

Special Test of Time Speed + Input Output + Missing Series By Alok Sir for Bank

Directions (Q. 1-2): Each of the questions below consists of a question and two statements numbered I and II given below it. You have to decide whether the data provided in the statements are sufficient to answer the question. Read both the statements and give answer

- (a) if the data in statement I alone is sufficient to answer the question while the data in statement II alone is not sufficient to answer the question.
- (b) if the data in statement II alone is sufficient to answer the question while the data in statement I alone is not sufficient to answer the question.
- (c) if the data either in statement I alone or in statement II alone is sufficient to answer the question.
- (d) if the data in both the statements I and II even together are not sufficient to answer the question.
- (e) if the data in both the statements I and II together are necessary to answer the question.
- What is the speed of a running train?**
 - The length of the train is 180 metres.
 - The train crosses another stationary train of 120 metres length in 60 seconds.
 - What is the speed of a boat in still water?**
 - The boat running downstream takes 6 hours from A to B
 - The boat running upstream takes 8 hours from B to C.
 - A train running at the speed of 20 metres/second crosses a pole in 24 seconds less than the time it requires to cross a platform thrice its length at the same speed. What is the length of the train?**
 - 270 metres
 - 340 metres
 - 180 metres
 - Cannot be determined
 - None of these
 - Two trains A and B start running together from the same point in the same direction, at the speeds of 60 kmph and 72 kmph respectively. If the length of both the trains is 240 metres, how long will it take for train B to cross train A?**
 - 2 min 12 sec
 - 1 min 24 sec
 - 1 min 12 sec
 - 2 min 24 sec
 - None of these
 - Two stations A and B are 462 km apart. A train leaves Station A for Station B and at the same time another train leaves Station B for Station A. Both trains meet 5.5 hours after they start moving. If the train that starts from Station A is**

28 km/hr faster than the other one, what is the ratio of the speeds of both the trains?

- 3 : 2
- 2 : 5
- 2 : 1
- 4 : 3
- 5 : 3

Directions (Q. 6-10): Study the following information carefully and answer the given questions.

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 input and rearrangement.

Input : based 18 scheme 49 after 9 interested 25 aadhar 4 payment 42

Step I : aadhar 4 based 18 scheme 49 after 9 interested 25 payment 42

Step II : aadhar 4 after 9 based 18 scheme 49 interested 25 payment 42

Step III : aadhar 4 after 9 based 18 interested 25 scheme 49 payment 42

Step IV : aadhar 4 after 9 based 18 interested 25 payment 42 scheme 49

Step IV is the last step of the above input as the desired arrangement is obtained. As per the rules followed in the above question find the appropriate step for the given input.

Input : people 100 India 24 added 9 country 12 democratic 16 eligible 19

- How many steps will be required to complete the above input?**
 - Five
 - Six
 - Eight
 - Nine
 - Four
- In Step III what will be the position of 16 from the left?**
 - Third
 - Seventh
 - Fifth
 - Sixth
 - Eighth
- How many numbers exist between 9 and 24 in Step V?**
 - Two
 - Three
 - Four
 - Six
 - Five
- In Step IV, if 16 is related to 19 then which number or word will 9 be related to?**
 - 24
 - people
 - 12
 - 100
 - eligible
- Which of the following steps would be the last step but one?**
 - VI
 - IV
 - 11
 - V
 - Vn

Directions (Q. 11-16): Study the following information carefully to answer the given questions.

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 the input and its rearrangement:

Input: 70 family 53 parents 77 mother 60 father

Step I: 70 family 53 parents 60 father 77 mother

Step II: 70 family 53 parents 77 mother 60 father

Step III: 53 parents 77 mother 60 father 70 family

Step IV: 77 mother 60 father 70 family 53 parents

Step IV is the last step of the above input as the desired arrangement is obtained. As per the rules followed in the above steps, find out in each of the following questions the appropriate steps for the given input.

Input: 50 rule 98 audi 56 octavia 78 jaguar 85 pascal
81 renault

11. What is the position of '78' in Step IV?

- (a) Eighth from the left (b) Sixth from the right
(c) Second from the right (d) Fifth from the left
(e) None of these

12. Which of the following steps would be the last but one?

- (a) Step III (b) Step V (c) Step VI (d) Step VII
(e) None of these

13. If in Step V '81' is related to '98' and 'renault' is related to 'audi' in certain way. Following the same rule 'octavia' is related to which of the following?

- (a) jaguar (b) 78 (c) rule (d) 98
(e) None of these

14. Which step number is the following output?

98 audi 78 jaguar 81 renault 56 octavia 85 pascal 50 rule

- (a) Step IV (b) Step II (c) Step V (d) Step III
(e) There is no such step

15. How many words/numbers are there between 'renault' and 'rule' in Step IV?

- (a) Two (b) None (c) Four (d) Six
(e) None of these

16. If '61 credit 42 gun 26 just 21 the 92 join 37 now' is Step III of an input, then which of the following would be the input?

- (a) 37 now 61 credit 92 join 42 gun 26 just 21 the
(b) 21 the 37 now 92 join 26 just 42 gun 61 credit
(c) 61 credit 42 gun 21 the 26 just 92 join 37 now
(d) Can't be determined
(e) None of these

Directions (Q. 17-21): Study the following information carefully to answer the given questions.

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 the input and rearrangement (All the numbers are two-digit numbers.)

Input: 76 pink 83 colour 79 each 65 owl ice 81

Step I: each 76 pink 83 colour 79 65 owl ice 81

Step II: each 65 76 pink 83 colour 79 owl ice 81

Step III: each 65 ice 76 pink 83 colour 79 owl 81

Step IV: each 65 ice 76 owl pink 83 colour 79 81

Step V: each 65 ice 76 owl 79 pink 83 colour 81

Step VI: each 65 ice 76 owl 79 colour pink 83 81

Step VII: each 65 ice 76 owl 79 colour 81 pink 83

Step VII is the last step of the above input as the desired arrangement is obtained. As per the rules followed above find the appropriate step for the given input.

Input: magazine 14 desire 21 put 13 28 expire aeth ite
25 30

17. Which step number is the following output? activate 13 expire 14 input magazine desire 21 28 25 30

- (a) Step IV (b) Step V (c) Step VII
(d) There is no such step (e) none of these

18. How many elements (words or numbers) are there between '14' and '25' as they appear in the Last step but one?

- (a) Two (b) Three (c) Four (d) Five (e) Six

19. Which word/number would be at the fifth position the right in Step III?

- (a) desire (b) 14 (c) input (d) 21
(e) None of these

20. Which of the following represents the position of 'input' in the sixth step?

- (a) Seventh from the left (b) Fifth from the right
(c) Fifth from the left (d) Sixth from the right
(e) None of these

21. How many steps would be required to get the output?

- (a) Six (b) Seven (c) Five (d) Nine
(e) Eight

Directions (Q. 22-26): Study the following information carefully to answer the given questions.

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 the input and its rearrangement.

Input: 25 11 ice cage 12 it redact tacit 32 55

Step I: it 55 25 11 ice cage 12 redact tacit 32

Step II: ice 11 it 55 25 cage 12 redact tacit 32

Step III: cage 12 ice 11 it 55 25 redact tacit 32

Step IV: tacit 32 cage 12 ice 11 it 55 25 redact

Step V: redact 25 tacit 32 cage 12 ice 11 it 55

Step V is the last step of the above input. As per the rules in the above steps, find out in each of the following questions the steps for the input given below:

Input: for sake 36 ebullience page 89 10 quack 42
amicable 56 21 redact

22. Which of the following steps would be the last step but one?

- (a) III (b) V (c) VI (d) IV
(e) None of these

23. If in Step IV "42" is related to 'page' and 'redact' is related to '10' in a certain way. Following the same way, 'quack' is related to which of the following?

- (a) 89 (b) amicable (c) 36
(d) ebullience (e) None of these

24. What is the position of 'forsake' in Step III?

- (a) Sixth from the left (b) Eighth from the right
(c) Sixth from the right (d) Fifth from the left
(e) None of these

25. Which of the following will be Step V?

- (a) ebullience 36 amicable 89 forsake 42 redact 21 quack 56 page 10
(b) amicable 89 forsake 42 redact 21 page 10 36 quack 56 ebullience
(c) amicable 89 forsake 42 redact 21 quack 56 page 10 36 ebullience
(d) Can't be determined
(e) None of these

26. How many steps will be required to complete the rearrangement?

- (a) Four (b) Five (c) Seven (d) Six
(e) None of these

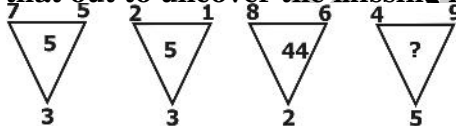
27. 5, 8, 13, 21, 34, ?

- (a) 40 (b) 45 (c) 50 (d) 55

28. 325, 17, 478, 39, 923, ?

- (a) 29 (b) 30 (c) 28 (d) 40

29. Find that out to uncover the missing number ?



- (a) 29 (b) 30 (c) 31 (d) 32
(e) None of these

30. If $2 + 3 = 8$ $5 + 8 = 60$

$$4 + 5 = 32 \quad 3 + 7 = 27 \quad 6 + 7 = 72$$

$$7 + 8 = ?$$

- (a) 98 (b) 99 (c) 100 (d) None

31. Complete the series: 16, 06, 68, 88, ?, 98

- (a) L8 (b) L9 (c) L10 (d) L11

- (e) none of these

In each of the following questions, various terms of an alphabet series are given with one or more terms missing as shown by (?). Choose the missing terms out of the given alternatives.

32. A, B, B, D, C, F, D; H, E, ?, ?

- (a) E, F (b) F, G (c) F, I (d) J, F (e) J, K

33. Z, X, S, I, R, R, ?, ?

- (a) G, I (b) J, I (c) J, K (d) K, M

34. AYBZC, DWEXF, GUHVI, JSKTL, ?

- (a) MQORN (b) MQNRO
(c) NQMOR (d) QMONR

35. T, R, P, N, L, ?, ?

- (a) J, G (b) J, H (c) K, H (d) K, I

36. PMT, OOS, NQR, MSQ, ?

- (a) LUP (b) LVP (c) LVR (d) LWP

37. A, B, N, C, D, O, E, F, P, ?, ?, ?

- (a) G, H, I (b) G, H, J (c) G, H, Q (d) J, K, L

38. GH, JL, NQ, SW, YD, ?

- (a) EJ (b) FJ (c) EL (d) FL

39. R, U, X, A, D, ?

- (a) F (b) G (c) H (d) I

40. AYD, BVF, DRH, ?, KGL

- (a) FMI (b) GMJ (c) GLJ (d) HLK

41. AZ, CX, FU, ?

- (a) IR (b) IV (c) JQ (d) KP

> ANSWER KEY

1. (e) 2. (d) 3. (e) 4. (d) 5. (c) 6. (a) 7. (d) 8. (b) 9. (c) 10. (b)
 11. (c) 12. (b) 13. (a) 14. (d) 15. (e) 16. (d) 17. (b) 18. (d) 19. (d) 20. (c)
 21. (e) 22. (b) 23. (d) 24. (c) 25. (c) 26. (d) 27. (c) 28. (a) 29. (a) 30. (a)
 31. (a) 32. (d) 33. (a) 34. (b) 35. (b) 36. (a) 37. (c) 38. (d) 39. (b) 40. (b)
 41. (c)

1. From I and II : we get :

$$\text{Speed of the running train} = \frac{(180 + 120)}{60} = 5 \text{ m/sec}$$

3. We have

$$\frac{4L}{20} - \frac{L}{20} = 24$$

[when L = Length of the train]

Solving the above equation, we get

$$L = \frac{24 \times 20}{3} = 160 \text{ metres}$$

4. Note that when a train crosses another train, it travels a distance equal to the sum of the lengths of both the trains. Hence, the total distance travelled by the train is $(240 \times 2) = 415 \text{ m}$.

Here, the relative speed of the train

$$= 72 - 60 = 12 \text{ km per hour}$$

ie $12 \times \frac{5}{18} \text{ m/sec}$

Hence, the required time = $\frac{480 \times 18}{12 \times 5} = 144 \text{ sec,}$

ie 2 min and 24 sec

5. Let the speed of the first train be x and that of the second train be y .

Now, $x - y = 28$... (i)
 $x + y = \frac{462}{5.5} = 84$... (ii)

Adding these two equations,

$$2x = 28 + 84 = 112$$

$$\therefore x = 56, y = 28$$

$$\text{Required ratio} = \frac{56}{28} = \frac{2}{1} = 2 : 1$$

(6-10): The machine rearranges the words in alphabetical order one by one. The numbers remain tagged with their preceding word.

Input: people 100 India 24 added 9 country 12 democratic 16 eligible 19

Step I: added 9 people 100 India 24 country 12 democratic 16 eligible 19

Step II: added 9 country 12 people 100 India 24 democratic 16 eligible 19

Step III: added 9 country 12 democratic 16 people 100 India 24 eligible 19

Step IV: added 9 country 12 democratic 16 eligible 19 people 100 India 24

Step V: added 9 country 12 democratic 16 eligible 19 India 24 people 100

(11-16): The machine arranges the numbers according to digit-sum of each number in ascending order, and the arrangement starts from the right end. Also, the word on the immediate right of the number remains with it and after each rearrangement the number and word both move one place left.

Input : 50 rule 98 audi 56 octavia 78 jaguar 85 pascal 81 renault

Step I: 50 rule 98 audi 78 jaguar 81 renault 56 octavia 85 pascal

Step II: 50 rule 98 audi 78 jaguar 81 renault 56 octavia 85 pascal

Step III: 98 audi 78 jaguar 81 renault 56 octavia 85 pascal 50 rule

Step IV: 98 audi 81 renault 56 octavia 85 pascal 50 rule 78 jaguar

Step V: 81 renault 56 octavia 85 pascal 50 rule 78 jaguar 98 audi

Step VI: 56 octavia 85 pascal 50 rule 78 jaguar 98 audi 81 renault.

(17-21) In the given arrangement the machine rearranges the words starting with vowels in alphabetical order and then those starting with consonants in alphabetical order. However, words and numbers are arranged in each alternate step.

Input: magazine 14 desire 21 input 13 28 expire activate 25 30

Step I: activate magazine 14 desire 21 input 13 28 expire 25 30

Step II: activate 13 magazine 14 desire 21 input 28 expire 25 30

Step III: activate 13 expire magazine 14 desire 21 input 28 25 30

Step IV: activate 13 expire 14 magazine desire 21 input 28 25 30

Step V: activate 13 expire 14 input magazine desire 21 28 25 30

Step VI: activate 13 expire 14 input 21 magazine desire 28 25 30

Step VII: activate 13 expire 14 input 21 desire magazine 28 25 30

Step VIII: activate 13 expire 14 input 21 desire 25 magazine 28 30

(22-26) : In each step numbers and words are arranged at the left and then shift rightward such that for the numbers, are arranged in ascending order from right to left, while for words, the number of letters present in the word are arranged in ascending order from right to left in the final arrangement.

Input: Forsake 36 ebullience page 89 10 quack 42 amicable 56 21 redact

Step I : page 10 forsake 36 ebullience 89 quack 42 amicable 5621 redact

Step II : quack 56 page 10 forsake 36 ebullience 89 42 amicable 21 redact

Step III : redact 21 quack 56 page 10 forsake 36 ebullience 89 42 amicable

Step IV : forsake 42 redact 21 quack 56 page 10 36 ebullience 89 amicable

Step V : amicable 89 forsake 42 redact 21 quack 56 page 10 36 ebullience

Step VI : ebullience 36 amicable 89 forsake 42 redact 21 quack 56 page 10

29. If you look closely, you will find that the center number can be obtained by multiplying the largest numbers on the corners and subtracting the smallest number from it.

$$26 = 7 * 5 - 3^2$$

In the same manner, every other figure follows. Thus the missing number:

$$9 * 5 - 4^2$$

$$= 45 - 16$$

$$= 29$$

30. 98.

Explanation : $ab + a(a-1)$

$$7 * 8 + 7(7 - 1)$$

$$= 56 + 42$$

31. L8

Explanation:

To know why, just read the number series upside down and you will find that the numbers are 91, 90, 89, 88, __, 86

So L8 when read upside down reads as 87.

32. The given sequence is a combination of two series :

I. 1st, 3rd, 5th, 7th, 9th, 11th terms i.e. A, B, C, D, E, ? II.

2nd, 4th, 6th, 8th, 10th terms i.e. B, D, F, H, ?

Clearly, I consists of consecutive letters while II consists of alternate letters. So, the missing letter in I is F, while that in II is J. So, the missing terms i.e. 10th and 11th terms are J and F respectively.

33. $Z \xrightarrow{-2} X \xrightarrow{-5} S \xrightarrow{-10} I \xrightarrow{-17} R \xrightarrow{-26} R \xrightarrow{-37} (G) \xrightarrow{-50} (I)$

Note that the numbers representing the difference between the consecutive terms of the series again from a series - 2, 5, 10, 17, 26, 37, 50 - in which the pattern is +3, +5, +7, +9, +11, +13.

34. 1st letter : $A \xrightarrow{+3} D \xrightarrow{+3} G \xrightarrow{+3} J \xrightarrow{+3} (M)$

2nd letter : $Y \xrightarrow{-2} W \xrightarrow{-2} U \xrightarrow{-2} S \xrightarrow{-2} (Q)$

3rd letter : $B \xrightarrow{+3} E \xrightarrow{+3} H \xrightarrow{+3} K \xrightarrow{+3} (N)$

35. Explanation:

$T \xrightarrow{-2} R \xrightarrow{-2} P \xrightarrow{-2} N \xrightarrow{-2} L \xrightarrow{-2} (J) \xrightarrow{-2} (H)$

36. 1st letter : $P \xrightarrow{-1} O \xrightarrow{-1} N \xrightarrow{-1} M \xrightarrow{-1} (L)$

2nd letter : $M \xrightarrow{+2} O \xrightarrow{+2} Q \xrightarrow{+2} S \xrightarrow{+2} (U)$

3rd letter : $T \xrightarrow{-1} S \xrightarrow{-1} R \xrightarrow{-1} Q \xrightarrow{-1} (P)$

37. The given series may be divided into 2 groups :

I. A, B, C, D, E, F, ?, ? and II. N, O, P, ?

Clearly, the given series consists of two terms of I followed by one term of II.

The missing terms in I are G and H while the missing term in II is Q.

38. 1st letter : $G \xrightarrow{+3} J \xrightarrow{+4} N \xrightarrow{+5} S \xrightarrow{+6} Y \xrightarrow{+7} (F)$

2nd letter : $H \xrightarrow{+4} L \xrightarrow{+5} Q \xrightarrow{+6} W \xrightarrow{+7} D \xrightarrow{+8} (L)$

39. $R \xrightarrow{+3} U \xrightarrow{+3} X \xrightarrow{+3} A \xrightarrow{+3} D \xrightarrow{+3} G$

40. 1st letter : $A \xrightarrow{+1} B \xrightarrow{+2} D \xrightarrow{+3} G \xrightarrow{+4} (K)$

2nd letter : $Y \xrightarrow{-3} V \xrightarrow{-4} R \xrightarrow{-5} M \xrightarrow{-6} (G)$

3rd letter : $D \xrightarrow{+2} F \xrightarrow{+2} H \xrightarrow{+2} J \xrightarrow{+2} (L)$

41. 1st letter : $A \xrightarrow{+2} C \xrightarrow{+3} F \xrightarrow{+4} (J)$

2nd letter : $Z \xrightarrow{-2} X \xrightarrow{-3} U \xrightarrow{-4} (Q)$