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MP - PSC

State Civil Services

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Madhya Pradesh Public Service Commission

Volume - 8

General Ability and Reading Comprehension

SIERRA INNOVATIONS

MP-PSC PRE

General Ability & Reading Comprehension

ANALOGY

Similarity or similarity is the relation or similarity of any object, word, letter, number to any other object, word, letter, number with quality, form, shape, type, character, etc.

Generally, these types of questions are asked under analogy.

Type 1 - Hindi word analogy

Under this, considering the relation of Hindi words given in the questions asked, one has to find such a word from the given answer options, whose relation can be established with the given words or with the third word.

(i) Finding similar words: - Considering the relation of two words given in the questions asked under this, one has to find such word from the answer options, whose relation is established with the given third word.

Ex.1 Select the related word from the given alternatives.

River : Stream : : Ocean : ?

(a) Current   (b) Pond

(c) Dam   (d) Sea

Ans. **(a)**

Sol. Just as a stream originates from the water of a river, in the same way a current arises from the water of the ocean.

Ex.2 The way Colombo is related to Sri Lanka, in the same way Kathmandu is related to?

(a) Tibet   (b) India

(c) Bhutan   (d) Nepal

Ans. **(d)**

Sol. Just as Colombo is the capital of Sri Lanka, in the same way, Kathmandu is the capital of Nepal.

(ii) Finding the identical pair :- In the questions that come under this, two words are given, which are related to each other in some way. Exactly the same type of relation is also in any one of the options given below.

Ex.3 Select the related word pair from the given alternatives.

Preamble : Constitution : : ? : ?

(a) Word : dictionary

(b) Theme : Magazine

(c) Explanation : Poem

(d) Introduction : Book

Ans. **(d)**

Sol. Just as there is a preamble of the constitution, in the same way there is a preamble of the book.

(iii) **Choosing similar words and special classes for similar words -**

Some words are given in the questions coming under it. You have to choose a word from the given alternatives which is exactly same as the word given in the beginning and find the word which shows the particularity among the words given in the question.

Ex.4 Who is the same as - Earthquake, cyclone, volcanic eruption

(a) Global heat

(b) Flood

(c) Accidents

(d) Nuclear explosion

Ans. **(b)**

Sol. Just as earthquakes, cyclones and volcanic eruptions are natural disasters. Similarly, floods are also a natural disaster.

Ex.5 Given below three words, which have some common features, select the correct option.

Snake, lizard, crocodile

(a) Reptiles   (b) Mammals

(c) Omnivores   (d) Deer

Ans. **(a)**

Sol. Snake, Lizard and Crocodile are all three reptiles.

Ex.6 Find the alternative which has the same relation as in all the three words given below.

King, Queen, Palace

(a) Pigeon, bird, dispensary

(b) Goat, goat, fort

(c) Bumblebee, spider, water

(d) Lion, lioness, cave

Ans. **(d)**

Sol. Just as both the king and queen reside together in the palace, in the same way both the lion and the lioness reside together in the cave.

(iv) Double Symmetry:- Under this, two words are given on the left and right of the symbol (::) in the question. Each word is missing in both the words.

The missing word has to be found from the options given below.

Ex.7 In the following question, find out the missing word from the alternative given below

A : Ugly : : Peace : B

(a) A – Beautiful, B – War

(b) A – Friendship, B – Noise

(c) A – Honesty, B – Treaty

(d) A – Number, B – Strike

Ans. **(a)**

Sol. Just as, beautiful and ugly are opposite words of each other. Similarly, peace and war are also opposite words to each other.

Type - 2 English Alphabets Analogy

The questions under this are based on letters or letter groups of the English alphabet. After knowing the relationship of the first two letter-groups given in these questions, on this basis, the correct answer for the third letter-group has to be found from the options.

Vowels and Consonants of English Letters:-

Vowel Letters – A, E, I, O, U

Consonant Letter – B, C, D, F, G, H, J, K, L, M, N, P, Q, R, S, T, V, W, X, Y, Z

English alphabets their corresponding numbers :-

English Alphabet   A B C D E F G H I J K L M

Corresponding No. 1 2 3 4 5 6 7 8 9 10 11 12 13

Ex.8 CHAIR : RIAHC : : TABLE : ?

(a) BLAET   (b) ETABL

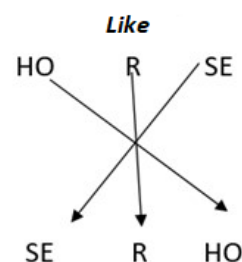(c) LETAB   (d) ELBAT

Ans. **(d)**

Sol. Like,

CHAIR $\longrightarrow$ RIAHC

Similarly,

TABLE $\longrightarrow$ ELBAT

Ex.9 HORSE : SERHO : : CURSE : ?

(a) RCUES   (b) SECRU

(c) SERCU   (d) ERCUS

Ans. **(c)**

Sol.

Similarly,
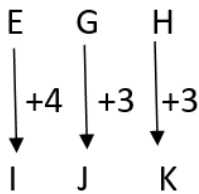

CU   R   SE
  ↘   ↓   ↙
SE   R   CU
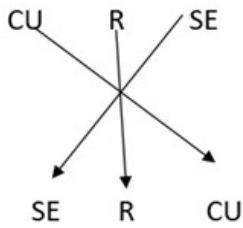
Ex.10 EGH : IJK : : NPQ : ?

(a) PRS   (b) RSU

(c) RTU   (d) RST

Ans. **(d)**

Sol.
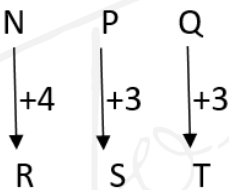
Like,

E   G   H
↓+4 ↓+3 ↓+3
I   J   K

Similarly,

N   P   Q
↓+4 ↓+3 ↓+3
R   S   T

Type - 3 English Word Analogy

The questions under this are based on English words. After finding the relation of the first two words given in these questions, we find out the correct answer for the third word from the options on the same basis.

(i) **Finding Related Words**

Ex.11 In the following question, select the option which is related to the third word in the same way as the second term is related to the first term.

Shallow : Profound : : Synonym : ?

(a) Context   (b) Antonym

(c) Meaning   (d) Content

Ans. **(b)**

Sol. Just as the opposite word of Shallow is Profound, similarly, the opposite word of Synonym is Antonym.

(ii) **To find the word pair similar to the word pair :-**

Ex.12 Which of the following pair of words shows the same relation. What kind of relationship is there between Fan : Heat ?

(a) Water : Drink

(b) Food : Hunger

(c) Light : Night

(d) Air : Breath

Ans. **(b)**

Sol. When there is heat, then the fan is turned on, in the same way food is done when there is hunger.

Type - 4 - Number Analogy

In the questions that come under this, questions are asked based on the order of numbers, the order of the squares of the numbers, the sequence of prime numbers, etc. In other words, the questions asked under it are based on mathematical operations.

Ex.13 Select the option, which is related to the third term in the same way as the second term is related to the first term.

23 69 : 27 : ?

(a) 91   (b) 73

(c) 81   (d) 89

Ans. **(c)**

Sol. Like $23 \times 3 = 69$

Similarly, $27 \times 3 = 81$

Ex.14 Select the related number from the given alternatives.

8 : 32 :: 6 : ?

(a) 31   (b) 22

(c) 18   (d) 21

Ans. **(c)**

Sol. Like $8^2 = 64$

$64 \div 2 = 32$

Similarly, $6^2 = 36$

$36 \div 2 = 18$

Ex.15 From the given alternatives, find the one which is similar to 10 : 13 : : 16.

(a) 8 : 10 : 15

(b) 13 : 16 : 19

(c) 23 : 29 : 23

(d) 10 : 16 : 23

Ans. **(b)**

Sol. Like, 10 : 13 : : 16

+3 +3

Similarly, 13 + 16 + 19

+3 +3

(Analogy or Similarity)

Type – I

Directions - Find out the related words from the alternatives given below.

1. Virus : Chickenpox : : Bacteria : ?

   (a) Chickenpox

   (b) Typhoid

   (c) Malaria

   (d) Sleeping Disease

Ans. **(b)**

Explanation:

Smallpox is spread by virus. Similarly, typhoid is caused by bacteria (Bacteria name: Salmonella Typhi).

2. Book : Shelf : : Clothes : ?

   (a) Hanger   (b) Cupboard

   (c) Wardrobe   (d) Bureau

Ans. **(c)**

Explanation –

Books are kept systematically on the shelf. Similarly, clothes are kept in the wardrobe.

3. Gramophone : Record : : Video : ?

   (a) T.V.   (b) Recording

   (c) Cassette   (d) Camera

Ans. **(c)**

Explanation –

Gramophone (record) is a thin circular plastic object on which voice, especially music, is recorded.

Video is recorded on cassette or magnetic tape.

4. Axe : Rip : : Path : ?

   (a) Shear   (b) Pull

   (c) Ploughing   (d) Knitting

Ans. **(d)**

Explanation –

The axe is used to cut or tear wood. In the same way something is knitted with needle.

5. Bird : Feather : : Fish : ?

   (a) Gills   (b) Scales

   (c) Tail   (d) Pisces

Ans. **(2)**

Explanation –

The body of a bird is covered with feathers, similarly, the body of a fish is covered with scales.

6. Movement : Required : : Effort : ?

   (a) Personality   (b) Motivation

   (c) Success   (d) Probability

Ans. **(c)**

Explanation –

When the need arises, the person becomes agitated. Similarly, to achieve success, one has to do efforts.

Type – II

Direction - Find out the related number from the alternatives given below.

7. 85 : 42 : : 139 : ?

   (a) 68   (b) 69

   (c) 70   (d) 67

Ans. **(b)**

Explanation –

85-1 = 84, 84 ÷ 2 = 42

139 - 1 = 138, 138 ÷ 2 = 69

8. 8 : 28 : : 27 : ?

(a) 8   (b) 28

(c) 64   (d) 65

Ans. **(d)**

Explanation –

(4) $(2)^3$ 2 x 2 x 2 = 8

$28 = (3)^3 + 1 = 3 \times 3 \times 3 + 1 = 28$

$(3)^3 = 3 \times 3 \times 3 = 27$

$\therefore ? = 4 \times 4 \times 4 + 1 = 65$

9. 8 : 56 : : 9 : ?

(a) 10   (b) 63

(c) 7   (d) 9

Ans. **(b)**

Explanation –

The relationship is as follows = x – 7

8 × 7 = 56

Similarly,

9 × 7 = 63

10. 8 : 512 :: 9 : ?

(a) 781   (b) 792

(c) 729   (d) 728

Ans. **(c)**

Explanation –

$8 : (8)^3 = 512$

Similarly,

$9 : (9)^3 = 729$

11. 21 : 3 : : 574 : ?

(a) 113   (b) 23

(c) 97   (d) 82

Ans. **(d)**

Explanation –

$\dfrac{21}{7} = 3$

Similarly, $\dfrac{574}{7} = 82$

12. 100 : 121 : : 36 : ?

(a) 64   (b) 49

(c) 25   (d)16

Ans. **(b)**

Explanation –

10 × 10 = 100

11 × 11 = 121

6 × 6 = 36

Similarly,

7 × 7 = 49

Type – III

Directions - Find out the related letters from the alternatives given below.

13. AGMS : CIOU : : DJPV : ?

(1) BHNY   (b) STUV

(c) FLRX   (d) MNOP

Ans. **(c)**

Explanation –
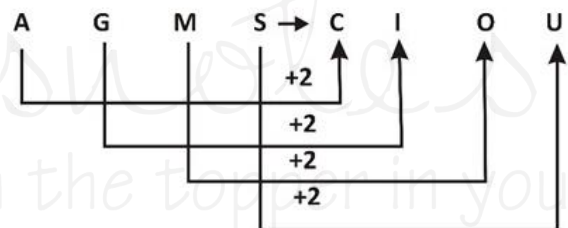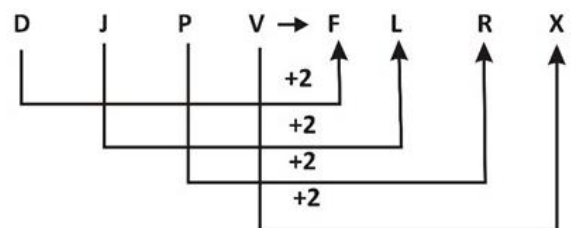
Like,

Similarly,

14. CAT : DDY : : BIG : ?
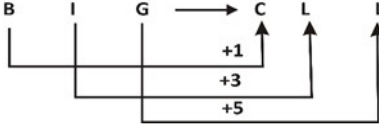
(a) CLL   (b) CLM

(c) CML   (d) CEP

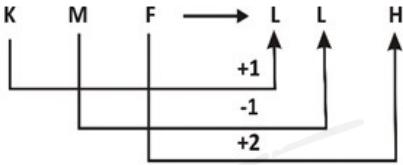**Ans.** **(a)**

Explanation –
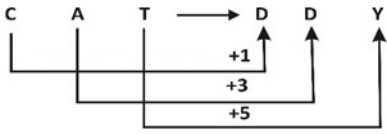
Like,

Similarly

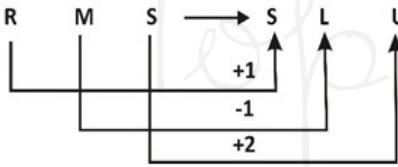**15.** KMF : LLH : : RMS : ?

(a) SLR   (b) SLU

(c) SSU   (d) SUS
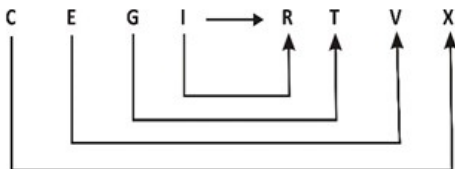
Ans. **(b)**

Explanation –

Like,

Similarly,

16. CEGI : RTVX : : IKMO : ?
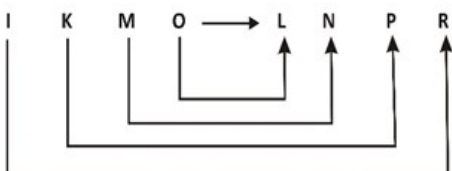
(a) JKLNP   (b) LNPR

(c) MNPQ   (d) DFHI

Ans. **(b)**

Explanation –
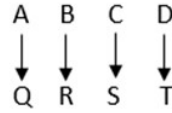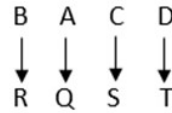
Like,

Similarly,

17. ABCD : QRST : : BACD : ?

(a) RQST   (b) STQR

(c) QRST   (d) RSTQ
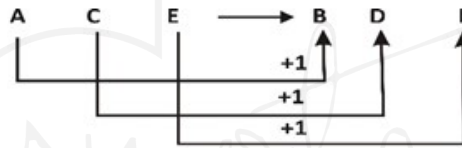
Ans. **(a)**

Explanation -

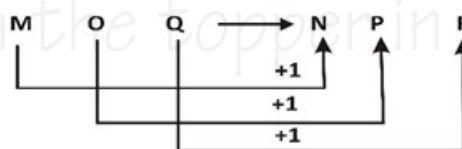Therefore,

18. ACE : BDF : : MAQ : ?

(a) BMW   (b) NQP

(c) NPR   (d) BEF

Ans. **(c)**

Explanation –

Like,

Similarly,

19. BFG : EIJ : : RVW : ?
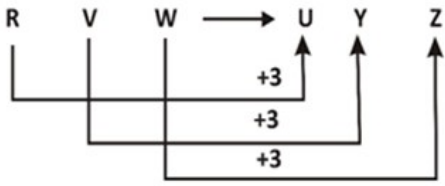
(a) UWY   (b) UYZ

(c) SWX   (d) QUV
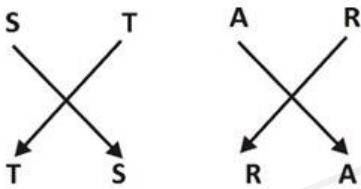
Ans. **(b)**

Explanation –

Like,

Similarly,

R V W → U Y Z
+3
+3
+3
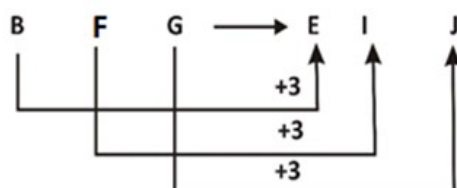
20. STAR : TSRA : : ROSE : ?
(a) ORSE   (b) ORES
(c) ESOR   (d) SORE

Ans. (b)

Explanation –

Like,

S T   A R

T S   R A

Similarly,

R O   S E

O R   E S
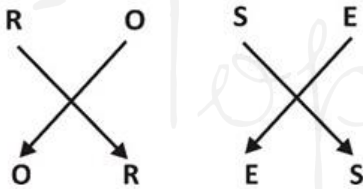
21. ADIP : DGLS : : BEJQ : ?
(a) CGLS   (b) EHMT
(c) EJQU   (d) FINU

Ans. (b)

Explanation –

Like,

A D I P → D G L S
+3
+3
+3
+3

Similarly,

B E J Q → E H M T
+3
+3
+3
+3
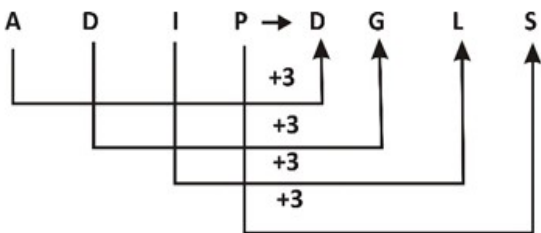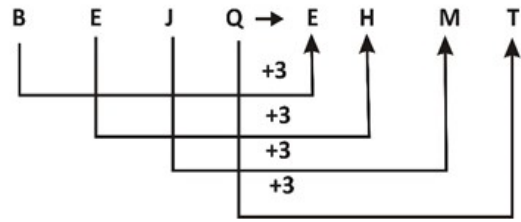
22. EI : AE : : UO : ?
(a) PK   (b) QJ
(c) PJ   (d) QK

Ans. (d)

Explanation –

Like,

E I → A E
-4
-4

Similarly,

U O → Q K
-4
-4
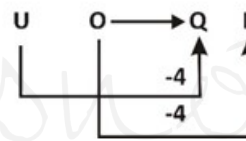
23. GHP : FFM : : PIC : ?
(a) OGZ   (b) OHZ
(c) NGA   (d) NHA

Ans. (a)

Explanation –

Like,

G H P → F F M
-1
-2
-3

Similarly,

P I C → O G Z
-1
-2
-3
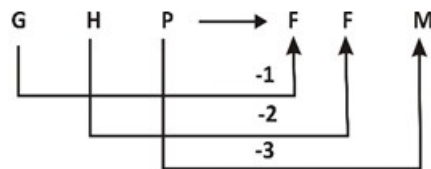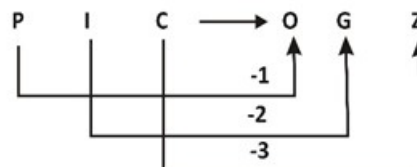
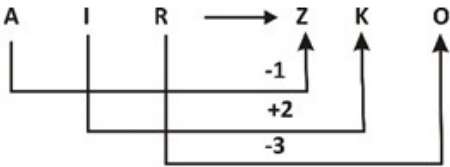**24.** AIR : ZKO : : CAP : ?

(a) ACM   (b) ABN

(c) BCM   (d) BBN
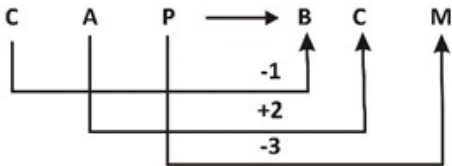
Ans. **(c)**

Explanation –

Like,

Similarly,

25. NU : MF : : EH : ?

(a) IR   (b) VS

(c) GT   (d) DW

Ans. **(b)**

Explanation –

Like,

These are all combinations of opposite characters.

26. BAND : DCPF : : PUSY : ?
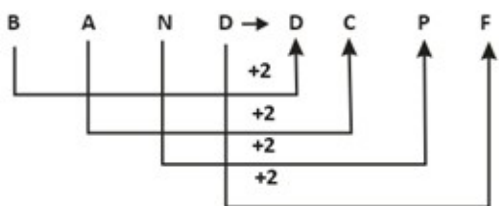
(a) GVTZ   (b) HWTZ

(c) GVUA   (d) HWUA

Ans. **(d)**

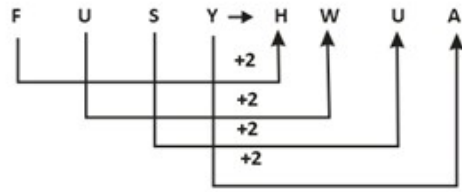**Explanation –**

Like,

Like,

27. FAM : HBO : : LMP : ?

(a) MOR   (b) NOR

(c) NNR   (d) MNR

Ans. **(c)**

Explanation –
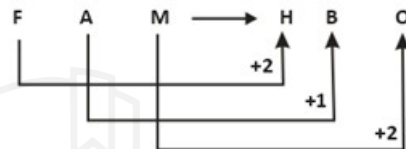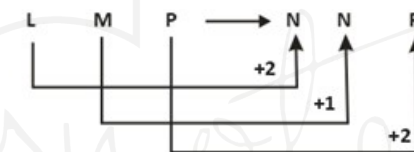
Like,

Like,

28. AB : CD :: WX : ?

(a) AZ   (b) YZ

(c) XM   (d) PQ

Ans. **(b)**

Explanation –
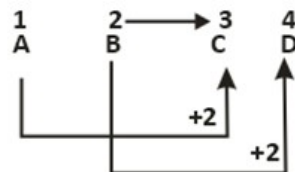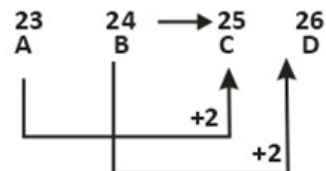
Like,

Similarly,

29. OPQ : RST : : ABC : ?

(a) BCA   (b) DMN

(c) DEF   (d) ABD

Ans. **(c)**

Explanation –
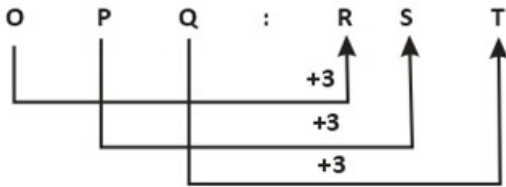
Like,

SImilarly,
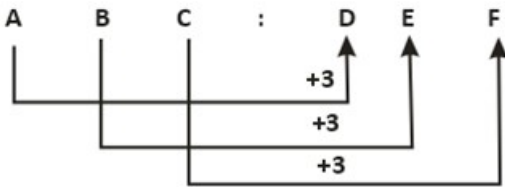
30. Select the option whose letters share the same relationship as the pairs of the given letters.

JT : NX

(a) TP : XT   (b) RK : VG

(c) GS : KU   (d) LD : PG

Ans. **(a)**

Explanation –

Like,

Like

Classification

Classification is the process of classifying any letter-group, word and number into a group based on their common quality, religion, shape-type, color, form, character and other properties.

Ex.1 Select the a different word.

(A) Apple   (B) Grapes

(C) Banana   (D) Potato

Ans. **(D)**

Sol. Apple, Grapes, Banana is a fruit and Potato is a vegetable. Hence, potato is different from group.
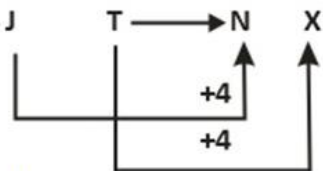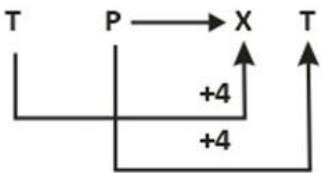
Ex.2 Choose a different word.

(A) T.V

(B) Cycle

(C) Refrigerator

(D) Washing Machine

Ans. **(B)**

Sol. All households are electronic equipment except cycle. Therefore the cycle is different from the group.

Types of Questions

Type 1 Choosing a different word

In this type of questions, some words are given as options, except one of which all the other words belong to a group, class or caste, while the last word of the rest of the other i.e. different group, caste or class.

Some of the major similarities of the words are as follows -

(1) Equality of meaning

(2) Functional similarity

(3) Structural similarity

(4) Numerical equality

(5) Equality of space

(6) Equality of terms

(7) Equality of relation between the two

(8) Technical Equivalence

Ex.3 Select the odd word from the given alternatives ?

(A) Bus   (B) Car

(C) Truck   (D) Airplane

Ans. **(D)**

Sol. All other vehicles except airplanes are road-going vehicles, whereas airplane flies in the air.

Ex.4 Choose a different word ?

(A) CV Raman

(B) Subhash Chandra Bose

(C) Mahatma Gandhi

(D) Bhagat Singh

Ans. **(A)**

Sol. Among the given persons, CV Raman was a scientist, while Subhash Chandra Bose, Mahatma Gandhi and Bhagat Singh were freedom fighters of India.

Ex.5 Which of the following is an odd state ?

(A) Chhattisgarh   (B) Uttarakhand

(C) Jharkhand   (D) Gujrat

Ans. **(D)**

Sol. Gujrat is a coastal state while all others are landlocked states.

Ex.6 Find out the different option?

(A) Hear   (B) Climb

(C) Swim   (D) Run

Ans. **(A)**

Sol. Apart from listening, all other physical activities are done by activities.

Type 2 - Choosing a different word pair

In this type of question four/five pairs of words are given, out of which three/four words are alike in some way and in this way they form a group of their own while the rest One pair is different from the other.

Ex.7 Select the different word pair ?
(A) Oxygen-Gas
(B) Metal-Platinum
(C) Liquid - Water
(D) Solid – Iron

Ans. **(A)**

Sol. Except option (A), in all other options, the first word denotes the position of the second word.

Ex.8 Select the different word pair?
(A) Shoe – Leather
(B) Iron - Axe
(C) Table - Wood
(D) Jewelery - Gold

Ans. **(B)**

Sol. In all other pairs except iron-axe, the second thing is needed to make the first object.

Choosing a different word group-

Ex.9 Select a different word group?
(A) Sun, Moon, Earth
(B) Earth, Moon, Mars
(C) Sun, Star, Moon
(D) Mars, Mercury, Jupiter

Ans. **(D)**

Sol. Option (D) to Mars, Mercury, Jupiter - these are all three planets.

Type 3 - Selecting a different English alphabet/character group

In this type of questions, letters or group of letters or words are given, except one of which all others are similar in some way.

(i) **One letter classification-**

Ex.10 Choose a different letter?
(A) A   (B) B
(C) C   (D) D

Ans. **(D)**

Sol. Except A, all other consonants are letters.

Ex.11 Choose a different letter ?
(A) B   (B) L
(C) Q   (D) Z

Ans. **(C)**

Sol. Except Q, all other letters appear in the English alphabet at even places from the left.

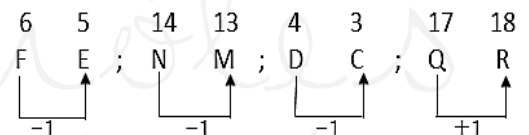| 2	12	26	17
B ;	L ;	Z	Q

(ii) **Two letter classification**

Ex.12 Select the odd letters from the given alternatives?
(A) FE   (B) NM
(C) DC   (D) QR

Ans. **(D)**

Sol.

It is clear that except QR, everything else is getting -1.

(iii) **Three letter classification -**

Ex.13 Select a different letter-set ?
(A) HJA   (B) NPE
(C) OQU   (D) XYZ

Ans. **(D)**

Sol. Except XYZ, all other letter-groups have a gap of one letter between the first two letters.

(iv) **Classification of four letters-**

Ex.14 Select a different letter-set?
(A) ABDE   (B) FGIJ
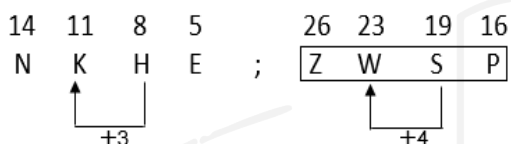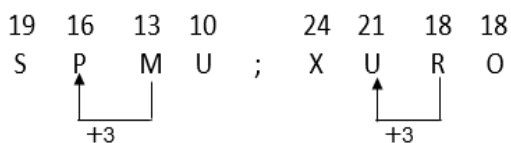(C) KLMN   (D) OPRS

Ans. **(C)**

Sol. Except the KLMN letter-group, all other letter-groups have a gap of two letters between the first and third position letters.

Ex.15 Select a different letters-set from the given alternatives?
(A) SPMJ   (B) XURO
(C) NKHE   (D) ZWSP

Ans. **(D)**

Sol.


```
19  16  13  10        24  21  18  18
S   P   M   U    ;    X   U   R   O
        +3                    +3

14  11  8   5         26  23  19  16
N   K   H   E    ;   [Z   W   S   P]
        +3                    +4
```

Except for the ZWSP letter-group, there is a gap of two letters between the second and third-position letters in all other letter-groups.
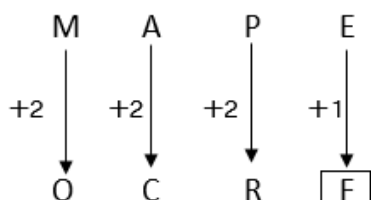
(v) Classification on the basis of (semi-letter pair/group)-

Ex.16 Select the following letter-groups?
(A) M - O   (B) P – R
(C) A - C   (D) E - F
Ans. (D)

Sol.


```
M     A     P     E
|     |     |     |
+2    +2    +2    +1
↓     ↓     ↓     ↓
O     C     R    [F]
```
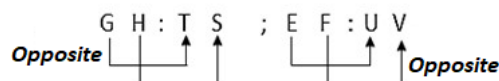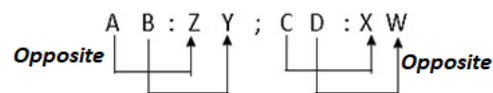
In all others except option (D), the second letter is obtained by adding 2 to the first letter.

Ex.17 Find out the odd letter pair from the given alternatives?
(A) AB : ZY   (B) CD : XW
(C) GH : TS   (D) EF : UV

Ans. **(D)**

Sol.

In the given pairs the letters are given opposite to each other, whereas it is not so in EF : UV. Therefore, it is different.

Type - 4 Selecting a different Number/ Number group

In this type of questions some group of numbers or numbers are given, out of which one digit/number has to be found, which does not show similarity with the others present in the group.

Ex.18 Choose a different number ?
(A) 1234   (B) 2345
(C) 3456   (D) 5778

Ans. **(B)**

Sol. Except the number 2345, all other numbers are even numbers.

(i) Classification based on equality of composite/prime numbers -

● Those natural numbers, which are divisible by 1 or other numbers other than itself, are called composite numbers, such as - 4, 6, 8, 9, 14, 15

● Those natural numbers which are greater than 1 and which are divisible only by 1 or themselves are called prime numbers.
Like - 2, 3, 5, 7, 11, 13, 17, 19, 23 etc.

Ex.19 Which of the following numbers is different from the rest ?
(A) 23   (B) 51
(C) 63   (D) 15
Ans. **(A)**
Sol. The digit 23 is different because it is a prime number.

Ex.20 Choose the different number from the following ?
(A) 61   (B) 51
(C) 97   (D) 89
Ans. **(B)**
Sol. Except 51, all others are prime numbers.

(ii) **Classification on the basis of equality of square/cube numbers-**

Ex.21 Choose a different number?
(A) 25   (B) 50
(C) 100   (D) 10000
Ans. **(B)**
Sol. All numbers except the number 50 are square numbers.

(iii) **Classification on the basis of equality of divisibility and indivisibility of numbers-**

Ex.22 Select the odd number from the following ?
(A) 91   (B) 84
(C) 78   (D) 26
Ans. **(B)**
Sol. Except 84, all others are divisible by 13.

(iv) **Classification based on similarity to the sum of the digits of a number -**

Ex.23 Select the odd number?
(A) 6023   (B) 7202
(C) 4025   (D) 5061
Ans. **(D)**

Sol. Except for the number 5061, the sum of the digits in all the others is 11.

(v) **Classification on the basis of group of three numbers -**

Ex.24 Select the different set of numbers from the given alternatives ?
(A) (5, 16, 22)   (B) (6, 19, 25)
(C) (4,13,17)   (D) (9,28,37)
Ans. **(A)**
Sol. As,
$6, 6 \times 3 + 1 = 19$, $19 + 6 = 25$
$4, 4 \times 3 + 1 = 13$, $13 + 4 = 17$
$9, 9 \times 3 + 1 = 28$, $28 + 9 = 37$
But, $5, 5 \times 3 + 1$, $16 + 5 = 21 \neq 22$
Hence, option (A) is different.

Series

The series test series has to be studied carefully to find out whether this series is following the order/rule or not.

The questions asked under this test can be classified into the following categories.

1. Digit series
2. Alphabet series
3. Frequency Series of Digits/Characters

There are a few things to keep in mind while doing chain test.

A. First try to play the whole chain.
B. If the chain does not work, then we run it by laughing.
C. At the very end run the alternate series

1. Digit series -

In this, a series of marks is given in the questions asked. This series is based on addition, subtraction, multiplication, division, square, square root, cube, cube root etc.

> **Type - (i) Finding the wrong term in the series.**

In the series sequence, a wrong digit is added in place of the digit appearing at a particular place. For this, first of all it should be known that which term is not changing according to that rule, that is the wrong term.

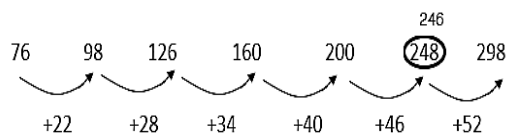**Ex.1** **Which number is missing in the following number series?**
76, 98, 126, 160, 200, 248, 298
(A) 248 (B) 200
(C) 160 (D) 298
Ans. **(A)**
Sol. After observing the above series carefully, we find that the sixth term of the series is inappropriate

Because the number to be added to each term is 6 digits more than its first number.
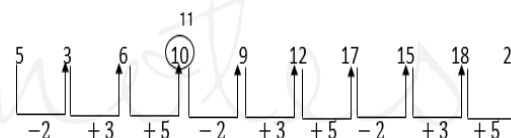

So instead of 248, there will be 246.

Ex.2 **Which number in the following series is such that it is inappropriate in the series?**
5, 3, 6, 10, 9, 12, 17, 15, 18, 23
(A) 6 (B) 9
(C) 12 (D) 10
Ans. **(D)**
Sol. After observing the above series carefully, we find that the series is decreasing and increasing in the order of -2, +3, +5, -2, +3, +5 ....

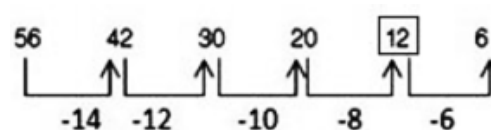In the above series, 11 should come after the digit '6'. Hence the wrong number in the series is 10.

Directions: Question (1-7) Find the missing number in the following series.
Q.1 **56, 42, 30, 20, ?, 6**
(A) 15 (B) 12
(C) 18 (D) 14
Ans. **(B)**
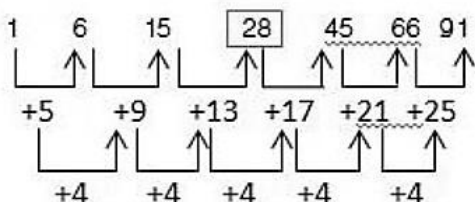**Explanation-**

So, ? = 12

Q.2 **1, 6, 15, ?, 45, 66, 91**

(A) 25 (B) 26

(C) 27 (D) 28

Ans. **(D)**
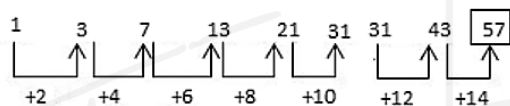
Explanation-

So, ? = 28

Q.3 **1, 3, 7, 13, 21, 31, 43, ?**

(A) 55 (B) 57

(C) 59 (D) 61

Ans. **(B)**
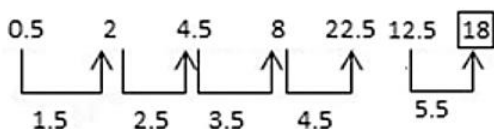
Explanation-

So, ? = 57

Q.4 **0.5, 2, 4.5, 8, 12.5, ?**

(A) 17 (B) 16

(C) 16.5 (D) 18

Ans. **(D)**

Explanation-

So, ? = 18

Q.5 **3, 6, 18, 21, 63, 66, ?**

(A) 181 (B) 160

(C) 147 (D) 198

Ans. **(D)**

Explanation-

3 + 3 = 6, 6 × 3 = 18

18 + 3 = 21, 21 x 3 = 63

So, 63 + 3 = 66

? = 66 × 3 =198

Q.6 **510, 322, 404, ?**

(A) 422 (B) 371

(C) 629 (D) 819

Ans. **(A)**
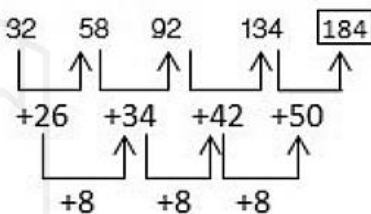
Explanation –

There are even numbers in the sequence.

So, ? = 422

Q.7 **32, 58, 92, 134, ?**

(A) 184 (B) 194

(C) 156 (D) 169

Ans. **(A)**

Explanation-

So, ? = 184

Type – (II)

Completing the series -

Under this, in the given series sequence, a particular place is left blank or is denoted by the question mark (?), then the candidates are expected to find that sequence and mark the question mark (?). Select the appropriate number to come in place of.
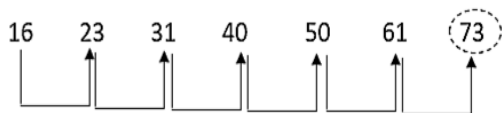
Ex.3 **Which of the given number will come in place of question mark in the series?**

16, 23, 31, 40, 50, 61, ?

(A) 81 (B) 83

(C) 77 (D) 73

Ans. **(D)**

Sol. On observing the above series, we find that the series is increasing in the order of +7,+8,+9,+10………
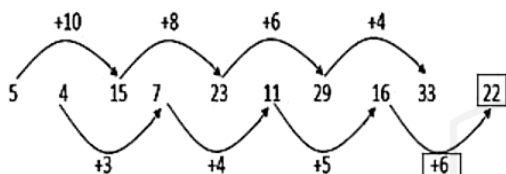
Therefore, the appropriate number to come in place of the question mark will be 73.

Ex.4 Which number will come in the question place in the above series?

5a 4a 15a 7a 23a 11a 29a 16a 33a g

(a) 11 (b) 22

(b) 29 (d) 34

Ans. (B)

Therefore, the appropriate number to come in place of the question mark will be 22.

Type – III based on series rule

There are 2 types of rules of the category based on the rule of the first category.

1. Arithmetic series
2. Geometric series

1. **Arithmetic Series -** An arithmetic series is called a series in which the difference of two consecutive terms is equal.

The number obtained by subtracting the preceding term from a term of an A.P. is called 'transition'.

If there is the first post of the parallel category and the post is of the post, then there will be an parallel category.

Hence the nth term of the A.P. $T_n = a + (n-d)$

(1) d (where, a is the first term and d is the transition)

Ex.5 What will be the 10th term of 1st series 3, 5, 7, 9……

(A) 15 (B) 20

(C) 12 (D) 21

Ans. (D)

Sol. 10th term

$T_n = a + (n-1) d$

$T_{10} = 3 + (10 - 1) \times 2$

$T_{10} = 3 + 18$

$T_{10} = 21$

Hence the 10th term is 21

Ex.6 If the first term of an arithmetic sequence is 5, the second term is 3 and the last term is 80, then find the number of terms.

(A) 24 (B) 23

(C) 26 (D) 29

Ans. (C)

Sol. a = 5, d = 3, T_n = 80, n = ?

$T_n = a + (n - 1)d$

$80 = 5 + (n - 1) 3$

$(n - 1) = 80 - 5/3$

$n - 1 = 25$

$n = 25 + 1$

$n = 26$

Hence the number of posts is 26

2. **Geometric Series -** Such a series in which the ratio of two consecutive terms is same is called 'Geometric Series'.

This ratio is called the 'common ratio' of the geometric series. The 'common ratio' of a geometric series is obtained by dividing a term by its previous term, i.e.

$t_2/t_1 = t_3/t_2 = t_4/t_3 = \cdots … … … …$

$= t_n/t_{n-1} = $ proportionate

t_1, t_2, t_3, t_4

The middle term is the average of both the terms.

$t_2 - t_1 = t_3 - t_2 = t_4 - t_3$