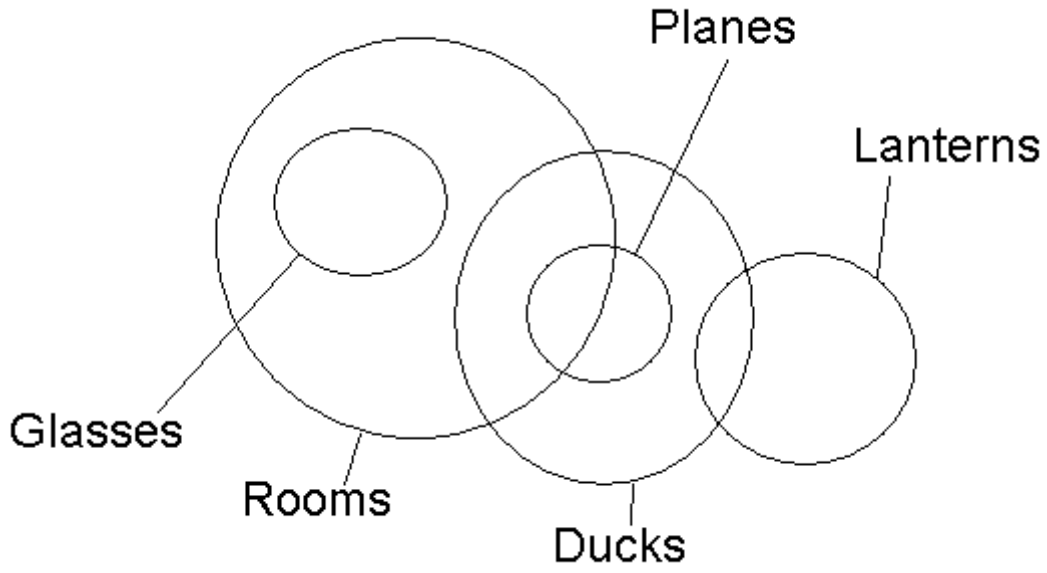
Chocolates
Holders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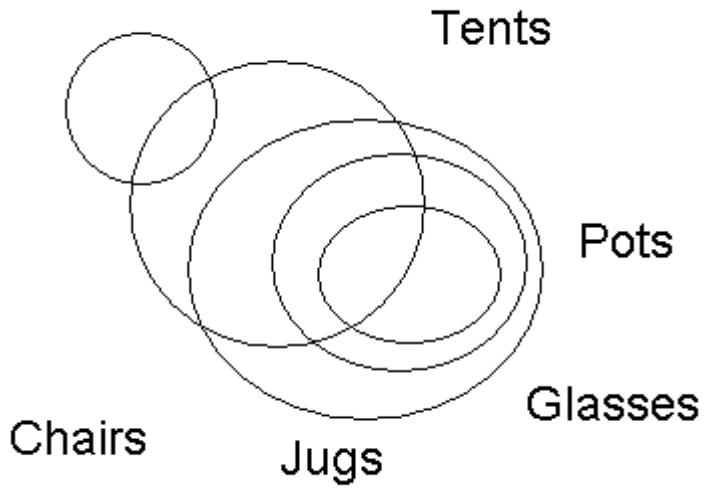
Lanterns
Glasses
Rooms
Ducks


Tents
Pots
Glasses
Chairs
Jugs

#	*	©	7	5	2

57. Option C

A	J	B	M	F	U
4	9	*	#	8	©

58. Option D

According to condition (ii)

A	E	I	M	V	H
4	!	@	#	7	!

59. Option D

According to condition (iii)

T	H	A	F	I	Q
1	$	4	8	@	3

60. Option A

According to condition (i)

W	M	E	I	J	U
@	#	2	@	9	©

61. Option D

Input: glass full 15 37 water now 85 67
Step I: water glass full 15 37 now 85 67
Step II: water 85 glass full 15 37 now 67
Step III: water 85 now glas full 15 37 67
Step IV: water 85 now 67 glass full 15 37
Step V: water 85 now 67 glass 37 full 15
Step V is the last step and step VI is not possible.

62. Option D

Step II: ultra 73 12 16 mail sort 39 kite
Step III: ultra 73 sort 12 16 mail 39 kite
Step IV: ultra 73 sort 39 12 16 mail kite
Step V: ultra 73 sot 39 mail 12 16 kite
Step VI: ultra 73 sort 39 mail 16 12 kite
Step VII: ultra 73 sort 39 mail 16 kite 12
So last step is VII and last but one step is step VI.

63. Option D
64. Option A

Step II: tube 83 49 34 garden flower rat 56
Step III: tube 83 rat 49 34 garden flower 56
Step IV: tube 83 rat 56 49 34 garden flower
Step V: tube 83 rate 56 garden 49 34 flower
Hence four steps will be required to complete the rearrangement.

65. Option B

Input: hunt for 94 37 good 29 48 book
Step I: hunt 94 for 37 good 29 48 book
Step II: hunt 94 good for 37 29 48 book

Step III: hunt 94 good 48 for 37 29 book
Step IV: hunt 94 good 48 for 37 29 book
Step V: hunt 94 good 48 for 37 book 29
Hence five steps will be required to complete the arrangement.

66. Option D
67. Option C
68. Option B
69. Option E
70. Option A
71. Option D
72. Option D
73. Option C
74. Option E
75. Option C
76. Option B
77. Option A
78. Option A
79. Option E
80. Option E
81. Option C
82. Option A
83. Option D
84. Option B
85. Option D
86. Option A
87. Option B
88. Option A
89. Option E
90. Option A
91. Option D
92. Option A
93. Option C
94. Option B
95. Option E
96. Option D
97. Option C
98. Option E
99. Option D
100. Option A