

LETTER SERIES

ALPHABETICAL AND MISCELLANEOUS SERIES

This chapter is based on series of numbers, letters or combination of letters, numbers and symbols.

Type of series-

- (1) Letter series
- (2) Number series
- (3) Miscellaneous series.

Position of letters:

First of all, we should know the position of all letters from A to Z.

1	2	3	4	5	6	7	8	9	10	11	12	13
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
14	15	16	17	18	19	20	21	22	23	24	25	26

With the help of some words we can get the position of total 26 letters.

E	J	O	T	Y
5	10	15	20	25

C	F	I	L	O	R	U	X
3	6	9	12	15	18	21	24

Opposite of letters:

AaZad

BoY

CoreX

DeW

EVening

FUel

GeT

High School

Indian Railway

Jack Queen

KeeP

LOve

MaN

Dear students following examples will help you to recognize these questions and understand the methods for solving them.

TYPE- 1

EX.1. Arrange the following words in alphabetical order and choose the word that comes exactly in the middle.

- (a) Arrangement (b) Arrest (c) Arrears (d) Arrival (e) Arrogant

SOLUTION

If we arrange all the five words in the form which are occupy in dictionary, we get their order of positions as-

- (1) Arrangement
- (2) Arrears
- (3) Arrest
- (4) Arrival
- (5) Arrogant

We find that the word **Arrest** comes in the middle. Hence, our answer is (2).

TYPE-2

EX.1. If it is possible to form a word with the first, fourth, seventh and eleventh letters of the word “SUPERFLUOUS”, write the first letter of that word. Otherwise, Z is your answer.

- (1) S (2) L (3) O (4) E (5) Z

SOLUTION

LESS is the word which is formed by using first, fourth, seventh and eleventh letters of the word SUPERFLUOUS.

First letter of this word is **L**. Hence our answer is (2).

EX.2. How many meaningful English words can be formed with the letters L, G, E, U using each letter only once in each word?

- (1) None (2) One (3) Two (4) Three (5) More than three

SOLUTION

UGLY

Hence option (2) is correct.

TYPE-3

EX.1. How many pairs of letters are there in the word “SEQUENTIAL” which have as many letters between them (from both sides) as they have in the English alphabets?

- (1) One (2) Two (3) Three (4) Four (5) More than four

SOLUTION

From the word that S (**E**) Q, Q (**UE**) N, S (**EQUE**) N, E (**NTI**) A

are the pairs which have as many letters between them as in the alphabetical order. Hence our answer is (4).

TYPE-4

EX.1. Four of the following five are alike in a certain way and hence form a group. Which is the one that does not belong to the group?

- (1) Scientist
- (2) Engineer
- (3) Teacher
- (4) Architect
- (5) Doctor

SOLUTION

All the rest are exclusive professions while a teacher may be there in any of these categories. Hence option (3) is answer.

TYPE- 5

EX.1. If 'Rain' denotes '-', 'Queen' denotes 'X' and 'Apple' denotes '+', then $42 \text{ Rain } 7 \text{ Rain } 8 \text{ Apple } 6 \text{ Queen } 4 = ?$

- (1) -62
- (2) - 68
- (3) 51
- (4) 68
- (5) None of these

SOLUTION

Using BODMAS rule

B----- Brackets

O----- Of

D----- Divide

M----- Multiply

A----- Addition

S-----Subtraction

$42 \text{ Rain } 7 \text{ Rain } 8 \text{ Apple } 6 \text{ Queen } 4$

$$= 42 - 7 - 8 + 6 \times 4$$

$$= 42 - 7 - 8 + 24$$

$$= 66 - 15 = 51$$

Hence option (3) is correct.

TYPE- 6

EX.1. The positions of how many digits in the number 59164823 will remain unchanged after the digits are rearranged in descending order within the number?

- (1) None
- (2) One
- (3) Two
- (4) Three
- (5) More than three

SOLUTION

Number- 59164823

On arranging in descending order, we get – 98654321

Here, the place of 4 and 2 are unchanged in the number 98654321.
Hence option (3) is true.

LETTER SERIES: In this series only letters are available which follow a certain pattern throughout. Candidate has to recognize this pattern and to give the required answer.

TYPE 7

One Letter Series Such series consists of one letter in each term and this series is based on increasing or decreasing positions of corresponding letters according to English alphabet.

Example 1: B, C, A, D, Z, E, ... F, X, G

- (a) U (b) Y (c) W (d) V

Solution. (b) The sequence consists of two series B, A, Z, Y, X and C, D, E, F, G. The missing letter is Y.

Example 2: P, U, Z, ... J, O, T

- (a) E (b) U (c) S (d) P

Solution. (a) The sequence is $P + 5, U + 5, Z + 5$. The missing letter is $Z + 5 = E$

Example 3: B, D, G, I, ... N, Q, S

- (a) I (b) J (c) L (d) K

Solution. (c) The sequence is $B + 2, D + 3, G + 2, I + 3$ and so on.

TYPE 8

Two Letter Series The first letters of the series follow one logic and the second letters follow another logic.

Example 4: EZ, DX, CV, ..., AR, ZP

- (a) CS (b) AM (c) BT (d) TG

Solution. (c) First and second letters follow a sequence of -1 and -2 respectively.

Example 5: DG, HK, LO, PS, TW, ...

- (a) XA (b) ZA (c) XB (d) None of these

Solution. (a) First and second letters follow a sequence of + 4.

Example 6: DX, EY, FV, ... ; HT, IU

- (a) HV (b) IX (c) GW (d) BZ

Solution. (c) First, -third and fifth terms follow a sequence and second, fourth and sixth terms follow another sequence. (DX, FV, HT, etc) and (EY, GW, IU, etc).

TYPE 9

Three Letter Series: :Such series consist of three letters in each term. The first letters follow one logic, the second letters follow another logic and the third letters follow some other logic.

Example 7: DIE, XCY, RWS, ...

- (a) LQN (b) QMP (c) LMS (d) LQM

Solution. (d) First, second and third letters of each group follow a sequence of -6 series.

Example 8: VPG, UQF, ..., SSD, RTC

(a) SQD (b) TRE (c) TRS (d) QDT

Solution. (b) First, second and third letters follow a sequence of $-1, +1, -1$ series respectively.

Example 9: DJS, HNW, LRA, PVE, ..., XDM

(a) TZI (b) SAF (c) UXH (d) None of these

Solution. (a) First, second and third letters follow a sequence of $+4$ series.

TYPE- 10

EX.1. What should come next in the following letter series based on English alphabet?

CEA IKG OQM (?)

(1) STW (2) WUS (3) SWU (4) UWS (5) None of these

SOLUTION

C (+6 = 9) I

E (+6 = 11) K

A (+6 = 7) G

O (+6 = 21) **U**

Q (+6 = 23) **W**

M (+6 = 19) **S**

Hence option (4) is correct.

EX.2. What should come next in the following letter series?

PQRSTABCDEPQRSABCDPQRABCPQA

(1) R (2) T (3) A (4) B (5) None of these

SOLUTION

PQRST / ABCDE / PQRS / ABCD / PQR / ABC / PQ / **AB**

Hence option (4) is correct.

Type 11 CONTINUOUS SERIES

A series of letters is given with one or more missing letters. From the choices, the choice that gives the letters that go into the blanks has to be selected as answer.

Example 10: In the following series some letters are missing. From the choices, select the choice that gives that letters that can fill the blanks in the given sequence.

a _ c _ b _ ab _ a _ ca _ c

(a) abaccb (b) accbab (c) aabbcc (d) baccbb

Solution. (d) First of all, notice that there are 6 blanks in the given sequence and each choice gives six letters to fill the six blank in order. Now, we have to select an alternative which if placed in the blanks of the series in order, we get a complete series of letters which follow some particular pattern.

The best way is to try with each option. Inserting the letters of option (d) in place of the blanks, we get a series like “abc abc abc abc abc” which is a repetition of the group of letters “abc”.

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

EX.1. How many such vowels are there in the above arrangement each of which is immediately preceded as well as followed by a consonant?

- (1) One (2) Two (3) Three (4) Four (5) None of these

SOLUTION

Consonant	Vowel	Consonant
D	E	F
H	I	J
N	O	P
T	U	V

Hence option (4) is correct.

TYPE-12

NUMBER SERIES: In this series questions are based on numbers.

1 2 6 5 3 2 1 8 9 6 5 3 2 1 2 3 1

EX.1. How many 1's are there in the above arrangement each of which is followed by 2?

- (1) One (2) Two (3) Three (4) Four (5) None of these

SOLUTION

1 2 6 5 3 2 1 8 9 6 5 3 2 1 2 3 1

Hence option (2) is correct.

TYPE 13 CONDITIONAL SERIES

Here, students are asked to count how many times a particular letter or group of letters satisfying some conditions occurs and mark that number as the answer choice.

Example 1: In the following sequence of letters, in how many instances the letters n is immediately preceded by the letter t ?

s n r u a t n n g h j t k n s t n d g c l n t t t n n n t n t n t s m v b t n g c x d p t n k l s t n t

- a) 5
b) 6
c) 7
d) 8

Solution. (d) On counting, we find that the letter n occurs 8 times, where n is immediately preceded by the letter t.

TYPE-14

MISCELLANEOUS SERIES:

In this segment, given questions are related to the position of letters, numbers and symbols.

Memorable Points:

Dear Students, you can easily solve the problems based on this chapter with the help of these short tricks –

(i) Starting point of the series is left end and ending point of the series is right end.

(ii) To solve the question easily you should break the series in combination of five-five elements.

(iii) Let's understand the series problems by -

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

Left element – Left element = Left element

13th element from left – 8th element from left
= 5th element from left is E.

Right element – Right element = Right element

13th element from right – 8th element from right
= 5th element from right is V.

These two answers E and V are also opposite letters.

Left element + Right element = Left element

13th element from left + 8th element from right
= 21th element from left is U.

Right element + Left element = Right element

13th element from right + 8th element from left
= 21th element from right is F.

(iv) All these types of questions are based on condition of left end or right end.

EX.1.

F @ 5 3 R \$ J P E 1 H % I 8 4 B A W 2 U G 6 * 9 d Z N M © V

Q.1. Which of the following element is 18th from the left end ?

- (1) % (2) I (3) Q (4) 1 (5) None of these

SOLUTION

Short trick:

F @ 5 3 R / \$ J P E 1 / H % I 8 4 / B 8 A W 2 / U G 6 * 9 / d Z N M © / V

13th from the left end is I.

Hence option (2) is correct.

Q.2. Which of the following is the 10th to the left of the 18th from the left end of the above arrangement?

- (1) J (2) E (3) A (4) P (5) None of these

SOLUTION

Short trick:

F @ 5 3 R / \$ J P E 1 / H % I 8 4 / B 8 A W 2 / U G 6 * 9 / d Z N M © / V

18th from the left – 10th from the left = 8th from the left.

Eighth element from the left end is P.

Hence option (4) is correct.

Q.3. Four of the following five are alike in a certain way based on their position in the above arrangement hence form a group. Which is the one does not belong to that group?

(1) \$ E P (2) H 8 I (3) 8 8 B (4) J 1 % (5) 6 d 9

SOLUTION

F @ 5 3 R \$ J P E 1 H % I 8 4 B 8 A W 2 U G 6 * 9 d Z N M © V

In option (1) – Two elements are between \$ and E.

No element is between E and P.

In option (2) – Two elements are between H and 8.

No element is between 8 and I.

In option (3) – Two elements are between 6 and d.

No element is between d and B.

In option (4) – Two elements are between J and 1.

One element is between 8 and %.

In option (5) – Two elements are between J and 1.

One element is between 8 and 9.

Hence option (4) is correct.

EXERCISE

1. A, C, F, J, O, ?

A. Q

B. U

C. V

D. T

2. B, L, E, O, H, R, ?

A. U

B. J

C. K

D. M

3. A, T, C, R, F, O, J, ?

A. K

B. J

C. L

D. M

4. AC, EG, BD, FH, IK, ?

A. IJ

B. LM

C. PS

D. JL

5. CAB, FDE, IGH, ?

A. ILK

B. JKW

C. LJK

D. LKJ

6. A D E H I L M P Q T U

A. YZ

B. UV

C. VW

D. XY

7. CFI, DHL, EJO, ?

A. FIR

B. FLT

C. FLR

D. FLS

8. AZBY, ?, EVFU, GTHS

A. CXDW

B. CYDR

C. EXDZ

D. BYCZ

9. AM, BN, EI, FJ, CO, DP, GK, ?

A. QR

B. BQ

C. HL

D. OT

10. ZXV, FDB, LJH, RPN, ?

A. YWV

B. TRP

C. LXU

D. WXU

11. QPO, NML, KJI, _____, EDC

- | | | | |
|--------|--------|--------|--------|
| A. HGF | B. CAB | C. JKL | D. GHI |
|--------|--------|--------|--------|
12. JAK, KBL, LCM, MDN, _____
- | | | | |
|--------|--------|--------|--------|
| A. OEP | B. NEO | C. MEN | D. PFQ |
|--------|--------|--------|--------|
13. ELFA, GLHA, ILJA, _____, MLNA
- | | | | |
|---------|---------|---------|---------|
| A. OLPA | B. KLMA | C. LLMA | D. KLLA |
|---------|---------|---------|---------|
14. B2CD, _____ BCD4, B5CD, BC6D
- | | | | |
|----------|---------|----------|---------|
| A. B2C2D | B. BC3D | C. B2C3D | D. BCD7 |
|----------|---------|----------|---------|
15. QLR, JPD, RNU, GNC, SPX, DLB, _____
- | | | | | |
|--------|--------|--------|--------|--------|
| A. ARE | B. AJA | C. BTU | D. KJE | E. TRA |
|--------|--------|--------|--------|--------|
16. PKC, SPF, XSK, AXN, _____, IFV
- | | | | | |
|--------|--------|--------|--------|--------|
| A. CAQ | B. FCS | C. FAS | D. CFS | E. EGR |
|--------|--------|--------|--------|--------|
17. ABDH, BDHP, CFLX, DHPF, _____
- | | | | | |
|---------|---------|---------|---------|---------|
| A. EKNT | B. TNEK | C. EJTN | D. JNTE | E. GLFR |
|---------|---------|---------|---------|---------|
18. KJAM, GGWJ, _____, YAOD, UXKA
- | | | | | |
|---------|---------|---------|---------|---------|
| A. CDUI | B. DFTC | C. DCTF | D. CDSG | E. DEVG |
|---------|---------|---------|---------|---------|
19. TCFK, RADJ, OXAF, JSVA, _____
- | | | | | |
|---------|---------|---------|---------|---------|
| A. DMPU | B. DMOT | C. CMOT | D. CLOT | E. BNKR |
|---------|---------|---------|---------|---------|
20. ATNHG, DKCMB, CVPJI, GNFPE, EXRLK, JQISH, GZTNM, _____
- | | | | | |
|----------|----------|----------|----------|----------|
| A. MTLVK | B. HSKUJ | C. RIJTU | D. PQMTH | E. QHMRT |
|----------|----------|----------|----------|----------|
21. ACEGI, BDFHJ, KMOQS, _____, UWYAC, VXZBD
- | | | | | |
|----------|----------|----------|----------|----------|
| A. TUVWX | B. LPRTV | C. LNPRT | D. PQRTV | E. LMPSV |
|----------|----------|----------|----------|----------|
22. FJUL: BOQQ:: LHRX:?
- | | | | |
|---------|---------|---------|---------|
| A. BKPR | B. MNCC | C. HRYY | D. HMNC |
|---------|---------|---------|---------|
23. EJOT: VQLG : BGLQ: ?
- | | | | |
|---------|---------|---------|---------|
| A. AEIM | B. AFKP | C. YTOJ | D. ZUPK |
|---------|---------|---------|---------|
24. EGIK: FILO:: FHJL:?
- | | | | |
|---------|---------|---------|---------|
| A. GJMP | B. GMJP | C. JGMP | D. JGPM |
|---------|---------|---------|---------|
25. PALE: LEAP:: POSH:?
- | | | | |
|---------|---------|---------|---------|
| A. HSOP | B. POHS | C. SHOP | D. NONE |
|---------|---------|---------|---------|
26. JLNP : OMKI:: SUWY:?
- | | | | |
|---------|---------|---------|---------|
| A. FGHI | B. MLKJ | C. PLHD | D. XVTR |
|---------|---------|---------|---------|
27. ab _ aa _ bbb _ aaa _ bbba
- | | | | |
|---------|---------|---------|---------|
| A. abba | B. baab | C. aaab | D. abab |
|---------|---------|---------|---------|
28. _ _ aba _ _ ba _ ab
- | | | | |
|----------|----------|----------|----------|
| A. abbba | B. abbab | C. baabb | D. bbaba |
|----------|----------|----------|----------|
29. ab _ _ _ b _ bbaa _
- | | | | |
|----------|----------|----------|----------|
| A. abaab | B. abbab | C. baaab | D. babba |
|----------|----------|----------|----------|
30. _ baa _ aab _ a _ a
- | | | | |
|---------|---------|---------|---------|
| A. aabb | B. aaba | C. abab | D. baab |
|---------|---------|---------|---------|
31. _ a _ b _ abaa _ bab _ abb

A.aaabb	B.ababb	C.babab	D.babba
32.c _ bbb _ _ abbbb _ abbb _			
A.aabcb	B.abccb	C.abacb	D.baebb
33._ bbca _ bcca _ ac _ a _ cb			
A.abebe	B.acbab	C.bacab	D.bcaajb
34._ aa _ ba _ bb _ ab _ aab			
A.aaabb	B.babab	C.bbaab	D.bbbaa
35. ab _ _ baa _ _ ab _			
A.aaaaa	B.aabaa	C.aabab	D.baabb
36._ nmmn _ mmnn _ mnnm _			
A. mnn	B. mnnm	C. nmmn	D.nmmn
37._ op _ mo _ n _ _ pnmop _			
A. mnpmon	B. mpnmop	C. mnompn	D.mnpomn
38. c _ bbb _ _ abbbb _ abbb _			
A. aabcb	B. abccb	C. abacb	D. bacbb
39. ac _ cab _ baca _ aba _ acac			
A. aacb	B. acbc	C. babb	D. bcbb
40. _ aaba _ bba _ bba _ abaa _ b			
A. aabab	B. ababa	C. baaba	D. bbaba
41. How many 4's are there preceded by 7 but not followed by 3?			
5 9 3 2 1 7 4 2 6 9 7 4 6 1 3 2 8 7 4 1 3 8 3 2 5 6 7 4 3 9 5 8 2 0 1 8 7 4 6 3			
A) Four	B) Three	C) Six	D) Five
42.What is the 13th letter of the English Alphabet?			
A) M & N	B) M & M	C) N & N	D) N & L
43.Sanjeev ranks seventh from the top and twenty eighth from the bottom in a class. How many students are there in the class?			
A) 33	B) 36	C) 35	D) 34
44. Read the arrangement carefully and give the answer of following questions			
K\$23DBE8HM4@5JF4%K1+WR#AA*415			
How many such symbols are there which is not immediately preceded by a letter but immediately followed by a number ?			
A) 1	B) 2	C) 3	D) 0
45. In the series given below , how many 8's are there each of which is exactly divisible by its immediate preceding as well as succeeding numbers ?			
2 8 3 8 2 4 8 2 4 8 6 8 2 8 2 4 8 3 8 2 8 6			
A) five	B) four	C) two	D) one
Directions (46-50): Study the following arrangement and answer questions given:			
(F E ~ 6 2 % S A 8 B) * 1 L O 9 @ W U			
\$ 3 ^ P 4 C V #			

46. How many such vowels are there in the above arrangement, each of which is immediately followed by a symbol and not preceded by a letter?

- A) Four B) Three C) Two D) One E) None

47. What is the sum of all numbers which are immediately preceded by a symbol?

- A) There are no such numbers B) 10 C) 12 D) 9 E) 11

48. What will come in place of questions mark (?) based on the above arrangement?

3U^ \$W3 U@\$ W9U ?

- A) 9OW B) Other than those given in options C) @9W
D) @OW E) U@W

49. Four of the following five are alike in a certain way based on their positions in the above arrangement and so form a group. Which is the one that does not belong to that group?

- A) (#V B) EC4 C) 2^P D) S\$U E) *OL

50. Which of the following is the 9th to the left of the 17th from the left end of the above arrangement?

- A) @ B) S C) 9 D) % E) O

Directions (51-55): Study the following arrangement and answer questions given:

K J 2 ^ U ! A S 3 C 7 \$ 9 L # D O 8 X I
% N P 4 E * M + W

51. How many such numbers are there in the above arrangement, each of which is immediately preceded by a consonant and immediately followed by a vowel?

- A) One B) Three C) Two D) Five E) None

52. How many such consonants are there in the above arrangement, each of which is immediately preceded by a symbol and immediately followed by a letter?

- A) Four B) Three C) Two D) Five E) None

53. Which of the following is the 8th to the right of the 19th from the right end of the above arrangement?

- A) % B) # C) 8 D) X E) None of these

54. Four of the following five are alike in a certain way based on their positions in the above arrangement and so form a group. Which is the one that does not belong to that group?

- A) \$97 B) U!^ C) XI8 D) +WM E) C7S

55. Which of the following is the 5th to the left of the 13th from the right end of the above arrangement?

- A) 7 B) 9 C) S D) \$ E) !

ANSWERS:

1.B	2.C	3.A	4.D	5.C	6.D	7.C	8.A	9. C	10.B
11.A	12.B	13.D	14.B	15.E	16.C	17.C	18.D	19.D	20.A
21.C	22.D	23.C	24.A	25.C	26.D	27.B	28.B	29.C	30.C
31.D	32.B	33.B	34.C	35.B	36.C	37.A	38.B	39.A	40.A
41.A	42.A	43.D	44.A	45.C	46.E	47.B	48.D	49.C	50.B
51.A	52.C	53.D	54.E	55.D					