

SBI PO Prelim 2015 –  
Model Paper

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## Quantitative Aptitude

- 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
- A rectangular court 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
- 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
- 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
- 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
- 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
- A shopkeeper expects a gain of  $22\frac{1}{2}\%$  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
- The sum of  $n$  terms of the series  $1 + (1 + 3) + (1 + 3 + 5) + \dots$  is :  
a)  $\frac{n(n+1)}{2}$                       b)  $n^2$                       c)  $\frac{n(n+1)(2n+1)}{6}$   
d) Data inadequate            e) None of these
- $\sqrt{.081} \times \sqrt{.484} / \sqrt{.0064} \times 6.25$  is equal to  
a) 0.9                      b) 0.99                      c) 9  
d) 99                      e) None of these
- 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



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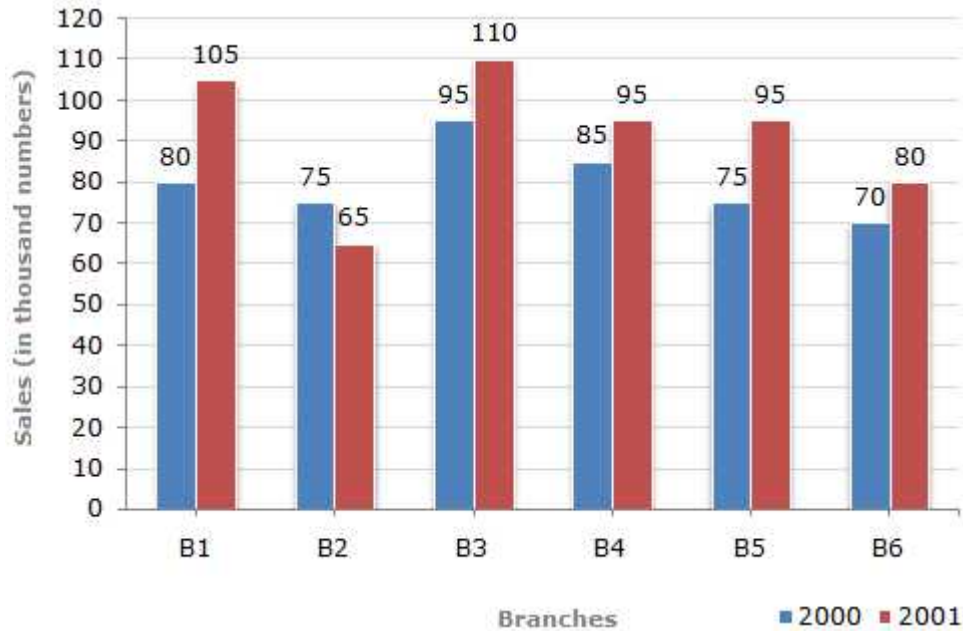
- a) Rs.544.44 lakhs                      b) Rs.501.11 lakhs                      c) Rs.446.46 lakhs  
d) Rs.478.87 lakhs                      e) None of these
19. The ratio between the total expenditure on taxes for all the years and the total expenditure on fuel and transport for all the years respectively is approximately?  
a) 4 : 7                                      b) 10 : 13                                      c) 15 : 18  
d) 5 : 8                                      e) None of these
20. On 6<sup>th</sup> March 2005 Monday falls. What was the day of the week on 6<sup>th</sup> 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)  $58\frac{1}{2}^\circ$                                       b)  $64^\circ$                                       c)  $67\frac{1}{2}^\circ$   
d)  $72\frac{1}{2}^\circ$                                       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)  $7\frac{1}{8}\%$   
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)  $(47 \times 43)$                                       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

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29. A camel pursue an elephant and takes 5 leaps for every 7 leaps of the elephant, but 5 leaps of elephant are equal to 3 leaps of camel. What is the ratio of speeds of camel and elephant?  
a) 21 : 25                      b) 24 : 23                      c) 25 : 21  
d) 23 : 24                      e) None of these
30. A, B and C jointly thought of engaging themselves in a business venture. It was agreed that A would invest Rs. 6500 for 6 months, B, Rs. 8400 for 5 months and C, Rs. 10,000 for 3 months. A wants to be the working member for which, he was to receive 5% of the profits. The profit earned was Rs. 7400. Calculate the share of B in the profit.  
a) Rs. 1900                      b) Rs. 2660                      c) Rs. 2800  
d) Rs. 2840                      e) None of these

**Directions (Q. 31-35)** The bar graph given below shows the sales of books (in thousand number) from six branches of a publishing company during two consecutive years 2000 and 2001.

**Sales of Books (in thousand numbers) from Six Branches - B1, B2, B3, B4, B5 and B6 of a publishing Company in 2000 and 2001.**



31. What is the ratio of the total sales of branch B2 for both years to the total sales of branch B4 for both years?  
a) 2 : 3                              b) 3 : 5                              c) 4 : 5  
d) 7 : 9                              e) None of these
32. Total sales of branch B6 for both the years is what percent of the total sales of branches B3 for both the years?  
a) 68.54%                              b) 71.11%                              c) 73.17%  
d) 75.55%                              e) None of these
33. What percent of the average sales of branches B1, B2 and B3 in 2001 is the average sales of branches B1, B3 and B6 in 2000?  
a) 75%                                      b) 77.5%                                      c) 82.5%



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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 3<sup>rd</sup> 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 6<sup>th</sup> to the left of the 20<sup>th</sup> 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 12<sup>th</sup> 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.

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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



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- 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 1<sup>st</sup> letter is a consonant and the 4<sup>th</sup> letter is a vowel both are to be coded as the code for the vowel.
- (ii) If the 2<sup>nd</sup> letter is a vowel and the last letter is a consonant both are to be coded as !.
- (iii) If both the 1<sup>st</sup> 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©

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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 appropriate 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.



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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

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**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
-



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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

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d) D

e) E

### Solutions:

- Sum of the present ages of husband, wife and child =  $(27 \times 3 + 3 \times 3)$  years = 90 years.  
Sum of the present ages of wife and child =  $(20 \times 2 + 5 \times 2)$  years = 50 years.  
Husband's present age =  $(90 - 50)$  years = 40 years.
- Largest size of the tile.  
HCF of 378 cm and 525 cm = 21 cms.
- Murugan : Prasanna : Arun =  $(8000 \times 6) : (4000 \times 8) : (8000 \times 8)$   
= 48 : 32 : 64  
= 3 : 2 : 4  
Kamal's share =  $\text{Rs.}4005 \times \frac{2}{9}$   
= Rs.890
- Required number of ways =  $({}^8C_5 \times {}^{10}C_6)$   
=  $({}^8C_3 \times {}^{10}C_4)$   
=  $\left[ \frac{8 \times 7 \times 6}{3 \times 2 \times 1} \times \frac{10 \times 9 \times 8 \times 7}{4 \times 3 \times 2 \times 1} \right]$   
= 11760
- $P(\text{getting a prize}) = \frac{10}{(10+25)} = \frac{10}{35} = \frac{2}{7}$
- 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
- C.P. =  $\text{Rs.} \left[ \frac{100}{122.50} \times 392 \right]$   
=  $\text{Rs.} \left[ \frac{1000}{1225} \times 392 \right]$   
= Rs.320  
Therefore, profit =  $\text{Rs.}(392 - 320)$   
= Rs.72
- $1 + 4 + 9 + 16 + \dots + n^2$   
=  $1^2 + 2^2 + 3^2 + 4^2 + \dots + n^2 = \frac{n(n+1)(2n+1)}{6}$
- 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



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

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

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

$$= 12 \text{ km.}$$

Distance between house and school  $= [\frac{12}{2}] \text{ km}$   
 $= 6 \text{ km.}$

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  $= [\frac{1}{10} + \frac{1}{50}] = \frac{6}{50} = \frac{3}{25} \dots\dots\dots (i)$

A's 1 day's work  $= (B + C)$ 's 1 day's work  $\dots\dots\dots (ii)$

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

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.  $\sin B = \frac{b}{2R}$

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

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

$$= \frac{1}{2}$$

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

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

$$\Rightarrow B + C >$$

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

$$\therefore B = \frac{\pi}{6}$$

$$C = \frac{\pi}{6} \quad [AB = AC \Rightarrow B = C]$$

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

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

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.

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

15. Average amount of interest paid by the company during the given period  
 $= \text{Rs. } \left[ \frac{23.4 + 32.5 + 41.6 + 36.4 + 49.4}{5} \right] \text{ lakhs}$   
 $= \text{Rs. } \left[ \frac{183.3}{5} \right] \text{ lakhs}$   
 $= \text{Rs. } 36.66 \text{ lakhs}$

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

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

18. Total expenditure of company during 2000 = Rs.324 + 101 + 3.84 + 41.6 + 74) lakhs  
 $= \text{Rs. } 544.44 \text{ lakhs}$

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 6<sup>th</sup> March 2005 will be 2 days beyond the day on 6<sup>th</sup> March 2004.  
 But 6<sup>th</sup> March 2005 is Monday  
 So, 6<sup>th</sup> March 2004 is Saturday.

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

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.  $= \left[ \frac{1}{20} + \frac{1}{30} \right]$   
 $= \frac{1}{12}$   
 Both the pipes can fill the tank in 12 minutes.

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

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

$$100R + 120R = 2200$$

$$R = \left[ \frac{2200}{220} \right] = 10$$

So, rate = 10%

24. Let the total sale be Rs. x

Then, 2.5% of x = 12.50

$$\left[ \frac{25}{100} \times \frac{1}{100} \times x \right] = \frac{125}{10}$$

$$x = \left[ \frac{125}{10} \times \frac{100 \times 10}{25} \right] = 500$$

25. Length of the carpet =  $\left[ \frac{\text{total cost}}{\text{Rate/m}} \right] = \left[ \frac{8100}{45} \right] \text{ m} = 180 \text{ m}.$

$$\text{Area of the room} = \text{Area of the carpet} = \left[ 180 \times \frac{75}{100} \right] \text{ m}^2 = 135 \text{ m}^2$$

$$\text{So, breadth of the room} = \left[ \frac{\text{Area}}{\text{length}} \right] = \left[ \frac{135}{18} \right] \text{ m} = 7.5 \text{ m}$$

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.

$$29. \text{ Ratio of speed of camel and elephant} = \frac{5}{3} : \frac{7}{5} = \frac{5}{3} \times 15 : \frac{7}{5} \times 15 \\ = 25 : 21$$

30. For managing, A received = 5% of Rs. 7400 = Rs. 370.

Balance = Rs. (7400 - 370) = Rs. 7030.

Ratio of their investments =  $(6500 \times 6) : (8400 \times 5) : (10000 \times 3)$

$$= 39000 : 42000 : 30000$$

$$= 13 : 14 : 10$$

$$\text{B's share} = \text{Rs. } \left[ 7030 \times \frac{14}{37} \right] = \text{Rs. } 2660$$

$$31. \text{ Required ratio} = \frac{75 + 65}{85 + 95} = \frac{140}{180} = \frac{7}{9}$$

$$32. \text{ Required percentage} = \left[ \frac{70 + 80}{95 + 110} \times 100 \right] \%$$

$$= \left[ \frac{150}{205} \times 100 \right] \%$$

$$= 73.17\%$$

33. Average sales (in thousand number) of branches B1, B3 and B6 in 2000

$$= \frac{1}{3} \times 80 + 95 + 70 = \frac{245}{3}$$



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So from question, it is not clear that which one is shorter S or R. So the given data is insufficient.

46. Option C

20 - 6 = 14<sup>th</sup> from left = W

47. Option B

Symbol	Consonant	Number
%	R	3

48. Option D

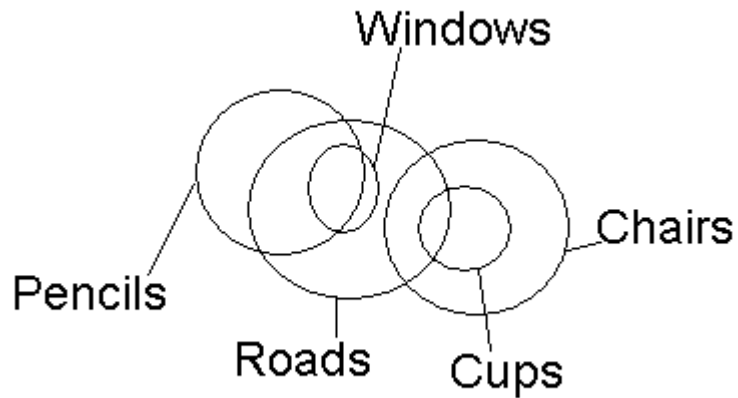
After eliminating all vowels and symbols the arrangement will be  
BMR3JKDF69W4NP2Y5QZ7G 12<sup>th</sup> from right end = y

49. Option D

Letters	Number	Number/Symbol
F 6 9, W 4 *, P 2 \$		

50. Option D

51. Option C

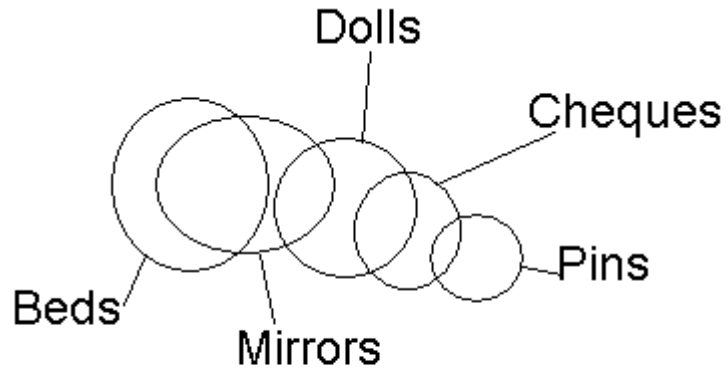


**Conclusions:**

- I. False
- II. False
- III. False
- IV. True

Only IV follows

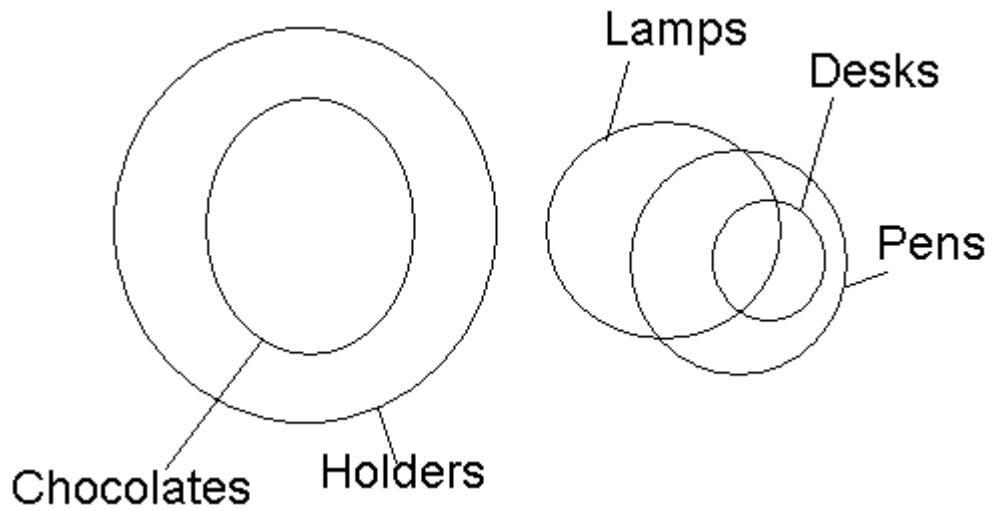
52. Option A



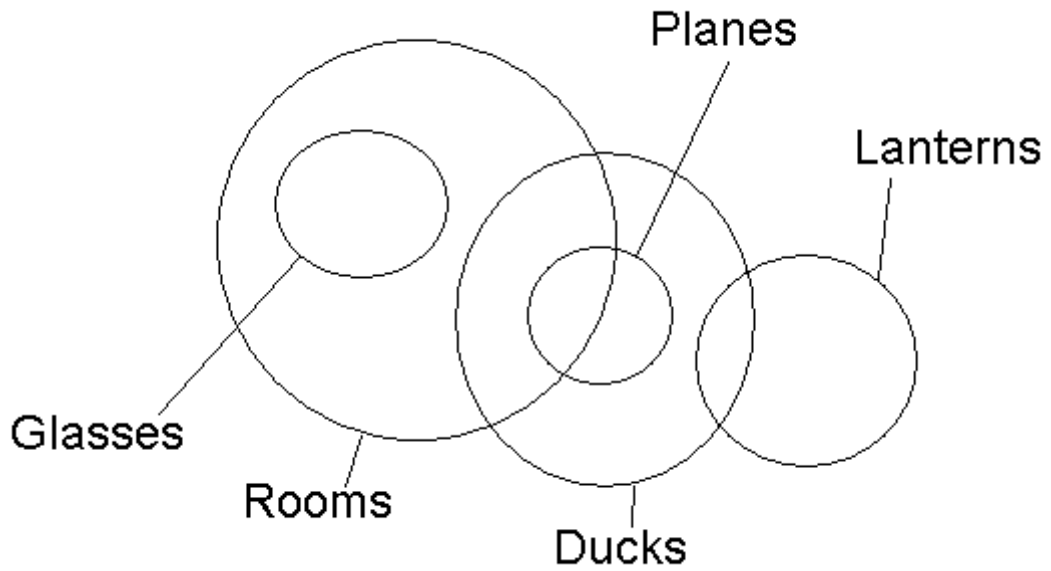
- Conclusions:
- I. False
  - II. False
  - III. False
  - IV. False

None follows

53. Option E



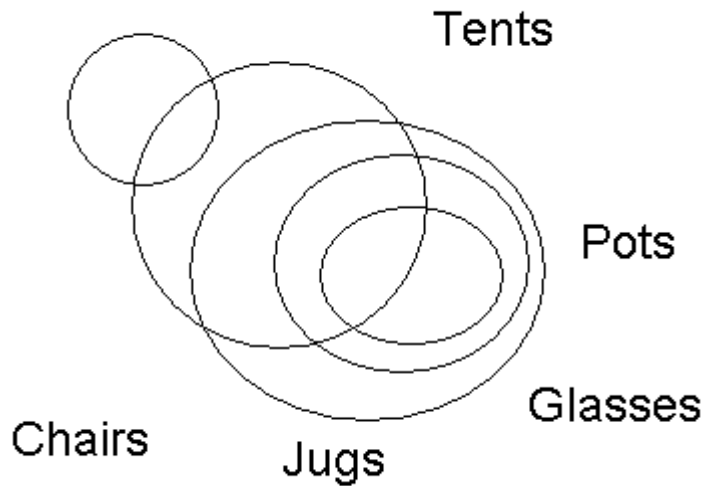
54. Option B



- Conclusions:**
- I. False
  - II. True
  - III. True
  - IV. False

Only II and III follow

55. Option D



- Conclusions:**
- I. True
  - II. False
  - III. False
  - IV. True

Only I and IV follows

56. Option E  
M B U V W E

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- #   \*   ©   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
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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