Section : Reasoning Ability

Alphabet & Number Arrangement

INTRODUCTION

HAPTER

As we know that English alphabet is a group of English letters, hence the problems based on alphabet are the problems based on English letters. Problems under this segment are very important part of the questions asked in various competitive exams to be conducted for the purpose of requirement of officers and clerks. Particularly for getting job in banking sector, this type of questions can not be ignored. This is the reason that we will discuss every aspect of such problems so that students do not face any kind of difficulty while solving the problems related to English alphabet.

TYPES OF PROBLEMS :

- (1) General series of alphabet
- (2) Random series of alphabet
- (3) Words in alphabetical order
- (4) Problems of word formation
- (5) Problems of letter gap

Now we will discuss all the six types of problems one by one in detail.

(1) General Series of Alphabet

EXAMPLE 1. Which of the following options is seventh to the right of the 13th letter from the left in a forward Alphabet series?

(a)	R	(b)	Т	(c)	V
(d)	W	(e)	None of	these.	

Sol. Now the question is how to solve it?

1st of all we will write the forward alphabet series as given below:

A B C D E F G H I J K L M
13th letter from left

$$\begin{vmatrix} N & O & P & Q & R & S & T \\ 1 & 2 & 3 & 4 & 5 & 6 & 7 \end{vmatrix}$$
 U V W X Y Z

From above series it is clear that M is the 13th letter from left and to the right of M (13^{th} letter from left), T is the 7^{th} letter. Hence (b) is the correct option.

Here, we have solved this problem with a general method. But this type of problem can also be approached through quicker method that will help you save some extra consumed time.

📽 Shortcut Åpproach

✓ If both the directions are same then subtraction of numbers takes place.

If the directions are opposite then addition of numbers takes place.

SHORTCUT METHOD FOR ABOVE EXAMPLE:

Now, for solving the sample question we apply this rule. As we want to find out the 7th letter to the right of the 13th letter from the left, the directions are opposite and thus rule (b) will be applied here. Hence we add 7 + 13 = 20. Therefore, the answer will be 20th from left. Also, 20th from left less mean 26 - 20 + 1 = 7th from right. We can easily see.

- \therefore 20th letter from left = T
- Also 7^{th} letter from right = T
- :. This method also gives the answer choice (b).

After solving the sample question, you must have noticed that the above mentioned trick is to calculate the actual position of the required letter before going to search for it.

OTHER VARIATIONS OF SUCH TYPE OF PROBLEMS

EXAMPLE 2. If alphabet series is given in backward or

reverse order, then find out the eighth letter to right of O?

	(a) H	(b)	G	(c) U
	(d) X	(e)	None of these	
	ZYXWV	U T	SRQP	0
Sol.	$\begin{vmatrix} N & M & L & K & J \\ 1 & 2 & 3 & 4 & 5 \end{vmatrix}$ It's clear (b) is the	I H 6 7 correc	$\begin{vmatrix} G \\ 8 \end{vmatrix}$ F E D t answer.	СВА

Note: Even with the forward alphabet series we can solve this problem because the letter which is eight to the right of O in the reverse order alphabet series must be eight to the left of O in forward alphabet series.

EXAMPLE 3. If the 1st half of the alphabet is written in reverse order, then find out the letter that would be 20th letter from the right.

(a)	G	(b)	F	(c)	D
(d)	Н	(e)	None of these		

- **Sol.** As the 2^{nd} half is not reversed, the 1^{st} 13 letters would be same when we do counting from right. But not letters coming after 13^{th} will be actually from the left. Hence 14^{th} letter from right would be A; 15^{th} would be B; 16^{th} would be C and we move further in the same manner. Hence from left which is G
 - \therefore Option (a) is the correct answer.

🖎 REMEMBER -

I: While solving the problems based on alphabet, you must have in your mind the exact positions of every letters of alphabet in forward order as well as in backward or reverse order as given below: Letters positions in forward alphabetical order:

 $\begin{bmatrix} A & B & C & D & E & F & G & H & I & J & K & L & M & N & O & P & Q & R & S & T & U & V & W & X & Y & Z \\ 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 & 11 & 12 & 13 & 14 & 15 & 16 & 17 & 18 & 19 & 20 & 21 & 22 & 23 & 24 & 25 & 26 \\ \end{bmatrix}$ Letters positions in backward or reverse alphabetical order:

- $\begin{bmatrix} Z & Y & X & W & V & U & T & S & R & Q & P & O & N & M & L & K & J & I & H & G & F & E & D & C & B & A \\ 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 & 10 & 11 & 12 & 13 & 14 & 15 & 16 & 17 & 18 & 19 & 20 & 21 & 22 & 23 & 24 & 25 & 26 \\ \end{bmatrix}$
- **II:** Just keep in mind, the following positions of the letters in the English alphabet (forward order).



III: *m*th element to be counted from left to right of a series of x characters is equal to (x + 1 - m)th element to be counted from right to left of that series. This rule can be better illustrated by an example which is given below: Let us take the forward order alphabet series,

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 As we know that English alphabet has 26 characters, hence, we have x = 26. Now suppose, we have to find out the position of K in the above given series counting from right to left. Position of K' in the English alphabet from left to right is 11. Thus m = 11 \therefore Position of K in the above given series from right to left would be (26 + 1 - 11) = 16

Note : I, *II & III given under extra tips are very important as they are very helpful in solving problems based on general series of alphabet. Readers are advised to take them as a rule.*

HOW TO SOLVE PROBLEMS WHEN LETTERS ARE DROPPED OR DELETED AT REGULAR INTERVALS?

EXAMPLE 4. If every 3^{rd} letter from left to right of English alphabet is deleted, then what would be the 6^{th} letter from left in the new series obtained?

Sol. General method:

A B \bigcirc D E \bigcirc G H \bigcirc J K \bigcirc M N \bigcirc P Q \bigcirc S T \bigcirc V W \bigotimes Y Z Here, deleted letters have been encircled and we find the new series as given below: $\begin{vmatrix} A & B & D & E & G & H & J & K & M \\ 1 & 2 & 3 & 4 & 5 & 6 & 7 & 8 & 9 \end{vmatrix}$

 N
 P
 Q
 S
 T
 V
 W
 Y
 Z

 10
 11
 12
 13
 14
 15
 16
 17
 18

It is clear, that 6th letter from left in the new series is H.

đ Shortcut Approach

No doubt, that general method gives the correct answer. But we need to save extra consumed time and this is the reason we go for a quicker approach.

As per the example, every third letter is deleted in the original series. It does mean that we are left of two letters after every deletion. Here, '2' is the key digit for us and we have to find out 6th letter from the left in the new obtained series. Therefore, we have to find a digit which is just less than 6 but divisible by 2. For this question the digit just less than 6 and divisible by 2 is 4. Now we follow the operation given below:

6th letter from the left in the new series = $6 + \frac{4}{2}$

= 8th letter from the left in the original series, which is it. In the same manners, we can find out any letter at a particular position in the new obtained series.

 \therefore 16th letter from the left in the new obtained series = $16 + \frac{14}{2}$

= 23rd letter from the left in the original series which is W. 18th letter from the left in the new obtained series

 $= 18 + \frac{16}{2}$

= 26th letter from the left in the original series which is Z. The sample example can be asked in following way also:

"If every third letter from left to right in English alphabet is dropped (or deleted), then find out the 13th letter from right in the new obtained series".

To solve this, we find first of all the number of letters in the new obtained series.

As every third letter is dropped, hence we have

 $\left(26 - \frac{26}{3}\right) = 26 - 8 = 18$ letters in the new series. Point to be noted here that we divide 26 by 2 as every 3rd letter

is dropped and after division we take approximate value of $\frac{26}{3}$

in round figure (approximate value of $\frac{26}{3}$ will be 8).

As per the example we have to find out 13th letter from right in the newly obtained series. This loss mean (18 + 1 - 13) = 6th letter from left which is H.

Note: This quicker approach can also be applied to the dropping of every 4th, 5th, 6th, 7th.... and so on letters from left to right at regular intervals.

HOW TO SOLVE PROBLEMS BASED ON THE **BACKWARD (REVERSED) ALPHABET** SERIES?

While solving problems based on general series of alphabet, we come across the various cases. In some cases we see that whole alphabet series is reversed but in some other cases 1st half of the series is reversed, or second half of the series is reversed or many segments of the alphabet series are reversed.

Let us take a case when a forward order alphabet series get reversed in three segments. In 1st segment 8 letters get reversed; in 2nd segment the next 8 letters get reversed and in the 3rd segment the remaining 10 letters get reversed. Just see the presentation given below:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

$$\uparrow$$

Get reversed
 \downarrow
 $Get reversed$
 H G F E D C B A P O N M L K J I Z Y X W V U T S R Q
 (8 letters)
 (8 letters)
 (10 letters)

Now if you are asked to find out the 4th letter from left in the new obtained series, then through general method, we simply do counting from left in the new series and find out our required answer as 'E' because 'E' is at 4th position from left in the new obtained series. But while solving such type of problems, we have to do some time consuming formalities like (a) writing the original series (b) writing and reversing the letters of original series as per the question says and (c) counting them to get the required answer. Such time consuming processes can be avoided if we go through "Extra Tips III" and solve the question with shortcut approach.

Shortcut Approach

It is clear that 4th letter from left in the new obtained series falls into first segment which has 8 letters. Hence 4th letter in the new obtained series = $(8 + 1 - 4) = 5^{\text{th}}$ letter from the left in the original series. As we know that exact position of 5th letter from left in the original alphabet series is the position of E. Hence E is our required answer. If we have to find out 18th letter from left in the new obtained series, then that will be $16 + (10 + 1 - 2) = 25^{\text{th}}$ letter from left in the original alphabet series (why?) which is Y.

In fact, while finding out 18th letter, we can easily see that 18th letter is the 2nd letter of 3rd segment and hence it will be not affected by 1st two segments having 8 letters each. In other words to find out 18th letter in the new obtained series, we have to find out the 2nd letter in the 3rd segment. This is the reason we find out the 2nd letter in the 3rd segment and then add the 16 letters of 1st two segment to get the 18th letter in the new obtained series. From this, we find that 18th letter from left in the new obtained series is the 25th letter from left in the original series. As 25th letter from left in the original series is Y. So(Y) will be our required answer.

Readers are advised to practice such type of problems as you much as possible and after a certain time will notice that you have got a skill to solve such problems in a few seconds and that too, without the use of pen and paper.

HOW TO SOLVE IF POSITIONS OF LETTERS **ARE INTERCHANGED?**

There is no any rule for such type of problems. Only the hard practice can given you a skill to solve such questions in a quick time.

EXAMPLE 5. If A and C interchange their places, B and D interchange their places, F and H interchange their places and so on, then which letter will be 5th to the left of O?

(a)	Р	(b)	Ν	(c)	Μ
(d)	Т	(e)	None of these.		

Sol. As per the question the interchanges take place as follows:



Here we can see that Q interchanges with S. Then to left of Q, the 5th letter would be P because P interchanges with N.

How to find the Middle Letter?

Case I : Remember that if *m*th and *n*th letter from the left in the English alphabet are given then

Middle letter =
$$\left(\frac{m+n}{2}\right)$$
 th letter from the left.

EXAMPLE 6. Which letter will be midway between 8th letter from the left and 16th letter from the left in the English alphabet? Sol. Here m = 8 and n = 16

then middle letter = $\frac{8+16}{2} = \frac{24}{2} = 12$ th letter from left in the alphabet = L

Case II: Remember that if *m*th and *n*th letter from the right in the English alphabet are given then

Middle letter =
$$\left(\frac{m+n}{2}\right)$$
 th letter from right
= $\left[26+1-\left(\frac{m+n}{2}\right)\right] = \left[27-\left(\frac{m+n}{2}\right)\right]$ th

letter from the left in the English alphabet.

EXAMPLE 7. Which letter will be midway between 8th letter from the right and 16th letter from the right in the English alphabet.

Sol. Middle letter =
$$\left[27 - \left(\frac{8+16}{2}\right)\right]$$
 th letter from left in the

alphabet.

or middle letter = $(27 - 12) = 15^{\text{th}}$ letter from left = 0

Note: In case I and case II (m + n) must be divisible by 2.

Case III: Remember that if the *m*th letter from the left and the *n*th letter from the right are given then middle letter

$$= \left\lceil \frac{(m-n)+27}{2} \right\rceil$$
 th letter from the left in the alphabet.

EXAMPLE 8. Which letter will be midway between 8th letter from the left and 15th letter from the right?

Sol. Here
$$m = 8$$
 and $n = 15$.

Then middle letter = $\left[\frac{(8-15)+27}{2}\right] = \left\lfloor\frac{20}{2}\right\rfloor = 10^{\text{th}}$

letter from left in the English alphabet = J.

Note : In case III (m - n) + 27 must be divisible by 2.

Ranking Arrangement

Condition: To use below Table break the statement into two parts by **'OF'** and the rank to be calculated from the last rank provided.

FIRST HALF	SECOND HALF	ACTION TO BE
STATEMENT	STATEMENT	IAKEN
LEFT	LEFT	SUBTRACTION
RIGHT	RIGHT	SUBTRACTION
LEFT	RIGHT	ADDITION
RIGHT	LEFT	ADDITION
ТО	FROM	NOACTION
FROM	FROM	CONDITIONAL*

CONDITIONAL* means when the two ranks are added then subtract 1 rank to the addition or when the two ranks are subtracted then add 1 to the subtraction.

(2) Random Series of Alphabet

This series is not in the proper sequence and letters take their position in the series in jumbled manner. Further, there is also a possibility that all the 26 letters of English alphabet are not available in the series. Even same letters may be repeated in the series.

EXAMPLE 9. How many letters in the following series are immediately preceded by B but not immediately followed by D? R S P Q B A H M A C F B A D N O P B A C D. Sol.

 \therefore Only the two times A fulfill the given condition and those A have been marked with the correct sign (\checkmark). Those not fulfilling the condition have been marked with the cross sign (\times). \therefore Required answer is 2.

(3) Words in Alphabetical Order

In such type of questions, words are given and you have to find out which word will appear in the dictionary 1^{st} . 1^{st} or 2^{nd} or 3^{rd} or 4^{th} etc.

EXAMPLE 10. Which of the following words will come 2nd in the dictionary?

(a)	Name	(b) Shame	(c)	Fame
(d)	Came	(e) None of thes	se.	

Sol. 'Came' comes 1st in the dictionary.

'Fame' comes 2nd in the dictionary

'Name' comes 3rd in the dictionary

- 'Shame' comes 4th in the dictionary
- \therefore (c) is the required answer.

- **EXAMPLE** 11. Find out the word coming last in the dictionary.
 - (a) Large (b) Long (c) Lust
 - (d) Love (e) None of these
- **Sol. Step I**: In this question the 1st letter of all the words are same. Hence, from 1st letter we can not find out this arrangement in the dictionary.

Step II: We move on the 2^{nd} letter of the words and find that 2^{nd} letter of Large is 'a'; 2^{nd} letter of Long is 'o'; 2^{nd} letter of Lust is 'u' 2nd letter of Love is 'o'. Now its clear that in the dictionary 'a' comes before 'o' & u. Hence the word 'Large' comes 1^{st} in the dictionary.

Step III: Now we will compare the remaining three words 'Long', Lust and 'Love'. Here, when we see the 2nd letter of these words we find 'o' comes before 'u' in the dictionary. Hence we can come to the conclusion that the words 'Long' and 'Love' will not definitely be the last word. Thus we came to our required answer that the word 'Lust' or option (c) will definitely come last in the dictionary.

... Option (c) will be our answer. But if we want to know the 2nd and 3rd word also then we can move on to the next step.

Step IV: In the words 'Long' and 'Love', 1st two letters are common. Therefore, to know the arrangement of these two words in the dictionary we move on to the third letter. Third letter in the word 'Long' is 'n' and in 'Love' the third letter is 'v'. As 'n' comes before 'v' alphabetically, the word 'Long' will come before the word 'Love' in the dictionary. Hence, it is clear that 'Long' comes 2nd and 'Love' comes 3rd in the dictionary.

Step V: Find arrangement : (1) Large (2) Long (3) Love (4) Lust.

(4) Problems of Word Formation

In such problems, a word is given and you have to find out the number of words to be formed out of some letters drawn from that particular word.

EXAMPLE 12. How many meaningful words can be formed from the 3rd, 4th, 6th and 8th letter of the word 'CONTROVERSIAL'?

Now from letters N T O and E, two words 'NOTE' and 'TONE' can be formed.

(5) Case I : Problems of Letter Gap

EXAMPLE 13. How many pairs of letters are there in the word 'DREAMLAND' which have as many letters between them as in the English alphabet?

Sol. Here, we are asked to solve problem according to English alphabet. In this case we have to count both ways. It does mean that we have to count from left to right and from right to left. Let us see the following presentation:

The above presentation makes it clear that the required pairs of letters are 4. (Pairs: DA, EA, ML and LN)

Case II:

EXAMPLE 14. How many pairs of letters are there in the word 'DREAMLAND' which have the same number of letters between them as in the English alphabet in the same sequence.

Sol. Here we are asked to solve problems according to the alphabetical sequence. It does mean that we have to do counting only from left to right. Let us, see the following presentation:

The above presentation makes it clear that the required pair of letters is only 1 (Pair: LN)

EXERCISE

Directions (Qs. 1-5): Answer these questions referring to the symbol-letter-number sequence given below:

1. If every third letter from the following English alphabet is dropped, which letter will be seventh to the right of eleventh letter from your right?

ABCDEFGHIJKLMNOPQRSTUVWXYZ

(a) V (b) U

- (c) K (d) I
- (e) None of these
- 2. If the first half of the English alphabet is reversed and so is the second half, then which letter is seventh to the right of twelfth letter from the left side?

ABCDEFGHIJKLMNOPQRSTUVWXYZ

- (a) S (b) V
- (c) U (d) T
- (e) None of these
- 3. In the alpha-numerical sequence/series given below, how many numbers are there which are (i) immediately followed by a letter at the even place in English alphabet and (ii) not immediately preceded by a letter at the odd place in the English alphabet?

W2N1V9G2P4X6K7R1T8L3H5Q8U2J

(a) 3 (b) 5

(c) 2 (d) 4

- (e) None of these
- 4. If the positions corresponding to the multiples of five in the following alphabet are replaced by symbols and that of multiples of seven by digits, how many letters will be left? A B C D E F G H I J K L M N O P Q R S T U V W X Y Z
 - (a) 15 (b) 18
 - (c) 21 (d) 17
 - (e) None of these
- 5. If second half of given sequence of alphabets is reversed then which of the following letter will be 9th letter to the right of 7th letter from your left ?

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

- (a) T (b) S
- (c) Y (d) X
- (e) W

Directions (Qs. 6-10): Study the following arrangement carefully and answer the questions given below:

J1 # P 4 E K 3 A D \$ R U M 9 N 5 I% T V * H2 ÷ F 6 G 8 Q W

6. How many such numbers are there in the above arrangement, each of which is either immediately preceded by or immediately followed by a vowel or both?

(a)	None	(b)	One
(u)	1,0116	(0)	one

- (c) Two (d) Three
- (e) More than three

- 7. Which of the following is exactly in the middle between the tenth from the left and the eighth from the right end in the above arrangement?
 - (a) M (b) N
 - (c) I (d) 5
 - (e) None of these
- 8. If the order of the last fifteen elements in the above arrangement is reversed, which of the following will be the ninth to the right of the eleventh element from the left end?
 - (a) G (b) %
 - (c) 8 (d) 3

(e) None of these

- 9. How many such consonants are there in the above arrangement, each of which is immediately preceded by a symbol but not immediately followed by either a number or a vowel?
 - (a) None (b) One
 - (c) Two (d) Three
 - (e) More than three
- 10. Four of the following five are alike in a certain way based on their position in the above arrangement and so form a group. Which is the one that **does not** belong to that group?
 - (a) A \$ E (b) % VN(c) 2 F V (d) 4K1(e) $6 Q \div$

Directions (Qs. 11-14): Study the following information and answer the questions given below:

25 boy-scouts bearing names from A to Y were standing in a row. The teacher wanted to select various teams from among them. He gave them random numbers from 3 to 8 as shown below:

A B C D E F G H I J K L M N O P Q R S T UV W X Y

- $4 \ 4 \ 6 \ 3 \ 5 \ 4 \ 3 \ 3 \ 5 \ 6 \ 7 \ 5 \ 8 \ 5 \ 8 \ 3 \ 3 \ 8 \ 4 \ 8 \ 6 \ 5 \ 4 \ \ 6 \ 6$
- 11. If he decides to pick up those exclusive pairs of adjacent boys whose numbers if totalled turn out to be exactly 12, how many such pairs would be available?
 - (a) Nil (b) Six
 - (c) Five (d) Four
 - (e) None of these
- 12. If he decides to pick up those boys who bear even numbers and have boys bearing even numbers on both sides, how many boys will be picked up?
 - (a) One (b) Two
 - (c) Three (d) Four
 - (e) None of these
- 13. If he decides to pick up. those boys who bear odd numbers but have boys bearing 7 and/or 8 on either side, how many boys will be picked up?

(d) One

(a)	Four	(b)	Three
(u)	1 001	(0)	Ime

- (c) Two
- (e) None of these

Alphabet and Number Arrangement

14.	If he decides to pick up only those boys who bear even	of the following will be seventh to the left of eight element
	numbers but have on both sides students bearing odd	from the right?
	numbers, how many boys will be picked up?	(a) 9 (b) 7
	(a) Six (b) Five	(c) D (d) C
	(c) Four (d) Three	(e) None of these
	(e) None of these	Directions (Qs. 23-27): Study the following arrangement of
Dire	ctions (Os.15-17): Study the following five numbers and	letters/symbols and answer the questions given below:
answ	er the questions given below.	D F J T \$ # P R Z Q * C M A B @ H K L S + ?
	517 325 639 841 792	23. How many such symbols are there each of which is
15	What will be last digit of the third number from top when	immediately preceded by a symbol and immediately followed
10.	they are arranged in descending order after reversing the	by a letter?
	position of the digits within each number?	(a) One (b) Two
	(a) 7 (b) 3	(c) Three (d) Four
	(c) 5 (d) 2	(e) None of these
	(c) Vone of these	24. If the order of the first half of the arrangement is reversed
16	What will be the middle digit of the second lowest number	which of the following letters/symbols will be the fifth to
10.	after the position of only the first and the second digits	the left of the fifteenth letter/symbol from the left?
	within each number are interchanged?	(a) * (b) Q
	(a) 5 (b) 2	(c) T (d) J
	(c) 7 (d) 3	(e) None of these
	(e) None of these	25. If all the symbols of the above sequence are denoted by 7
17	What will be the first digit of the second highest number	and each letter is denoted by 5, then what will be the sum of
17.	after the position of only the second and the third digits	all the elements of the sequence?
	within each number are interchanged?	(a) 142 (b) 138
	(a) 7 (b) 2	(c) 132 (d) 122
	(a) + (b) = 2 (c) 8 (d) 9	(e) None of these
	(e) None of these	26. If all the symbols from the above sequence are dropped,
Dire	ctions (Os 18-22): Study the following elements (letters	which letter will be seventh to the right of twelfth letter from
digit	s and symbols sequence) to answer the questions given	() H $()$ D
helos	w.	(a) H (b) B
00101	Δ Β 7 C D 9 7 V ★Ρ 2 M © K S 3 ↑ 5 N T @	(c) K (d) A
Note	• 'A' is to the left of 'B' and ' \emptyset ' is to right of 'T'	(e) None of these
18	If each symbol of the above sequence is replaced with a	27. Which of the following is related to 'FT' in the same way as $(DD)^2$
10.	letter and each digit is replaced with a new symbol then	DJ' is related to ?? S' ?
	how many letters will be there in the sequence?	(a) L+ (b) KS
	(a) 16 (b) 17	(c) HL (d) $+L$
	(a) 10 (b) 17	(e) None of these
	(c) τ (u) 12	Directions (Qs. 28-32): Study the following arrangement carefully
10	How many such digits are there in the sequence each of	and answer the questions given below:
1).	which is immediately preceded as well as followed by letters?	M£5TRE3\$PJ17D12NA4FH6*U9#VB@W
	(a) None (b) One	28. If the positions of the first fourteen characters of the above
	(c) Two (d) Three	arrangement are reversed, which of the following will be the
	(e) None of these	twenty-second from the right end?
20.	Which of the following letters is exactly midway between	(a) J (b) I
	the letters falling between 'C' and '5'?	(c) P (d) 3
	(a) Y (b) K	(e) None of these
	(c) P (d) M	29. How many such numbers are there in the above arrangement,
	(e) None of these	each of which is immediately preceded by a vowel and
21.	If each symbol of the above sequence is replaced with the	immediately followed by a consonant?
	digits from '1' to '9' which are not there in the sequence,	(a) None (b) One
	then what will be the sum of all digits? [Each symbol should	(c) Two (d) Three
	be replaced with a different digit].	(e) More than three
	(a) 19 (b) 45	30. What should come in place of the question mark (?) in the
	(c) 55 (d) 60	series given below based on the above arrangement?
	(e) None of these	R3£PIE?AFI
22.	If the first element from the left interchanges place with the	(a) DNJ (b) D21
	tenth element from the left, similarly, second with ninth,	(c) IN1 (d) N4D
	third with eighth, fourth and seventh, and so on, then which	(e) None of these

(e) None of these

c-7

C-8			Alphabet and Number Arrangement
31.	How many such consonants are there in the above arrangement each of which is immediately preceded by a symbol but not immediately followed by a number?	39.	Which of the following is exactly in the middle of the eleventh element from the left end and the fifteenth element from the right end?
	(a) None (b) One		(a) V (b) $\$$
	(c) Two (d) Three		$\begin{array}{c} (c) & 7 \\ (c) & 7 \\ (c) & 7 \\ (c) & F \\$
	(a) More then three		(e) None of these
22	(c) More than three Which of the following is the fifth towards right of the	40	Four of the following five are alike in a certain way based on
32.	which of the following is the fifth towards right of the	-10.	their position in the above arrangement and so form a group
	seventeenth from the right end?		Which is the one that does not belong to that group?
	(a) 5 (b) 4		(a) FCS (b) RED
	(c) / (d) A		$\begin{array}{c} (a) \text{IAB} \\ (b) \text{IAB} \\ (c) 127 \\ (d) \text{XIM} \end{array}$
	(e) None of these		(e) H#
Dire	ctions (Qs. 33-35): Study the following letters/number series	<i>4</i> 1	If it is possible to make a meaningful word with the second
caref	ully and answer the questions given below it.	71.	the fourth the sixth and the ninth letters of the word
	W37HJQT512GK4FPT6LBE94DMR82V		PERMEABILITY which of the following will be the first
33.	If the numbers from the first half of the sequence are		letter of that word? If no such word can be formed give 'N'
	dropped, which letter/number will be fifth to the right of		as the answer. If only two such words can be formed give
	sixth letter/number from the left?		'D' as the answer and if more than two such words can be
	(a) 6 (b) T		formed give 'Z' as the answer.
	(c) Q (d) J		(a) M (b) L
	(e) None of these		(c) N (d) D
34.	How many such letters are there in the sequence which are		(e) Z
	immediately followed by a number and immediately	42.	Find the two letters in the word EXTRA which have as
	preceded by a letter ?		many letters between them in the word as in the alphabet. If
	(a) Four (b) Two		these two letters are arranged in alphabetical order which
	(c) Three (d) Five		letter will come second?
	(e) None of these		(a) E (b) X
35.	Four of the following five are alike in a certain way on the		(c) T (d) R
	basis of their position in the sequence and so form a group.		(e) A
	Which is the one that does not belong to the group?	43.	If it is possible to make a meaningful word with the third,
	(a) WVH (b) JMI		the fifth, the sixth and the eleventh letters of the word
	(c) HRT (d) 780		MERCHANDISE, using each letter only once, which of the
	(e) 59G		following will be the third letter of that word? If no such
Dire	ctions (Qs. 36-38): Study the following arrangement of digits,		word can be formed, give 'X' as answer and if more than
letter	s and symbols and answer the questions given below:		one such word can be formed, mark 'T' as answer.
	MK3\$RE5F%TUJ*8PHBN2IS#A37D4		$ \begin{array}{c} (a) H \\ (b) E \\ (c) P \\ (d) Y \\ \end{array} $
36.	How many such consonants are there each of which is		$ \begin{array}{c} (c) \mathbf{K} \\ (a) \mathbf{X} \end{array} $
	either immediately preceded by a number and/or immediately	11	(c) 1 If it is negatible to make a meanin of all word with the first the
	followed by a symbol?	44.	fifth the ninth and the alexanth latters of the word
	(a) None (b) One		DENULTIMATE using such latter only once which of the
	(c) Two (d) Three		PENULTIMATE, using each letter only once, which of the
	(e) None of these		word can be made give 'M' as the answer and if more than
37.	Four of the following five are alike in a certain way based on		word can be finded give W as the answer and in more than one such word can be formed give D^2 as the answer
	the above arrangement and form a group.		(a) F (b) P
	Which is the one that does not belong to that group?		$\begin{array}{c} (a) L \\ (b) I \\ (c) L \\ (d) D \end{array}$
	(a) 3RF (b) %U8		(e) N
	(c) 8H2 (d) I # 7	45	How many such pairs of letters are there in the word
	(e) H8U		CREDIBILITY each of which has only one letter between
38.	If the positions of F and B are interchanged, similarly, the		them in the word as also in the alphabet?
	positions of U and A are interchanged, how many such		(a) None (b) One
	vowels will be there each of which will be both immediately		(c) Two (d) Three
	preceded and immediately followed by a consonant?		(e) More than three
	(a) None (b) One	46.	If the letters in the word POWERFUL are rearranged as
	(c) Two (d) Three		they appear in the English alphabet, the position of how
	(e) None of these		many letters will remain unchanged after the rearrangement?
Dire	ctions (Os. 39-40): Study the following arrangement carefully		(a) None (b) One
and	answer the questions given below:		(c) Two (d) Three
	BA5D%RI FH6#V9\$3E7G1÷2MKX8UFWZN		(e) More then three
		-	

47.	How many such pa	airs of letters are there in the word		letters		
	PRODUCTION each of which has as many letters between					
	them in the word as	in the English alphabet?		7th lett		
	(a) None	(b) One		(a) P		
	(c) Two	(d) Three		(c) E		
	(e) More than thre	e		(e) N		
48.	If it is possible to ma	ke only one meaningful word with the	55.	In the		

fourth, the fifth, the seventh and the eleventh letters of the word PREDICTABLE, which of the following will be the first letter of that word? If only two such words can be formed, give 'P' as the answer; if three or more than three such words can be formed, give 'Z' as the answer; and if no such word can be formed, give 'X' as the answer.

- (a) D (b) T
- (c) P (d) Z
- (e) X

- If it is possible to make a meaningful word from the first, the 49. fourth, the eighth, the tenth and the thirteenth letters of the word ESTABLISHMENT, using each letter only once, the last letter of that word is your answer. If more than one such word can be formed write 'P' as your answer and if no such word can be formed write 'X' as your answer.
 - (a) X (b) P
 - (c) T (d) E
 - (e) M
- 50. How many meaningful words can be formed by replacing only the consonants in the word BREAK by the next letter in the English alphabet and keeping the vowels unchanged?
 - (a) None (b) One
 - (c) Two (d) Three
 - (e) More than there
- How many such pairs of letters are there in the word 51. ORIENTAL 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
- The positions of the first and the eighth letters in the word 52. WORKINGS are interchanged. Similarly, the positions of the second and the seventh letters are interchanged, the positions of the third letter and the sixth letter are interchanged, and the positions of the remaining two letters are interchanged with each other. Which of the following will be the third letter to the left of *R* after the rearrangement? (a) G
 - (b) S (c) I (d) N
 - (e) None of these
- If only the consonants in the word MEAT are changed in 53. such a way that each of the them becomes the next letter in the English alphabet and the remaining letters are kept unchanged, then how many meaningful words can be formed with the new set of letters using each letter only once in a word?

(a)	None	(b) Two

- (c) Three (d) One
- (e) None of these
- If the first and the second letters of the word 54. UNPRECEDENTED are interchanged with the last and the secondlast letters, and similarly the third and the fourth

letters are interchanged with the third and the fourth letters he last respectively, and so on, then what will be the ter to the right of the 3rd letter from the left?

- (b) R
- (d) C
- one of these
- word 'PRESENCE', how many such pairs of letters are there as have as many letters between its units in the word as there are in the English alphabet?
 - (a) One (b) Two
 - (c) Three (d) Four
 - (e) None of these
- 56. If the letters in each of the following five words are first rearranged in the alphabetical order and then the groups of letters so formed are rearranged as in a dictionary, which word would have its group of letters in the MIDDLE among the five?
 - (a) Code (b) Lack
 - (c) Meet (d) Deaf
 - (e) Road
- 57. How many such pairs of letters are there in the word 'CORPORATE' each of which has as many letters in the same sequence between them in the word as in the English alphabet?
 - (a) None (b) One
 - (d) Three (c) Two
 - (e) More than three
- If it is possible to make only one meaningful word with the 58. second, the seventh, the tenth and the eleventh letters of the word 'TRADITIONAL', what will be the second letter of the word? If no such word can be formed, give 'X' as the answer. If only two such words can be formed give 'Y' as the answer and if more than two such words can be formed give 'Z' as the answer.
 - (a) L (b) I
 - (c) X (d) Y
 - (e) Z
- How many pairs of letters are there in the word 59. SPONTANEOUS which have number of letters between them in the word one less than the number of letters between them in English alphabet?
 - (a) Five (b) One
 - (d) Two (c) Four
 - (e) Three
- 60. If each of the vowels i.e., A, E, I, O & U alongwith the 3rd letter to its right in the alphabet are taken out and arranged one after the other in the same order followed by the remaining letters of the alphabet, which of the following will be 5th to the left of the 19th letter from the left in the new arrangement?

ABCDEFGHIJKLMNOPQRSTUVWXYZ

- (a) G (b) H
- (c) J (d) W
- (e) None of these
- 61. If it is possible to make a meaningful word from the third, sixth, eighth and eleventh letters of the word 'DISTINGUISH' using each letter only once, first letter of the word would be

	your answer. If more than one such word can be formed, your		'EXTRAORDINARY' using each letter only once, write the				
	answer would be 'M' and if no such word can be formed,		second letter of that word as your answer. If no such w				
	answer is 'X'.		can be formed write 'X' as your answer and if more than one				
	(a) N (b) S		such word can be formed, write 'M' as your answer.				
	(c) H (d) M		(a) A (b) I				
	(e) X		(c) R (d) M				
62	The letter of the word AYDFLRIGEN are in disorder. If		(c) 11 (c) X				
° - .	they are arranged in proper order the name of a vegetable is	70	The letters of the name of a vegetable are I K M N P P I				
	formed	70.	If the letters are rearranged correctly then what is the last				
	What is the last letter of the word so formed ?		letter of the word formed?				
	(a) I (b) A		(a) M (b) N				
	$ \begin{array}{c} (a) L \\ (b) A \\ (c) C \\ (d) B $						
	$ \begin{array}{c} (c) G \\ (c) D \end{array} $		(c) K (d) P				
(0)		-1	(e) None of these				
63.	If it is possible to make a meaningful word with the second,	71.	If it is possible to make a meaningful word with the second,				
	the seventh, the ninth and the eleventh letters of the word		the fifth and the eighth letters of the word 'CARETAKER',				
	ORGANISATION, which of the following will be the third		which of the following will be the first letter of that word? If				
	letter of that word? If no such word can be formed, give 'X'		no such word can be made, give X as answer. If more than				
	as the answer and if more than one such word can be made,		one such word can be made, give M as the answer.				
	given answer as 'M'.		(a) A (b) E				
	(a) S (b) R		(c) X (d) M				
	(c) T (d) X		(e) None of these				
	(e) M	72.	If it is possible to make a meaningful word with the first, the				
64.	By arranging the letters of the word IG SIM W NM the		fourth, the seventh and the eleventh letters of the word				
	name of a game is formed, what are the first and last letter of		'INTERPRETATION', which of the following will be third				
	the word so formed ?		letter of that word? If more than one such word can be made				
	(a) MS (b) SG		give M as the answer and if no such word can made give X				
	(c) NI (d) NG		as the answer				
	(e) None of these		(a) I (b) R				
65	If it is possible to make a meaningful word from the second		$ \begin{array}{c} (a) & 1 \\ (b) & \mathbf{X} \\ (c) & \mathbf{X} \\ (d) & \mathbf{M} \end{array} $				
00.	fourth tenth and twelfth letters of the word ADVERTISEMENT						
	using each letter only once, write the last letter of the word	70	(e) None of these				
	as your answer. If more than one such word can be formed	/3.	If the second, third, fifth, eighth and ninth letters of the				
	usite 'D' as your answer and if no such word can be formed,		word CONTEMPLATION are combined to form a meaningful				
	write F as your answer and it no such word can be formed,		word, what will be the middle letter of that word? If more				
	(a) D (b) V		than one such words can be formed, your answer is X and				
	$ \begin{array}{c} (a) P \\ (b) X \\ (c) N \\ (d) M \end{array} $		if no such word can be formed, your answer is Y.				
	$ \begin{array}{c} (c) & N \\ (c) & D \end{array} $		(a) X (b) O				
	$\begin{array}{c} (e) D \\ H \\ \end{array}$		(c) A (d) Y				
66.	How many pairs of letters are there in the word CRYS-		(e) None of these				
	IALLIZE, which have as many letters between them as in	74.	How many such pairs of letters are there in the word				
	the alphabet?		CORPORATE each of which has as many letters in the same				
	(a) 1 (b) 2		sequence between them in the word as in the english				
	(c) 3 (d) 4		alphabet ?				
	(e) None of these		(a) None (b) One				
67.	If letters in the word UNIVERSAL are arranged in the		(c) Two (d) Three				
	alphabetical order and each letter is assigned numerical		(e) None of these				
	value equal to its serial number from the left in this rearranged	75	Select the combination of numbers so that letters arranged				
	order, what is the difference in the total of numerical values	15	accordingly will form a meaningful word				
	of vowels and that of consonants?		R A C F T				
	(a) 19 (b) 17		1 2 3 4 5				
	(c) 21 (d) 20		1 2 3 4 3				
	(e) None of these		(a) $1, 2, 5, 4, 5$ (b) $5, 2, 1, 4, 5$				
68.	How many pairs of letters are there in the word EXCLUSIVE		(c) $5, 2, 3, 4, 1$ (d) $5, 1, 2, 3, 4$				
	which have as many letters between them as in the alphabet?		(e) None of these				
	(a) 2 (b) 3	76.	Rearrange the first four letters, in any way, of the word				
	$\begin{array}{c} (c) 4 \\ (d) Nil \end{array}$		DECISION. Find how many words can be formed by using				
	(e) None of these		all the four words.				
69	If it is possible to make a meaningful word from the fifth		(a) One (b) Two				
0).	seventh eighth ninth and thirteenth letters of the word		(c) Three (d) More than three				
	seventi, eighti, initii and uniteentii fetters of the word		(e) None of these				

Alph	abet a	and	Number	Arran	ngement
77.	Ifitis	s pos	ssible to	form a	word w

77.	If it is possible to form a word with the first, fourth, seventh		word and correct order of let	tters r	nay be indicated from the		
	and eleventh letters of the word 'SUPERFLOUS', write the		given responses.				
	first letter of that word. Otherwise, X is the answer.		TMHREO				
	(a) S (b) L		5 4 3 2 1 0				
	(c) O (d) X		(2) 0.025314	(h)	315402		
	(e) None of these		(a) 023314 (c) 405212	(U) (J)	50402		
78.	How many independent words can 'HEARTLESS' be		(c) 405512	(a)	504251		
	divided into without changing the order of the letters and	07	(e) None of these				
	using each letter only once?	85.	From the given alternative	word	is, select the word which		
	(a) Two (b) Three		cannot be formed using the	letter	s of the given word :		
	(c) Four (d) Five		TRIVANDRUM				
	(e) None of these		(a) RAIN	(b)	DRUM		
79.	How many independent words can 'STAINLESS' be divided		(c) TRAIN	(d)	DRUK		
	into without changing the order of the letters and using		(e) None of these				
	each letter only once ?	86.	How many meaningful Engl	ish w	ords can be made with the		
	(a) Nil (b) One		letters ' OEHM ' using each	letter	only once in each word?		
	(c) Two (d) Three		(a) FOUR	(b)	THREE		
	(e) None of these		(c) TWO	(d)	ONE		
80.	Select the combination of numbers so that the letters		(e) None of these	(4)			
	arranged accordingly will form a meaningful word.	87	Which one of the given rest	nonco	a would be a meaningful		
	VARSTE	07.	arder of the following 2	poinse	s would be a meaningful		
	(a) $2,3,1,6,4,5$ (b) $4,5,2,3,1,6$		1 Orange 2 Judie 2 Ded 4	D1	Course (Vallan, 7 Valat		
	(c) $6, 3, 4, 5, 2, 1$ (d) $3, 2, 4, 5, 6, 1$		1. Orange 2. Indigo 3. Red 4.	Blue	6. Green 6. Yellow 7. Violet		
01	(e) None of these		(a) 7, 2, 4, 5, 6, 1, 3	(b)	7, 2, 4, 6, 5, 1, 3		
81.	If by arranging the letters of the word NABMODIN I, the		(c) $7, 2, 6, 4, 5, 1, 3$	(d)	7, 2, 6, 4, 1, 5, 3		
	name of a game is formed, what are the first and the last		(e) None of these				
	letters of the word so formed?	88.	Arrange the following word	s as p	er order in the dictionary.		
	$ \begin{array}{cccc} (a) & B, I \\ (a) & N, D \\ (c) & N, D \\ (d) & M, T \\ (d) & M$		1. Forecast 2. Forget 3. Fore	eign 4	. Forsook 5. Force		
	(c) N,D (d) M, I		(a) 3, 5, 1, 2, 4	(b)	5, 1, 3, 2, 4		
82	(c) None of the given responses would be a meaningful		(c) $5, 1, 3, 4, 2$	(d)	5, 1, 2, 3, 4		
02.	order of the following?		(e) None of these		, , , , ,		
	1 apartment 2 town	89	From the given alternatives	selec	et the word which can be		
	3 street 4 building	07.	formed using the letters give	en in	the word		
	5 complex		I II TP A NATIONALISM		the word.		
	(a) 15432 (b) 45321			(1 -)			
	(c) $2, 1, 3, 4, 5$ (d) $1, 4, 5, 3, 2$		(a) ULI KAMON TANE	(D)	ULI KAMUDEKN		
	(e) None of these		(c) ULIRAISI	(d)	ULULATE		
83.	If the following words are arranged in reverse dictionary		(e) None of these				
	order, which word comes second ?	90.	From the given alternatives	selec	et the word which cannot		
	(a) Explosion (b) Express		be formed using the letters	of the	given word.		
	(c) Exploit (d) Expulse		LEGALIZATION				
	(e) None of these		(a) ALERT	(b)	ALEGATION		
84.	A group of alphabets are given with each being assigned a		(c) GALLANT	(d)	NATAL		

84. A group of alphabets are given with each being assigned a number. These have to be unscrambled into a meaningful (e) None of these

ANSWER KEY																	
1	(a)	11	(e)	21	(b)	31	(c)	41	(e)	51	(c)	61	(b)	71	(d)	81	(b)
2	(c)	12	(c)	22	(d)	32	(b)	42	(a)	52	(d)	62	(d)	72	(d)	82	(d)
3	(b)	13	(a)	23	(a)	33	(a)	43	(e)	53	(a)	63	(e)	73	(b)	83	(b)
4	(b)	14	(b)	24	(e)	34	(d)	44	(d)	54	(b)	64	(b)	74	(c)	84	(c)
5	(d)	15	(b)	25	(d)	35	(b)	45	(c)	55	(c)	65	(e)	75	(d)	85	(d)
6	(d)	16	(d)	26	(b)	36	(e)	46	(b)	56	(e)	66	(c)	76	(a)	86	(d)
7	(d)	17	(a)	27	(d)	37	(e)	47	(d)	57	(d)	67	(b)	77	(b)	87	(a)
8	(a)	18	(a)	28	(d)	38	(b)	48	(d)	58	(e)	68	(b)	78	(b)	88	(b)
9	(b)	19	(d)	29	(c)	39	(e)	49	(b)	59	(c)	69	(d)	79	(c)	89	(c)
10	(e)	20	(c)	30	(e)	40	(b)	50	(c)	60	(a)	70	(b)	80	(b)	90	(a)

Hints & Explanations

- 1. (a) After dropping every third letter, we get ABDEGHJKMNPQSTVWYZ (11-7) = 4th from the right.
- 2. (c)
- 3. (b) W2N<u>1</u>V9G2P<u>4</u>X6K7R<u>1</u>T<u>8</u>L<u>3</u>H5Q8U2J
- 4. (b) Positions corresponding to the multiples of five are E, J, O, T, Y and that of multiples of seven are G, N and U. Hence, the total number of remaining letters in the series = 26 - 8 = 18
- 5. (d) The changed sequence becomes ABCDEFGHIJKLMZYXWVUTSRQPON 9th letter to the right of 7th letter from your left
 - =(9+7)=16th from left
 - =(26+1-16)=11th from right

So X is the required letter.

(d) We have to look for Vowel-Number and Number-Vowel 6. sequences.

> *J*1 #*P*4*E*K3*AD*\$*RUM*9*N*51%*TV***H*2÷*F*6*G* 8QW

4, 3 and 5 are the required numbers.

7. (d) D \$ RUM 9 N 5 1 % T V * H2

> 7 elements 7 elements

(a) After the changing, the series becomes as follows; 8. J 1 # P 4 E K 3 A D \$ R U M 9 N W O 8 G 6 F ÷ 2 H *VT%15 Now, ninth to the right of the eleventh element from

the left \rightarrow (11 + 9) = 20th element from the left, i.e., G.

9. (b) We have to look for Symbol = Consonant - Consonantsequence and Symbol–Consonant–Symbol sequences. JI#P4EK3AD\$RUM9N51%TVH2 + F6G8 QW

Only T is such a consonant.

- (e) See the difference between each two successive 10. element.
 - (a) A+2=\$-5=E
 - (b) % + 2 = V 5 = N
 - (c) 2+2=F-5=V
 - (d) 4+2=K-5=1
 - (e) $6+3=Q-5 \neq 6+2=8-5=2$

Note that the difference between two successive elements in (e) is not similar to others.

- (e) KL, RS, ST, XY We have four such pairs of adjacent 11. boys. But note the phrase "exclusive pairs" Since, S is common in RS and ST, we can have only one of the two pairs. Hence, three pairs.
- 12. (c) B, S and T
- (a) L, N, P and Q. 13.

14

14.	(b)	F, J, M, O and V.
15.	(b)	Here, the given numbers are:
		517 325 639 841 792
		After reversing the numbers become as follows:
		715 523 936 148 297
		When arranged in descending order the numbers
		become as follows:
		936 715 523 297 148
		Now, the third number from top is 523. Hence, the last
		digit of 523 is 3.
16.	(d)	After interchanging the first and the second digits,
		numbers become as follows;
		157 235 369 481 972
		When arranged in descending order the numbers
		become as follows;
		972 481 369 235 157
		Here, the second lowest number is 235.
17	(a)	If the positions of only the second and the third digits
17.	(a)	within each number are interchanged the numbers
		become as follows
		571 352 693 814 729
		Now when the numbers are arranged in descending
		order we get
		814 729 693 571 352
		Here 729 is the second highest number
		Here, 729 is the second highest number Hence the first digit of 729 is 7
18	(a)	Here, 729 is the second highest number Hence, the first digit of 729 is 7. There are 21 elements in the series Among them there
18.	(a)	Here, 729 is the second highest number Hence, the first digit of 729 is 7. There are 21 elements in the series. Among them, there are only 5 digits. Since, symbols are replaced by
18.	(a)	Here, 729 is the second highest number Hence, the first digit of 729 is 7. There are 21 elements in the series. Among them, there are only 5 digits. Since, symbols are replaced by letters and digits are replaced by symbols, ultimately
18.	(a)	Here, 729 is the second highest number Hence, the first digit of 729 is 7. There are 21 elements in the series. Among them, there are only 5 digits. Since, symbols are replaced by letters and digits are replaced by symbols, ultimately there will be $(21 - 5 =)$ 16 letters in the series.
18. 19.	(a) (d)	Here, 729 is the second highest number Hence, the first digit of 729 is 7. There are 21 elements in the series. Among them, there are only 5 digits. Since, symbols are replaced by letters and digits are replaced by symbols, ultimately there will be $(21 - 5 =)$ 16 letters in the series. We have to search for Letter-Digit-Letter sequence.
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18. 19. 20.	(a) (d) (c)	Here, 729 is the second highest number Hence, the first digit of 729 is 7. There are 21 elements in the series. Among them, there are only 5 digits. Since, symbols are replaced by letters and digits are replaced by symbols, ultimately there will be $(21-5=)$ 16 letters in the series. We have to search for Letter-Digit-Letter sequence. Note the bold digits given in the series below. A B 7 C D 9 Z Y * P 2 M © K S 3 \uparrow 5 N T @ The letters falling between C and 5 are as follows:
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 18. 19. 20. 21. 	(a) (d) (c) (b)	Here, 729 is the second highest number Hence, the first digit of 729 is 7. There are 21 elements in the series. Among them, there are only 5 digits. Since, symbols are replaced by letters and digits are replaced by symbols, ultimately there will be $(21-5=)$ 16 letters in the series. We have to search for Letter-Digit-Letter sequence. Note the bold digits given in the series below. A B 7 C D 9 Z Y * P 2 M © K S 3 \uparrow 5 N T @ The letters falling between C and 5 are as follows: DZYPMKS. Hence, P is the required letter. Note that there are already five digits (7, 9, 2, 3, 5,) in
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 18. 19. 20. 21. 	(a) (d) (c) (b)	Here, 729 is the second highest number Hence, the first digit of 729 is 7. There are 21 elements in the series. Among them, there are only 5 digits. Since, symbols are replaced by letters and digits are replaced by symbols, ultimately there will be $(21 - 5 =)$ 16 letters in the series. We have to search for Letter-Digit-Letter sequence. Note the bold digits given in the series below. A B 7 C D 9 Z Y * P 2 M © K S 3 \uparrow 5 N T @ The letters falling between C and 5 are as follows: DZYPMKS. Hence, P is the required letter. Note that there are already five digits (7, 9, 2, 3, 5,) in the series. If the four symbols are replaced by the remaining digits from 1 to 9 (1, 4, 6, 8) then sum of the digits = 1 + 2 +
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 18. 19. 20. 21. 	(a) (d) (c) (b)	Here, 729 is the second highest number Here, 729 is the second highest number Hence, the first digit of 729 is 7. There are 21 elements in the series. Among them, there are only 5 digits. Since, symbols are replaced by letters and digits are replaced by symbols, ultimately there will be $(21 - 5 =)$ 16 letters in the series. We have to search for Letter-Digit-Letter sequence. Note the bold digits given in the series below. A B 7 C D 9 Z Y * P 2 M © K S 3 \uparrow 5 N T @ The letters falling between C and 5 are as follows: DZYPMKS. Hence, P is the required letter. Note that there are already five digits (7, 9, 2, 3, 5,) in the series. If the four symbols are replaced by the remaining digits from 1 to 9 (1, 4, 6, 8) then sum of the digits = $1 + 2 +$ $+ 9 = \frac{9 \times 10}{2} = 45$ [Sum of n natural numbers $= \frac{n \times (n + 1)}{2}$]
 18. 19. 20. 21. 22. 	(a) (d) (b) (d)	Here, 729 is the second highest number Here, 729 is the second highest number Hence, the first digit of 729 is 7. There are 21 elements in the series. Among them, there are only 5 digits. Since, symbols are replaced by letters and digits are replaced by symbols, ultimately there will be $(21 - 5 =)$ 16 letters in the series. We have to search for Letter-Digit-Letter sequence. Note the bold digits given in the series below. A B 7 C D 9 Z Y * P 2 M © K S 3 \uparrow 5 N T @ The letters falling between C and 5 are as follows: DZYPMKS. Hence, P is the required letter. Note that there are already five digits (7, 9, 2, 3, 5,) in the series. If the four symbols are replaced by the remaining digits from 1 to 9 (1, 4, 6, 8) then sum of the digits = $1 + 2 +$ $+ 9 = \frac{9 \times 10}{2} = 45$ [Sum of n natural numbers $= \frac{n \times (n + 1)}{2}$] Seventh to the left of eighth element from right
 18. 19. 20. 21. 22. 	(a) (d) (b) (d)	Here, 729 is the second highest number Here, 729 is the second highest number Hence, the first digit of 729 is 7. There are 21 elements in the series. Among them, there are only 5 digits. Since, symbols are replaced by letters and digits are replaced by symbols, ultimately there will be $(21 - 5 =)$ 16 letters in the series. We have to search for Letter-Digit-Letter sequence. Note the bold digits given in the series below. A B 7 C D 9 Z Y * P 2 M © K S 3 \uparrow 5 N T @ The letters falling between C and 5 are as follows: DZYPMKS. Hence, P is the required letter. Note that there are already five digits (7, 9, 2, 3, 5,) in the series. If the four symbols are replaced by the remaining digits from 1 to 9 (1, 4, 6, 8) then sum of the digits = $1 + 2 +$ $+ 9 = \frac{9 \times 10}{2} = 45$ [Sum of n natural numbers $= \frac{n \times (n + 1)}{2}$] Seventh to the left of eighth element from right = (7 + 8) = 15th element from the right.
 18. 19. 20. 21. 22. 	 (a) (d) (c) (b) (d) 	Here, 729 is the second highest number Here, 729 is the second highest number Hence, the first digit of 729 is 7. There are 21 elements in the series. Among them, there are only 5 digits. Since, symbols are replaced by letters and digits are replaced by symbols, ultimately there will be $(21 - 5 =)$ 16 letters in the series. We have to search for Letter-Digit-Letter sequence. Note the bold digits given in the series below. A B 7 C D 9 Z Y * P 2 M © K S 3 \uparrow 5 N T @ The letters falling between C and 5 are as follows: DZYPMKS. Hence, P is the required letter. Note that there are already five digits (7, 9, 2, 3, 5,) in the series. If the four symbols are replaced by the remaining digits from 1 to 9 (1, 4, 6, 8) then sum of the digits = $1 + 2 +$ $+ 9 = \frac{9 \times 10}{2} = 45$ [Sum of n natural numbers $= \frac{n \times (n + 1)}{2}$] Seventh to the left of eighth element from right = (7 + 8) = 15th element from the right. In original series 'Z' occupies the 15th place from right

(a) DFJT # PRZQ * CMAB @ HKLS +? 23. only \$ # P is the required answer.

with 'C'.

c-12

Alphabet and Number Arrangement

24.	(e)	* Q Z R P # \$ T J F D C M A B @ H K L S + ?			(a) $E+2 G-4 $ \$
		F is the required letter.			(b) $R+3 F-5 D$
25.	(d)	Number of total symbols = 6; Number of total letters $= 16$ Since all the symbols are denoted by 7 and all			(c) $1+2$ $2-4$ 7
		etters are denoted by 5 sum of the elements of the			(d) $X + 2 U - 4 N$
		sequence = $6 \times 7 + 16 \times 5 = 122$			(e) $H+2 \# -4$
26.	(b)	When all the symbols are dropped the series becomes			Note that the differ
		as follows:	<i>4</i> 1	(e)	Here specific letters a
		D F J T P R Z Q C M A B H K L S	71.	(0)	with these letters are
		Now, seventh to the right of twelfth letter from the			1. LAME 2. N
27	(1)	right = $(12 - 7)$ = 5th letter from the right, i.e., B.			Since, no. of words for
21.	(a)	compare DJ and 25. D is the first element from right			than two, our answer
		end. Similarly, 'J' and 'S' are third elements from left	42.	(a)	EXTRA
		and right end respectively. Hence, 'FT' is related		(4)	When E and A are arr
		to' + L'.			i e AE E will be seco
28.	(d)	After changing the series becomes as follows :	43	(e)	Selected letters of the s
		ID71JP\$3ERT5£M2NA4FH6 U9#VB@W	12.	(0)	using each letter only
20		Now, twenty-second element from the right end is 3.			words:
29.	(C)	Vowel number consonant sequence			1. HEAR 2. H
		Mf5TRE3\$PI17DI2NA4FH6 U9#VB@W			This is more than one
		Only 2 and 4 are such numbers.	44.	(d)	The letters are: P, L, A
30.	(e)	D2J			LEAP, PEAL.
		R +4 P +4 D +4A	45.	(c)	CREDIBIL
		3 +4 1 +4 2 +4F	16	(c) (b)	
		£ +4 E +4 J +4I	40.	(0)	FU WEKFUL
31.	(c)	M£5TRE3\$PJI7DI2NA4FH6 U9#VB@W			only Uremains uncha
		So P & V are such consonants	47	(d)	PI RUand ON
32.	(b)	Fifth element towards right of the seventeenth element	.,.	(••)	
	()	from the right end implies twelfth element from the			
		right end. Hence, the required element is 4.	48	(d)	The specified letters
33.	(a)	If the numbers from the first half of the sequence are	то.	(u)	by these letters are as
		dropped, the series becomes as follows:			(i) EDIT
		W $\Pi_{J}Q I G K F F I O L B E 94 D M K 82 V$ Hence 5th to the right of the sixth letter/number from			(iii) TIDE
		the left \Rightarrow 11th element from the left, ie 6.	49.	(b)	Here specified letters
34.	(d)	Here, we have to find out letter-letter-number			formed from these let
	()	sequence. Bold letters in the sequence given below			I. STEAM
		represent those letters:	50	(c)	J. I EAMJ Here letters are: B. B. F
25		W37HJQT512GK4FPT6LBE94DM182V	50.	(0)	are replaced by the ne
35.	(b)	Following is the common property found in others:			and L to form words.
		the given sequence then the last element of the			1. SCALE 2. L
		corresponding group occupies $(n + 3)$ th position in	51	(-)	
		the given sequence.	51.	(c)	ORIENIAL
36.	(e)	MK3\$RE5F%TUJ*8PHBN2IS#A37D4	52.	(d)	After interchanging, th
37.	(e)	Here the rule followed is: All the groups consist of three elements. Where, lat element $\pm 2 = 2\pi d$ element			becomes as follows:
		and 2nd element $+3 = 3$ rd element			SGNIKROW
38.	(b)	After re-arrangement the new arrangement will be			Thus, the third letter
	(-)	MK3\$RE5B%TAJ*8PHFN2IS#U37D4	53.	(a)	The new set of lette
30		BASD% RI FH & # V @ \$ 2 P 7 C	~ 4		meaningful word can
37.		$1 \div 2$ MKX8 UFW7N	54.	(b)	/th letter to the right o
		Hence the required element is '9'			as follows
40.	(b)	See the difference between each two successive			
	(-)	elements.			DETNEDEC

- (a) E + 2 G =-4 \$
 - -4 7
 - -4 M
 - -4

difference between two successive is not similar to others.

etters are E, M, A and L. Words formed ers are as follows

> MALE 3. MEAL ords formed by the given letters is more nswer is choice (e).

are arranged in alphabetical order then be second.

of the given word are R, H, A and E. By er only once we can make the following

HARE

an one.

P, L, A, E. Meaningful words: PALE,

$$\begin{array}{ccc} C & C & C & E & D & I & B & I & L & I & T & Y \\ \hline & & & & & & & & \\ \end{array}$$

6. (b) POWERFUL
EFLOPR
$$(\widehat{U})W$$

onlyUremains unchanged.

- etters are D, I, T and E. Words formed are as follows:
 - (ii) DIET
 - (iv) TIED
- letters are: E, A, S, M and T. Words ese letters are as follows:
 - MATES 2
- B, R, E, A and K. When the consonants the next letter then we have C, S, E. A words. These words are as follows: LACES

ging, the order of the letters in the word lows:

letter to the left of R is N.

- of letters are: N, E, A, U. Hence no rd can be made.
- right of 3rd letter from the left \Rightarrow 10th left. After changing the word becomes

ECERPNU

- 55. (c) **PRESENCE**
- 56. (e) When the letters in each of the words are arranged in alphabetical order it becomes as follows: cdeo, ackl. eemt, adef and ador. Now when the words are rearranged as in a dictionary then their respective position becomes as follows: ackl, adef, ador, cdeo and eemt.

57. (d)
$$C O R P O R A T E$$

Note that we have to find the pairs keeping the sequence of the letters of pair according to their sequence in English alphabet. Therefore go for search only from left to right.

58. (e) Here specified letters are: R, I, A and L. Words formed with these letters are:

In each shown pairs there is one letter less than the number of letters between them in English alphabet.

60. (a) Arranging English alphabet according to the instructions given, we get A D E H I L O R U X B C F GJ K M N P Q S T V W Y Z

(19-5) = 14th from the left

- 61. (b) The 3rd, 6th, 8th and 11th letters are S, N, U and H respectively. The word that can be made is SHUN.
- 62. (d) LADYFINGER
- 63. (e) The specified letters are R, S, T and O. Meaningful word formed from these letters is SORT and ROTS.
- 64. (b) **S** W I M M I N G
- 65. (e) The respective letters are D, E, M and N. Of these letters, only MEND can be formed.

$$66. (c) \xrightarrow{C} \xrightarrow{R} \xrightarrow{Y} \xrightarrow{S} \xrightarrow{T} \xrightarrow{A} \xrightarrow{L} \xrightarrow{L} \xrightarrow{L} \xrightarrow{I} \xrightarrow{Z} \xrightarrow{E}$$

67. (b) Arranging 'UNIVERSAL' alphabetically and assigning values from leftward, we get AE ILNRSUV

```
1\,2\,3\,4\,5\,6\,7\,8\,9
```

Now, sum of position nos. of vowels (A, E, I, U) 1+2+3+8=14

and sum of position nos. of consonants (L N, R, S, V) = 4+5+6+7+9=31

Difference = 31 - 14 = 17

- 68. (b) Letter are (X, U), (L,I) and (E,C).
- 69. (d) A, R, D, I, Y. We can make DIARY, DAIRY
- 70. (b) PUMPKIN
- 71. (d) The second, fifth and eighth letters of the word CARETAKER are A, T and E respectively. The words formed are EAT, ATE and TEA.

- 72. (d) The first, fourth, seventh and eleventh letters of the word INTERPRETATION are I, E, R and T respectively. The words formed are TIER, RITE and TIRE.
- 73. (b) Only one meaningful word 'ALONE' can be made. O is the middle letter.

82.

Three pairs — (P, R), (R, T) and (P, O) have as many letters between them in the word as in the English alphabet. But since the letters must be in the same sequence in the word as in English alphabet, so that desire pairs are (P, R) and (R, T) only.

- 75. (d) Clearly, the given letters, when arranged in the order 5, 1, 2, 3, 4 from the word 'TRACE'.
- 76. (a) The first four letters are D, E, C, I and only word DICE can be formed so the answer is (a).
- 77. (b) The letters selected are S, E, L and S respectively. The word formed is LESS. The first letter is L.
- 78. (b) The words are HE, ART, LESS
- 79. (c) Only two such words can be formed. The words are STAIN and LESS.
- 80. (b). Clearly the given letters, when arranged in the order 4, 5, 2, 3, 1, 6 form the word 'S T A R V E'.
- 81. (b) The name of the game is BADMINTON.



- (b) Arrangement in Reverse dictionary order-83. Expulse \rightarrow Express \rightarrow Explosion \rightarrow Exploit 1 2 3 4 0 5 3 1 2 Δ 84. (c) MOTHER (d) DRUK cannot be formed using TRIVAN DROM as it 85. does not contain letter 'K'. Home, only one meaningful word is formed. 86. (d) 87. These all are colours of the rainbow. (a) Hence, meaningful order is VIBGYOR. 88. (b) Force \rightarrow Forecast \rightarrow Foreign \rightarrow Forget \rightarrow Forsook 89. (c) By options, can not be formed as there is no 'E' in the given word. (a) can not be formed as there is no 'D' in the given word. (b) (d) can not be formed as there is no 'E' and only 'U' in the given word. 90. ALERT can not be formed as there is no 'R' in the word
 - (a) ALERT can not be formed as there is no 'R' in the word LEGALIZATION. Hence, (a) is the correct option.

c-14