Quiz Date: 20 ${ }^{\text {th }}$ March 2020
Directions (1-5): 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: that 1629 curfew 47 mango 58 social distancing 9132 Home 6751 Arrange virus

Step I: 15 that 29 curfew 47 mango 58 social distancing 9132 Home 6751 virus Arrange Step II:15 92 that 2947 mango 58 social distancing 32 Home 6751 virus curfew Arrange Step III: 159230 that 47 mango 58 social 32 Home 6751 virus distancing curfew Arrange Step IV: 15923068 that 47 mango 58 social 3251 virus Home distancing curfew Arrange Step V: 1592306831 that 4758 social 51 virus mango Home distancing curfew Arrange Step VI: 159230683157 that 4751 virus social mango Home distancing curfew Arrange Step VII: 1592306831574851 virus that social mango Home distancing curfew Arrange Step VIII: 1592306831574852 virus that social mango Home distancing curfew Arrange
and Step VIII 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.

Input: Force 52 make 266837 economic stay citizen 1875 task
Q1. Which of the following is last but one step?
(a)V
(b)VII
(c)VIII
(d)VI
(e)None of these


Q2. Which of the following would be the final arrangement?
(a) 177667253851 task stay make force economic citizen
(b) 177625675138 task stay make force economic citizen
(c) 177625673851 task stay force make economic citizen
(d) 172567763851 task stay make force economic citizen
(e) None of these

Q3. In step $V$, which of the following words would be at $6^{\text {th }}$ position to the right of $3^{\text {rd }}$ from the left element?
(a) Make
(b) Stay
(c) force
(d) task
(e) None of these

Q4. In step III, which of the following element would be at 7th position from the right?
(a) Make
(b) Task
(c) Force
(d) 68
(e) None of these

Q5. In step IV of the rearrangement, if ' 76 is related to economic' and ' 67 is related to make' in a certain way, which of the following would 52 be related to, following the same pattern?
(a) stay
(b) task
(c) make
(d) Force
(e) None of these

## Directions (6-10): Study the given information and answer the questions:

When a number arrangement machine is given an input line of numbers, it arranges them following a particular rule. The following is an illustration of an input and its rearrangement.
Input: 43304238547896
Step I: 172120168152216312384
Step II: 140481012696
Step III: 702456348
Step IV: 482476530
Step IV, is the last step of the above arrangement.
As per the rules followed in the given steps find out the appropriate steps for the given input:

## Input: 54312364471781

Q6. Which of the following is the third to the right of fifth from the right end in step IV?
(a) 4
(b) 32
(c) 6
(d) 9
(e) None of these


Q7. What is the difference between the numbers which is third from the left in step III and the number which is fourth from the right in step IV?
(a) 2
(b) 4
(c) 5
(d) 3
(e) None of these

Q8. What is the sum of digits of the number which is fourth from the left in step II?
(a) 9
(b) 10
(c) 6
(d) 7
(e) 8

Q9. Which of the following number is third from right in step II?
(a) 60
(b) 64
(c) 48
(d) 8
(e) None of these

Q10. What is the resultant, If smallest number of Step II is multiply by highest number of step III?
(a) 256
(b) 145
(c) 324
(d) 78
(e) None of these

Directions (11-15): 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: 56 two fear $\mathbf{2 7} \mathbf{7 4} 15$ Markets 33 normal Hindi
Step I: Markets 56 two fear 277415 normal Hindi 9
Step II: Markets normal 56 two fear 2715 Hindi 916
Step III: Markets normal Hindi 56 two fear 2791625
Step IV: Markets normal Hindi fear two 279162536
Step V: Markets normal Hindi fear two 916253649
And Step $V$ 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.

## Input: 18 Roads Act upon 1124 to modern 429

Q11. Which of the following is Step IV from given input?
(a) modern Roads upon 18 Act to 91416
(b) modern Roads upon Act to 9141664
(c) modern Roads upon Act to 14166481
(d) modern Roads upon Act 9 to 141664
(e) None of these

Q12. Which element is $5^{\text {th }}$ from the right end in step IV?
(a) 1
(b) 4
(c) Act
(d) to
(e) None of these

Q13. Which of the following is penultimate step from this given input?
(a) II
(b) III
(c) I
(d) V
(e) IV

Q14. Find the difference in between 3rd from left end element in step II and 2 ${ }^{\text {nd }}$ from right end in Step V?
(a) 40
(b) 46
(c) 42
(d) 44
(e) 63


Q15. In Step IV if Roads is related to 9, Act is related to 4 in the same way modern is related to?
(a) upon
(b) 9
(c) Act
(d) to
(e) Either (a) or (d)

## Solutions

## Solution(1-5):

## Logic-

From the given input and final step it is understood that words are arranged in the alphabetical order. Numbers are arranged alternately in the increasing order and alternatively in decreasing order i.e. least number followed by highest number, second least number followed by second highest number and so on. Also, one operation is performed with each number while it is arranged (i.e. 1 is subtracted from each even number and 1 is added to each odd number)

Input: Force 52 make 266837 economic stay citizen 1875 task
Step I: 17 force 52 make 266837 economic stay 76 task citizen
Step II:17 76 force 52 make 266837 stay task economic citizen
Step III:17 762552 make 6837 stay task force economic citizen
Step IV:17 7625675237 stay task make force economic citizen
Step V:17 7625673852 task stay make force economic citizen
Step VI:17 7625673851 task stay make force economic citizen

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S1.Ans(a)
S2.Ans(e)
S3.Ans(a)
S4.Ans(d)
S5.Ans(b)
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## Solutions (6-9)

Sol. In this input output question only numbers is arranged in each step. Let us understand the logic behind it- In each step the numbers are arranged
Step 1: All the number(input) multiply by 4.
Step 2: Multiply all digit in each number.
Step 3: All the numbers divided by 2.
Step 4: All number are arranged in descending order.

## Input: 54312364471781

Step I: 2161249225618868324
Step II: 1281860644824
Step III: $\begin{array}{lllllll}4 & 4 & 9 & 30 & 32 & 24 & 12\end{array}$
Step IV: 32302412964

S6.Ans(c)
S7.Ans(d)
S8.Ans(c)
S9.Ans(b)
S10.Ans(a)

## Solution(11-15):

## logic-

All the words are arranged according to the number of letters present in the word as the word having highest number of letters is arranged first then the word having second highest number of letters is arranged and so on from the left end. While the numbers are arranged in ascending order of the last digit of the number from right end also each of them is replaced by the square of the last digit of that number.
Input: 18 Roads Act upon 1124 to modern 429
Step I: modern 18 Roads Act upon 24 to 4291
Step II: modern Roads 18 Act upon 24 to 914
Step III: modern Roads upon 18 Act to 91416
Step IV: modern Roads upon Act to 9141664
Step V: modern Roads upon Act to 14166481
S11. Ans. (b)
S12. Ans. (e)
S13. Ans. (e)
S14. Ans. (b)
S15. Ans. (d)


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