FLORENTIN SMARANDACHE Methods for Solving Letter Series

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## METHODS FOR SOLVING LETTER SERIES

Letter series problems occur in many American tests for measuring quantitative ability of supervisory personnel.

They are more difficult than number-series used for measuring mathematical ability because are unusual and complex.

According to the English alphabetic order:

## A B C DEF G HIJ KLMNOPQRSTUVWXYZ

as well as to the a given sequence of letters, the equation consists of finding letters of the sequence which obey same rules.

For example, let $b d f h j \ldots$ be a given sequence; find the next two letters in this series.

Of course they are $l n$ because the letters are taken two by two from the alphabet: $b \not \subset d \not \subset f \not g h \not \subset j \nless \underline{l} \underline{m} \underline{n}$.

In order to solve easier letter-series we transform them into number-series, and in this case it's simpler to use some well-known mathematical procedures.

## Method I.

Associate to each letter from the alphabet a number in this way:
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

 numbers will be 19,18 , i.e. $s r$

## Method II.

Let $\mathcal{O}(\mathcal{L})$ be the order of the letter $\mathcal{L}$ in the above succession. For example $\mathcal{O}(\mathrm{F})=6, \mathcal{O}(\mathrm{~S})=19$, etc.

According to the given sequence associate the number zero (0) to its first letter, for the second one the difference between second letter's order and first letter's order,

Sample: bf ecgkjh... becomes $\underline{0}, 4,-1,-2 ; 4,-1,-2 ; \ldots$, whence the next numbers will be $4 ; 4,-1,-2$; equivalent to $l p$ o $m$.

See the rule:


## REFERENCE

Passbooks for career opportunities, Computer Aptitude Test (CAT), New York, 1983, National Learning Corporation.

