



DEPARTMENT OF EMPLOYMENT AND TRAINING

TNPSC GROUP II A MAINS - UNIT II

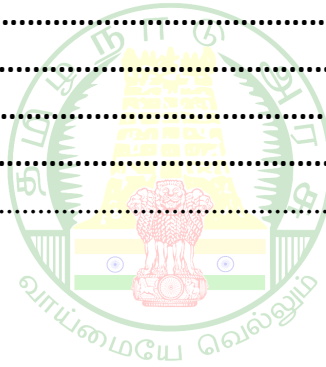
Course : TNPSC Group II A Mains Material

Subject : General Intelligence and Reasoning

Topic : Alpha Numeric Series

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Director,
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Alpha Numeric Series

Alpha Numeric Series:

An alphanumeric series consists of a sequence where both letters and numbers appear alternately or in a specific pattern. To solve such series, candidates need to identify the relationship or pattern between the elements.

Order of the English Alphabet

Forward order position	Letters	Backward order position	Forward order position	Letters	Backward order position
1	A	26	14	N	13
2	B	25	15	O	12
3	C	24	16	P	11
4	D	23	17	Q	10
5	E	22	18	R	9
6	F	21	19	S	8
7	G	20	20	T	7
8	H	19	21	U	6
9	I	18	22	V	5
10	J	17	23	W	4
11	K	16	24	X	3
12	L	15	25	Y	2
13	M	14	26	Z	1

~*~*~*~

Types:

1. Alternating Series of Letters and Numbers:

- In this type, letters and numbers alternate in a set pattern.
- **Example:** A1, B2, C3, D4, E5, ?
 - **Letters:** A, B, C, D, E (alphabetical order)
 - **Numbers:** 1, 2, 3, 4, 5 (increasing by 1)
 - Next term: F6

2. Series with Alphabetical Progression:

- In this type, the letters follow a particular alphabetical progression (e.g., increasing or decreasing).
- **Example:** A, C, E, G, ?
 - Letters follow a sequence with a gap of 2 letters each time ($A + 2 \rightarrow C$, $C + 2 \rightarrow E$, $E + 2 \rightarrow G$).

- Next term: I

3. Series with Numerical Progression:

- In this type, the numbers follow an arithmetic progression (addition or subtraction) or geometric progression (multiplication or division).
- **Example:** 2, 4, 8, 16, ?
 - The numbers follow a pattern of doubling each time ($2 \times 2 = 4$, $4 \times 2 = 8$, etc.).
 - Next term: 32

4. Series with Both Letters and Numbers Following Separate Progressions:

- In this type, the letters and numbers follow their own separate sequences.
- **Example:** A1, B3, C5, D7, ?
 - **Letters:** A, B, C, D (alphabetical order)
 - **Numbers:** 1, 3, 5, 7 (increasing by 2)
 - Next term: E9

5. Series with a Combination of Odd and Even Elements:

- The letters and numbers can alternate between odd and even values, or follow another specific rule.
- **Example:** A2, C4, E6, G8, ?
 - **Letters:** A, C, E, G (skipping one letter between each term)
 - **Numbers:** 2, 4, 6, 8 (even numbers in increasing order)
 - Next term: I10

6. Series with Reverse Alphabetical Order:

- The letters can also follow a reverse order, from Z to A.
- **Example:** Z1, Y2, X3, W4, ?
 - **Letters:** Z, Y, X, W (reverse alphabetical order)
 - **Numbers:** 1, 2, 3, 4 (increasing by 1)
 - Next term: V5

7. Series with Mixed Arithmetic and Geometric Progression

- The series can include a mix of both arithmetic and geometric progressions for letters and numbers.
- **Example:** A1, B4, C9, D16, ?
 - **Letters:** A, B, C, D (alphabetical order)
 - **Numbers:** 1, 4, 9, 16 (squares of 1, 2, 3, 4)
 - Next term: E25

8. Series with Special Character Inclusions:

- In some series, special characters may be added between the letters and numbers.
- **Example:** A@1, B#2, C\$3, D%4, ?
 - **Letters:** A, B, C, D (alphabetical order)
 - **Symbols:** @, #, \$, % (common symbols in increasing order)
 - **Numbers:** 1, 2, 3, 4 (increasing by 1)
 - Next term: E^5

9. Skipping Letters or Numbers in a Sequence:

- The series may involve skipping letters or numbers based on a certain pattern.
- **Example:** A2, C4, E6, G8, ?
 - **Letters:** A, C, E, G (skipping 1 letter between terms)
 - **Numbers:** 2, 4, 6, 8 (increasing by 2)
 - Next term: I10

Variety of Questions:**For Questions (1-5):**

Study the following letter-number-symbol sequence and answer the questions following it.

C % R 1 5 A * M T E 3 B \$ V N 4 K O 8 W I 6 2 G # U H 7 . J Q 9 L Y

1. Which of the following is the seventh to the right of the twentieth from the right in the above arrangement?

- N
- 6
- E
- 7

Answer: b. 6

Explanation:

N is the 20th letter from the right end. And 6 is 7th to the right of N.

2. What should come in place of the question mark in the following series based on the above arrangement.

C%1, A*3, B\$4, ?

- G#7
- 7.J
- G#9
- H.9

Answer: a. G#7

Explanation:

Every special character is preceded with a letter and followed with upcoming numerical value.

3. If we removed all special characters, which would be the 11th from the left end?

- a. 6
- b. V
- c. 3
- d. G

Answer: b. V

Explanation:

C % R 1 5 A * M T E 3 B \$ V

If we removed all special character,

C R 1 5 A M T E 3 B V

V is 11th from the left end.

4. How many vowels are present in the above arrangements?

- a. 4
- b. 2
- c. 5
- d. 7

Answer: c. 5

Explanation:

The above series contains 5 vowels(A,E,I,O,U)

5. Which of the following is 7th to the left of 7?

- a. G
- b. I
- c. 1
- d. Y

Answer: b. I

Explanation:

W I 6 2 G # U H 7. I is 7th to the left of 7.

For Questions(6-10):

Answer the following questions based on the arrangement given below:

5 + D Y I B # 8 9 C Q " I 9 7 N ? W E 2 & H Q X % 3 S

6. Based on the above series, How many numbers are immediately followed by Alphabets?

- a. 4
- b. 2



c. 3

d. 5

Answer: c.3

Explanation:

9C,7N,3S.

9, 7,3 is immediately followed by alphabets.

7. How many special characters are placed before alphabets?

a. 4

b. 5

c. 6

d. 3

Answer: a. 4

Explanation:

+D, "I, ?W, &H

+, ", ?, & are placed before alphabets.

8. How many prime numbers are placed in the above series?

a. 5

b. 7

c. 3

d. 4

Answer: d. 4

Explanation:

5,8,2 & 3 are the prime numbers of the above series.

9. If all the letters are arranged according to the alphabetical series from left to right then which letter is fifth from the right.

a. E

b. H

c. S

d. W

Answer: c. S

Explanation:

5 + D Y Z B # 8 9 C P " I 9 7 N ? W E 2 & H Q X % 3 S

Alphabet Series: B,C,D,E,H,I,N,P,Q,S,W,X,Y,Z

After arranging the letters S is fifth from the right end.

10. If all numericals are removed, Then which is sixth from the right end.

a. #



- b. C
- c. &
- d. H

Answer: c. &

Explanation:

+ D Y Z B # C P " I N ? W E & H Q X % S

11. Find the next one: C24D, F21G, I18J, ?.

- a. L15M
- b. K16L
- c. M13N
- d. L12N

Answer: a. L15M

Explanation:

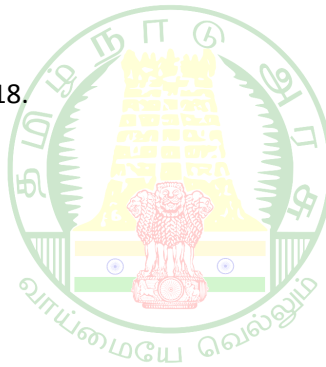
C24D - E is skipped and 3 is subtract from 24.

F21G.

This is followed by all other pairs.

I18J - K is skipped and 3 is subtract from 18.

so, the next pair is L15M.



12. Choose the next one.

HS,FU,DW,

- a. AZ
- b. NM
- c. KP
- d. BY

Answer: d. BY

Explanation:

H and S are opposite letters

From H to backward movement and one letter skipped.

HS - FU.

similarly, DW - BY

13. Find the similar one.

D16, L144, T400.

- a. H49
- b. V474
- c. O225
- d. J81

Answer: c. O 225

Explanation:

D and square of its place value

D's place value is 4.

$D \times 4 = D16$

Same as others.

O's place value is 15.

So, $O \times 15 = O225$.

14. Find the different one.

- a. DE 20
- b. JK 110
- c. ZA 26
- d. OP 225

Answer: d. OP 225

Explanation:

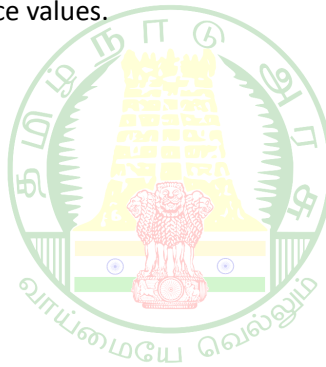
Consequent letters and multiple their place values.

DE20: $DE - 4 \times 5 = 20$

JK110: $JK - 10 \times 11 = 110$

ZA26: $ZA - 26 \times 1 = 26$

OP225: $OP - 15 \times 16 = 240$



15. What will be the next one: G, I, L, P, U, ?

- a. Z
- b. A
- c. B
- d. Y

Answer: b. A

Explanation:

$G + 2 = I$

$I + 3 = L$

$L + 4 = P$

$P + 5 = U$

$U + 6 = A$

16. Find the answer:

Z25X, 23V21, T19R, ?

- a. Q16P
- b. 15N14
- c. 17P15

d. O14M

Answer: c. 17P15

Explanation:

Z25X - Here 25 is a place value of Y.

23V21 - Here 23 and 21 is the place value of W and U respectively.

17P15 - Here 17 and 15 is the place value of Q and O respectively.

17. Find the answer: AC4, EG12, IK20, ?

a. NP29

b. KM26

c. OQ31

d. MO28

Answer: d. MO28

Explanation:

$$A+C = 1+3 = 4$$

$$E+G = 5+7 = 12$$

$$I+K = 9+11 = 20$$

$$M+O = 13+15 = 28$$

Every letter skipped 1 letter.

18. Find the answer: A1, BB2, CCC3, ?

a. DD4

b. DDDD4

c. DDD4

d. D4

Answer: b. DDDD4

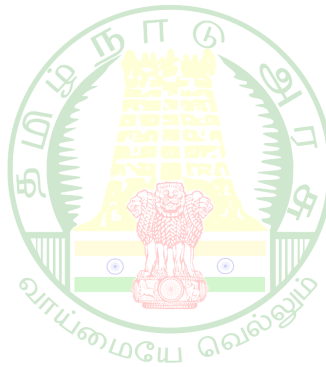
Explanation:

A1 = One time of A

BB2 = B is placed 2 times

CCC3 = C is placed 3 times

DDDD4 = D is placed 4 times.



Practice Problems:

For Questions(1-5):

Answer the following questions based on the arrangement given below.

/W 4 U ! 9 I Q 3 \$ 7 E O 8 = 3 N S P € A 2 + # K R

1. How many numbers are placed between 2 alphabets?

- a. 5
- b. 6
- c. 3
- d. 1

2. Which is placed in 3rd to the left of the 7th from the right end?

- a. P
- b. N
- c. +
- d. €

3. If all Numbers are removed, then which one is placed 12th from left end?

- a. N
- b. =
- c. S
- d. €

4. How many vowels are present in the above series?

- a. 3
- b. 4
- c. 2
- d. 5

5. If all numbers are arranged in descending order, which is the last number in that series?

- a. 5
- b. 4
- c. 2
- d. 3



Answers:

Q.No	1	2	3	4	5
Answers	d	b	c	d	c

